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in the North of Thailand

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THESIS

**TAXONOMY OF THE LONGHORN BEETLES (COLEOPTERA:
CERAMBYCIDAE) IN THE NORTH OF THAILAND**

The background of the page features a large, faint watermark of the Kasetsart University seal. The seal is circular, with the words "KASETSART UNIVERSITY" arched across the top and "1943" at the bottom. The center of the seal contains a traditional Thai emblem depicting a figure, likely a deity or royal figure, surrounded by ornate patterns and flanked by two mythical creatures (Gajasingha).

SUKSAWAT PONPINIJ

**A Thesis Submitted in Partial Fulfillment of
the Requirements for the Degree of
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Suksawat Ponpinij 2011: Taxonomy of the Longhorn Beetles (Coleoptera: Cerambycidae) in the North of Thailand. Doctor of Philosophy (Entomology), Major Field: Entomology, Department of Entomology. Thesis Advisor: Professor Praparat Hormchan, Ph.D. 703 pages.

A taxonomy of longhorn beetles (Coleoptera: Cerambycidae) in the North of Thailand was studied based on a survey of species in 17 provinces in the North of Thailand. More than 5,000 specimens of longhorn beetles were found on flowers, trees and light traps on 144 nights during 2004-2008. The survey resulted in collection of the specimens divided into 8 subfamilies. The identified species included 4 species in Disteniinae, 21 species in Prioninae, 1 species in Philinae, 1 species in Spondylidinae, 2 species in Aseminae, 3 species in Lepturinae, 115 species in Cerambycinae and 161 species in Lamiinae. Out of these, 308 species in 157 genera were identified and 86 species were found as new records for Thailand as follows: *Typodryas callichromoides*, *Spondylis buprestoides*, *Arhopalus exoticus*, *A. unicolor*, *Strangalia fluvialis*, *Anomophysis ellioti*, *A. elongata*, *Spinimegopsis piliventris antennalis*, *Aphrodisium cantori*, *Artimpaza colorata*, *A. lineata*, *A. paksensis*, *Camelocerambyx semiruber*, *Demonax albidofasciatus*, *D. dignus*, *D. semiluctuosus*, *Dere affinis*, *Erythrus laosensis*, *Epipedocera laticollis*, *E. subatra*, *E. vitalisi*, *Euryarthrum lambii*, *Hesperophanes erosus*, *Hyphus apicalis*, *Ipothalia pyrrha*, *Oplatocera oberthuri*, *Pachyteria equestris*, *Phyodexia concinna*, *Polyzonus flavocinctus*, *P. watosoni*, *Prothema laosensis*, *P. cakli*, *Pyrestes bicolor*, *Pyrestes dohertii*, *Rhaphuma clarina*, *R. elongata*, *R. mekongae*, *R. pseudobinhensis*, *R. tricolor*, *Agelasta bifasciata*, *Anamera desmaculata*, *A. obesa*, *A. strandi*, *Anameromorpha metallica*, *Annamanum chebanum*, *Anoplophora birmanica*, *A. medenbachii*, *A. stanleyana*, *Astathes violaceipennis*, *Batocera thomsonii*, *Blepephaeus ocellatus*, *Cleptomtopus similis*, *Choeromorpha subfasciata*, *Cylindrepomus viridipennis*, *Driopea luteolineata*, *Epicedia maculatrix*, *Eutaenia albomaculata*, *Glenea mathematica*, *G. quadrinotata*, *G. subviridescens*, *G. vaga*, *Gnoma gilmouri*, *Hirtaeschopalea fasciculata*, *Hoplothrix rivulosus*, *Mispila kamvengal*, *Monochamus guerryi*, *Nipholophia chujoi*, *Nupserha spinifera*, *Olenecamptus fouqueti*, *Parachydaopsis laosica*, *Pharsalia duplicata*, *P. pulchroides*, *Phrissomorimus brunneus*, *Pterolophia bituberculatithorax*, *P. humerosa*, *P. mimoconsularis*, *P. paralaosensis*, *P. partealbicollis*, *Rhodopina griseipes*, *Serxia apicefusicipennis*, *Sthenias franciscana*, *Stibara humeralis*, *S. subpunctata*, *Thylactus uniformis*, *Trachystohammus subelongatus* and *Xenolea asiatica*. A checklist of species associated with each location and season were also provided.

Student's signature

Thesis Advisor's signature

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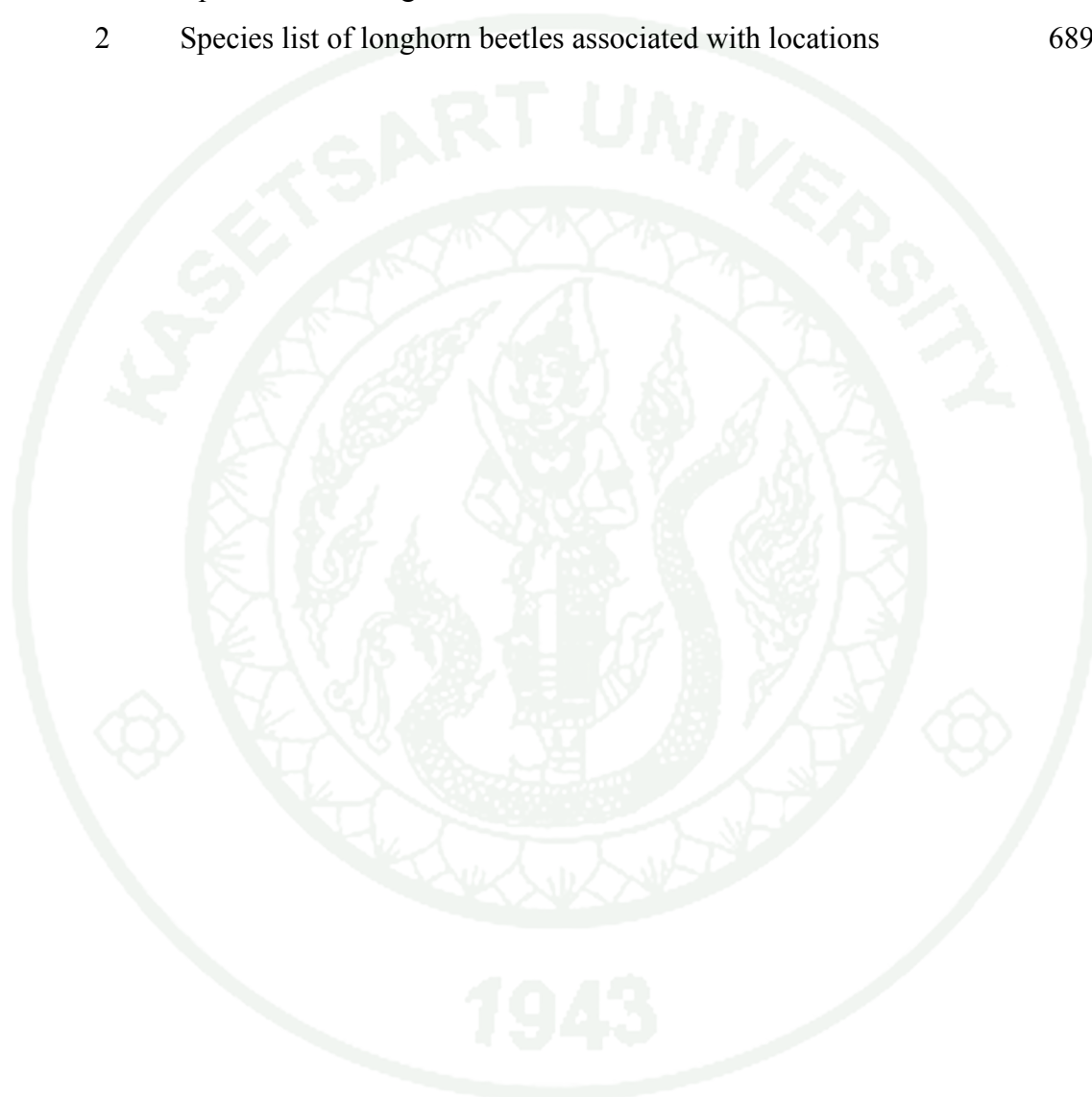
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TAXONOMY OF THE LONGHORN BEETLES (COLEOPTERA: CERAMBYCIDAE) IN THE NORTH OF THAILAND

INTRODUCTION

The longhorn beetles commonly known as cerambycids, longicorns, capricorns, round-headed borers, timber beetles, goat beetles, or sawyer beetles, comprises one of the largest and most varied families of Coleoptera. All the members of longhorn beetles are xylophagous and phytophagous (ÖZDİKMEN and ÇAGLAR, 2004). The larvae of longhorn beetles develop in plant tissues. They are adapted to such highly variable of host plants and resulted in tremendous variation in the behavior and ecology of these borers. Many species are important pests of forest, plantation, and street trees. Different species attack various types of trees and shrubs. A few attack living trees, but most species appear to prefer freshly cut log or weakened and dying trees or branches. Besides, longhorn beetles are beneficial insects by the role as insect pollinator on some species of plant (Tasen, 2001; Gutowski, 1990). Some species of longhorn beetles may be valuable bio-indicators of forest health and implication for conservation because the habitat is destroyed and fragmented (Noerdjito *et al.*, 2003; Baur *et al.*, 2002, 2005). In Thailand, some larvae and adults attack several forest trees (Hutacharn, 1990) and agricultural plants (Wongsiri, 1991).

Cerambycidae is one of the largest and most varied families of Coleoptera. This family includes at least nine subfamilies that are delineated by morphological characters of adults and larvae (Napp, 1994). Among the larger subfamilies, the most primitive (and in a separate subfamily group from the other) is the Prioninae. More advanced are the Lepturinae and Aseminae, and most advanced are the Cerambycinae and Lamiinae (Linsley, 1961; Napp, 1994). The family includes 4,000 genera and more than 35,000 species worldwide (Lawrence, 1982). Many more species have probably been yet undiscovered.

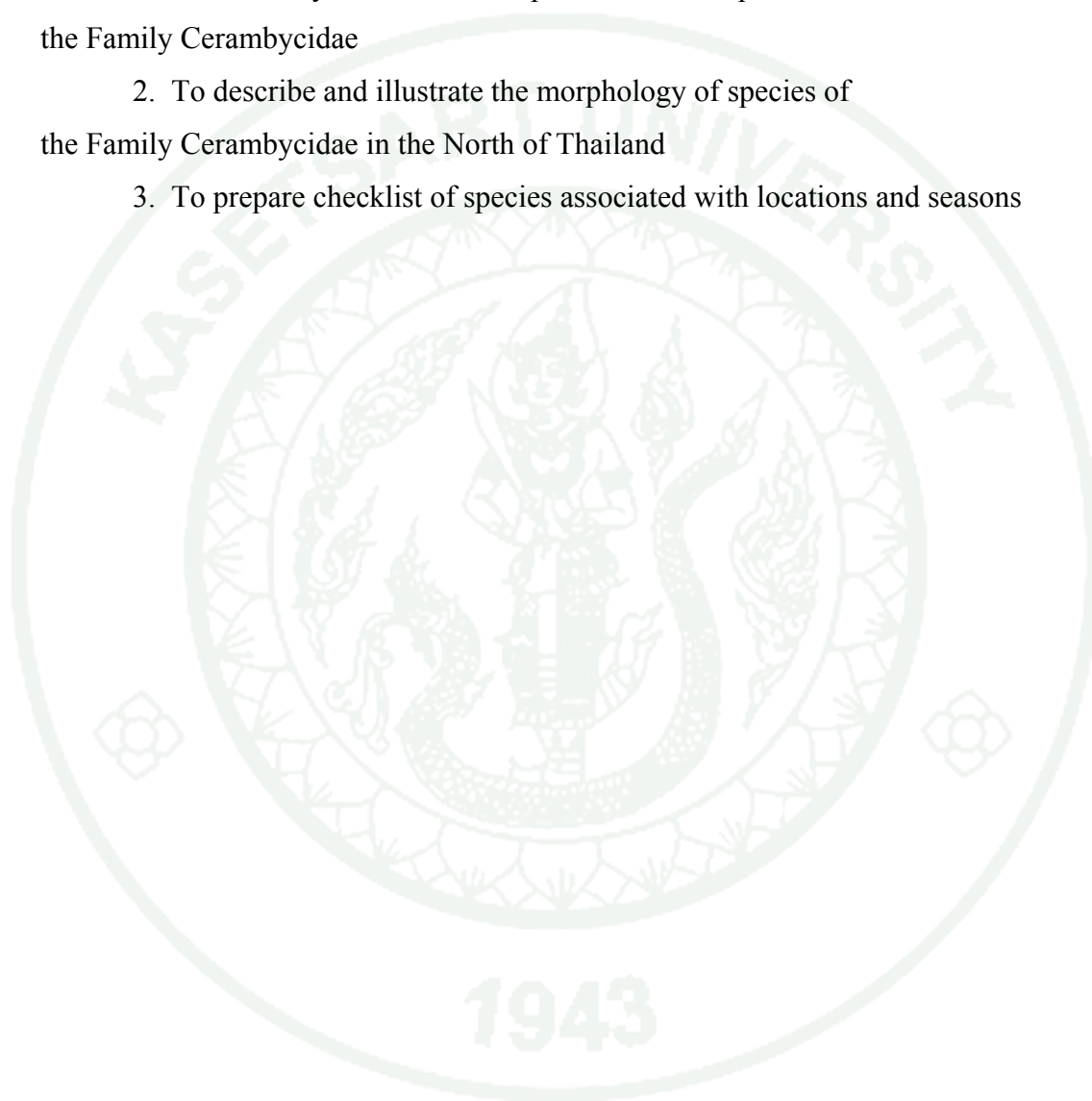
Northern Thailand is a tropical upland area, being composed of a series of parallel mountain ranges which are the eastern outline of the Himalaya. Elevations range from around 300 meters in the lower valleys and plains to 2,576 meters on Doi Inthanon, the highest mountain in Thailand. The ranges average 1,200 meters above sea level and are incised by steep valleys of the Ping, Wang, Yom, and Nan river systems. The complex geography and numerous altitudinal gradients support a high biodiversity of flora and fauna. Many appear to be of Himalayan origin, suggesting the ranges to act as corridors for the biota, but locally endemic taxa can also be found here. Northern Thailand retains some extensive natural rain forests and is an important centre for conservation.

At present, northern forest in Thailand is much better than the other regions. According to the report by Royal Forest Department in 1993, 45.47% of the forest in the north is still good. However, in the future the forest may be decreased by agriculture and much more by deforestation. Naturally, insects will be less and less too. Due to only little information concerning longhorn beetle available, this study was then initiated.

OBJECTIVES

The objectives of this study were as follows:

1. To assembly a collection of specimens of all species of the Family Cerambycidae
2. To describe and illustrate the morphology of species of the Family Cerambycidae in the North of Thailand
3. To prepare checklist of species associated with locations and seasons



LITERATURE REVIEW

The history on proper classification of Cerambycidae or Longicornia as a whole dated back to the middle and late nineteenth century by A. White, J. Thomson, F.P. Pascoe, T. Lacordaire and J.L. LeConte (White, 1853; Thomson, 1860; Pascoe, 1867a; Lacordaire, 1869; LeConte, 1873). LeConte (1873) was the first person to put forward the philosophical arrangement of longhorn beetles but his knowledge was restricted to the North American taxa. Thomson (1860), later on, treated all the Logicorn genera of the then accepted families, namely Prionidae, Cerambycidae and Lamiidae in the “Essai d’une Classification de la Famille de Cerambycides”. At present, these are accepted as the subfamily Prioninae, Cerambycinae and Lamiinae respectively (Pascoe, 1867a).

The most comprehensive and fundamental taxonomic work on the Cerambycidae was first published in the eighth volume of Lacordaire’s *Genera des Coleopteres* (Lacordaire, 1869). In treating this group, the most important character used by Lacordaire was the appearance of faceted eyes, producing dichotomous keys comprising strongly or finely faceted eyes as priority (Pascoe, 1856, 1869c). The consequence was the general division of the diurnally or nocturnally active cerambycids, owing to the difficulties of predetermining relative ommatidia size. Fragoso *et al.* (1987) proposed another approach based on genitalia structure.

Subfamilies are arranged in traditional check list order, although Napp (1994) has provided a phylogenetic analysis which suggests the following sequence: Anoplodermatinae, Parandrinae, Prioninae, Spondylidinae, Lepturinae, Aseminae, Cerambycinae, and Lamiinae.

The longhorn beetles or Cerambycidae are classified together with Chrysomelidae and Bruchidae in the superfamily Chrysomeloidea. But, some authors recognized Cerambycidae as a separated superfamily Cerambycoidea (Svacha and Danilevsky, 1986). The longhorn beetles are recognized by the long filiform (some species are pectinate, lamellate, serrate etc.) (Schneider, 1964). Antenna may exceed

three times the body length in adult male, female short. Compound eyes generally notched with antenna, except subfamily Lepturinae. Elytra fore wing mostly cover abdomen (some species from subfamily Lepturinae has short fore wing). Body usually elongate and cylindrical some what flattened, 2 to 20 cm in length. Mostly tarsi apparently 4-4-4, really 5-5-4 with the fourth segment small and inconspicuous.

Species composition between areas of the world has been recorded. Tribe Batocerini includes 52 species in six genera occurring worldwide (Rigout, 1982, 1988). Subfamilies Cerambycinae and Lamiinae include 8,020 species in 93 tribes that occur in Neotropical Region (Monné, 2005a, 2005b). The Western Hemisphere Region includes nearly 9,000 species (Monné and Hovore, 2005). The West Palaearctic Region includes 600 species in five subfamilies (Hoskovec and Rejzek, 2003). North America includes 900 species in eight subfamilies (Borror *et al.*, 1979). Hawaii Islands includes 144 species in three tribes, four subfamilies (Heffern, 2002). Species list from Nicaragua represented Central America includes 804 species in six subfamilies (Maes and Heffern, 2005). Number of species from Madagascar and adjacent Island are represented of African Region including 1,040 species (Ribardo and Cope, 2000). Cerambycidae of Europe Region includes 615 species in five subfamilies (Danilevsky, 2003a). Species list from Australian represented Oceanian Fauna includes 1,359 species in five subfamilies (Starey, 2005). The Micronesian represents 98 species in 19 tribes, four subfamilies (Gressitt, 1956a). The North of Asia includes 372 species in six subfamilies (Cherepanov, 1990a, 1990b, 1990c, 1990d, 1991a, 1991b). Species list from Mongolia includes 162 species in six subfamilies (Danilevsky, 2003b). Ceylon and Burma include 396 species in 126 genera (Gahan, 1906).

Knowledge of longhorn beetles in Southeast Asia and Thailand

The fauna of longhorn beetles in Southeast Asia is moderately known. Some species of longhorn beetles occurring in Burma were described by Gahan (1906). In 1970, Gressitt, Rondon and Breuning published a book of Cerambycids of Laos including 1,156 species, of which 195 are described as new. Seven of the new species

are from outside of Laos, Cambodia, South Vietnam, North Vietnam, Yunan and north Thailand. Lingafelter and Hoebeke (2002) revised genus *Anoplophora*, mostly specimens from Southeast Asia. Thirty six species were newly revised by them, and 5 species found to occur in Thailand. In Indonesia, the survey by three type traps in east Kalimantan, 90 species were found in this site (Makihara *et al.*, 2003). Species list from Philippine Islands includes 655 species in seven subfamilies (Vives and Cabigas, 2005). Abang (2002) surveyed and collected longhorn beetles in Malaysia, especially in Sarawak includes 108 species in subfamily Cerambycinae. Heffern (2005) made survey and classification of Cerambycidae from Borneo, which includes 1,433 species.

The fauna of Cerambycidae in Thailand was also poorly known. For example, of 1,156 species from Laos, only 57 species were from Thailand. More recently Holzschuh (1991a, 1991b, 1991c, 1992, 1993, 1995, 1998, 1999) described 162 new species of longhorn beetles from Thailand. Ek-Amnuay (2002) was the first Thai entomologist studying the characters of cerambycids and other Coleoptera and published a book of Thailand, which includes 128 species of longhorn beetles.

Morphology

Adult

Head: Head large, but not larger than prothorax; set forward and downward at an obtuse angle to body axis (Prioninae, Lepturinae, Aseminae, and Cerambycinae) (Cherepanov, 1990a, 1990b, 1990c), or vertically down at a right angle (Lamiinae) (Fisher, 1925, 1930). Frons set between antennae and lower ocular lobes, flat in some species and convex in other, usually with median longitudinal groove (Lepturinae, Lamiinae) or without it and with long carinae instead. Genae comparatively elongate (in Lepturinae) or short and indistinct (Aseminae) (Gressitt *et al.*, 1970). Temples (tempora) bulge behind eyes in Lepturinae, often project wart like laterally; usually smoothened and barely visible in Cerambycinae and other. Neck (collum) in some species in form of deep cervix, indistinct or lacking in others. Vertex between upper

ocular lobes usually flat, often with median longitudinal groove; occiput posteriorly rounded or slopes gently.

Large compound eye complex, very small facets, convex, and faintly or markedly emarginated on inner side. Antennae long often longer than its body, generally distinctly longer in male than in female, with 11 to 12 segments, filiform, rarely lenticular, even more rarely serrate. First antennal segment thick, in some groups with fairly isolated cicatrix at apex; 2nd segment shortest, usually nodose; subsequent segments vary in length; 11th segments with sharp transverse isthmus (Gahan, 1906).

Mouthparts well developed. Labrum transverse, trapezoidal; anterior margin often emarginated; in some species labrum poorly developed, small. Mandibles massive, straight or curved, apically sharply produced, in some crisscross; inner margin smooth or with single denticle, rarely with numerous denticle. Maxillae and labium less developed but with long large palps. Maxillary palps with four or three segments; among Spondyliini generally five adventitious segments present (Gressitt *et al.*, 1970). Labial palps with three segments (Lepturinae, Aseminae, and others) or two segments (mainly Lamiinae). Last segment narrows toward base, apically straight or obliquely truncate, dolabriform (some Lepturinae, Cerambycinae, and others) or ovals fusiform and apically pointed (many Lamiinae) (Lingafelter and Hoebeke, 2002; Triplehorn and Johnson, 2005).

Thorax: Prothorax distinct. Pronotum different in shape in different groups. For example, in the beetles of the subfamily Prioninae pronotum laterally with acute spinescent crenate margin; in Cerambycinae, Aseminae, and others laterally rounded (Cherepanov, 1990a). Pronotum often longitudinal, with large or small, dense or sparse punctuation, and with or without median longitudinal groove; laterally (in many Stenocorini, Monochamini, and others) with conical or spinescent produced tubercle, at anterior margin (in Lepturinae) with transverse flange, and at base often with transverse groove (Dillon and Dillon, 1941; Gressitt *et al.*, 1970). Prosternum ventrally convex, slopes straightly toward anterior margin or near latter with broad

transverse impression; posterior, between fore coxae, with short or long process. In Lepturini, Asemini, and the others narrow and apically pointed, in the other (Atimini) broad and flat, broadening apically (Gressitt *et al.*, 1970). Metasternum well developed, with deep median longitudinal groove. Lateral sclerites of thorax moderately developed, readily distinguished; metepisternum longitudinally elongate, sometimes with coarse dense punctuation. Scutellum represented by exposed portion of mesonotum attached to base of pronotum, triangular, often rounded posteriorly, usually with minute punctuation (Lingafelter and Hoebeke, 2002).

Elytra attached to anterior margin of mesonotum, generally long, rarely short, on dorsal side. Basally elytra straight, rarely sloped humeri, on which sometimes a tubercle distinctly evident (Cherepanov, 1946). Humeri apically rounded, or truncate, or even notched, with minute or large punctuation, and with or without projecting longitudinal ridges. Hind wings membranous, with reduced characteristic venation, articulate with metanotum, on dorsal side of body. Prosterna, mesosterna and metasterna posterolaterally with an acetabulum with leg bases (coxae) fixed (Wappes and Lingafelter, 2005). Coxal cavities and shape, and size of coxae in different taxa.

Legs: Coxa successively joined by trochanter, femur, long slender tibia hinged at an angle to femur, and next to tibia, tarsus. Third tarsal segment invariably notched apically. End of last tarsal segment armed with pair of claws. Tibial apex equipped with long a circular spur. In longhorn beetles of the tribes Callichromini and Stenaspini scent pores present on metathorax laterally (Gressitt *et al.*, 1970).

Abdomen: Tapers toward tip, rarely with parallel sides or cylindrical. Abdominal sternites convex, with dense or sparse punctuation. Abdominal sternite V apically rounded, sometimes emarginated or truncate; in female usually more elongate. Tip of abdomen in female longhorn beetles of the tribe Acanthocinini produced in form of flat tube, representing a pseudo-ovipositor, projecting from under the elytra (Wappes and Lingafelter, 2005).

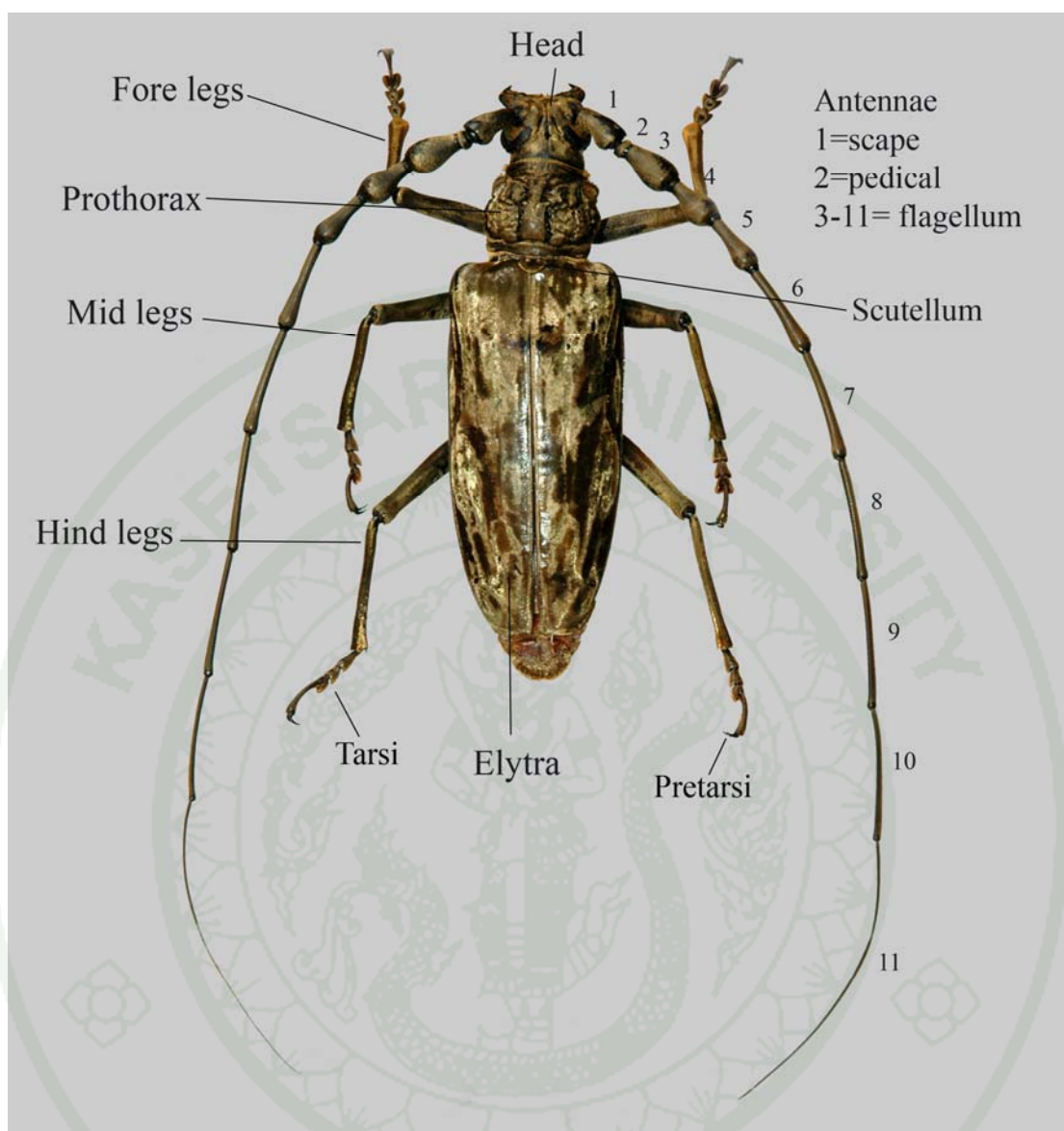


Figure 1 External morphology of longhorn beetle (*Neocerambyx gigas*).

Male genitalia (Phallic organs): Phallobase with pair of elongate parameres and basally common phallosome (Cherepanov, 1990a). Parameres usually tuft of long setae at apex. Tergite VIII transverse with small differences in the apex. Sternite VIII transverse, subparallel at the side, bisinuate at the apex and the sternal apophysis short (Mermudes and Napp, 2004). The ventral fork-shaped, almost as long as the tegmen, the arms forming an acute angle and bifurcate as long as the apophysis (some times short), no dorsal arc. Tegmen dista region with lateral lobes, joined by a membranous area: the ring piece rounded and convergent with the lateral arms not fused apically, but linked by the sheath of the ring piece. The median lobe in general with the apical region about half as long as the basal apophyses: dorsal lobe slightly longer than the ventral lobe, enlarged at the median foramen and narrowed apically, apex rounded or truncate. The ventral lobe sinuate at apex. The internal sac moderately long or as long as the median lobe. The armature consisting of one or two speculate areas and one pair of sclerotized pieces usually asymmetrical, at the apical region plus a median, strongly sclerotized and well developed piece or without lateromedian projections (Mermudes and Napp, 2004). The armature with one or two apical pairs of sclerotized pieces.

Female genitalia: Segment VIII of female genitalia as long as broad, lateral side subparallel and almost entirely membranous (Mermudes and Napp, 2004). Tergite VIII truncate to sinuous at the apex, the sternal apophysis about twice as long as the sternite VIII. Ovipositor membranous and short, about twice as long as broad, and three times as long; the distal section shorter than the proximal section; the bifid apical portion with appendiciform bearing a sclerotized area on the inner side of each lobe; styli cylindrical. Spermatheca reniform, a little longer and curved only at the apex. Spermathecal gland as long as or little shorter than spermatheca. No apodemes at the oviduct base and symbiont-containing pouches.

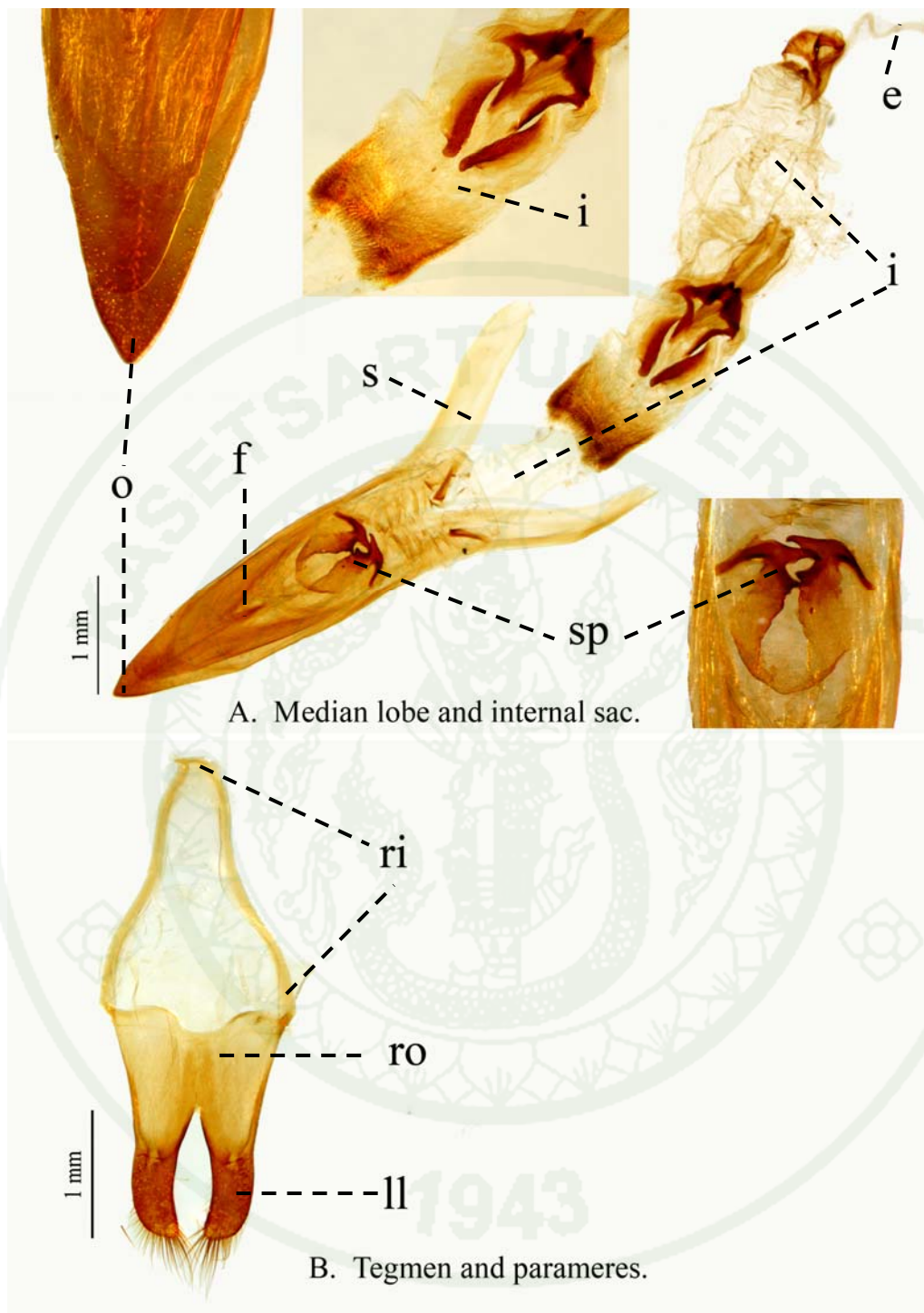


Figure 2 Male genitalia of *Polyzonus watosoni* Gahan.

A. Median lobe and internal sac, i=internal sac. e=ejaculatory duct. s=median strut. sp = sclerotized pieces. f=median foramen. o=median orifice. B. Tegmen and parameres, ri=ringed part. ro=roof. ll=lateral lobes.

Biological habitat

Oviposition

The life spans of most species of longhorn beetles in the temperate regions typically range from one to three years (Monné and Hovore, 2005), but many variations exist. Tropical species may be less constrained seasonally, and some populations of smaller genera literally may breed continuously, with all stages being found on and in the same pieces of wood (Dodds *et al.*, 2002). Ovipositional behavior differs in various taxa. Eggs are laid individually in prepared egg site or niches. Female chews through the bark of the host tree to the cambial layer, forming the “egg scar” (Lingafelter and Hoebeke, 2002), then she lays a single egg directly under the bark of the host tree between the bark and xylems. On the oviposition scar, a female deposits a jelly-like secretion that inhibits oviposition by other females upon its detection by palpation with maxillary and labial palpi (Anbutsu and Togashi, 2000, 2001).

Larvae habitat

Larvae of Cerambycidae also display a variety of habit, especially serious pests of orchard and ornamental trees. Most species feed with dead, dying or even decaying wood, but some taxa are able to utilize living plant tissue. The larvae of a few species move freely through the soil, feeding externally upon roots or tunneling up under the root crown (Duffy, 1953, 1958).

The majority of species occur within uncultivated or natural forest ecosystems, in which they are of great ecological importance as essential components of the pollination and nutrient recycling processes (Monné and Hovore, 2005).

Pupation

Pupation normally occurs within the larval habitation, such as in stem, root or in soil (Linsley, 1959).

Mating behavior

Male mating behavior is evoked by a contact sex pheromone distributed on the female body surface (elytra) or contact antennae (Hanks *et al.*, 1995; Ginzl and Hanks, 2002). Only in male beetles are the prothoracic glands and large externally corresponding pore pits found. In the macerated prothoraces of female beetles, large heaps of cuticular gland structures are lacking. In female prothoraces, merely the diffusely distributed epidermal glands and their corresponding smaller pits are present, both of which in the prothoraces of male beetles are scattered randomly between the prothoracic glands and the pore pits (Noldt *et al.*, 1995; Hanks, 1999). This pheromone consists of less polar compounds, probably hydrocarbons, and a more polar compound (Fukaya *et al.*, 2000).

Economic importance

Several species of longhorn beetles have been reported, especially the larval stage as economic pests of agricultural plantation and forestry in many parts of the world. Generally, longhorn beetles are considered to be pest groups as leaf eating, twig boring, bark boring, fruit boring, root boring, and sap eating.

Hutacharern (1990) reported Cerambycidae in Thailand to be the pest of forest and shade trees. *Dihammus cervinus* Thom. bores in stem of *Tectona grandis* L., *Gmelina arborea* Roxb., *Clerodendrum viscosum* Vent., and *Haldina cordifolia* (Roxb.). *Glenea indiana* Thom. bores in bark of *Tectona grandis* L., *Gmelina arborea* Roxb., *Tabebuia rosea* (Bert.), and *Stereospermum neuranthum* Kurz.. *Threnetica lacrymans* Thom. bores in cambium and heart wood of *Dalbergia oliveri* Gamb.. *Aristobia approximator* Thom. bores in twig and leaf eating of *Casuarina*

equisetifolia J.R.&G.Forst., *Dalbergia cochinchinensis* Pier., *Peltophorum pterocarpum* (DC.), *Lagerstroemia cuspidate* Wall., *Eucalyptus camaldulensis* De hnh., and *Lagerstroemia speciosa* (L.). *Pachyteria dimidiata* West., bores in bark of *Mangifera*. *Stromatium longicorne* Newm., bores in dry wood.

Other longhorn beetles are pests of agricultural trees (Wongsiri, 1991).

Batocera octomaculata L., *Batocera rubus* L., *Coptops aediticator* (F.), *Golsinda coralline* Thom., *Olenecamptus obtatus* Pasc., *Plocaederus fulvicornis* Guer., and *Plocaederus pedertris* White, bore in stem and branch of Mango (*Mangifera indica* L.). *Apriona gemari* Hope, bores in stem of Mulberry (*Morus alba* L.). *Dorysthenes buqueti* Guer., bores in shoot and stem of sugar cane (*Saccharum officinarum* L.). *Sybra* sp. bores in stem of Tamarind (*Tamarindus indica* L.). *Chelidonium* sp. bores in stem of Mandarin orange (*Citrus reticulata* Blan.). *Xylotrechus* sp. bores in stem and branch of Macadamia nut (*Macadamia ternifolia* F. Muel.). *Aristobia approximator* Thom., leaf eating of Kenaf (*Hibiscus cannabinus* L.). *Aegosama marginale* F., *Aeolesthes induta* Newm., *Apriona germari* Hope, *Coptops aediticator* F., *Glenea obesa* Thom., *Moechotypa suffuse* Pasc., *Plocaederus obesus* Gahan, *Pterophia* sp., *Pterolophia annulata* Chev., *Pterolophia imbuta* Navm. And *Sybra* sp., bore in stem and branch of Kapok (*Ceiba pentandra* Gaerth). *Xylotrechus* sp. bores in stem and bark of Coffee (*Coffea robusta* L., *Coffea arabica* L.). *Dorysthenes buqueti* Guer., bores in root and tuber of Cassava (*Manihot esculenta* Crantz). *Aeolesthes* sp., *Coptops aediticator* (F.), *Monochamus* sp., *Olenecamptus optatus* Pasc., *Plocaederus* sp., and *Plocaederus obesus* Gahan bore in stem and branch of Cashew nut (*Anacardium occidentale* L.)

MATERIALS AND METHODS

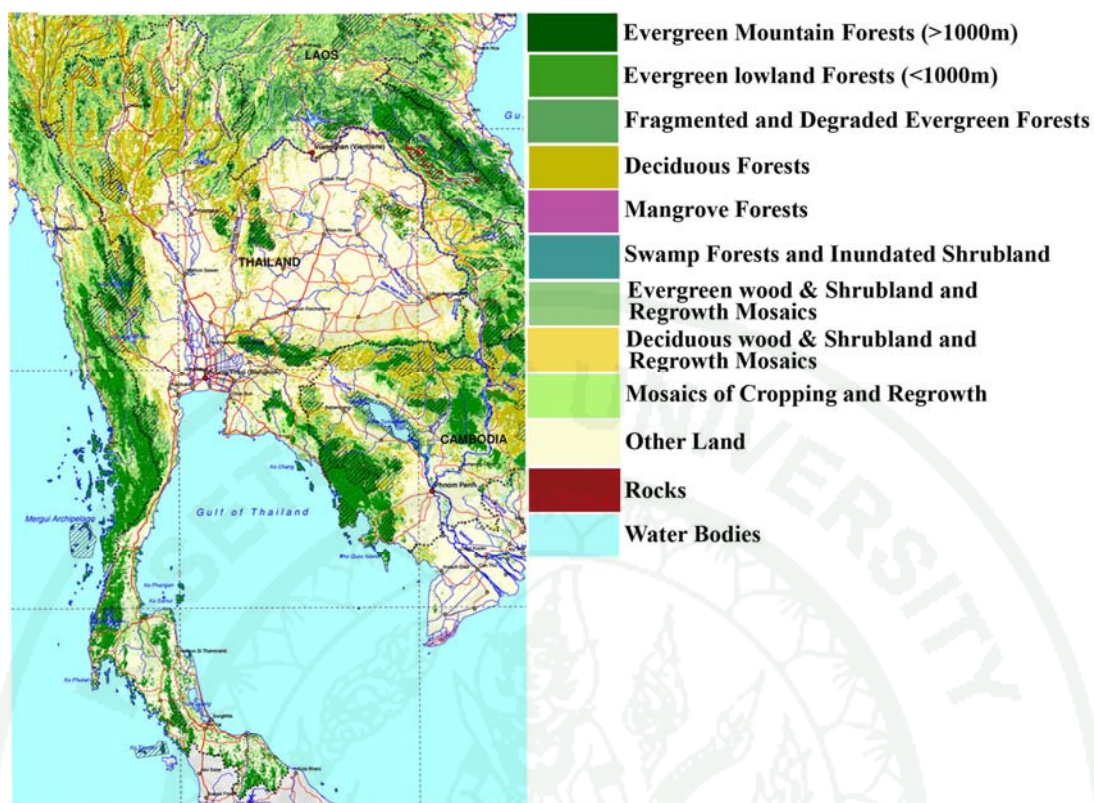
Study area

The north of Thailand included 17 provinces as follows:

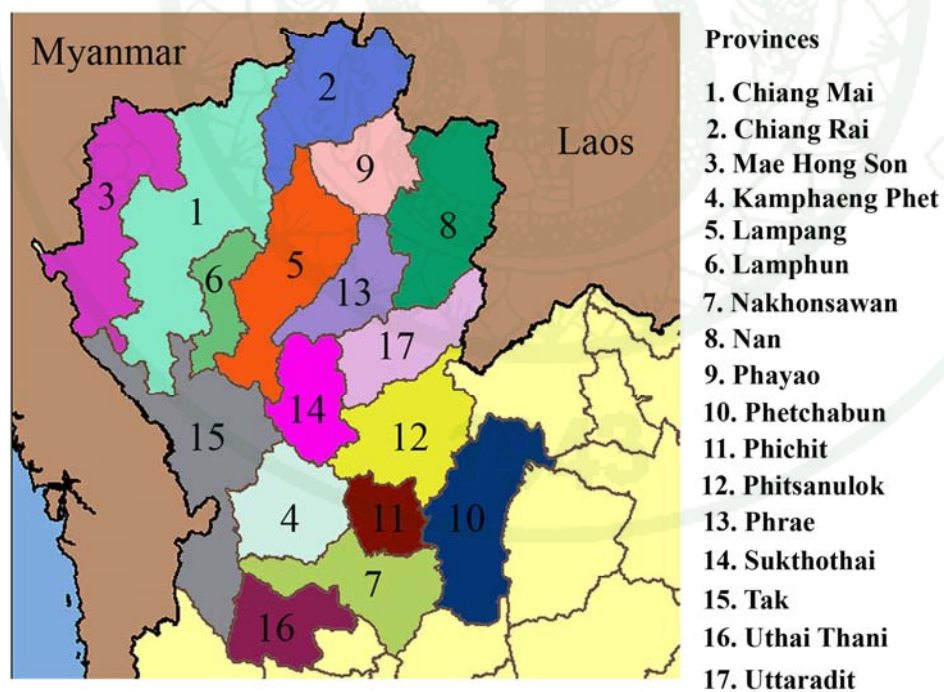
1. Chiang Mai	10. Phetchabun
2. Chiang Rai	11. Phichit
3. Mae Hong Son	12. Phitsanulok
4. Kamphaeng Phet	13. Phrae
5. Lampang	14. Sukhothai
6. Lamphun	15. Tak
7. Nakhonsawan	16. Uthai Thani
8. Nan	17. Uttaradit
9. Phayao	

The total area covered 169,644 square-kilometers. The northern part is close to Thailand-Myanmar and Thailand-Laos border, southern part is close to the central part, the eastern part is close to Thailand-Laos border, and the western part is close to the Thailand-Myanmar border. Habitat types include tropical evergreen forest, hill evergreen forest, mixed deciduous forest, dry dipterocarp forest and pine forest. The ranges average about 1,200 meters above sea level.

The weather in this area is a tropical climate, which is influenced by the southwestern monsoon in the rainy season and the northeastern monsoon in the winter. Seasons include the summer from February to April, the rainy season from May to October, and the winter from November to January. Maximum temperature is 37.2 °C, minimum temperature is 1.0 °C. Average rain is 1,231.4 mm/year.



A



B

Figure 3 Map: A. Map of forest cover in Thailand.

B. Map of provinces in the north of Thailand.

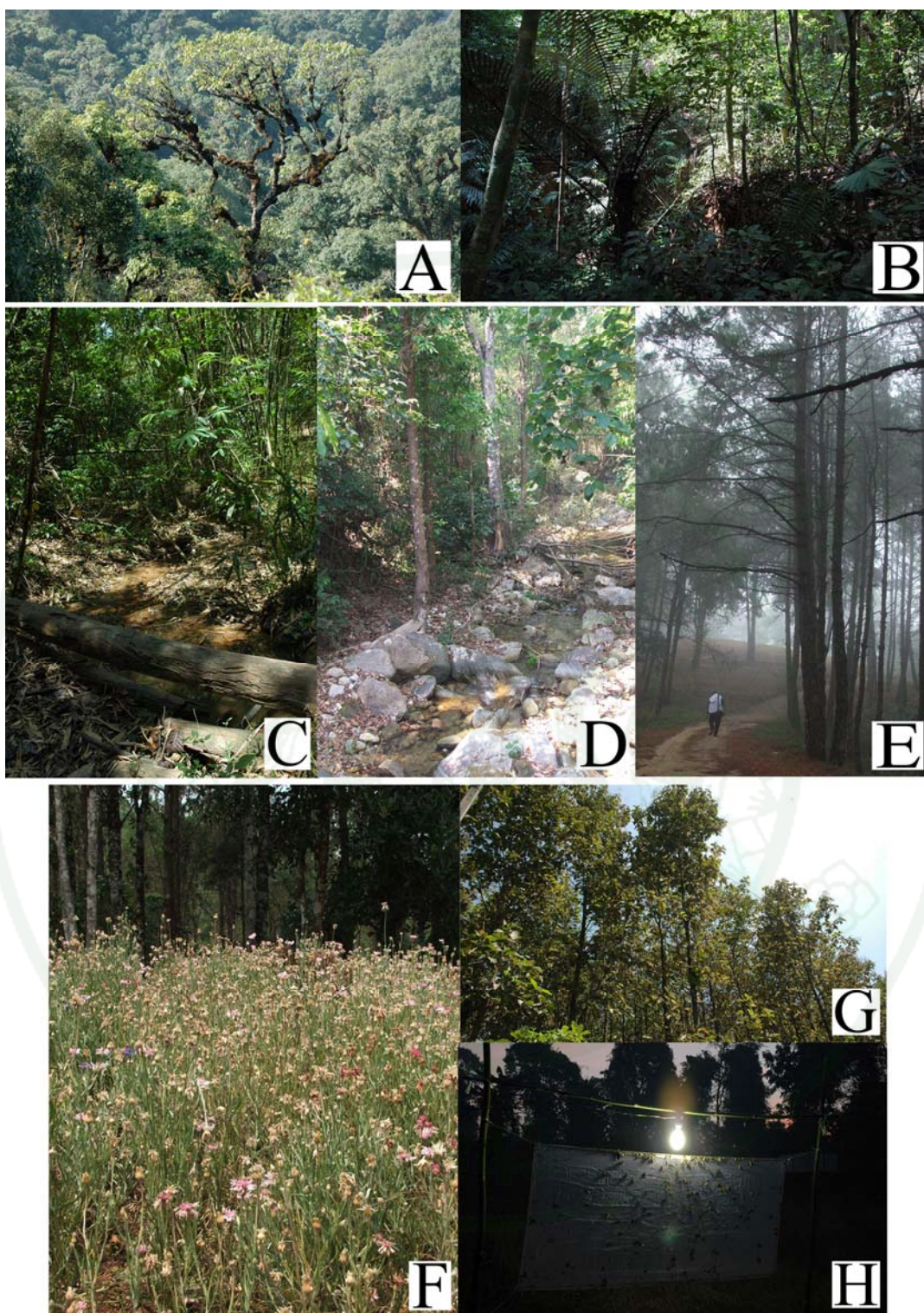


Figure 4 Habitat types and method for collecting;

- A. hill evergreen forest B. dry deciduous forest C-D. riparin forest
 E. pine plantation F. flower plantation G. teak plantation
 H. light sheet

Collecting techniques

Collecting was mainly undertaken by using the light sheet consisting of a piece of white sheet (1.5 m X 2 m) with a 400 Watt mercury vapour lamp powered by a 220-240 Volt portable generator. The trap was switched on from 1,500-2,000 hours. Light trap was operated from 6.00 pm to 6.00 am on at least 144 nights during four years (2004-2008). Aerial catching was conducted along the jungle or forest trails, with open clearing such as newly logged secondary forest. Collecting individual specimens were picked up with forceps and put in killing jar. The most generally useful killing agent is ethyl acetate which both kills the insect and keeps it relaxed. The specimens were held or kept inside the killing jars for transportation. In the laboratory, all fresh specimens were pinned and dried by keeping in oven at 37 °C for 14 days for small size specimens, 30 to 45 days for large size specimens. When the specimens are dried, they will be transferred into the standard insect drawers. Specimens were maintained in the insect collection in the Department of Entomology at Kasetsart University.

Dissection and preparation of genitalia

Male and female genitalia of each morphotype selected for dissection. The abdomen was first removed from the specimen by pressing curved tip forceps against its underside. The abdomen was placed into 10% potassium hydroxide and heated by hot plate at 60-65 °C for 5-10 minutes to digest extraneous tissue. The softened abdomen transferred to lactophenol at 85-90 °C until it cleared. The abdomen and genitalia was placed into 10% potassium hydroxide at 60-65 °C for 5 minutes. After heating, the abdomen and genitalia were transferred to 70% ethyl alcohol for 10 minutes. In this step, male or female genitalia were separated as unit from the end of the abdomen. The genitalia and abdomen were transferred to 80% ethyl alcohol for 10 minutes. Finally, the genitalia and abdomen were transferred to absolute ethyl alcohol for 5 minutes. The genitalia hardened in absolute ethyl alcohol and mounted in mounting media (canadabalsm and xylene) on microscopic slides with cover slips

on top of the preparation (especially small size). The large size of genitalia was placed into a vial with glycerol.

Illustrations

Pinned adult small size specimens and male genitalia, were photographed with Olympus SZH10 stereomicroscope, and large size specimens were photographed with Digital Nikon camera (D70kit), AF-S DX Zoom-Nikkor 18-70 mm f/3.5-4.5 G IF ED lens and compact flash elite pro 512 MB Kingston memory stick. Two 6V halogen lamps were used as additional light source beside daylight illumination.

Analysis of results

The scope of this study included only the adults of the family Cerambycidae were collected and identified to species level. References and the description of the species was examined carefully. Comparisons were made with identified specimens from Department of Agriculture, Royal Forest Department, Kasetsart University. The submission of doubtful determination to various specialists were made for identification. A great deal of the material examined used in this study was collected by Bro. Amnuay Pinratana in the year 1986-2005. The intensive of collections in this study was made in the north of Thailand during 2004-2008. Generic assignments were determined based on publications and additional doubtful specimens were send to Dr. Hiroshi Makihara, Forestry and Forest Products Research Institute, International Information and Cooperation Section, Japan for confirmation. Taxonomic characters of Cerambycidae were described. Key to subfamilies were presented.

RESULTS

Taxonomic of longhorn beetles (Coleoptera: Cerambycidae) in different provinces in the North of Thailand during 2004-2008, revealed 8 subfamilies including 308 identified species in 158 genera. These included species in 8 subfamilies as Disteniinae, Prioninae, Philinae, Spondylidinae, Aseminae, Lepturinae, Cerambycinae and Lamiinae. The identified species included 4 species in Disteniinae, 21 species in Prioninae, 1 species in Philinae, 1 species in Spondylidinae, 2 species in Aseminae, 3 species in Lepturinae, 115 species in Cerambycinae and 161 species in Lamiinae.

Family Cerambycidae Latreille, 1802

Key to subfamilies of Family Cerambycidae

1.
 - a. Mandible scalpriform (arched and scoop-like); clypeus oblique to frons **Disteniinae** (p. 22)
 - b. Mandible normal, subtriangular; clypeus in same plane as frons 2
- 2.(1b)
 - a. Tarsi distinctly 5-segmented, without pubescent sole, segment 3 not dilated and not concealing 4; antenna rarely surpassing prothorax, with deep sensory areas and segment 2 more than 1/2 as long as 3 and remainder subequal 3
 - b. Tarsi with segment 3 dilated and 4 minute, often hidden; antenna surpassing prothorax, with diffused sensory areas and segment 2 rarely 1/2 as long as 3 and remainder usually unequal 4
- 3.(2a)
 - a. Prothorax with distinct lateral margin; labrum fused with epistoma; fore tibia without apical lamella; tarsal segment 3 entire or feebly emarginated; wing with radial cell open, cubito-anal crossvein present **Parandrinae***

- b. Pronotum without lateral margin; labrum free; fore tibia with broad terminal lamella; tarsal segment 3 deeply bilobed; wing with radial cell closed, cubito-anal crossvein absent
.....**Spondylinae** (p. 62)
4. (2b) a. Head usually oblique; genal margin not directed posteriorly; fore tibia without mesial sinus; mid tibia never notched or grooved externally; last maxillary palpal segment obtuse or truncate apically
.....5
- b. Head vertical in front; genal margin directed posteriorly; fore tibia with mesial sinus; mid tibia notched or grooved externally; last maxillary palpi segment acute**Lamiinae** (p. 235)
5. (4a) a. Prothorax with lateral margin or partial; lateral margin and labrum fused with epistoma; lacinia vestigial; fore coxa transverse, not raised above process 6
- b. Prothorax without lateral margin; labrum free; maxilla with inner lobe well developed; fore coxa projecting, rounded, rarely transverse; mesonotum usually with a finely striated stridulatory area; wing without closed cell in anal sector except when vein $2A_2$ present 7
6. (5a) a. Prothorax with complete lateral margin; mesonotum without striated area; wing with a closed cell in anal sector, vein $2A_2$ absent**Prioninae** (p. 27)
- b. Prothorax with vague lateral margin in basal 1/2 only; mesonotum feebly striated; wing with large anal cell and 5 anal veins, including $2A_2$ **Philinae** (p. 61)
7. (5b) a. Stridulatory plate of mesonotum divided; wing often with closed cell in anal sector; vein $2A_1$ and $2A_2$ present, $1A$ connected with $2A_{1+2}$ 8

- b. Stridulatory plate of mesonotum undivided; wing without closed cell in anal sector; vein 2A₁ and 2A₂ absent

.....**Cerambycinae** (p. 70)

8. (7a) a. Head short, not narrowed behind eyes; fore coxa subglobular; antennal segment 2 longer than broad, nearly 1/2 as long as 3; submentum without intermaxillary process; mandible without molar tooth, not fringed**Aseminae** (p. 63)
- b. Head long, narrowed behind eyes; fore coxa conical; antennal segment 2 no longer than broad; submentum with an intermaxillary process; mandible usually with a molar tooth, densely fringed with pubescence on inner margin**Lepturinae** (p. 66)

*not found in Thailand

Subfamily Disteniinae Thomson, 1861

Cyrtonops punctipennis White, 1853

Figures 5J, 69C-D

Cyrtonops punctipennis White, 1853, *Cat. Col. Brit. Mus.* 7: 33, Pl. 2, fig. 3 (India; BMNH). Gahan, 1906, *Fauna India, Col.* 1:60.

Cladopalpus hageni Lansberge, 1886, *Note Leyd. Mus.* 8: 36 (Sumatra; LEIDEN).

Description: *Body* length 18-25 mm and breadth 5-7 mm, reddish brown to dark brown; head sparsely furnished with short, erect, tawny setae; antenna pitchy black, covered pitchy black pubescence; pronotum cinnamon-brown to dark brown, glossy, sparsely furnished with short, erect, tawny setae; scutellum dark reddish brown, covered with reddish brown pubescence; elytra reddish brown, covered with reddish brown pubescence; ventral surfaces dark reddish brown, covered with reddish

brown pubescence; legs darker at the knees, sometimes entirely dark brown, covered with reddish brown pubescence.

Head subrugosely punctured, glossy; gena very narrow; front of head narrow with shallow groove; maxillary palp segment 2 long and slender; maxillary palp segment 3 as long as segment 2, depressed upper surface, furnished with long pale appendage emerged on apical margin of each segment. Antenna shorter than body, finely punctured; segment 1 fairly arched; segment 3 as long as segment 1; segment 4 shorter than segment 3; segments 4-11 very slightly decreasing in length. *Pronotum* slightly convex, covered with closely, subrugosely punctured, furnished with one or two small impunctate spaces; lateral side with a strong tubercle on each side. *Elytra* very strongly punctured, the punctures arranged in more or less regular rows on the outer part of the disc, with narrow subcostiform intervals between some of the rows, the interstices between the large punctures sparsely covered with minute setigerous punctures; apical rounded without toothed; sutural end angles without toothed. *Ventral surfaces* minutely and finely punctured but densely punctured on meso-sternite. *Legs* fairly long; hind femora not very much thicker than the front ones, slightly denticulate along each side of the lower face.

Distribution: N. India, Assam, Myanmar, Sumatra, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 1.03.2006 (3♀, 2♂).

Remark: A long pale appendage is distinctly emerged on the apical margin of maxillary palp segment 2 and 3. Specimens can be found in mid summer season.

Distenia fulvipennis Gressitt, 1935

Figures 5H-I, 69E-F

Distenia fulvipennis Gressitt, 1935. *Philippine Journal of Science*. Manila. 58(2): 267-280.

Description: *Body* length 18-23 mm and breadth 4-5 mm, brown, clothed with thin silvery gray pubescence; head dark brown to black; clypeus brown with slightly dark brown in sides; ventral surfaces clothed with fine brown hairs; femora brown to red brown with apices black.

Head broader at eyes than anterior end of prothorax, somewhat gradually narrowed from eyes to neck; occiput and vertex minutely granulose, finely grooved at middle; antennal tubercles weakly raised at sides, somewhat arcuately and finely grooved at middle; clypeus large, smooth; genae averaging about 1/3 as wide as eyes; eyes rather deeply emarginated above, widest just below middle. Antenna not quite two time as long as body; segment 1 gradually wide just beyond the end, subcylindrical apically and finely granulose; segment 2 about as broad as long; segment 3 considerably longer than segment 1; segments 3-11 in male and segments 3-10 in female similar and decreasing gradually in length. *Pronotum* slightly longer than broad at anterior end, slightly shorter than broad at basal end, distinctly constricted near base and near apex, furnished with a strong, broad-base lateral tubercle, subacute and projecting slightly downward; disc swollen anteriorly and posteriorly at each side, furnished with a slightly five nodose pronotum. Scutellum dark brown to black, rounded posteriorly, slightly concave. *Elytra* 10 times as long as broad, gradually narrowed from base to the end, then narrowed and emarginated apically with a very brief one at the tip; surface with two rows of rather strong punctures, reaching to about middle and fairly regular, with interspaces than punctures, and with a groove parallel reached from posterior and beyond third quarter. *Ventral surfaces* rather smooth. *Legs* fairly long; femora broad and flattened; hind femur slightly narrower than fore and mid femora; tibiae slender and straight.

Distribution: Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 2.06.2004 (3♂): Fang ,6.07. 2005(2♀).

Remark: This species differs from *Trypodryas cambodianus* in having body is brown and clothed with thin silvery gray pubescence. Specimens were collected from early and continued to mid rainy seasons.

Typodryas callichromoides Thomson, 1864

Figure 5F

Typodryas callichromoides Thomson, 1864, *Syst. Ceram.*, 227 (Sylhet; PARIS). Gahan, 1906, *Fauna India*, Col. 1: 65, fig. 25.-Villiers, 1958, *Bull. Mus. Paris* ser 2, 30 (3): 266.

Description: *Body* length 20-26 mm and breadth 4-5 mm, metallic green or blue; elytra furnished with sutural band of different tint, usually violaceous or blue; ventral side of antennae furnished with long hairs.

Head transversely rugulose above behind the eyes, impressed on the vertex with a median line. Antennae 2 times as long as the body in the male, less than 2 times as long in the female, furnished with long hairs beneath sometimes freely projecting, especially in the female. *Pronotum* rather strongly constricted and broadly grooved near the apex, marked with a sinuate groove near the base, transversely striated but finely on front of the anterior groove and behind the posterior groove, the disc slightly depressed in the middle, feebly raised and transversely wrinkled towards the sides. *Elytra* obliquely truncated at the apex, each more prolonged and rather strongly spined at the outer angle and feebly dentate at the suture; each elytron furnished with two raised dorsal lines not extending to the apex, the outer line more distinct, marked with two rows of strong closely placed punctures between the two lines, two rows between the inner line and the suture and another row external to the outer line; anterior half of side densely and less regularly punctured; the rows of punctures of unequal length, some extending a little beyond the middle of the elytra, others not reaching to the middle. *Ventral surfaces* finely punctured; apex of last ventral segment subtruncate in the male, rounded in the female. *Legs* fairly long; hind

femora extend a little past the apex of the elytra in the male, but do not quite reach to the apex in the female.

Distribution: Malaysia, China, Bangladesh, India, Myanmar, N. Vietnam, Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 1.03.2006(1♀, 1♂).

Remark: The species differs from *T. cambodianus* in having antennae are furnished with long fringed hairs along ventral side. Specimens were collected in mid summer season.

Typodryas cambodianus Villiers, 1958

Figure 5G

Typodryas cambodianus Villiers, 1958, *Bull. Du Muséum d'Histoire Naturelle*, ser. 2, 30(3): 262-270.

Description: *Body* length 19.5-20.5 mm and breadth 3.5-4 mm, metallic blue, covered with thin golden pubescence; mouthparts metallic blue, except mandible dark brown; clypeus furnished with transvers brown band at anterior edge; ventral surfaces clothed with golden pubescence; femora metallic black.

Head slightly broader at eyes than anterior end of prothorax, somewhat gradually narrowed from eyes to neck; occiput and vertex minutely granulose; interantennal area strongly raised at sides, somewhat arcuate and finely grooved at middle; clypeus large, sparsely punctured, slightly concave in the middle; genae averaging about 1/3 as wide as eye. Antennae not quite double as long as body; segment 1 gradually widened just beyond middle, cylindrical apically and finely granulose; segment 2 about as broad as long; segment 3 considerably longer than segment 1; segments 3-10 similar and decreasing gradually in length. *Pronotum*

slightly longer than broad at anterior end, slightly shorter than broad at basal end, slightly constricted near base and near apex; a strong broad-based lateral tubercle and subacute; disc slightly swollen anteriorly and posteriorly at each side, covered with finely punctured, and sparsely vermiculate grooved, slightly deepened semicircular form at anterior, with slightly grooved. Scutellum rounded posterior and raised at the edge. *Elytra* about 10 times as long as broad, gradually narrowed from base to the end, then narrowed and emarginated-truncate apically with a fairly strong toothed at sutural angle and brief one at external angle; surface with six rows of rather strong punctures, reaching to about middle and fairly regular; interspaces with sparsely punctures, and with a groove parallel to external margin, basal portion consists of a row of fairly small punctures. *Ventral surfaces* smooth. *Legs* fairly long; femora slightly broad and slightly flattened, tibiae slender and straight.

Distribution: Laos and Thailand.

Material examined: Thailand: Phitsanulok Prov.: Wang Thong, 16.05.2003(1♀), 5.01.2002(1♂).

Remark: The species differs from *T. callichromoides* in long fringed hairs on ventral side of antennae are absent. Specimens were collected in late winter and early rainy seasons.

Subfamily Prioninae Latreille, 1802

Anomophysis ellioti (Waterhouse, 1884)

Figures 7C, 70E-F

Macrotoma ellioti Waterhouse, 1884, *Ann. Mag. Nat. Hist.*, (5), 14 : 380;
holotype ♂ : India (British Museum).

Macrotoma difformis Nonfried, 1891, *Berl. Ent. Zeitschr.*, 36 : 377; Type :
Nilgiri Hills (Type disparu).

Macrotoma spinosa : Lameere, 1903, *Mém. Soc. Ent. Belg.*, 11 : 162 et 199
(Révision, p. 359 et 393) [*pro parte*].

Macrotoma spinosa : Gahan, 1906, *Fauna Brit. India*, Col. 1, (Ceram.) : 38
[*pro parte*].

Macrotoma (Zooblax) spinosa : Lameere, 1913, *Col. Cat. Junk*, 52 : 28
[*pro parte*].

Macrotoma (Zooblax) sapinosa : Lameere, 1919, *Gen. Ins. Wystman*, 172 : 50
[*pro parte*].

Macrotoma (Zooblax) spinosa Gressitt et Rondon, 1970, *Pacif. Ins. Monogr.*,
24 : 3, fig. 2h (exemplaires du Laos).

Description: *Body* length 31-33 mm and breadth 11-13 mm, middle sized species, integument almost reddish brown, anterior area of elytra brown, depressed sub-cylindrical body form, glabrous for the most parts, furnished with setal golden hairs on labium, clypeus, basal parts of mandibles, apical margin of pronotum and the anterior half of underside, and clypeus very conspicuous; frons and vertex provided with same hairs only in the bottom of punctures: scutellum reddish brown and black at the margin; ventral surfaces sparsely covered with short brown hairs for the most parts except abdomen which is glabrous.

Head small, slightly broader than long, shallow punctures throughout, narrowed small groove running from vertex to frons and weakened between eyes; antennal tubercles massive and obtusely raised; mandibles about 0.25 times as long as head, covered with rough punctures and hairs except shiny pitchy part along inner blade and apices, acutely pointed at apices and weakly bent inward at middle. Antennae slightly shorter than body length, shiny throughout; segment 1 longer than mandible, deeply punctuate; segment 3 about 2 times longer than segment 1, sub-cylindrical, deeply but sparsely punctuate; segments 4-10 each about 0.4 times as long

as segment 3, sparsely and shallowly punctuate; segment 11 slightly longer than segment 10. *Pronotum* sub-trapezoidal, widest at base and gradually narrowed anteriorly, lateral margin without any denticulation; basal corner acutely angled; apical corner obtusely angled with obtusely denticulate; anterior margin sub-straight and slightly concave at the middle but slightly projected forward at just insides of corner, basal margin slightly sinuate; disc covered with finely punctured, furnished with a pair of round moderately deep groove at each side of apical third. Scutellum hemi-circular, slightly longer than wide, minutely granulate, mat. *Elytra* almost as broad as prothorax, parallel sided at basal 4/5 and smoothly rounded apically, rather roughly granulate at each side of scutellum and granules getting finer and smaller towards each sides and apices; each elytron furnished with owt slightly distinct costae or disappear; sutural end angled but not toothed. *Ventral surfaces* sparsely covered with finely punctured. *Legs* long and slender, mostly glabrous but sparsely setal hairs scattered on meso tibiae and meta tibiae, slightly rugosely punctured on ventral side of pro-femora; tibiae depressed and having small denticulations on ventral side.

Distribution: Laos, India and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Doi Saket, 17.11.2007(1♂), Doi Pahom Pok, 18.10.2006(1♂), Samoeng, 13.10.2007(1♂).

Remark: The species differs from *A. spinosa* in having pronotum and elytra are mat; lateral sides of pronotum are smooth without small tooth. This species can be collected from late rainy and continued to early winter seasons.

Anomophysis elongata Quentin and Villiers, 1981

Figures 7A-B, 70C-D

Anomophysis elongata Quentin et Villiers, 1981, *Annls Soc. Ent. Fr. (N.S.)* 17(1), 1981, 359 à 393.

Description: *Body* length 35-55 mm and breadth 10-15 mm, middle sized with slightly depressed subcylindrical, glabrous for the most parts, furnished with setal golden hairs on labium, clypeus, basal parts of mandibles, apical margin of pronotum and the anterior half of underside, and clypeus very conspicuous; frons and vertex provided with same hairs only in the bottom of punctures; integument almost black, elytra blackish brown; ventral surfaces sparsely covered with short golden hairs for the most parts except abdomen which is glabrous.

Head small, slightly wider than long, widest at eyes and narrowed both anteriorly and posteriorly, slightly deeply punctate throughout; a slightly narrowed groove running from frons to basal margin; antennal tubercles massive and obtusely raised; mandibles about 0.4 times as long as head, covered with punctures and hairs except shiny pitchy part along inner blade and apices, acutely pointed at apices and slightly bent inward at middle. Antennae slightly shorter than body length, shiny throughout; segment 1 about as long as mandible, deeply punctate; segment 3 about 2.5 times as long as segment 1, sub-cylindrical, deeply but sparsely punctate; segments 4-10 each about 2.5 times as long as segment 3, sparsely punctate; segment 11 about 1.3 times as long as segment 10. *Pronotum* sub-trapezoidal, widest at base and gradually narrowed anteriorly, lateral margin with sparsely toothed; basal corner acutely angled with spine; apical corner slightly acute; anterior margin sub-straight but slightly projected forward at just insides of corner, basal margin slightly sinuate; disc covered with scattered fine punctures, furnished with a large of irregular foveae at the middle of pronotum and two smaller at each side of apical a half. *Scutellum* hemi-circular and strongly concave inward at the posterior margin, surface slightly sinuate. *Elytra* almost as wide as pronotum, parallel sided at basal 4/5 and smoothly rounded apically, roughly granulate throughout, each elytron furnished with four distinct costae, inner two starting just after humeri and meeting each other just before apex, outer two starting from basal fourth and meeting each other just before apex; sutural end angled but not toothed. *Ventral surfaces* sparsely covered with finely punctured. *Legs* short and stout, mostly glabrous but very sparsely scattered setal hairs on meso tibiae and meta tibiae, slightly rugosely punctured on ventral side of

pro-femora; tibiae depressed and having minute denticulations on ventral side except meta tibiae disappear.

Distribution: Vietnam, Cambodia and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Chiang Dao, 18.04.2004(1♀), Mae Chaem, 7.04.2005(1♀), 5.09.2004(1♀), Fang, 5.09.2003(1♀), Doi Saket, 1.12.2005(1♀), Chiang Rai Prov.: Khum Chae, 15.07.2003(1♀): Wiang Pa Pao, 23.08.2003(1♂), Mae Hong Son Prov.: Khum Yuam, 20.06.2004(1♀), Lampang Prov.: Wiang Nuao, 18.04.2003(1♀, 1♂), Phetchabun Prov.: Nam Nao, 2.04.2002(1♀).

Remark: The species differs from *Bandar pascoei* in having elytra are backish brown and covered with roughly granulated. Specimens were collected from late summer, rainy and continued to mid winter seasons.

Anomophysis spinosa (Fabricius, 1787)

Figures 6C-D, 70A-B

Prionus spinosus F., 1787, *Mant. Ins.*, 1 : 130 (Tranquebar; BMNH).

Macrotoma spinosa + *elliotti* + *difformis*: Lameere, 1903, *Mém. Soc. Ent. Belg.* 11 : 162 et 199 (Révision, p. 359 et 393), [pro parte].

Macrotoma spinosa : Gahan, 1906, *Fauna Brit. India, Col. I*, (Ceram.) : 38, [pro parte].

Macrotoma (Zooblax) spinosa : Lameere, 1913, *Col. Cat. Junk*, 52 : 28, [pro parte].

Macrotoma (Zooblax) spinosa : Lameere, 1919, *Gen. Ins. Wytsman*, 172 : 50, [pro parte].

Anomophysis spinosa (Fabricius, 1787), *Annls Soc. Ent. Fr. (N.S.)* 17 (1), 1981, 359 à 393.

Description: *Body* length 55-60 mm and breath 15-21 mm, large sized with slightly depressed subcylindrical, glabrous for the most parts, furnished with setal golden hairs on labium, clypeus, basal parts of mandible, apical margin of pronotum and the anterior half of underside, and clypeus very conspicuous; frons and vertex provided with same hairs only in the bottom of punctures; integument almost dark brown, elytra reddish brown; anterior margin of scutellum reddish brown and posterior margin of scutellum black; ventral surfaces sparsely covered with short yellow hairs for the most parts except abdomen which is glabrous.

Head short, slightly wider than long, widest at eyes and narrowed both anteriorly and posteriorly, finely punctuate throughout, a moderately deep groove running from frons to vertex and weakened near basal margin; antennal tubercles massive and obtusely raised; mandibles about 0.5 times as long as head, covered with punctures and hairs except shiny part along inner blade, acutely pointed at apices and strongly bent inward at middle. Antennae slightly shorter than body length, shiny throughout; segment 1 longer than mandible, deeply punctuate; segment 3 about 2.5 times as long as segment 1, subcylindrical, deeply but sparsely punctuate; segments 4-11 each about 1/3 as long as segment 3, slightly punctuate. *Pronotum* subtrapezoidal, widest at base, lateral margin with slightly small denticulations; basal corner acutely angled; apical corner with small tooth; anterior margin substraight but slightly projected forward at just insides of corner, basal margin straight; disc mostly area raise in the middle, covered with finely punctured, furnished with a pair of irregular foveae at each side of apical third and a slightly median groove running from middle of posterior margin to the middle disc. *Scutellum* hemicircular, slightly wider than long; surface minutely granulate, mat. *Elytra* almost as wide as pronotum parallel sided at basal 4/5 and smoothly rounded and fairly strong tooth at apices, rather roughly granulate at each side of scutellum and granules getting finer and smaller towards each sides and apices, each elytron furnished with four very slightly costae; sutural end angled with toothed. *Ventral surfaces* sparsely covered with finely

punctured. *Legs* long and slender, mostly glabrous but very sparse setal hairs scattered on mesotibiae and metatibiae; ventral and dorsal sides of profemora rugosely punctured; tibiae depressed, more denticulations on ventral side.

Distribution: South India, Laos and Thailand

Material examined: Thailand: Chiang Mai Prov.: Fang, 6.07.2005(1♂), Samoeng, 2.02.2006(1♂), Phayao Prov.: Chiang Kham, 1.12.2005(1♂).

Remark: The species differs from *A. ellioti* in having lateral sides of pronotum are furnished with small dentations; a pair of irregular foveae are present on each side of apical third. Specimens were collected in middle, late winter and mid rainy seasons.

Baralipton maculosa Thomson, 1857

Figures 12A-C, 73A-B

Baralipton maculosum Thomson, 1857, *Archiv. Ent.* 1: 342, pl. 14, fig. 1

(N. India; BMNH).-Gahan, 1906, *Fauna India, Col.* 1: 42, fig. 15.

Megopis (Baralipton) maculosa: Lameere, 1909, *Annls. Soc. ent. Belg.* 53, p. 161.

Megopis (Baralipton) maculosa: Gressitt, 1940, *Philipp. J. Sci.*, 72, pp. 22, 23.

Baralipton maculosum: Lepesme & Breuning, 1952, *Trans. Nnth int.*

Congr. Ent., 1, p. 40.

Megopis (Baralipton) maculosa: Gressitt & Rondon, 1970, *Pacif. Ins. Mon.*,

24, pp. 15, 17.

Description: *Body* length 38-61 mm and breadth 10-16 mm, blackish brown, dorsal side and to a less extent the ventral side, clothed with densely ashy-grey

pubescence; antennae brownish, furnished with long brownish hairs along ventral side of segments 3-6, remainder very sparsely brown hairs; elytra silky reflexions, furnished with dark brown spot of velvety appearance placed a little behind the scutellum, each elytron furnished with two very large irregular spots of similar colour and extend from the outer margin to the inner costa, placed, one before, the other behind the middle.

Head narrower than prothorax, closely and finely punctured. Antennae slightly longer than body in male, longer than a half of body in female; segment 1 about as long as mandibles, densely and closely rugulose-punctate, a strongly apical tooth and acute; segment 3 longest, about 5 times as long as segment 1, closely and rugulose-punctures; segments 4 longer than segment 1, punctured; segments 5-11 gradually decreasing in length. *Pronotum* very strongly raised towards the middle and impressed with a longitudinal shallow groove, sparsely granulated towards the sides and down the middle, but closely granulated on the raised parts at each side of the same. Scutellum linguiform. *Elytra* rounded at the apex, armed at the suture with a short spine, each elytron with two strongly raised dorsal costae, the inner one extends from the base for about two-thirds of its length, the outer one continued to within a short distance of the apex and hinder end directed towards the suture; the lateral costa very short, distinct only on the apical half of the elytron. *Ventral surfaces* finely punctured; ventral segment 5 of the abdomen rounded at the apex in both sexes. *Legs* finely and very closely granulate, faintly pubescent; tibiae gradually and slightly widened towards their distal extremity.

Distribution: N. India, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 22.09.2006(1♂, 2♀), Mae Taeng, 1.10.2005(1♀), Doi Inthanon: 15.08.2006(1♂), Mae Hong Son Prov.: Khum Yuam, 19.11.2005(1♀), Phitsanulok Prov.: Nakhon Thai, 1.03.2003(1♂, 1♀).

Remark: body is distinctly covered with ashy-grey pubescence; long brownish hairs are furnished on along ventral side of antennal segments 3-6; elytra are silky

reflexions and dark brown spots of velvety are present on disc. Two pair of very large irregular spots of similar colour are placed on surface. Specimens were collected in mid summer, mid rainy and early winter seasons.

Bandar pascoei (Lansberge, 1884)

Figures 6A-B, 71E-F

Prinobius pascoei Lansberge, 1884, *Note from the Leyden Museum*. 6:135-160.

Macrotoma fisheri Waterhouse, 1884, *Ann. Mag. Nat. Hist.* Ser 5, 14 : 382
(Burma; BMNH).-Gahan, 1906, *Fauna India, Col. 1* : 35.

Macrotoma (Badar) fisheri: Lameere, 1903, *Mém. Soc. Ent. Belg.* 11 : 129 : 194
(Revision, p. 323 et 388) (Sumatra, Banga, Billiton et Borneo).

Macrotoma fisheri: GAHAN, 1906, *Fauna Brit. India, Col. 1*: 35 (Birmanie).

Macrotoma (Bandar) fisheri: LAMEERE, 1912, *Mém. Soc. Ent. Belg.*, 21: 144
(Revision, p. 1008).

Macrotoma (Bandar) Pascoei: LAMEERE, 1912, *Mém. Soc. Ent. Belg.*,
21: 144 (Revision, p. 1008).

Macrotoma (Bandar) Fisheri: LAMEERE, 1913, *Col. Cat, Junk*, 52: 29 [pro parte:
exemplaires de Birmanie, Cochinchine].

Macrotoma (Bandar) Pascoei: LAMEERE, 1913, *Col. Cat. Junk*, 52: 29
(Sumatra, Banga, Billiton, Borneo).

Macrotoma (Bandar) Fisheri: LAMEERE, 1916, *Bull. Soc. Ent. France*: 257
[Pro parte: exemplaires de Cochinchine et du Thibet].

Macrotoma (Bandar) fisheri: LAMEERE, 1919, *Gen. Ins. Wystman*, 172: 52
[pro parte: exemplaires de Birmanie, Cochinchine, Thibet].

Macrotoma (Bandar) Pascoei: LAMEERE, 1919, *Gen. Ins. Wystman*, 172: 52
[Tonkin, Cochinchin, Sumatra, Banga, Billiton, Borneo].

Macrotoma (Bandar) fisheri: GRESSITT, 1951, 7: 11 [pro parte, exemplaires
du Thibet].

Macrotoma (Bandar) fisheri: GILMOUR, 1954, *Bull. Inst. Sc. Nat. Bruxelles*, 30
(24): 29, pl. I, fig. 1 et 2 [figuration de 2 exemplaires du Thibet](2).

Macrotoma (Bandar) fisheri: GRESSITT & RONDON, 1970, *Pacif. Ins. Monogr.*,
24: 13.

Macrotowa (sic!) (Bandar) fisheri ssp. Khooi HAYASHI, 1975, *Bull. Osaka jonan
Women's Jr. Coll.*, 10: 168, pl. 1, fig. 2; holotype ♀: Telecoms, Fraser's Hill,
Malayasia (collection Hayashi). [NOUVELLE SYNONYMIE].

Macrotoma fischeri (sic!) : HEYROVSKY, 1976, *Khumbu Himal*, 5 : 175 [Nepal].

Description: *Body* length 60-71 mm and breadth 18-23 mm, brown to reddish brown, slightly depressed subcylindrical body form, glabrous for the most parts, furnished with setal golden hairs on labium, clypeus, basal parts of mandible, apical margin of pronotum and the anterior half of ventral side; scutellum reddish brown with dark color at the margin; ventral surfaces sparsely covered with short yellow hairs for the most parts except abdomen which is glabrous.

Head as wide as long, finely punctuate throughout except front and vertex which are sparsely covered with deeply punctured, a moderate and deep groove running from frons to vertex and weakened near basal margin; antennal tubercles massive and obtusely raised; mandibles about 1/3 as long as head, covered with

punctures and hair except shiny pitchy part along inner blade, acutely at apices and strongly bent inward at middle. Antennae slightly shorter than a half of body, shiny throughout; segment 1 pitchy as long as mandible, deeply punctuate; segment 2 pitchy, short and narrow at the anterior, then suddenly swollen at posterior margin with coarse punctures; segment 3 pitchy about 2 times longer than segment 1, sub-cylindrical, deeply but sparsely punctuate; segments 4-10 reddish brown about $\frac{1}{3}$ as long as segment 3, a few punctures or not; segment 11 about 2 times as long as segment 10. *Pronotum* subtrapezoidal, widest at base and narrowed anteriorly, lateral margin with many small tooth; basal angled with toothed; anterior margin sub-straight, small tooth projected at outside of angles; basal margin sinuate; disc covered with scattered strong punctures except the smooth area at middle which is covered with a few of punctures, furnished with a pair of irregular foveae at each side of apical $\frac{1}{3}$. Scutellum hemi-circular, surface minutely punctuate, mat. *Elytra* almost as wide as pronotum, parallel sided at basal $\frac{4}{5}$ and granules getting finer and smaller towards each sides and apices, each elytron furnished with 4 distinct costae, inner two starting just after humeri and meeting each other just before apex and disappearing, one inner costae starting from basal $\frac{1}{3}$ and one outer costae starting from humeral angle, then meeting each other just before apex then disappearing; sutural end angled but not toothed. *Ventral surfaces* sparsely covered with finely punctured. *Legs* long and stout, mostly glabrous but very sparse setal hairs scattered on meso- and meta-tibiae; ventral side of pro-femora rugosely punctured; tibiae depressed and having minute denticulations on ventral side.

Distribution: Myanmar, S. China, S. Vietnam, Laos, Indonesia, Tibet, Malaysia, Srilanka, India, The Philippines and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 7.04.2004(1♀), 3.08.2005(1♀), 13.10.2007(1♂), Doi Saket, 5.07.2005(1♂), 16.07.2004(1♀), 2.02.2003(1♀), 17.11.2007(1♀, 2♂), Chiang Dao, 18.04.2004(1♀), Doi Pahom Pok, 18.10.2006(1♀), Chiang Rai Prov.: Khum Chae, 15.07.2003(1♂): Wiang Pa Pao, 5.06.2002(1♂), Phayao Prov.: Chiang Kham, 5.09.2004(1♂), Phrae Prov.: Wang

Chin, 15.01.2002(1♂), 10.12.2005(1♂), Phetchabun Prov.: Nam Nao, 2.04.2002(1♀), Tak Prov.: Umphang, 30.06.2007(2♀), Utthai Thani Prov.: Lan Sak, 29.06.2007(1♀).

Remark: The species differs from *Anomophysis elongata* in having elytra are reddish brown and furnished with granules setting finer and smaller towards each sides and apices. Specimens were collected throughout the year except mid summer and early rainy seasons.

Dorysthenes buqueti (Guérin, 1844)

Figures 9A-F, 71C-D

Lophosternus buqueti Guérin, 1844, *Icon. Règne Anim., Ins.*, 209 (Java; PARIS).-Gahan, 1906, *Fauna India*, Col. 1:13.

Dorysthenes (Lophosternus) buqueti Lameere, 1911, *Ann. Soc. Ent. Belg.* 55: 331.-Duffy, 1968, *Imm. Stages Or. T. Beetles*, 58.

Description: *Body* length 30-65 mm and breadth 9-23 mm, chestnut-red; head darker than prothorax and elytra, furnished with reddish brown hairs on labium, clypeus, basal parts of mandibles, apical margin of pronotum and the anterior half of ventral side, and clypeus very conspicuous; antennae slightly longer than body, glabrous; segments 1-3 dark brown, remainder reddish brown; prothorax chestnut-red, darker on anterior margin, posterior margin and lateral sides; elytron glabrous; legs chestnut-red, darker on knee and tibiae.

Head closely and rather strongly punctured above; last joint of palpi widest at about one-fourth from the apex; eyes very large, narrowly and not very deeply emarginated, the upper lobe extending forward to the antenniferous tuber. Antennae nearly as long as the body; segment 1 reaching by about one-fifth of length beyond the hind margin of the eye; segment 3 almost rectangular at the apex; segment 4 acute at the apex; segments 5-10 produced each into a sharply angulate process at the apex. *Pronotum* closely punctured at the sides, sparsely elsewhere; hind angles slightly

projecting but scarcely acute. *Elytra* rather strongly punctured, the interstices rugulose and finely but not very closely punctulate, each elytron with two obtuse and feebly raised costae. *Ventral surfaces* finely punctured; last ventral segment with a feeble sinuate emargination at the apex. *Legs* long and stout, mostly glabrous but very sparse setal hairs scattered on meso tibiae and meta tibiae.

Distribution: N. India, Assam, Myanmar, Malaysia, Java, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 2.02.2006(1♂, 1♀), Chiang Dao, 4.02.2003(1♂), Mae Taeng, 6.07.2003(1♀), Mae Chaem, 7.04.2005(1♂), Mae Hong Son Prov.: Khun Yuam, 19.11.2005(1♀), Uttaradit Prov.: Ban Khok, 15.05.2005(1♀).

Remark: body is distinctly chestnut-red color; lateral sides are furnished with variation shape of dentations but a morphology of male genitalia is similar. Specimens were collected in early and late summer, early and mid rainy, and early winter seasons.

Dorysthenes walkeri (Waterhouse, 1840)

Figures 10A-D, 71A-B

Baladeva walkeri Waterhouse, 1840, *Trans. Ent. Soc. Lond.* 2: 226, pl. 2, fig. 1 (Burma; BMNH).-Gahan, 1906, *Fauna India*, Col. 1: 8.

Dorysthenes (Baladeva) walkeri: Lameere, 1911, *Ann. Soc. Ent. Belg.* 45: 343.-Gressitt, 1951, *Longicornia* 2:23.

Description: *Body* length 38-79 mm and breadth 15-29 mm, dark brown or almost black in colour; head black; prothorax and the ventral side more or less reddish; hind breast without pubescence in male.

Head feebly and sparsely punctulate above, somewhat granulate at the sides; mandibles very long and, in well-developed specimens, armed with a tooth on outer margin near the middle. Antennae not reaching to the middle of the elytra; segment 1 reaching to the hind margin of the rather broad eye. *Pronotum* glossy, very minutely punctulate in female, more deeply punctulate than in the male and not so glossy in male. *Elytra* rugulose and more or less nitid. *Ventral surfaces* finely punctured; last ventral segment sinuate and slightly depressed, at the apex in female, rounded at the apex in male. *Legs* fairly long; tibiae of the front and middle legs strongly asperate, or subspinose beneath; front tarsi somewhat dilated, segment 1 longer and narrower than the second or third; hind breast with a faint tawny pubescence at the sides, a triangular area in the middle naked and glossy; legs of male shorter than female, smooth, the front tarsi very little broader than the hind tarsi.

Distribution: Myanmar, Thailand, N. Vietnam, China and Laos.

Material examined: Thailand: Chiang Mai Prov.: Doi Inthanon, 15.08.2006(2♂, 3♀), Fang, 2.03.2002(1♂), Mae Chaem, 1.03.2006(1♂, 1♀), 7.04.2005(1♀), Chiang Dao, 18.04.2004(1♀), Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♂, 1♀), Mae Hong Son Prov.: Khun Yuam, 20.06.2004(1♂), Phare Prov.: Wang Chin, 6.08.2004(1♀), 10.12.2005(1♂).

Remark: This species clearly distinct from character of body is almost black; mandibles are very long and armed with toothed on outer margin near the middle. Specimens were collected in mid and late summer, early and mid rainy and mid winter seasons.

Eurypoda batesi Gahan, 1894

Figures 11D-E, 72A-B

Eurypoda batesi Gahan, 1894, *Ann. Mag. Nat. Hist.* ser 6, 14: 225 (Japan; BMNH).

Eurypoda (Neoprion) batesi: Lameere, 1904, *Ann. Soc. Ent. Belg.* 48: 12.-Gressitt,

1951, *Longicornia* 2: 13.

Description: *Body* length 28-42 mm and breadth 9-12 mm, middle sized species with flatten body from, glabrous for the most parts, furnished with setal golden hairs on labium, apical margin of pronotum and ventral side of mesothorax, and labium very conspicuous; integument reddish brown; ventral surfaces covered with golden brown hairs for the most parts except abdomen which is glabrous.

Head about as wide as long, widest at eyes and slightly narrowed both anteriorly and posteriorly, moderately punctulate throughout, a deep median groove running from frons to vertex and weakened near basal margin; antennal tubercles massive and obtusely raised; a moderate and deep groove near posterior margin each the eyes, roughly punctulate; mandibles about as long as head, covered with finely punctulate except shiny part along inner blade, acutely pointed at apices and strongly bent inward at middle. Antennae slightly longer than a half of body, shiny throughout; segment 1 shorter than mandibles, finely but sparsely punctulate; segment 3 about 2.5 times as long as segment 1, cylindrical, sparsely fine punctulate; segments 4-11 each about a half as long as segment 3, sparsely punctured and gradually decreasing in length; segment 11 sparse long hairs at apices. *Pronotum* subrectangular, lateral margin reaching to outside and without any denticulation in male, obtusely toothed on middle of each side in female; basal and apical corners rounded; anterior margin slightly concave at the middle and slightly projected forward at just insides of corner, basal margin sinuate; disc furnished with a large irregular foveae at the middle, two rounded groove at near each posterior corner, sparsely punctulate; inner sides mat with finely punctulate. Scutellum linguiform, sparsely punctured, glabrous. *Elytra* as wide as pronotum, sub-parallel sided at basal 4/5 and smoothly rounded apically, moderate punctuate scattered towards each sides and apices. Sutural end angled but not toothed. *Ventral surfaces* covered with finely punctured. *Legs* short and stout, most glabrous but sparse setal hairs scattered on inner tibiae; very sparse hairs on femora or not.

Distribution: Japan, SW China, N. Vietnam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Sutep, 5.08.2004(1♂), Mae Chaem, 1.03.2006(1♀).

Remark: The species differs from female of *Rhineimegopsis rugicollis* in having each lateral side of pronotum is furnished with obtusely toothed on middle. Specimens were collected in mid summer and rainy seasons.

Eurypoda nigrita Thomson, 1865

Figures 11A-C, 72C-D

Eurypoda nigrita Thomson, 1865, *Syst. Ceramb.*, 577 (Malacca; BMNH).

-Gressitt, 1951, *Longicornia* 2: 12.

Zarax eurypodioides Pascoe, 1867, *Ann. Mag. Nat. Hist.* ser 3, 19: 410 (Sumatra; BMNH).

Description: *Body* length 29-42 mm and breadth 6-11 mm, middle sized with depressed flattened, glabrous for the most parts, furnished with setal golden hairs on labium, apical margin of pronotum and underside in male, the anterior half of ventral side and glabrous at the middle of meta sternum in female; integument reddish brown or dark brown.

Head slightly longer than wide, subparallel sided and slightly narrowed anteriorly, slightly constrict at basal, roughly punctulate throughout; a narrow groove running from frons to basal margin; antennal slight tubercles and small swollen to outsides; mandibles slightly shorter than head, covered with punctures and short golden hairs except shiny part along inner blade and apices, acutely pointed at apices and slightly bent inward at middle. Antennae slightly longer than a half of body, shiny throughout, covered with golden hairs except segment 1 which is glabrous; segment 1 about 1/3 as long as mandibles, strongly constrict at anterior margin and then swollen, glabrous; segment 3 about 2.1 times as long as segment 1, sub-cylindrical; segments 4-11 each about a half as long as segment 3, covered with

brown hairs in male, sparsely brown hairs in female, gradually decreasing in length. *Pronotum* trapezoidal, widest at base and gradually narrowed anteriorly, lateral margin with one toothed on each side; apical and basal corner rounded without spine; anterior margin sub-straight, basal margin slightly sinuate; disc glabrous, furnished with a rounded groove at each side near basal margin, slightly concave at the middle; narrow groove running from anterior margin to basal; slightly raised along posterior margin. Scutellum hemi-circular, a moderate groove running from apical to the basal margin, glabrous without punctures. *Elytra* slightly wider than pronotum, sub-parallel sided at basal 5/6 and smoothly rounded apically, glabrous without punctures; sutural end rounded, without toothed. *Ventral surfaces* covered with golden hairs for the most parts except triangle area in the middle of meta sternum which is glabrous. *Legs* short and stout, sparse setal hairs scattered on tibiae and femora.

Distribution: Indonesia, China, Laos and Thailand.

Material examined: Thailand: Kamphaeng Phet Prov.: Chiang Mai Prov.: Fang, 22.09.2006(2♂, 1♀), Chiang Rai Prov.: Wiang Pa Pao, 23.08.2003(1♂, 1♀), Mae Taeng, 6.07.2003(1♀), Doi Saket, 16.07.2004(1♂), Doi Inthanon, 15.08.2006(1♂, 3♀), Mae Hong Son Prov.: Khun Yuam, 20.06.2004(1♂), Khumpang Phet Prov.: Khosam Pi Nakhon, 11.04.2003(2♂), Lampang Prov.: Chae Son, 3.09.2003(1♂, 2♀), Phitsanulok Prov.: Nakhon Thai, 20.12.2004(1♀), 1.03.2003(1♀).

Remark: This species distinct from character of body is reddish brown or dark brown which is depressed flattened and glabrous for the most parts; pronotum is trapezoidal shape and widest at base. Specimens were collected in mid and late summer, rainy and early winter seasons.

Megopis marginalis (Fabricius, 1775)

Figures 12D, 73C-D

Cerambyx marginalis F., 1775, *Syst. Ent.*, 169 (“Cape of Good Hope”

=error; BMNH).

Aegosoma marginale: White, 1853, *Cat. Col. Brit. Mus.* 7: 31.

Aegosoma javanica Redtenbacher, 1868, *Reise Novara* 2: 202 (Java; WIEN).

Megopis (Baralipon) marginalis: Lameere, 1909, *Ann. Soc. Ent. Belg.*

53: 152.-Duffy, 1968, *Imm. Stages Or. T. Beetles*, 52.

Megopis (Aegolipton) marginalis: Gressitt, 1940, *Philip. J. Sci.* 72: 23;

1951, *Longicornia* 2: 15.

Description: *Body* length 20-38 mm and breadth 5-10 mm, reddish brown, covered above with a rather thin, tawny pubescence; front and hind margins of the pronotum and the sutural and lateral margins of the elytra almost black.

Head narrower than prothorax, granulate; vertex slightly depressed; a narrow and shallow groove running from frons to vertex. Antennae nearly half as long as the body; segment 3 about 3 times as long as segment 1 and about equal in length to segment 4 and segment 5 united; segment 1 and segment 3 aspirate; segment 3 and succeeding segments with a short hair-fringe beneath; female, antennae reach to the apex of the elytra, more slender than in the male; ventral segment 5 with a broad deep emargination behind; ovipositor broad at the base, narrow and subcylindrical towards the extremity. *Pronotum* slightly narrower than elytra, rounded in the middle on each side, narrowed in front, but to a less extent, towards the base, the hind angles rounded off; lateral edge distinct only from the basal margin to the outer angle of the coxal cavity, completely obliterated in front. Scutellum linguiform, slightly raised edge. *Elytra* about 3 times as long as broad, costae obsolete. *Ventral surfaces* finely punctured; last ventral segment with a semicircular emargination at the apex. *Legs* fairly long.

Distribution: Malaysia (Borneo, Sulawesi), Indonesia (Java, Sumatra, Maluku), Taiwan, China, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 7.04.2004(1♂): Chiang Dao, 7.08.2005(1♀), Doi Sutep: 1.04.2003(1♂), Doi Saket, 5.07.2005(1♀), Mae Taeng, 6.07.2003(1♂), 1.10.2005(1♀).

Remark: The species differs from *Megopis sinica ornatcollis* in having pronotum is suboval shape and without basal tooth on each corner. Specimens were collected from late summer, mid and continued to late rainy seasons.

Megopis procera Pascoe, 1866

Figures 12E-G, 73E-F

Megopis procera Pascoe, 1866, *Proc. Zool. Soc. Lond.* 1866: 536 (Penang; BMNH).

Aerogrammus rufus Bates, 1875, *Ent. Mon. Mag.* 12: 50 (NW Borneo; BMNH).

Megopis (Aerogrammus) procera: Lameere, 1909, *Annls. Soc. ent. Belg.* 53: 169.

-Gressitt & Rondon, 1970, *Pacif. Ins. Mon.*, 24: 17.

Description: *Body* length 22-31 mm and breadth 6-8 mm, subcylindrical, glabrous for the most parts; integument almost dark or bright teared; elytra dark brown; scutellum surface dark brown.

Head longer than wide, widest at eyes and straightly basal, finely granulated throughout; frons concave at middle, punctulated, vertex granulated; mandibles about 0.4 times as long as head, covered with punctures except shiny part along inner blade and at apices. Antennae as long as body in male, longer than a half of body in female, glabrous throughout; segment 1 about as long as mandibles, densely and moderately punctulated; segment 3 about 2.5 times as long as segment 1, very sparse punctures or disappearing; segments 4-11 each as long as segment 1, smoothly and gradually

decreasing in length. *Pronotum* slightly convex, finely granulated throughout, widest at base and gradually narrowed anteriorly, lateral margin without any denticulation; apical corner rounded; basal angles with median dentiform processes and one slightly small swollen at both side near the base. *Scutellum* linguiform, glabrous and gradually raised from the middle to each side. *Elytra* widest than pronotum, sub-parallel sided at basal 3/4 and smoothly rounded apically, glabrous, smooth and shiny on costae, finely granulated and dark brown covered throughout intervals; sutural end angled with toothed. *Legs* short and slightly flattened, covered with short golden hairs.

Distribution: Borneo, Malaysia, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 1.10.2005(1♂), Samoeng, 7.04.2004(1♂), Mae Chaem, 5.09.2004(1♀), Mae Hong Son Prov.: Khun Yuam, 19.11.2005(1♂).

Remark: This species clearly distinct from character of elytra are dark brown; lateral margins of pronotum are smooth without any denticulation; apical corners are rounded; strongly raised costae and a pair of small tubercles are present on each 1/3 of elytron length. Specimens were collected from late summer, late rainy and continued into early winter seasons.

Megopis sinica ornaticollis (White, 1853)

Figures 13A, 74A-B

Aegosoma ornaticolle White, 1853, *Cat. Col. Brit. Mus.* 7: 30 (E. Indies; BMNH).-Gahan, 1906, *Fauna India*, Col. 1: 45, fig. 17.

Megopis (Aegosoma) sinica ornaticollis: Lameere, 1909, *Ann. Soc. Ent. Belg.* 53: 138.-Gressitt, 1951, *Longicornia* 2: 17.

Description: *Body* length 30-50 mm and breadth 8 -15 mm, dark brown to reddish brown; head dark brown, covered with golden brown hairs; antennae reddish brown to dark brown, sparsely short golden hairs; prothorax dark brown, covered with golden brown pubescence; clypeus and labrum dark brown, covered with golden hairs; scutellum dark brown, covered with pale golden brown hairs; elytra reddish brown except lateral margins and sutural margins, sparsely short golden hairs; ventral surfaces reddish brown, darker on pro-, meso- and metasternum, covered with long golden brown pubescence on metasternum, sparsely golden brown hairs on remainders; legs reddish brown, covered with reddish brown pubescence.

Head narrower than prothorax, granulate, furnished with rugulose-punctured on vertex; a narrow and shallow groove running from frons to vertex; clypeus depressed, punctured. Antennae slightly longer than body on male, slightly shorter than body in female; segment 1 asperate; segment 3 longest, about 3 times longer than segment 1, asperate, somewhat canaliculated behind; segment 4 about 0.5 times as long as segment 3, asperate; segment 5 shorter than segment 4, asperate; segments 6-11 smooth and decreasing in length. Female, antennae reach to a little beyond the middle of the elytra, segment 3-5 less thickened and scabrous than the male. Last ventral segment more broadly emarginated behind. Ovipositor exerted, long, broad and flat near base, narrow and subcylindrical towards the end. *Pronotum* widest at the base with a slightly projecting angle on each side, narrowed in front; lateral edges distinct only from the base to the outer angles of the coxal cavities. Scutellum linguiform. *Elytra* glabrous, finely and very closely granulate and opaque; each elytron with two or three very feebly raised lines or not; rounded apex; sutural end angles without toothed. *Ventral surfaces* finely punctured; last ventral segment with a deeply arcuate emargination behind. *Legs* fairly long.

Distribution: N. India, Myanmar, S. China, Taiwan, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 6.07.2005(1♂).

Remark: The species differs from *M. sinica sinica* in having 4th antennal segment is about 3/4 of third segment length. The only one specimen was collected in mid rainy season.

Megopis sinica sinica (White, 1853)

Figures 13B-C, 74C-D

Aegosoma sinicum White, 1853, *Cat. Col. Mus.* 7: 30 (Shanghai; BMNH).

Aegosoma amplicollis Motschulsky, 1853, *Etudes Ent.* 2: 48 (Peking; Moscow-lost).

Megopis (Aegosoma) sinica; Lameere, 1909, *Ann. Soc. Ent. Belg.* 53: 138.

Megopis (Aegosoma) sinica cornicula Yoshida, 1931, *Trans. Nat. Hist. Soc. Formosa* 21: 273 (Taiwan; TARI).

Megopis (Aegosoma) sinica sinica: Gressitt, 1951, *Longicornia* 2: 16.- Duffy, 1968, *Imm. Stages Or. T. Beetles*, 50.

Description: *Body* length 25-45 mm and breadth 9-13 mm, subcylindrical; integument almost reddish brown, glabrous for the most parts; head covered with golden hairs; leg reddish brown except posterior margin of tibiae dark brown, covered with short golden hairs.

Head longer than wide, widest at eyes and straightly narrowed basal, finely punctulate throughout; frons concave at middle and sparsely punctulate; a narrow groove running from frons to vertex and weakened near basal margin; mandibles about 0.3 times as long as head, covered with sparse punctures except shiny part along blade and apices. Antennae slightly longer than a half of body, glabrous; segment 1 about 1.2 times as long as mandibles, moderately punctuated; segment 3 about 2.7 times as long as segment 1, sub-cylindrical, sparsely punctulate; segments 4-11 each as long as segment 1, gradually decreasing in length. *Pronotum* slightly convex, sparsely granulated and irregularly uneven throughout, covered with long hairs;

lateral margin without any denticulation; apical corner rounded, anterior margin slightly concave at the middle; basal angled with slightly projected forward at just out sides of corner, basal margin sinuate. Scutellum linguiform, pubescence. *Elytra* glabrous, wider than pronotum, sub-parallel sided at basal 3/4 and smoothly rounded apically; sutural end angled without toothed; smooth and shiny on costae, finely granulated and reddish brown colored throughout intervals. *Legs* moderately long and slightly flattened.

Distribution: Myanmar, China, Taiwan, Korea, Ryukyu Is. (Japan), Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Saket, 7.07.2003(1♂), Mae Hong Son Prov.: Khun Yuam, 20.07.2004(1♀), Tak Prov.: Tha Song Yang, 6.08.2003(1♂), Utthai Thani Prov.: Lan Sak, 26.07.2007(1♀, 2♂).

Remark: The species differs from *M. sinica ornaticollis* in having 4th antennal segment 4 is about 1/2 of 3rd segment length. Specimens were collected from early and continued to mid rainy seasons.

Prionoma bigibbosus (White, 1853)

Figures 11G, 74E-F

Ancyloprotus bigibbosus White, 1853, *Cat. Col. Brit. Mus.* 7: 19, pl. 1, fig. 4 (Sylhet; BMNH).-Gahan, 1906, *Fauna India, Col.* 1: 18, fig. 6.

Prionomma (Ancyloprotus) bigibbosum : Lameere, 1919, *Gen. Ins.* 172 : 116.

Description: *Body* length 28-40 mm and breadth 10-15 mm, middle sized, glabrous for the most parts, furnished with setal golden hairs on labium, clypeus, apical and basal of pronotum, underside of meta sternum; integument orangey red; ventral surfaces covered with short golden hairs for the most parts except abdomen which is glabrous.

Head about as long as wide, widest at eyes and gradually narrowed both anteriorly and posteriorly, constrict at basal, finely punctulate throughout; a very small groove running from frons to vertex and weakened near basal margin; frons strongly concave with finely punctulate, raised on each side adjacent to upper eye-lobe; antennal tubercles strongly and obtusely raised together in the middle. Mandible about 0.6 times as long as head, covered with punctures except shiny part along inner blade. Antennae slightly shorter than body, shiny throughout; segment 1 about as long as mandibles, minutely punctulate; segment 3 about 1.5 times as long as segment 1, cylindrical, minutely punctulate on dorsal and very small granulate on ventral; segments 4-11 decreasing slightly in length and toothed apically; segments 6-12 striate above; segment 1-12 glabrous above; segments 3-12 covered with finely granulate underside. *Pronotum* wider than long, widest at anterior margin and slightly narrowed basal, lateral margin with one long acuted pointed teeth; apical angles pointed projected forward at just outsides of corner, basal corner slightly acuted; basal margin sinuate; disc sparsely and minutely punctured, the dorsum with two raised knobs above of each side. Scutellum hemi-circle, very sparsely punctulate. *Elytra* slightly wider than pronotum, sub-parallel sided at basal 4/5 and smoothly rounded apically; disc glabrous, covered with fine carinate except humeral angles covered with deeply punctured; sutural end angled without toothed. *Ventral surfaces* sparsely and finely punctured. *Legs* with femora flattened but stout, small tooth a long inner margin; small spines scattered on meso- and meta-tibiae; a large groove along dorsum of fore tibiae, scattered moderate punctures.

Distribution: India, Myanmar, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Saket, 5.07.2005(1♀), Fang, 22.09.2006(2♀), Samoeng, 13.10.2007(1♀), Nan Prov.: Mae Charim, 6.03.2002(1♀).

Remark: This species clearly distinct from character of integuments are orangey red; pronotum is wider than long, widest at anterior margin and slightly narrowed basal; lateral margins of pronotum are furnished with a long acuted and

pointed dentation. Specimens were collected in mid summer, mid and continued to late rainy seasons.

Rhaphipodus fetalis Lameere, 1912

Figure 8C

Rhaphipodus fetalis Lameere, 1912, *Men. Soc. Ent. Belg.* 21 : 137 (Tonkin; BRUXELLES).

Description: *Body* length 53-65 mm and breadth 18-20 mm, middle sized with slightly depressed sub-cylindrical body form, glabrous for the most parts, furnished with setal golden hairs on labium, clypeus, basal parts of mandibles, apical margin of pronotum and the anterior half of ventral side, and clypeus very conspicuous; integument almost dark brown; elytra reddish brown; ventral surfaces covered with short golden hairs for the most parts except abdomen which is glabrous.

Head slightly wider than long, widest at eyes and slightly narrowed both anteriorly and posteriorly, finely punctulate throughout; a moderately deep groove running from frons to vertex and weakened near basal margin; antennal tubercles massive and obtusely raised. Mandibles about 0.5 times as long as head, covered with punctures and hairs except shiny part along inner blade, acutely pointed at apices and strongly bent inward at apex. Antennae slightly shorter than a half of body, shiny throughout; segment 1 longer than mandible, shallowly punctulate; segment 3 as long as segment 1, subcylindrical, sparsely punctulate; segment 4-11 each about 0.6 times as long as segment 3; segments 4-8 sparsely punctulate but segments 9-11 rugose throughout. *Pronotum* subtrapezoidal, widest at base and gradually narrowed anteriorly, lateral margin with many denticulation; basal corner acutely pointed with spines; apical corner angled with small spines; anterior margin sinuate and distinctly projected forward at just out sides of corner; basal margin sub-straight; disc covered with punctures, furnished with a pair of small hump at the middle and two tuberculate each near swollen hump. Scutellum hemi-circular, slightly longer than wide; surface pubescence. *Elytra* almost as wide as pronotum, subparallel sided at

basal 3/4 and smoothly rounded apically, rather roughly granulate at each side of scutellum and granules getting finer and smaller towards each sides and apices; each elytron furnished with two slightly distinct costae, two starting just after humeri and running just before apex and disappearing; sutural end angled with toothed. *Ventral surfaces* covered with finely punctured. *Legs* long, mostly glabrous with spines scattered on tibiae and femora; not rugosely punctured on ventral side of profemora; ventral side of tarsi segment 5 of all legs covered with short golden hairs.

Distribution: N. Vietnam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Chiang Dao, 4.02.2003(1♀), Phayao Prov.: Chiang Kham, 1.12.2005(1♀).

Remark: The species differs from *R. hopei* in having pronotum is smooth without a pair of irregular raised callosities at the middle. Specimens were collected in early summer and mid winter seasons.

Rhaphipodus fruhstorferi Lameere, 1903

Figure 7D

Rhaphipodus fruhstorferi Lameere, 1903, *Men. Soc. Ent. Belg.* 11 : 74
(Tonkin; BRUXELLES).

Description: *Body* length 35-39 mm and breadth 12-14 mm, middle sized, slightly depressed subcylindrical, glabrous for the most parts, furnished with setal golden hairs on labium, clypeus, basal parts of mandibles, apical margin of pronotum and the anterior half of ventral side, and clypeus very conspicuous; frons and vertex provided with finely granulate; integument almost blackish brown; head dark brown; ventral surfaces covered with short golden hairs for the most parts except abdomen which is glabrous.

Head long, about 1.2 times as long as wide, widest at eyes and narrowed both anteriorly and posteriorly, finely granulate throughout; a slightly deep groove running from frons to vertex and weakened near basal margin; antennal tubercles massive and obtusely raised. Mandibles about 0.25 times as long as head, covered with punctures and hairs except shiny part along inner blade, acutely pointed at apices and bent inward at middle. Antennae slightly longer than a half of body, shiny throughout; segment 1 longer than mandible, sparsely and shallowly punctulate; segment 3 slightly shorter than segment 1, subcylindrical, very sparsely and shallowly punctulate; segments 4-11 each about as long as segment 3, segments 4-6 sparsely and shallowly punctulate; segments 7-8 rugose at posterior; segments 9-11 rugose throughout. *Pronotum* subtrapezoidal, widest at base and gradually narrowed anteriorly, lateral margin with denticulation; basal corner acutely angled with strongly spined; apical corner rounded; anterior margin slightly concaved in the middle, basal margin straight in the middle and each sides gradually decreased to corner; disc convex, covered with fine punctures. Scutellum hemicircular; slightly wider than long; surface granulate, mat. *Elytra* wider than pronotum, subparallel sided at basal three fourths and smoothly rounded apically, rather granulate at each side of scutellum and granules getting finer and smaller towards each sides and apices; sutural end angled with toothed. *Ventral surfaces* covered with finely punctured. *Legs* long, mostly glabrous but sparse setal hairs scattered on tibiae; not rugosely punctured on ventral side of fore femora; tibiae depressed and having minute denticulations on inner and ventral sides; ventral side of tarsi segment 5 all legs covered with short golden hairs.

Distribution: N. Vietnam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 2.04.2003(1♀), Phetchabun Prov.: Nam Nao, 2.04.2002(1♀).

Remark: This species clearly distinct from character of integuments are almost blackish brown; pronotum is subtrapezoidal shape and widest at base; lateral margins of pronotum are furnished with a denticulation; basal corners of pronotum are acutely

angled and furnished with a strong spine. Specimens were collected in late summer season.

Rhaphipodus hopei (Waterhouse, 1836)

Figures 8A-B, 72E-F

Remphan hopei Waterhouse, 1836, *Trans. Ent. Soc. Lond.* 1 : 67 (E. Indies; BMNH).-Gahan, 1906, *Fauna India, Col.* 1: 34.

Remphan alteni Nonfried, 1891, *Berl. Ent. Zs.* 36 : 376.

Rhaphipodus (Remphan) hopei: Lameere, 1919, *Gen. Ins.* 172 : 55.-Duffy, 1968, *Imm. Stages Or. T. Beetles*, 47.

Description: *Body* length 62-100 mm and breadth 20-32 mm, largely sized, slightly depressed subcylindrical, glabrous for the most parts, furnished with setal golden hairs on labium, clypeus, basal parts of mandibles, apical margin of pronotum and the anterior half of underside, and clypeus very conspicuous; frons and vertex covered with small golden hairs; integument almost dark brown; elytra reddish brown; ventral surfaces sparsely covered with short golden hairs of the most parts except abdomen which is glabrous.

Head long, about 1.2 times as long as wide, widest at eyes slightly narrowed both anteriorly and posteriorly, finely granulate throughout; a narrow and deep groove running from frons to vertex and weakened near basal margin; antennal tubercles massive and obtusely raised. Mandible about 0.75 times as long as head, covered with punctures and hairs except shiny pitchy parts along inner blade, acutely pointed at apices and strongly bent inward at apices. Antennae about 0.75 times as long as body, shiny throughout; segment 1 slightly longer than mandible, deeply punctulate, four short spines on ventral side; segment 3 slightly longer than segment 1, subcylindrical, sparsely punctulate, three short spines on ventral side and one at apice; segments 4-11 each about a half as long as segment 3; segments 4-8 sparsely

punctulate; segments 9-11 rugose throughout. *Pronotum* subtrapezoid, widest at base and slightly narrowed anteriorly, lateral margin flatten with strong denticulation; basal corner angled with strong spines; apical corner angled with small spines; anterior margin sinuate and distinctly projected forward at just outsides of corner; basal margin substraight; disc covered with fine punctures, furnished with a pair of irregular raised callosities at the middle and two smaller one just near each irregular foveae, two small ridges ones at each basal corner. *Scutellum* hemicircular, slightly longer than wide; surface finely granulate, mat. *Elytra* almost as wide as pronotum, parallel sided at basal 3/4, smoothly rounded and fairly strongly toothed, rather media granulate at each side of scutellum and granules getting finer and smaller towards each sides and apices; each elytron furnished with four costae, inner two starting just after humeri and running just before apex and then disappearing, outer two starting from basal fifths and disappearing apex; sutural end angled with toothed. *Ventral surfaces* sparsely finely punctured. *Legs* long and stout, mostly glabrous and scattered spines on femora and tibiae; rugosely punctured on ventral side of profemora; tarsi segment 5 of fore leg covered with longer golden hairs more than meso-leg and meta-leg.

Distribution: Andaman Is., Myanmar, Malaysia, Borneo, Thailand and Laos.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 7.04.2005(1♀), 5.09.2004(1♀), Fang, 2.03.2002(1♀, 1♂), 6.07.2005(1♂), Chiang Rai Prov.: Wiang Pa Pao, 23.08.2003(1♀), Phetchabun Prov.: Nam Nao, 2.04.2002(1♀), Phrae Prov.: Wang Chin, 15.01.2002(1♀).

Remark: The species differs from *R. fetalis* in having pronotum is furnished with a pair of irregular foveae at the middle and two smaller one just near each irregular foveae. It is the largest of genus *Rhaphipodus* in Thailand. Specimens were collected from late winter, mid and continued to late summer, mid and continued to late rainy seasons.

Rhineimegopsis rugicollis Komiya and Drumont, 2001

Figure 11F

Rhineimegopsis rugicollis Komiya et Drumont, 2001, *Elytra*. 29(2): 391- 400. fig. 9.

Description: *Body* length 7 mm and breadth 2.3 mm, middle sized, depressed flattened body from, glabrous for the most parts, furnished with setal golden hairs on labium, apical margin of pronotum and ventral side of meta-thorax, and labium very conspicuous; integument reddish brown antennae dark brown; ventral surfaces covered with golden hairs for the most parts except abdomen which is glabrous.

Head about as wide as long, widest at eyes and slightly narrowed both anteriorly and posteriorly, punctulate throughout; a moderately deep groove running from frons to vertex; antennal tubercles and slightly raised. Mandibles about 0.5 times as long as head, covered with punctures except shiny part along inner blade and apices, acutely pointed at apices and strongly bent inward at middle. Antennae about as long as a half of body, shiny throughout; segment 1 shorter than mandible deeply punctulate; segment 3 about 2.5 times as long as segment 1, sub-cylindrical, punctuated; segments 4-10 each about a half as long as segment 3, punctulate and gradually decreasing in length; segment 10 sparse long hairs at apices. *Pronotum* subrectangular, lateral margin slightly reaching to outside and without any denticulation; basal and apical corners rounded; anterior margin substraight but slightly projected forward at just insides of corner, basal margin sinuate; disc covered with moderate punctures, furnished with a pair of moderate groove at both sides near side margin. Scutellum linguiform, sparsely punctulate, glabrous. *Elytra* slightly wider than pronotum, sub-parallel sided at basal 4/5 and smoothly rounded apically, sparsely and moderately punctulate at each side of scutellum and punctures getting finer and slightly smaller towards each sides and apices; sutural end angled but not toothed. *Ventral surfaces* covered with finely punctured. *Legs* short and stout, most glabrous but sparse setal hairs on tibiae; sparse hairs on femora or disappearing.

Distribution: Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 5.09.2003(1♀).

Remark: This species clearly distinct from character of integuments are reddish brown; body is depressed and flattened. Pronotum is subrectangular; lateral margins are slightly reaching to outside, smooth without denticulations. The only one specimen was collected in mid rainy season.

Sarmyodus antennatus Pascoe, 1867

Figures 13D-E, 75A-B

Sarmyodus antennatus Pascoe, 1867, *Ann. Mag. Nat. Hist.* ser 3, 19: 410

(Borneo; BMNH).-Gahan, 1906, *Fauna India*, Col. 1: 52, fig. 19.-Gressitt, 1951, *Longicornia* 2: 27.-Duffy, 1968, *Imm. Stages Or. T. Beetles*, 62.

Description: *Body* length 16-30 mm and breadth 5-9 mm, reddish brown to dark brown; head dark reddish brown, scattered with brownish hairs; antennae dark reddish brown, darker on segments 1-3; prothorax dark reddish brown, scattered with brownish hairs; scutellum reddish brown, darker on edge, scattered with brownish hairs; elytra reddish brown, scattered with brownish hairs; densely brown hairs on areas between strongly raised costae; ventral surfaces dark reddish brown, covered with golden brown hairs; legs black, covered with golden brown hairs.

Head broader than anterior margin of prothorax, granulate; antennal tubercles distinctly separate, slightly raised. Antennae about as long as body in male, slightly shorter than body in female; segments 1-2 punctured; segments 3-11 flattened, sub-reticulate; segment 3 about 1.5 times as long as segment 1; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10; female, antenna shorter and narrower, segment 3 nearly half as long again as segment 4. *Pronotum* closely and finely granulate above, anterior margin narrower than basal margin; the closely punctured area on each flanks flattened or slightly concave, completely circumscribed by a raised smooth line that extends from the median spine not quite up to the anterior margin. *Scutellum* linguiform. *Elytra* not more than twice

as long as broad, closely punctured and more or less opaque, the interstices between the punctures flat; the three costae on each strongly raised and acute; almost two and a half times as long as broad in female. *Ventral surfaces*: Prosternum and mesosternum granulated; metasternum and abdominal sternites finely punctured. *Legs* fairly long, flattened.

Distribution: Malaysia (Borneo, Sulawesi), Indonesia (Java, Sumatra), Myanmar, NE India (Assam), Andaman Is., Taiwan, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 7.04.2005(1♂, 1♀), Mae Hong Son Prov.: Khum Yuan, 19.11.2005(1♂), Tak Prov.: Tha Song Yang, 2.02.2006(1♂), Utthai Thani, Lan Sak, 25.07.2007(1♂, 1♀).

Remark: This species clearly distinct from character of elytra are furnished six costae, each strongly raised and acuted; disc is covered with densely brown hairs on areas between costae; the interstices between the punctures are flatted; antennal segments 3-11 are flattened and subreticulate. Specimens were collected in early and late summer, and early winter seasons.

Spinimegopsis lividipennis (Lameere, 1920)

Figures 13F-G, 75C-D

Megopsis lividipennis Lameere, 1920. *Ann. Soc. Entomol. Bel.*, 60:137-145.

Megopsis lividipennis Gressitt, 1951. *Longicornia, Paris*. 2: 1-667. 22 p.

Megopsis lividipennis Damoiseau & Cools, 1987. *Documents de travail*, 42:1-39.

Description: *Body* length 40-53 mm and breath 10-13 mm, medium sized, yellowish brown, covered with golden brown pubescence for the most parts; ventral of antennal segment 3 covered with thin pubescence.

Head about 1.3 times as long as wide, parallel-sided, slightly constricted at base; frons concave at middle, densely granulated; vertex furnished with sparse granules only around eyes; mandible about 0.5 times as long as head, each furnished with a small inner dent close to base and obtuse external dent at apical third. Antennal tubercle large but not strongly raised. Antennae shorter than a half of body in female, slightly longer than a half of body in male; segment 1 robust, covered with small granules, about a half as long as head; segment 3 about 3 times as long as segment 1, moderately granulated; segment 4 about as long as segment 1; segments 5-12 gradually decreasing in length. *Pronotum* convex, the top flat or slightly concave, finely granulated and irregularly uneven throughout; anteriorly angled round; lateral margin with two short pointed toothed; basal angle dentiform processe. Scutellum linguiform, glabrous. *Elytra* wider than pronotum, glabrous with moderately granulated, each furnished with four costae; first strongly raised, glabrous, starting from sides of scutellum and meeting the inner margin of elytra before apex in male, meeting the second at apice at fourth of elytra in female; second strongly raised, glabrous, starting from humeri, running and disappearing just before the end; third weakly raised, glabrous, starting at about basal third and disappearing before apex; fourth starting from humeral angle, stronger raise than third cotae, running and disappearing before apex; sutural end angled but not toothed. *Ventral surfaces* finely punctured. *Legs* slender and slightly flattened.

Distribution: Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Suteh, 1.04.2003(1♂), Doi Saket, 7.07.2003(1♀), 5.07. 2005(1♂), Mae Taeng , 1.10.2005(1♂), Chiang Dao, 18.04.2004(1♂), 7.08. 2005(1♂), Samoeng, 7.08.2004(1♀), Mae Chaem, 1.03.2006(1♂), Mae Hong Son Prov.: Khum Yuan, 19.11.2005(1♂).

Remark: The species differs from *A. piliventris antennalis* in having body is yellowish brown; two dentations are present on each lateral side of pronotum. Specimens were collected from mid summer, mid and continued to late rainy, and early winter seasons.

Spinimegopsis piliventris antennalis (Fuchs, 1965)

Figures 13H-I, 75E-F

Megopsis (Baralipion) antennalis FUCHS, 1966, *Koleopt. Rdsch.*, 43/44
[for 1965/1966]: 18.

Description: *Body* length 33-41 mm and breath 10-12 mm, middle sized species, glabrous for the most parts, almost reddish brown except elytra brown; pronotum covered with long golden hairs; scutellum reddish brown except basal margin brown, covered with golden hairs; ventral surfaces covered with fairly golden hairs for the most parts except abdomen which is glabrous.

Head about 1.1 times as long as broad, parallel-sided and slightly constricted at base, slightly punctuate throughout; frons concave at middle and densely granulated; vertex granulated; mandibles about 0.4 times as long as head, covered with punctures except shiny part at the anterior, acutely pointed at apices and strongly bent inward at middle. Antennae longer than body, glabrous; segment 1 longer than mandibles, moderately granulated; segment 3 about 3.5 times as long as segment 1, cylindrical, granulated; segment 4 slightly longer than segment 1, punctuated; segments 5-11 sparsely punctuated and gradually decreasing in length. *Pronotum* convex, sparsely granulated and irregularly uneven throughout; basal and apical angled round; lateral margin with three pointed toothed. Scutellum linguiform. *Elytra* wider than pronotum, glabrous, finely granulated throughout, each elytron furnished with two slightly raised costae; sutural end angled with short toothed in male, without toothed in female. *Ventral surfaces* finely punctured mostly covered by pubescence except abdomen which is glabrous. *Legs* slender and slightly flattened.

Distribution: Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Fang, 6.07.2005(1♀), Tak Prov.: Tha Song Yang, 2.02.2006(1♂), Umphang, 30.06.2007(1♂).

Remark: The species differs from *A. lividipennis* in having body is reddish brown; three dentations are present on each lateral side of pronotum. Specimens were collected from early summer, early and continued to mid rainy seasons.

Subfamily Philinae Thomson, 1860

Philus costatus Gahan, 1893

Figures 14E-G, 76E-F

Philus costatus Gahan, 1893, *Ann. Mag. Nat. Hist.* ser 6, 11: 25 (Thailand; BMNH).- Gressitt, 1941, *Philip. J. Sci.* 74 (4): 332.

Description: *Body* length 19.5-26.5 mm and breadth 5.5-8 mm, brown to reddish brown, covered with thin golden brown pubescence, somewhat sparse long hairs on some portions; ventral surfaces finely brown pubescence.

Head somewhat broader at eyes than anterior end of prothorax, slightly gradually narrow from eyes to neck; vertex granulate; interantennal area weakly raised at sides, somewhat grooved at middle; clypeus subrectangle, slightly round at posterior and anterior end, punctures brown; genae very narrow. Eyes rather very large, average a half of head area in male and 1/3 in female. Antenna slightly longer than body in male, female more shorter than body; segment 1 about a half longer than broad, gradually wide beyond posterior end and brown pubescence; segment 2 as broad as long; segment 3 about 2 times longer than segment 1; segments 3-11 similar and gradually decreasing in length. *Pronotum* subtrapezoid, slightly broader than long, slightly gradually wide at sides, distinctly ridge at anterior end and slightly raised ridge at posterior end, posterior angles flattened. Scutellum small and round at posterior end. *Elytra* about 4 times as long as broad, parallel at sides and gradually round at near tip; surface slightly parallel ridge and finely brownish pubescence. *Ventral surfaces* rather smooth. *Legs* fairly long and flattened; femora brown pubescence, furnished with small spines and long brown hairs on inner side; tibiae brown pubescence, furnished with small spines on outside, except hind tibia.

Distribution: Thailand and Laos.

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 2.02.2006(1♂), Mae Hong Son Prov.: Khun Yuam, 20.06.2004(1♂), Lamphun Prov.: Li, 12.04.2005(1♀), Nan Prov.: Mae Charim, 10.06.2004(1♀), Uttaradit Prov.: Ban Khok, 15.05.2005(1♀), Nham Pat, 7.08.2003(1♂).

Remark: This species is very distinct character of eyes are very large which are average a half of head area in male and 1/3 in female; pronotum is subtrapezoidal shape; posterior angles are fattened. Specimens were collected in early and late summer, and mid rainy seasons.

Subfamily Spondylidinae Audinet-Serville, 1832

Spondylis buprestoides (Linnaeus, 1758)

Figures 14H-K, 69A-B

Attelabus buprestoides Linnaeus, 1758, *Syst. Nat.*, 10th ed., p. 338;
Plavil'shchikov, 1936, *Fauna SSSR*, 21, 1, 7-9.

Description: *Body* length 19.5-22.5 mm and breadth 6-7.5 mm, short, black, bulges, almost cylindrical; head black, glabrous; antennae black, furnished with dark hairs; pronotum black, covered with dark hairs, furnished with long golden hairs on both anteriorly and posteriorly; scutellum black, glabrous; elytra black, sparsely dark hairs; ventral surfaces black, bulges markedly, somewhat ventral side of thorax and abdomen sometimes brownish-rust, covered with short adherent yellowish hairs; legs black, covered with dark reddish brown.

Head short, with dense large punctuation; frons broad and flat, bound anteriorly by transversely and semicircularly concave suture; genae short, 0.50 width of eyes. Mandibles long, intersected, with dense large punctuation in proximal half, lustrous in distal half, with acutely produced apex. Antennae short, with apices not

reaching base of pronotum; antennal segments not longer than apical width.

Pronotum bulges, rounded laterally, narrows more posteriorly, less so anteriorly, and narrowly curved along posterior margin. Scutellum broadly rounded posteriorly, with fine punctuations. *Elytra* bulge markedly, with parallel sides, narrow in posterior 1/3, jointly rounded apically; with dense rugose punctuations and two longitudinal parallel ridges. *Ventral surfaces* finely punctured. *Legs* short; femora markedly dilated; tibiae with spinules on outer side.

Distribution: Austria, Belarus, China, Czech Republic, Denmark, Finland, France, Germany, Hungary, Italy, Japan, Kazakhstan, Latvia, Luxembourg, Moldova, Poland, Portugal, Romania, Russia, Slovakia, South Korea, Spain, Sweden, Ukraine, United States and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 5.09.2004 (1♂, 2♀).

Remark: This species is very distinct character of body is short, almost cylindrical, black color and bulges; mandibles are long, intersected with dense large punctuation in proximal half, lustrous in distal half and furnished with acutely produced apex; antennae are short with apices not reaching base of pronotum; antennal segments are not longer than apical width. Specimens were collected in late rainy season.

Subfamily Aseminae Thomson, 1860

Arhopalus exoticus (Sharp, 1905)

Figures 14A-B, 76A-B

Criocephalus exoticus Sharp, 1905, *Trans, Ent. Soc. Lond.* 1905: 159

(Burma; BMNH).-Gahan, 1906, *Fauna India, Col.* 1: 96, fig. 38.

Arhopalus (s. str.) *exoticus*: Gress., 1951, *Longicornia* 2: 35.

Description: *Body* length 17.5-22 mm and breadth 4.5-6.5 mm, pitchy black, with a faint covering of short brownish pubescence.

Head narrower than prothorax, punctured; clypeus with a posterior triangular area a little more depressed than the rest of surface; labrum with three tufts of setae, one median near front margin, the others near the postero-lateral angles; eyes without long hairs, the upper lobes rather broad, the lower lobes extended to the ventral surface, but widely separated below; gular area between them slightly convex, transversely rugulose and more or less punctate, clothed with long erect hairs. Antenna reach at segment 7 a little past the middle of the elytra; segment 1 not attaining to the hind margin of the eye; segment 2 nearly half as long as segment 1 and more than half the length of segment 3. *Pronotum* rather sharply rounded at the middle of each side, narrowed towards base and apex, length not quite equal to width across the middle; the disc flattened, with a rather deep fovea on each side and an impressed line along the middle, the surface very finely and densely punctulate. *Elytra* very faintly punctulate, each with two feeble dorsal costae and a very short lateral one. *Ventral surfaces*: Prosternum slightly convex and somewhat rugulose in front; intercoxal process narrow and laminiform. *Legs*: Cleft of the third tarsal joint extends about half way to the base in the anterior tarsi and one-third of the way in the hind tarsi; segment 1 of the hind tarsi nearly as long as the remaining joints united.

Distribution: Myanmar, North China, Taiwan, Laos, S. Vietnam and Thailand (new record).

Material examined: Thailand: Chaing Mai Prov.: Mae Chaem, 5.09.2004(1♂, 1♀), 7.04.2005(3♂).

Remark: The species differs from *A. unicolor* in having body is pitchy black; deep fovea are present on each side of pronotum. Specimens were collected in late summer and rainy seasons.

Arhopalus unicolor (Gahan, 1906)

Figures 14C-D, 76C-D

Criocephalus unicolor Gahan, 1906, *Fauna India*, Col. 1: 97

(Assam, Japan; BMNH).

Criocephalus (Cephalallus) unicolor: Gressitt, 1939, *Notes d'Ent. Chinoise* 6: 95.

Criocephalus (Cephalallus) oberthuri ssp. *unicolor*: Mitono, 1940, *Cat. Col. Jap.* 8: 79.

Arhopalus (Cephalallus) unicolor: Gressitt, 1951, *Longicornia* 2: 37.

Arhopalus unicolor: Duffy, 1968, *Imm. Stages Or. T. Beetles*, 78.

Description: *Body* length 15-21 mm and breadth 4-6 mm, ferruginous, with a faint covering of short brownish pubescence.

Head with the clypeo-frontal sutures very distinct, meeting at a sharp angle in the middle; eyes narrower, sharp, the lower lobes reach to the ventral surface but remain widely separated below; the gular area between them convexly swollen, strongly rugose-punctate, and in the male with a slight transversely elliptical depression, clothed but not very densely with longish hairs; palpi very short, the last joint moderately dilated. Antenna slightly longer than the body in the male, reaching to the posterior third of the elytra in the female; segment 1 short but extended to the hind margin of the eye; segment 2 about 2/3 the length of segment 1 and 1/3 the length of segment 3. *Pronotum* slightly rounded at the sides, length in the male a trifle greater than width across the middle, and in the female a little less; convex above, but with a broad, shallow, median depression followed near the base by a feeble tubercular elevation; the surface densely punctulate and sparsely but very distinctly aspirate. *Elytra* densely and rather strongly punctulate, the narrow interstices minutely punctulate, faintly pubescent; each with a short sutural spine at

the apex, furnished with two feeble dorsal costae and a short faint lateral one. *Ventral surfaces*: Prosternum gradually sloping in front of the coxae, transversely rugulose; front margin slightly raised, the intercoxal process very narrow. *Legs*: Tarsi slender; segment 1 in the hind tarsus nearly as long as the rest united; the cleft of the third extending to the base.

Distribution: Assam, Myanmar, E. China, Tsushima, Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 7.04.2005(2♂), 1.03.2006(1♀), 5.09.2004(1♂, 1♀).

Remark: The species differs from *A. exoticus* in having body is ferruginous; eyes are narrower than in *A. exoticus*. Specimens were collected from late summer and continued to rainy seasons.

Subfamily Lepturinae Latreille, 1802

Ephies coccineus Gahan, 1906

Figure 5A

Ephies coccineus Gahan, 1906, *Fauna India*, Col. 1: 87, fig. 34 (Bhutan; BMNH).

Description: *Body* length 14-17 mm and breadth 3-4 mm; genae and base of mandibles sometimes reddish, with patches of reddish pubescence on the vertex, sometimes on the neck and front; antennae black, covered with dark reddish brown pubescence; pronotum red, covered with densely scarlet pubescence, sometimes covered with short median black line near the base, all the rest of the upper surface, and the sides to some extent, scarlet; scutellum black, covered with dark hairs; elytra red, entirely covered with a rather densely scarlet pubescence; ventral surfaces black, covered with reddish brown pubescence; legs black, covered with dark reddish brown pubescence.

Head broader than apical margin of prothorax, punctured; a narrow and shallow groove running from frons to vertex; distinctly constrict behind vertex and then subparallel. Antennae about as long as a half of body; segment 1 punctured; segment 3 longer than segment 1 plus segment 2; segment 4 shorter than segment 3; segments 4-7 slightly increasing length; segment 8 shorter than segment 7; segments 8-11 similar in length; female, antenna not quite reaching to the middle of the elytra, wider than those of the male; segment 5 the widest; the rest gradually narrower. *Pronotum* punctured, apical margin distinctly constrict more than basal margin; basal angles reaching to humeral angles of elytra and moderately acute; middle of basal margin reaching to behind scutellum, sinuate. *Elytra* gradually widened from the middle to about the beginning of the apical 1/4, and slightly narrowed towards the apex, each elytron broadly truncate in a slightly oblique direction, with a short tooth at the outer angle and sometimes a feebler one at the sutural angle. *Ventral surfaces* finely punctured; last ventral segment slightly depressed in the middle, feebly sinuate at the apex, with a rather sharp angle at each side. *Legs* fairly long.

Distribution: Myanmar, Bhoutan, China, India, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 6.07.2003(1♀).

Remark: This species is very distinct characters of elytra are red color and entirely covered with a rather densely scarlet pubescence; pronotum is red color and covered with densely scarlet pubescence. The only one specimen was collected in mid rainy season.

Metalloleptura aureoviridis (Gressitt, 1941)

Figure 5B

Ocalemia aureoviridis Gressitt, 1941, *The Philippine Journal of Science* 74 (4): 331-347, 1 pl.

Metalloleptura aureoviridis Hayashi, 1983, *Bulletin of the Osaka Jonan Women's Junior College* 16: 29-44, 1 pl.

Metallroleptura aureoviridis Vives, 2003, *Les Cahiers Magellanes* 31: 1-16, 9 figs.

Description: *Body* length 17.5 mm and breadth 3.5 mm, elongate, metallic green, in part slightly tinged with copper color; elytron tinged with copper green; abdomen somewhat steely green; antennae and leg metallic dark blue; antennae covered with very thin palish pubescence; pronotum sparsely covered with silvery pubescence; scutellum sparsely clothed with silvery; ventral surfaces more thinly clothed, more sparsely on apical halves of abdominal sternites.

Head as broad as prothorax, rather finely and closely punctured, except on apical triangle of frons; sparsely punctured on area $\frac{3}{5}$ as deep as eye; frons medially grooved above apical triangle. Antenna nearly as long as body in male, female $\frac{3}{4}$ as long as body, stouter distally than basally; segment 3 longer than segment 1 and segment 2 united; segment 4 barely longer than segment 1; segment 5 barely longer than segment 3; segments 5-11 similar and decreasing gradually in length. *Pronotum* slightly longer than broad, much narrower at apex than at base, constricted near apex; base hardly wider than widest part of side; disc finely and closely punctured except for a smooth subtriangular strip on median line near base. *Scutellum* triangular, subacute behind. *Elytra* distinctly narrow from behind humerus to the middle, then subparallel to near apex, then slightly narrowed and obliquely truncate, with truncation $\frac{3}{4}$ as wide as elytron at middle; disc closely punctured, more strongly and deeply than prothorax, with punctures only slightly fine toward apex. *Ventral surfaces* closely and finely punctured, more sparsely on posterior portions of abdominal sternites. *Legs* slender; femoral gradually swollen from the middle to apex; tibia slender and wide at apex, with one long and one short spur at apex of hind tibia.

Distribution: The Philippines and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 6.07.2003(1♀).

Remark: This species is very distinct characters of body is elongated, metallic green and in part slightly tinged with copper color; disc is covered with closely punctured, more strongly and deeply than prothorax and furnished with punctures only slightly fine toward apex. The only one specimen was collected in mid rainy season.

Strangalia fluvialis Gressitt and Rondon, 1970

Figures 5C-E

Strangalia (s. str.) *fluvialis* Gressitt, 1970, - Gressitt & Rondon, 1970, *Pac.*

Ins. Monogr., 24: 178.

Description: *Body* length 13.5-15 mm and breadth 2-2.5 mm, elongate, black, in part bright yellowish or orange ochraceous; head black, ochraceous on palp; antenna bright orange ochraceous, slightly brownish towards apex; prothorax black; elytron bright yellowish ochraceous with suture and most of external margin narrowly black, black strip thickened behind and below humerus, a free distal stripe from just internal to humerus extending to just behind end of basal 1/3 near middle of disc, a more pitchy subtransverse band just behind middle and broadens to external margin; extreme apex pale on both suture and external margin; ventral surfaces black; legs pitchy black with bases of femora ochraceous. Body in part clothed with very densely golden pubescence, particularly on occiput, and on pronotum except for an elliptical median strip and a small spot on each side anterior to middle; also dense on scutellum and most of ventral surfaces except apical borders of abdominal sternites; pubescence much sparser on elytron, antenna and legs.

Head not quite as broad as prothorax, strongly constricted almost immediately behind eyes; inter-ocular area fairly flat, finely punctured; vertex obtusely concave between antennal supports; frons slightly convex and finely grooved medially, closely punctured; gena 5/6 as deep as lower eye-lobe. Antenna probably 3/4 as long as body; segment 1 weakly thickened before apex, finely punctured; segment 3 slightly longer than segment 1 plus segment 2; segment 4 slightly shorter than segment 3;

segment 5 as long as segment 4; segment 6 shorter than segment 5; segments 6-8 subequal. *Pronotum* 1/8 longer than broad at base, slightly narrowed anterior to base and more strongly narrowed in anterior portion, weakly convex at side; disc moderately and evenly convex, finely granulose-punctate. *Elytra* 5 times as long as broad, strongly narrowed to beginning of apical 1/3, then very slightly widened just before apex; apex obliquely truncate, somewhat toothed externally; disc rather finely and closely punctured, a little more densely punctured behind humerus. *Ventral surfaces* densely punctured on pubescent areas. *Legs* moderately stout; mid-tarsus with segment 1 slightly longer than segment 2 and segment 3 united.

Distribution: Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Fang, 22.09.2006(2♀), Mae Taeng, 6.07.2003(1♀).

Remark: This species is very distinct characters of body is elongated, black and in part bright yellowish or orange ochraceous; head is strongly constricted almost immediately behind eyes; pronotum is more strongly narrowed in anterior portion. Specimens were collected from mid and continued to late rainy seasons.

Subfamily Cerambycinae Latreille, 1802

Acrocyrtidus avarus Holzschuh, 1989

Figure 16A

Acrocyrtidus avarus Holzschuh, 1989, *Koleopt. Rdsch.* 59: 153-183.

Description: *Body* length 15.5-16 mm and breadth 3.5-4 mm, slender, subparallel-sided, pitchy brown to reddish brown with bands of golden brown and black pubescence; head covered with densely golden brown except frons scattered with short golden brown hairs; pronotum covered with densely golden brown, furnished with two irregular black bands on middle; a large black spot on each side

near apical margin; antenna reddish brown, covered with reddish brown pubescence; scutellum reddish brown, with dark auburn along margin; elytron pitchy brown with two transverse blackish bands: 1st near end of basal quarter, broad at external sides but not touching external sides, narrowest at suture; 2nd subtransverse, longer than broad; two moderate black bands starting at behind 1st band and running parallel backward 3/4 and then transverse to external side, touching suture; remainder of surface densely clothed with golden brown pubescence; ventral surfaces reddish brown, covered with golden hairs; legs reddish brown with rather thin pubescence and scattered a few longer hairs.

Head about as broad as prothorax, rather closely granulose; vertex shallowly depressed between antennal insertions; gena 2/5 as deep as lower eye-lobe. Antennae longer than body, with nearly 4 segments shorter than elytra; segment 1 shorter than segment 3, finely punctured; segment 3 nearly 2 times as long as segment 1, briefly toothed internally at apex; segment 4 about as long as segment 3, briefly toothed; segment 5 about as long as segment 4, minutely toothed; segments 5-11 decreasing gradually in length. *Pronotum* about as long as broad, subcylindrical, very weakly convex at side and on disc; surface rather closely and finely granulose. Scutellum broader than long, subrounded apically. *Elytra* about 4.5 times as long as broad, gradually narrowed to near apex and then oblique, slightly dehiscent; apex subtransversely truncate, only slightly narrowed; disc minutely granulose. *Legs* long and slender; femora rather feebly swollen; hind tibia straight; hind tarsus long, segment 1 slightly longer than remainder combined.

Distribution: Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 2.06.2004(1♀), Phrae Prov.: Wang Chin, 15.01.2002(1♀).

Remark: This species is very distinct characters of body is pitchy brown to reddish brown; golden brown and black pubescence bands are placed on disc; pronotum is subcylindrical and covered with densely golden brown; two irregular

black bands are placed on middle and a large black spot is present on each side near apical margin of pronotum. Specimens were collected in mid rainy and late winter seasons.

Aeolesthes aurifaber (White, 1853)

Figures 15A-C, 77A-B

Hammacherus aurifaber White, 1853, *Cat. Col. Brit. Mus.* 7: 128 (Borneo; BMNH).

Neocerambyx aeneas Thomson, 1860, *Classif. Ceramb.*, 195 ("Bengal"; PARIS).

Neocerambyx lambi Pascoe, 1866, *Proc. Zool. Soc. Lond.* 1866 : 527 (Penang; BMNH).

Neocerambyx alexis Pascoe, 1869, *Trans. Ent. Soc. Lond. Ser 3*, 3: 512 (Sarawak, Singapore; BMNH).

Description: *Body* length 32-45 mm and breadth 9-12 mm, pitchy black, in part reddish brown on antennae and legs; rather closely and evenly clothed with fine golden tawny pubescence, a little more reddish on elytron, lies in different directions to give a changing pattern; more uniform and tawny golden on underside and legs.

Head slightly narrower than prothorax, granulose on vertex, a deep depression between hind part of eyes; a moderately deep groove running from frons to antennal tubercle at each side; a strong ridge between eyes, running from frons to above eye-lobe then end with deeply depressed; frons furnished with a very deep impression on each side; antennal tubercles massive and strongly raised but obtusely. Antennal about 2 times as long as body; segment 1 stout, gradually thickened to apex, strong rugose throughout; segment 3 slightly longer than segment 1, swollen at extreme apex; segment 4 shorter than segment 3 and slightly shorter than segment 1, swollen at extreme apex; segment 5 nearly as long as segment 3, swollen at extreme apex;

segment 6 longer than segment 5, slightly flattened; segments 6-10 increasing in length; segment 11 longest, flattened. Scutellum hemi-circular. *Pronotum* about as long as broad, slightly narrower at apex than at base; somewhat constricted near apex and base, irregularly swollen at side; disc with rather rounded and smoothish deep corrugate-vermiculate; a fairly raised area on centre, broadened behind middle and slightly extending posteriorly; side of disc with several areas of merging vermiculation. *Elytra* about 2.3 times as long as broad, subparallel, narrowed near apex; apex rounded externally, subtruncate with outer slightly toothed; sutural end angled with strongly toothed. *Ventral surfaces* finely punctured. *Legs* fairly long and slender; hind tarsal segment 1 as long as segment 2 and segment 3 united and as long as last.

Distribution: Malaysia, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov., Doi Saket, 17.11.2007(4♂), 5.07.2005(1♀), Chiang Rai Prov.: Wiang Pa Pao, 17.03.2005(1♂), Kamphaeng Phet Prov.: Pang Si La Thong, 4.06.2002(2♂): Khong Lan, 25.08.2003(1♀), 10.05.2004(1♂), Lamphun Prov.: Li, 6.04.2004((1♂), Nan Prov.: Mae Charim, 16.10.2005((1♂), 6.03.2002(1♂), Phetchabun Prov.: Nam Nao, 2.04.2002(1♀), Tak Prov.: Umphang, 30.06.2007(1♀): Phop Phra, 5.09.2005(1♀), Utthai Thani, Lan Sak, 25.07.2007(1♂, 1♀).

Remark: The species differs from *Dialeges pauper* in having long hairs are absent along ventral side of antennae. Specimens were collected throughout the year except mid winter and early summer seasons.

Anubis bipustulatus Thomson, 1865

Figures 16K, 102E-F

Anubis bipustulatus Thomson, 1865, *Syst. Ceramb.*, 569 (Laos; PARIS).-

Gahan, 1906, *Fauna India*, Col. 1: 221.

Anubis bipustulatus abb. *tripustulatus*, *quadripustulatus* Plavilst., 1927,
Ent. Bt. 23: 108 (Siam).

Anubis viridis Pic, 1923, *Met. Exot. Ent.* 39: 9 (Laos: PARIS).

Description: *Body* length 9-17 mm and breadth 1.5 -3.5 mm, metallic green or more rarely, dark blue and nitid; head and scutellum metallic green; antennae black, covered with reddish brown pubescence; pronotum metallic green, furnished with reddish brown hairs on anterior and posterior margins; elytra metallic green, with marked each with a yellow spot placed towards the side at about 1/3 of length from the apex, the spot bordered with violaceous; ventral surfaces metallic green, covered with silvery grey pubescence; legs black, covered with silvery grey pubescence.

Head slightly narrower than prothorax, rather short below the eyes, densely rugulose-punctate. Antennae longer than body in male, slightly shorter than body in female, scarcely thickened towards the apex; segment 1 punctured; segment 3 longer than segment 1 and segment 2 united; segment 4 slightly shorter than segment 3; segment 5 as long as segment 4; segments 5-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* rounded lateral sides, constricted at the base; disc covered with densely rugulose-punctate, transversely rugulose near front margin, usually more or less smooth at the sides. *Scutellum* subtriangle, rounded at tip, longer than broad. *Elytra* finely and very densely punctulate; broadly rounded at the apex. *Ventral surfaces* finely punctured hidden by pubescence; prosternum of female with a very finely and densely punctulate area that crosses in front of the coxae, rounded and very definitely limited at each side; abdominal segment 6 of the male very short and sometimes almost invisible, hind border almost transversely truncate and shortly fringed with hairs; abdominal segment 5 slightly sinuate at apex. *Legs* fairly long; femora densely punctuate, the hind pair much shorter than the abdomen.

Distribution: NE India, Myanmar, Thailand, Malaya, S Vietnam and Laos.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 5.09.2004(1♂), 1.03.2006(1♀), Mae Taeng, 6.07.2003(1♂), 2.06.2004(1♀), 1.10.2005(1♂).

Remark: There is a good deal of variation in the size and shape of the postmedian spot of the elytra; one or two small yellow spots are sometimes present on the anterior part of each elytron. Specimens were collected in mid summer and rainy seasons.

Aphrodisium cantori (Hope, 1940)

Figures 15F, 78E-F

Callichroma cantori: Hope, 1940, *Trans., Linn. Soc. Lond.* 18: 440, pl. 30, fig. 3 (Assam; BMNH).

Aphrodisium cantori: Gahan, 1906, *Fauna India, Col.* 1: 205.-Duffy, 1968, *Imm. Stages Or. T. Beetles*, 183, fig. 107.

Description: *Body* length 35-50 mm and breadth 8-13 mm, dark metallic green, glabrous and very glossy above, covered beneath with fine silvery-grey pubescence; antennae dark blue or violet; segment 1 glabrous and densely punctulate, the next five or six subnitid, the last four or five dull black; legs dark blue or green, with the tarsi fulvous.

Head rather densely punctured above, especially near the thoracic margin; slightly rugulose at the sides, almost impunctate in front; impressed with a median line on the front and inter-antennary ridge. Antennae as long as the body in the male, and about one-fifth shorter in the female. *Pronotum* feebly and very sparsely punctulate, slightly rounded in the middle of the front margin; the anterior transverse groove strongly marked; the disc somewhat raised, rather flat in the middle, furnished with two obtuse tubercles in front and two sharper and more widely separated tubercles behind; each side with an obtuse transversely elongated tubercle just behind the anterior transverse groove, strongly conical tubercle at the middle. *Elytra* feebly

and sparsely punctulate near the base and apex, more densely along the intermediate area, finely rugulose or coriaceous, each elytron rounded at the apex. *Ventral surfaces* finely punctured; metasternum distinctly but very sparsely punctured; abdominal segment 5 of the male with a deeply sinuate emargination at the apex; the sixth with a feebler sinuate emargination *Legs*: Femora densely punctulate; segment 1 of hind tarsus slightly compressed laterally, longer than the next two united.

Distribution: Bangladesh, China, N. India, Assam, Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Om Koi, 15.03.2002(1♂).

Remark: This species is very distinct characters of body is dark metallic green and the tarsi are fulvous. The only one specimen was collected in mid summer season.

Aphrodisium gibbicolle (White, 1853)

Figures 15D-E, 78A-B

Callichroma gibbicolle White, 1853, *Cat. Col. Brit. Mus.* 7: 160
("N. China"; BMNH).

Chelidonium gibbicolle: Gahan, 1906, *Fauna India, Col.* 1: 213, fig. 80.-
Gressitt, 1951, *Longicornia* 2: 198.

Description: *Body* length 22-28 mm and breadth 5.5-7 mm, metallic green; head and prothorax rather glossy; the elytra dull; antennae bluish black, with the first joint subnitid, more or less tinged with green; ventral surfaces metallic green, with a fine covering of silvery-grey pubescence; legs dark blue.

Head rugulose-punctate, marked with a sinuous transverse line between the clypeus and front; the front with a median line that extends to the vertex. Antennae

about equal in length to the body in the female and slightly longer than body in the male; segments 5-10 sharply angulate or dentate at the apex on the anterior side. *Pronotum* striate throughout upper surface, the striae for the most part transverse, but curved on posterior and around the two rather distinct tubercles placed wide apart on the hind part of the disc; front margin of the pronotum somewhat rounded in the middle. Scutellum nitid, triangular and concave. *Elytra* finely and very densely punctulate, for the most part dull, somewhat nitid alongside the suture and along the outer half of the disc, narrowly rounded at the apex. *Ventral surfaces*: Segment 5 truncate, obtusely rounded at the apex in the female; segment 6 emarginated at the apex in the male. *Legs*: Segment 1 of hind tarsi as long as the remaining joint united.

Distribution: S. China, Assam, Bangladesh, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Pa Hom Pok, 28.10.2008(1♂, 2♀), 18.10.2006(1♀), Samoeng, 7.04.2004(1♀), Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♂), Doi Luang, 16.12.2004(1♀), Mae Hong Son Prov.: Mae Sariang, 5.03.2006(1♀): Phrae Prov.: Wang Chin, 6.08.2004(1♂, 1♀), 10.12.2005(1♀).

Remark: This species is very distinct characters of body is metallic green; elytra are dull; apex of the anterior side of antennal segments 5-10 are sharply angulated or dentated; pronotum is striate throughout upper surface; the striae for the most part are transverse and two rather distinct tubercles are placed wide apart on the hind part of the disc. Specimens were collected from mid and continued to late summer, rainy and mid winter seasons.

Aphrodisium neoxenum White, 1853

Figures 15G-H, 78C-D

Callichroma ioscelis Hope (without description), *Trans. Linn. Soc. xviii*, p. 440 (1841).

Callichroma neoxenum White, 1853, *Cat. Coleopt. B. M., Longic.* P. 154.

Description: *Body* length 34-42 mm and breadth 8-11 mm; head, prothorax and scutellum dark green and very glossy; elytra green with slightly bronzy tint, subnitid near the base, and somewhat dull posteriorly; segment 1 or segment 5 of the antennae blue or green and subnitid, the rest dull black; femora purplish red, the hind pair tipped with blue or green at the apex; tarsi of the same blue or green colour as the tibiae; ventral surfaces brassy-green veiled with grey pubescence.

Head feebly and very sparsely punctulate, marked with a few transverse strigae on each side behind the eyes. *Pronotum* with the front margin nearly straight, the anterior groove well-marked, but not extended far down on the sides; the disc slightly flattened in the middle, rugulose, rather densely punctulate, raised posteriorly, oblique ridge or tubercle on each side, a feebler oblique ridge on each side anteriorly; the lateral tubercle on each side placed slightly before the middle and not strong. *Elytra* rather more than 3 times as long as width across the base, covered with rugulose or coriaceous sculpture, coarser near the base and gradually finer and closer towards the apex; each separately and rather sharply rounded at the apex.

Distribution: India and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 20.01.2002(1♂), 2.09.2003(2♂, 2♀), 7.04.2004(1♀), 3.08.2005(1♂, 1♀), 2.02.2006(1♀), Fang, 2.03.2002(1♂), 5.09.2003(1♀), 6.07.2005(2♂), Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♀), Phayao Prov.: Chiang Muan, 6.10.2004(1♀).

Remark: The species differs from *A. gibbicolle* in being femora are purplish red. Specimens were collected from late winter and continued to summer and rainy seasons.

Artimpaza argenteonotata Pic, 1922

Figures 16C-D, 79C-D

Artimpaza (sic) argenteonotata Pic, 1922, *Mel. Exot.-Ent.* 37: 10 (Tonkin; PARIS).

Description: *Body* length 10.5-15.5 mm and breadth 2.5-3.5 mm, red to pitchy black; head and prothorax bright red; antennae red and shiny on segment 1, dull pitchy brown to slightly reddish on remainder; elytron dark auburn basally to reddish brown apically with a broad discal stripe at each humeral angles; ventral surfaces red, scattered long reddish brown hairs; legs red, scattered long reddish brown hairs.

Head about as broad as prothorax at widest part, sparsely and moderately punctured, furnished with a longitudinal groove running on frons; gena 1/2 as deep as lower eye-lobe. Antennae longer than body; segment 1 swollen preapically, sparsely and slightly punctured; segment 3 about as long as segment 1 and segment 2 united; segment 4 about as long as segment 1; segment 4 shorter than segment 5; segments 5-10 decreasing somewhat in length; segment 11 about as long as segment 7. *Pronotum* longer than broad, subcylindrical apically, somewhat constricted near base, feebly widened at side, widest just behind middle; disc covered with moderately punctured, a moderately swelling on each side near base and with anterior portion largely smooth with sparsely punctured; disc covered with deeply punctured; lateral anterior and posterior portions smooth somewhat sparsely punctured. Scutellum moderately raised, longer than broad, unevenly convex. *Elytra* about 5.5 times as long as broad, distinctly narrowed near the middle; apex smooth externally, dehiscent internally and acute at tip; disc fairly even, with moderately punctured. *Ventral surfaces* very sparsely punctured, mostly at hind thorax, 1st and 2nd abdominal sternites. *Legs* slender; hind femur arched and strongly swollen in apical 1/3; hind tibia arched; hind tarsal segment 1 about as long as segment 2 and segment 3 united.

Distribution: N. Vietnam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 8.03.2002(1♂, 1♀), 6.07.2003(2♀), 2.06.2004(1♀), 1.10.2005(2♂), Doi Saket, 24.08.2007(1♂, 2♀), Chiang Rai Prov.: Wiang Pa Pao, 30.03.2007(2♂), Mae Hong Son Prov.: Mae Sariang, 26.08.2007(1♂, 1♀), Phetchabun Prov.: Nam Nao, 15.06.2007(2♂, 4♀), Phrae Prov.: Wang Chin, 10.12.2005(1♀), Tak Prov.: Umphang, 30.06.2007(1♀).

Remark: The species differs from *A. paksensis* in having legs and basal of elytra are red color. Specimens were collected in mid summer, rainy and mid winter seasons.

Artimpaza colorata Gressitt and Rondon, 1970

Figures 16G, 79E-F

Artimpaza colorata Gressitt et Rondon, 1970, - Gressitt & Rondon, 1970, *Pac. Ins. Monogr.*, 24: 178.

Description: *Body* length 10.5-12 mm and breadth 1.5- 2.5 mm, metallic green, in part pitchy, black, reddish or testaceous; head and prothorax metallic green, latter darker on anterior collar, moderately clothed with pale long erect hairs, particularly on sides of body and legs, with somewhat darker shorter setae on ventral side of basal antennal segments; antennae pale reddish brown on segments 1-2, dark reddish brown to pitchy on remainder; scutellum greenish black; elytron shiny golden green with a fairly broad median testaceous stripe, slightly reddish basally, extending from just behind humerus to just before apex; ventral surfaces dark metallic green; legs pitchy black, testaceous on petioles; scutellum and parts of thoracic pleura with dense silvery buff pubescence, a little bit on sides of apical portions of abdominal sterna.

Head about as broad as prothorax at widest part, rather closely punctured and slightly rugose, grooved medially from between upper eye-lobe to anterior portion of frons; gena less than 1/2 as deep as lower eye-lobe. Antenna reaching to apical 1/9 of elytron in male, reaching just beyond middle of elytron in female; segment 1 swollen

preapically, moderately punctured, slightly carinate externally; segment 3 longer than segment 1 and segment 2 united; segment 4 slightly longer than segment 1; segment 5 barely longer than segment 4; segments 5-10 decreasing markedly in length; segment 11 as long as segment 8. *Pronotum* more than 1/2 against as broad, slightly narrower at apex than at base, distinctly collared, subcylindrical apically, then slightly constricted, then rather weakly convex at side, constricted before base but not very distinctly collared; disc and basal portion coarsely punctured, the punctures mostly larger than interspaces, a median impunctate area centered behind middle and impunctate area on upper portion of each side just anterior to middle. Scutellum narrowed and subrounded apically. *Elytra* just over 6 times as long as broad, gradually narrowed behind humerus to near middle, then subparallel and barely evident posteriorly; apex strongly, somewhat suddenly narrowed and rounded externally, slightly dehiscent and blunt at tip; disc fairly even, coarsely punctured on sutural green portion, more finely punctured on outer green portion, and minutely and very sparsely punctured on median pale strip. *Ventral surfaces* sparsely punctured on thorax and minutely punctured on abdomen. *Legs* fairly short; hind femur not nearly reaching elytral apex, strongly swollen in apical 1/2; hind tibia nearly straight; hind tarsal segment 1 about as long as segment 2 and segment 3 united and last.

Distribution: Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 2.06.2004(1♀), Doi Saket, 24.08.2007(1♂, 5♀), Chiang Rai Prov.: Wiang Pa Pao, 30.03.2007(4♂, 6♀), Me Hong Son Prov.: Mae Sariang, 26.08.2007(9♂, 8♀), 22.07.2004(3♀), Phetchabun Prov.: Nam Nao, 15.06.2007(7♂, 11♀), Phrae Prov.: Wang Chin, 15.01.2002(1♀), 6.08.2004(1♂), Tak Prov.: Umphang, 30.06.2007(21♂, 36♀).

Remark: The species differs from *A. argentinotata* and *A. paksensis* in having body is mostly metallic green. Specimens were collected from late winter, mid summer, early and continued to mid rainy seasons.

Artimpaza lineata (Pic, 1927)

Figures 16B, 79A-B

Falsodebilia lineate Pic, 1927, *Met. Exot.-Ent.* 48: 24 (China; PARIS).-Gressitt, 1951, *Longicornia* 2: 161.

Description: *Body* length 11.5-12.5 mm and breadth 1.5-2.5 mm, dark brown to pitchy black; head and prothorax pitchy, scattered with long silvery hairs; antennal segments 1-5 dark brown, dull pitchy brown to slightly reddish on remainder, silvery pubescence scattered with long silver hairs; elytron pitchy black, furnished with dense long silver hairs on anterior portion, along internal side and apex; scutellum black, covered with silvery pubescence; ventral surfaces pitchy black, sparsely long silver hairs, dense silvery hairs on anterior margin of metasternum and abdominal sternum; legs dark auburn with femoral clubs more shiny, anterior portion of femora nearly black, covered with long silvery hairs.

Head about as broad as apex of prothorax, aspirate-punctured and with a longitudinal grooves extending on vertex; gena 1/2 as deep as lower eye-lobe; antennal tubercles massive and obtusely raised. Antennae longer than body; segment 1 swollen preapically, slightly punctured; segment 3 longer than segment 1 and segment 2 united; segment 4 slightly longer than segment 1; segments 4-10 decreasing in length; segment 11 slightly shorter than segment 7. *Pronotum* about 2 times as long as broad, subcylindrical apically, somewhat constricted near base; disc with a slightly swelling on each side near middle; disc somewhat raised, shiny with sparse deep punctures; lateral sides covered with very fine sub-reticulate; a transverse and deep groove above basal margin, with roughly punctured in the bottom of groove; disc slightly depressed in center, crossed by silvery pubescence band behind smooth anterior portion, two silvery pubescence bands on each sides near base. Scutellum raised, narrowed and subrounded apically. *Elytra* about 5 times as long as broad, gradually narrowed behind humerus to near middle, then subparallel and barely widened posteriorly; apex strongly and gradually narrowed and smooth externally, dehiscent and blunt at tip; apex pointed; disc fairly even, coarsely punctured on

sutured on sutural pitchy black portion, very sparsely punctured on outer pitchy black portion. *Ventral surfaces* finely and sparsely punctured. *Legs* slender; hind femur strongly swollen in apical 1/3; hind tibia arched; hind tarsal segment 1 distinctly longer than segment 2 and segment 3 united and distinctly longer than last.

Distribution: SW China, Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 7.04.2005(1♂), 1.03.2006(1♂), Mae Taeng, 8.03.2002(1♂), 2.06.2004(1♀), 1.10.2005(1♀), Chiang Rai Prov.: Doi Luang, 6.03.2005(1♂), Phrae Prov.: Wang Chin, 6.08.2004(1♀), 10.12.2005(1♂).

Remark: This species is very distinct characters of body is dark brown to pitchy black; antennal segments 1-5 are dark brown and dull pitchy brown to slightly reddish on remainder; pronotum is slightly depressed in center; a silvery pubescence band is crossed behind smooth anterior portion and two silvery pubescence bands present on each side near base. Hind femur is strongly swollen in apical 1/3. Specimens were collected from mid and continued to late summer, rainy and mid winter seasons.

Artimpaza paksensis Gressitt and Rondon, 1970

Figures 16E-F

Artimpaza paksensis Gressitt et Rondon, 1960, - Gressitt & Rondon, 1970, *Pac. Ins. Monogr.*, 24: 178.

Description: *Body* length 13-14 mm and breadth 2-2.5 mm, bright reddish to testaceous and pitchy black, moderately clothed with long pale erect hairs, mostly on ventral side of basal portion of antennae, on sides of prothorax, legs and more sparingly on ventral surfaces, a very few mostly shorter ones on elytron; head and prothorax bright brick red, latter slightly darkened on apical and basal margins; antenna reddish to pitchy basally, becoming pitchy brown posteriorly; elytron pitchy

black basally, becoming pitchy brown apically, with a fairly broad testaceous discal stripe from a little behind humerus to somewhat behind middle; ventral surfaces reddish anteriorly and at side of hind thorax, pitchy on remainder except more reddish toward apex of abdomen; legs dark pitchy reddish, paler on tarsi; scutellum densely clothed with golden pubescence, some sparse silvery white pubescence on prosternum and mesopleuron, as well as base of sides of abdominal segments 1-3.

Head broader than apex of pronotum but not as wide as widest part, sparingly punctured between eyes and on frons, partly ridged and grooved between antennal supports; gena $\frac{3}{4}$ as deep as lower eye-lobe. Antennae reaching slightly beyond elytral apex; segment 1 distinctly swollen before apex; segment 3 not quite as long as segment 1 and segment 2 united; segment 4 shorter than segment 3; segment 5 as long as segment 3; segments 5-10 decreasing gradually in length; segments 6-10 produced and bluntly toothed apically; segment 11 about as long as segment 8. *Pronotum* $\frac{1}{3}$ longer than broad, somewhat narrower at apex than at base, collared at apex and constricted behind collar, broadly and subevenly rounded at side and widest just behind middle, constricted and collared at base; disc somewhat raised, with anterior and posterior constrictions extending slightly backward and forward respectively as indentations in raised area of disc, otherwise rather densely punctured. Scutellum longer than broad, slightly widened behind middle, rounded apically. *Elytra* just over 6 times as long as broad, distinctly narrowed behind humerus, very slightly widened postmedially, narrowed and dehiscent apically with a subacute tip; disc rather smooth, slightly raised near suture behind scutellum; surface with largely fine punctures which are only partly in rows and mostly rather widely spaced, particularly on outer $\frac{1}{2}$, larger and closer in 2 subregular rows along suture in posterior $\frac{3}{5}$. *Ventral surfaces* finely and sparsely punctured. *Legs* slender with hind femur strongly swollen in apical $\frac{2}{5}$; hind tibia slightly bent; hind tarsal segment 1 distinctly longer than segment 2 and segment 3 united, slightly longer than last.

Distribution: Laos and Thailand (new record).

Material examined: Thailand: Chiang Rai Prov.: Wiang Pa Pao, 30.03.2007(1♀), Mae Hong Son Prov.: Mae Sariang, 26.08.2007(2♂), Phetchabun Prov.: Nam Nao, 15.06.2007(1♂), Tak Prov.: Umphang, 30.06.2007(1♀).

Remark: The species differs from *A. argentinotata* in being legs are dark pitchy reddish and paler on tarsi; elytra are furnished with a fairly broad testaceous discal stripe from a little behind humerus to somewhat behind middle. Specimens were collected from mid summer, early and continued to mid rainy seasons.

Camelocerambyx semiruber Gressitt and Rondon, 1970

Figure 16H

Camelocerambyx semiruber Gressitt et Rondon, 1970, - Gressitt & Rondon, 1970, *Pac. Ins. Monogr.*, 24: 178.

Description: *Body* length 16.5 mm and breadth 2.5 mm; head and prothorax red; antenna darker red beyond base of scape, with tuft black; scutellum black with silvery pubescence; elytra pitchy with narrow testaceous discal stripe on not quite basal 1/2; ventral surfaces black behind fore coxae, with limited silvery pubescence on borders of meso- and metathorax and bases of abdominal segments 2-5; legs pitchy reddish with femoral clubs nearly black; dorsum and femora nearly glabrous, tibiae with fine oblique hairs; antennal segment 5 with black tuft on apical 1/4.

Head about as broad as prothorax, finely and irregularly punctured; vertex nearly horizontal, finely grooved; gena 2/5 as deep as lower eye-lobe. Antennae about 2.2 times as long as body; segment 1 strongly swollen; segment 3 reaching nearly to middle of elytra; segment 4 exceeding elytral apex by 1/3 length; segment 5 tufted; segments 6-11 combined as long as segment 3. *Pronotum* 1.6 times as long as broad, distinctly convex behind middle of each side, constricted near apex and base; disc densely punctured except on 5 rows of callosities, sparsely punctured (anterior 2) to impunctate (central 1). *Scutellum* narrow, truncate. *Elytra* 6.5 times as long as broad, somewhat gradually narrowed; apex subrounded externally and subacute; disc

irregularly punctured, more finely on pale stripe. *Ventral surfaces* feebly punctured. *Legs* very slender; hind femur exceeding elytral apex by nearly 1/2 of length, clubbed for just over apical 1/3; hind tarsal segment 1 not quite as long as rest combined.

Distribution: Laos and Thailand (new record).

Material examined: Thailand: Chiang Rai Prov.: Wiang Pa Pao, 23.08.2003(1♀).

Remark: The species differs from *C. singularis* in being head and prothorax are red color. The only one specimen was collected in mid rainy season.

Camelocerambyx singularis Pic, 1922

Figures 16I-J, 80A-B

Camelocerambyx singularis Pic, 1922, *Echange* 38: 32 (Laos; PARIS).

Description: *Body* length 12-21 mm and breadth 1.5-2 mm; head red; pronotum black; antennae darker red beyond base of segment 1, with tuft darker brown; scutellum blackish with silvery pubescence; elytra pitchy with narrow testaceous discal stripe on not quite basal a half; ventral surfaces black behind fore coxae, with limited silvery pubescence on borders of mesothorax and metathorax and base of abdominal segments 2-5; legs pitchy reddish brown with femoral clubs nearly black; dorsum and femora nearly glabrous, tibiae with oblique hairs; antennal segment 5 with darker brown tuft on fourth of apical.

Head about as broad as prothorax, finely and irregularly punctured; vertex nearly horizontal, finely grooved; gena about 0.4 times as deep as lower eye-lobe. Antennae slightly longer than body in male, as long as body in female; segment 1 strongly swollen; segment 3 reaching about 1/3 of elytra; segment 4 about 2/3 of elytra; segment 5 tufted; segments 6-11 combined about as long as segment 3. *Pronotum* about 2 times as long as broad, slightly convex behind of each side,

constricted near apex and base; disc densely punctured except on five rows of callosities; two anterior callosities sparsely punctured, one central callosity impunctate two posterior callosities scattered punctures. Scutellum narrow, round at apical. *Elytra* about 3.5 times as long as broad, somewhat gradually narrowed; apex subrounded externally; disc irregularly punctured, more moderately on pale stripe. *Ventral surfaces* feebly punctured. *Legs* very slender; hind femur exceeding elytra apex by nearly about 0.5 times as long as elytra, clubbed for just over apical 1/3; hind tarsal segment 1 shorter than remainders combined.

Distribution: Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Chiang Dao, 4.02.2003(2♂), 18.04.2004(1♀), 7.08.2005(1♂, 1♀), Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(2♂, 3♀), 23.08.2003(1♂, 4♀), Phrae Prov.: Wang Chin, 15.01.2002(1♂), 6.08.2004(1♀), 10.12.2005(1♀), Tak Prov.: Phob Pha, 5.05.2004(1♂).

Remark: The species differs from *C. semiruber* in being prothorax is black. Specimens were collected from mid winter and continued to summer, and early continued to mid rainy seasons.

Ceresium elatum Holzschuh, 1995

Figure 17C

Ceresium elatum Holzschuh, 1995, *FBVA Berichte, Schriftenreihe der*

Forstlichen Bundesversuchsanstalt. Vol. 84. Wien, Austria. 65 pp., 72 ill.

Description: *Body* length 13.5-15.5 mm and breadth 3-3.5 mm, reddish brown, covered with golden hairs for most parts except some parts of pronotum covered with subrecumbent silvery buff hairs; scutellum and ventral surfaces entirely covered with pale yellow pubescence.

Head short, about 1.1 times as broad as long, widest at eyes and narrowed both anteriorly and posteriorly; basal narrower than pronotum; sparsely punctate; roughly rugose punctures on frons and vertex; antennal tubercles massive and slightly raised; frons and vertex covered with long golden hairs and dense hairs near margin of eyes. Antennae slightly as long as a half of body, pubescence; segment 1 about as long as segment 3; segments 4-11 each about as long as segment 3, decreasing slightly in length. *Pronotum* longer than broad slightly narrower at apex than at base, weakly and evenly convex at side and slightly sinuate, widest near middle; disc covered with roughly punctured at the middle except along the margin of pronotum covered with subrecumbent silvery buff hairs; apical margin substraight, basal margin sinuate. Scutellum hemi-circular. *Elytra* slightly broader than pronotum, covered with moderately punctured with golden hairs in the bottom of punctures, evenly narrowed to near apex; apex sub-truncate; sutural end angled but not toothed. *Ventral surfaces* finely punctured. *Legs* with femura moderately swollen.

Distribution: Thailand.

Material examined: Thailand: Phitsanulok Prov.: Chat Trakan, 5.10.2004(1♀), Phrae Prov.: Wang Chin, 10.12.2005(1♀), Tak Prov.: Umphang, 30.06.2007(1♀).

Remark: The species differs from *C. geniculatum* in being body is reddish brown; pronotum is covered with subrecumbent silvery buff hairs. Specimens were collected in early and late rainy, and mid winter seasons.

Ceresium fallaciosum Hulzschuh, 1995

Figure 17C

Ceresium fallaciosum Hulzschuh, 1995, *FBVA Berichte, Schriftenreihe der Forstlichen Bundesversuchsanstalt*. Vol. 84. Wien, Austria. 65 pp., 72 ill.

Description: *Body* length 8-10 mm and breadth 2.5-3 mm; brown; head covered with whitish pubescence; antennae covered with brownish pubescence; pronotum covered with whitish pubescence, except on the middle of disc which is scatter with whitish hairs; scutellum covered with white pubescence; elytra covered with brownish hairs each in the bottom of punctures; ventral surfaces covered with brown hairs, furnished with whitish hairs lateral sides of mesosternum, metasternum and abdomens sternites; legs covered with brownish pubescence.

Head covered with punctured. Antennae slightly longer than the body; segment 1 closely punctulate; segment 3 slightly shorter than segment 1 and slightly longer than segment 4. *Pronotum* longer than broad, anterior margin slightly narrower than posterior margin, deep punctured scattered on the middle and sparsed on lateral sides. Scutellum triangular, rounded at tip. *Elytra* deeply punctured throughout. *Ventral surfaces* finely punctured. *Legs* fairly long; femora gradually swollen from about 1/3 at basal to apical; tibiae slender.

Distribution: Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Saket, 16.07.2005(1♀), Mae Taeng, 2.06.2004(1♀).

Remark: This species is very distinct characters of body is brown color; head and pronotum are covered with whitish pubescence; elytra are covered with deeply punctured throughout and a brownish hair is placed on each the bottom of punctures. Specimens were collected from early and continued to mid rainy seasons.

Ceresium geniculatum White, 1855

Figure 17A

Ceresium geniculatum White, 1855, *Cat. Col. Brit. Mus.* 8: 245

(E. Indies; BMNH).-Gahan, 1906, *Fauna India*, *Col.* 1: 158.

Ceresium rufipes Pascoe, 1869, *Trans. Ent. Soc. Lond., ser 3*, 3: 537 (Timor).

Description: *Body* length 10.5-13.5 mm and breadth 2.5-3 mm, dark brown to reddish brown, covered with brown pubescence; head dark brown, covered with pale brown to pale yellow hairs; antennae brown, covered with brown hairs, shiny throughout; pronotum dark brown, covered with pale brownish hairs; scutellum reddish brown, covered with dense brown pubescence; elytra reddish brown, covered with pale brown pubescence; ventral surfaces reddish brown, covered with short brown hairs for the most parts except the middle of mesosternum sparsely covered with short brown hairs; legs reddish brown, furnished with pitchy black all knees.

Head short, about 1.2 times as wide as long, widest at eyes and narrowed both anteriorly and posteriorly; basal narrower than pronotum; antennal tubercles and slightly raised; antennae slightly shorter than body; segment 1 narrowed at anterior margin and gradually swollen to posterior margin; segment 3 as long as segment 1; segments 4-11 each about as long as segment 3; segments 1-6 sparsely long hairs on ventral side; segments 7-11 covered with short brown hairs throughout. *Pronotum* longer than broad slightly narrower at apex than at base, weakly and evenly convex at side; disc slightly convex, covered with punctures. *Scutellum* subtriangle, rounded at tip. *Elytra* broader than pronotum, slightly gradually narrowed from anterior to posterior, subtruncate at tip; punctures throughout; sutural end angled without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long; femora gradually swollen from about third at basal to apical; tibiae slender.

Distribution: Myanmar, Thailand, Indonesia and Laos.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 2.06.2004(1♂), Doi Inthanon, 18.09.2004(1♂), Lamphun Prov.: Mae Tha, 7.04.2002(1♀), Phrae Prov.: Wang Chin, 15.01.2002(1♂), 6.08.2004(1♀).

Remark: The species differs from *C. elatum* in being body is dark brown to reddish brown; legs are reddish brown and furnished with pitchy black on all knees.

Specimens were collected from late winter and summer, early and continued to mid rainy seasons.

Ceresium leucosticticum White, 1855

Figures 17B, 98E-F

Ceresium leucosticticum White, 1855, *Cat. Col. Brit. Mus.* 8: 245, pl. 6,

fig. 1 (E. Indies; BMNH).-Gahan, 1906, *Fauna India*, *Col.* 1: 159, fig. 64.-

Duffy, 1968, *Imm. Stages Or. T. Beetles*, 141, fig. 81.

Description: *Body* length 8-12 mm and breadth 2.5-3 mm, brownish black; head covered with brown pubescence, furnished with whitish hairs between eye-lobe; antennae reddish brown, covered with brownish pubescence; pronotum furnished with four small laterally-placed marks of chalk-white pubescence, two spots near the apex and two short longitudinal stripes at the base; scutellum brownish black, covered with white pubescence; elytra somewhat reddish along the middle part of the sutural border, furnished with nine spots of chalk-white pubescence for following: One at the suture, a little behind the scutellum, six spots before the middle line, and two narrow and transverse bands on each at about one-sixth from the apex; ventral surfaces brownish black, covered with brown hairs, furnished with whitish hairs lateral sides of mesosternum, metasternum and abdomen sternites; legs reddish brown, darker at all knees and tibiae, covered with brownish pubescence.

Head punctured, furnished with minutely rugulose on vertex. Antennae about 1.3 times as longer as the body in the male, slightly longer than body in the female; segment 1 closely punctulate; segment 3 slightly longer than segment 1 and distinctly longer than segment 4. *Pronotum* rounded at the middle of each side, slightly longer than broad across the middle, very closely and subrugosely punctured, with a small and smooth space on the middle of the disc. *Scutellum* hemi-circular. *Elytra* somewhat depressed near the suture, distinctly but not very closely punctured, the punctures strongly feebler towards the apex, and each with a short decumbent hair. *Ventral surfaces* varies from dark brown to reddish brown in colour, with spots of

white pubescence at the sides. *Legs* reddish brown, with the femora darker at the tips; femora rather closely punctulate; tibiae carinate.

Distribution: India, Myanmar, China, Thailand, Sumatra and Laos.

Material examined: Thailand: Chiang Mai Prov.: Fang, 2.03.2002(1♂,1♀), Mae Taeng, 1.07.2004(1♀).

Remark: This species is very distinct characters of body is brownish black; four small laterally-placed marks of chalk-white pubescence are present on pronotum and two spots are placed near the apex and two short longitudinal stripes are furnished on the base; elytra are furnished with nine spots of chalk-white pubescence. Specimens were collected in mid summer and rainy seasons.

Chelidonium venereum Thomson, 1865

Figures 15I, 81E-F

Chelidonium venereum Thomson, 1865, *Syst. Ceram.*, 568 (Cambodia; PARIS).

Description: *Body* length 24-28 mm and breadth 5-6.5 mm, brilliant frosted green with appendages largely purplish to steel blue; head golden green, steel blue on apex of mandible and gena; antenna brilliant blue on segment 1, dark steel blue on following segments; pronotum shiny metallic golden green; scutellum purplish with greenish margins; elytra frosted, somewhat metallic green with bluish tinge, furnished with a transverse yellowish band at nearly middle, reaching backward along side and disappearing at 3/4 of elytra, tinged with steel blue along the yellowish band margin; steel blue on lateral side, apex and basal margin; ventral surfaces metallic green, covered with silvery white pubescence; legs steel blue with slightly purplish tinge, largely purplish on swollen portions of femora, covered with pale silvery white pubescence.

Head narrower than prothorax at lateral tubercles; occiput rugose to subvermiculate; interantennal area coarsely punctulate, gradually concave with a fine median groove continuing to the upper frons region; frons subrugose-punctate; labrum and gena punctulate with labrum slightly emarginated; gena about 0.5 times as deep as lower eye-lobes. Antennae slightly longer than body; segment 1 punctate, cylindrical; segment 3 about 2 times as long as segment 1; segment 4 about 1.3 times as long as segment 1; segments 5-9 apical tooth; segments 5-10 decreasing gradually in length; segment 11 distinctly shorter than segment 8. *Pronotum* longer than breadth at base; lateral tubercles slightly shorter than broad; side with a blunt tubercle only at middle; disc set off from apical and basal collars by slightly depression, punctured and subrugose, with apical collar subrugose and basal collar even less. Scutellum subequilaterally triangular, depressed, slightly raised at sides, and rather smooth and shiny. *Elytra* gradually narrowed behind humerus to near apex, rounded externally and very briefly dehiscent; disc finely and densely punctured; slightly rugose along suture. *Ventral surfaces* densely punctured, subpruinose. *Legs* slender; hind femur only slightly thickened and fusiform in distal 1/2; hind tibia widened to near apex, flattened.

Distribution: Cambodia, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 7.04.2005(1♀), Chiang Rai Prov.: Wiang Pa Pao, 23.08.2003(1♂), 17.03.2005(1♀), Doi Luang, 16.12.2004(1♂), Lampang Prov.: Thoen, 10.12.2005(1♂), Mae Hong Son Prov.: Mae Sariang, 2.12.2005(1♂).

Remark: This species is very distinct characters of body is brilliant frosted green with appendages largely purplish to steel blue; a transverse yellowish band is present on middle of elytra and extend backward along side and disappearing at 3/4 of elytra which is tinged with steel blue along the yellowish band margin. Specimens were collected from mid and continued to late summer, mid rainy and winter seasons.

Chlorophorus annularis (Fabricius, 1787)

Figures 19A-B, 83A-B

Callidium annulare F., 1787, *Mant. Ins.* 1: 156 (Siam; KØBNHAVN).

Chlorophorus annularis: Chevrolat, 1863, *Mem. Soc. Sci. Liège.* 18: 290.-

Greeitt, 1951, *Longicornia* 2: 275.-Duffy, 1968, *Imm. Stages Or. T. Beetles*, 193, fig. 116.

Caloclytus annularis: Gahan, 1906, *Fauna India, Col.* 1: 43.

Description: *Body* length 10-15 mm and breadth 2.5-4 mm, black; head covered with yellowish pubescence; antennae covered with yellowish brown pubescence; pronotum covered with yellowish pubescence, furnished varied with dark brown or almost black markings, distributed as follows: Three spots on disc, one median, bifurcated posteriorly, and one, obliquely oval, on each side before the middle; scutellum covered with yellow pubescence; elytra covered with yellowish pubescence, furnished with dark brown or almost black markings, distributed as follows: Two bands and a rounded spot on each elytron, the first band somewhat elliptical in form, longer axis extending from near the shoulder to the middle 1/3; the second transverse band, submedian, curved forwards along the suture about halfway to the base, expanded at outer end into an oblique spot and reaches to the elliptical band in front united and a narrow point; the round spot lies about midway between the submedian band and the apex, and approaches more closely to the outer margin than to the suture. Ventral surfaces black with densely whitish pubescence that covered almost the whole surface in the male, and forms more or less extensive spots at the sides in the female; the first three or four joints reddish brown, the rest darker, all faintly pubescent; legs black, covered with yellowish pubescence.

Head punctured hidden by pubescence; a narrow and shallow groove running from frons to vertex. Antennae distinctly shorter than body in both sexes; segment 1 punctured, subcylindrical, about as long as segment 2 and segment 3 united; segment

4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 as long as segment 9. *Pronotum* subglobose, as wide in the middle as the base of the elytra, marked with a fuscous spot on each side near the base, the black spots on the disc. Scutellum hemicircular. *Elytra* punctured, gradually narrow to apex, truncate and quadridentate at the apex; distinctly short emarginated apically with outer angle projecting; sutural end angled with small toothed. *Ventral surfaces* covered with dense fine punctures largely hidden by pubescence. *Legs* somewhat variable in colour, usually reddish brown, with the hind femora, except near the base, and the tibiae to some extent, blackish; middle femora carinate on each side, the hind pair not carinate.

Distribution: India, Sri Lanka, Myanmar, Thailand, Malaya, Sunda Is., Vietnam, Hainan, S. China, NE China, Taiwan, Ryukyu Is., Japan, Australia and Laos.

Material examined: Thailand: Chiang Mai Prov.: Doi Sutep, 9.10.2002(1♂, 3♀), 1.04.2003(1♂), Chiang Dao, 5.09.2002(2♀), 18.04.2004(1♂), Mae Taeng, 2.06.2004(1♂, 2♀), 1.10.2005(1♀), Fang, 6.06.2005(1♂); Chiang Rai Prov.: Doi Luang, 19.11.2002(1♂, 3♀), Nan Prov.: Mae Charim, 16.03.2002(2♂), 10.06.2004(1♂, 1♀), Phrae Prov.: Wang Chin, 6.08.2004(1♂), 6.10.2004(1♀), Phetchabun Prov.: Nam Nao, 14.08.2004(1♀), Sukhothai Prov.: Si Satchanalai, 5.09.2005(1♀).

Remark: This species is very distinct characters of pronotum is furnished with a bifurcated black marking in the middle. Specimens were collected from summer and continued to rainy season and early winter seasons.

Chlorophorus copiosus Holzschuh, 1991

Figures 20A-D, 82E-F

Chlorophorus copiosus Holzschuh, 1991, *FBVA Berichte, Schriftenreihe der Forstlichen Bundesversuchsanstalt*. Vol. 51. Wien, Austria. 75 pp., 92 ill.

Description: *Body* length 17.5-10.5 mm and breadth 2.5-4.5 mm, black somewhat tinged with reddish brown on antennae, legs; body in large part clothed with yellowish green pubescence; head, scutellum and elytra covered with yellowish sulphur pubescence; pronotum without blackish hairs spots; elytra marked with a pair of short and narrowed black band at each near side of scutellum; a pair of black spot at each humeral angle; a pair of black spot at each side near middle of elytra; slightly broader black band near middle, curving forward along suture and together not touching external margin of elytra; a pair of pale narrowed black band at 1/5 of elytra near apex, touching lateral margin; ventral surface dense pale sulphur yellow for the most parts; legs reddish brown, covered with yellowish green hairs.

Head slightly broader than apex of prothorax, a deep median groove running from frons to vertex, coarsely punctured, sparsely and coarsely punctured between upper eye-lobe; above clypeus area moderate punctures; antennae slightly longer than a half of body; segment 1 cylindrical, about as long as segment 2 and segment 3 united; segment 4 as long as segment 3; segments 4-10 decreasing gradually in length; segment 11 as long as segment 9; segments 4-10 minutely long golden hairs apically. *Pronotum* slightly longer than broad, nearly as broad as elytra, evenly rounded at side; disc distinctly convex, moderately punctulate largely hidden by pubescence. *Scutellum* hemicircular. *Elytra* narrowed apically, distinctly truncate and short emarginated apically with outer angle projecting; sutural end angled with small toothed; disc densely covered with finely punctured largely hidden by pubescence. *Ventral surfaces* with densely fine punctures largely hidden by pubescence. *Legs* fairly slender.

Distribution: Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Sutep, 2.05.2005(1♀), Samoeng, 7.04.2004(1♀), Doi Pahom Pok, 18.10.2006(1♀, 1♂), Chiang Dao, 30.04.2006(1♂), Doi Saket, 17.11.2007(1♀), Mae Charim, 1.03.2006(1♀), Chiang Rai Prov.: Wiang Pa Pao, 17.03.2005(1♂), 5.06.2002(1♀), 23.08.2003(1♀),

Lampang Prov.: Thoen, 10.12.2005(1♀), Nan Prov.: Mae Charim, 5.08.2004(1♀), 20.06.2006(1♀), 15.02.2005(1♀), Phayao Prov.: Chiang Kham, 9.01.2004(2♂), Phrae Prov.: Wang Chin, 10.12.2005(1♀, 2♂).

Remark: The species differs from other species in same genus in having prothorax is covered with yellowish sulphur hairs without a blackish hairs spot. Specimens were collected throughout the year except mid rainy season.

Chlorophorus hederatus Heller, 1926

Figures 19C-F, 83C-D

Chlorophorus (Caloclytus) hederatus Heller, 1926, *Tijds. Ent.* 69: 25
(Bengal; DRESDEN).

Chlorophorus hederatus: Duffy, 1968, *Imm. Stages Or. T. Beetles*, 195.

Description: *Body* length 12-12.5 mm and breadth 3-3.5 mm, black, somewhat tinged with reddish brown on antennae, tibiae and tarsi; body in large part clothed with olive green to yellowish pubescence; head covered with yellowish sulphur pubescence; antennal segments 1-4 covered with thin grayish hairs; antennal segments 7-9 clothed with thin short gray hairs basal and reddish hairs distal part; prothorax covered with yellowish sulphur pubescence, furnished with a large black spot on center and a small black spot on each side near apice; scutellum and elytra covered with yellowish sulphur pubescence; elytra marked with a arcuate black band on each humerus, furnished with a small yellow band each on the middle and a one black transverse band at about a half as long as elytra length; one short black band at each side near apex; ventral surface with densely pale sulphur yellow pubescence for the most parts; legs with fairly thin olive green pubescence except inner side of fore femur which is glabrous.

Head slightly broader than apex of prothorax, a moderately deep groove running from frons to vertex and weakened near basal margin, sparsely and coarsely

punctured between upper eye-lobes and above clypeus. Antennae slightly about as long as a half of body; segment 1 slender, distinctly longer than segment 2 and segment 3 united; segment 4 shorter than segment 3; segments 4-10 decreasing gradually in length; segment 11 as long as segment 9. *Pronotum* as broad as long, nearly as broad as elytra, evenly rounded at side; disc distinctly convex, somewhat corrugate-vermiculate. Scutellum short, broadly rounded behind. *Elytra* distinctly narrowed apically, distinctly oblique and strongly emarginated apically with outer angle projecting, disc minutely punctured. *Ventral surfaces* with densely fine punctures largely hidden by pubescence. *Legs* fairly slender; femora slightly swollen inner margin of fore tibiae slightly reaching with minute small spines and two spines at tip.

Distribution: India, Myanmar, Thailand and Laos.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 5.09.2004(1♀), Fang, 2.03.2002(1♀, 1♂), Chiang Rai Prov.: Wiang Pa Pao, 23.08.2003(1♂).

Remark: The species differs from other species in same genus in having pronotum is furnished with a large black spot on center. Specimens were collected from mid summer, mid and continued to late rainy seasons.

Chlorophorus ictericus Holzschuh, 1991

Figures 20E-I, 82C-D

Chlorophorus ictericus Holzschuh, 1991, *FBVA Berichte, Schriftenreihe der Forstlichen Bundesversuchsanstalt*. Vol. 51. Wien, Austria. 75 pp., 92 ill.

Description: *Body* length 13.5-14.5 mm and breadth 3-3.5 mm, black somewhat tinged with reddish brown on antennae and legs; body in large part clothed with yellowish green pubescence; head covered with yellowish sulphur hairs; antennae covered with grayish hairs, furnish with a small black spot near the middle and a small black spot at each side; pronotum covered with yellowish sulphur

pubescence; scutellum and elytra somewhat more yellowish green pubescence; elytra marked with a moderate and arcuate black band at each near humeral angles, a small black spot at each humeral angles, moderately broader black band near middle, curving forward along suture and together, a large spot closer at 4/5 of elytra near apex; ventral surfaces dense pale sulphur yellow for the most parts except a middle of meta-sternum covered with densely long reddish brown hairs; legs reddish brown, covered with yellowish green hairs, for most parts except inner side of fore femur which is glabrous.

Head slightly broader than apex of prothorax, a deep median groove running from frons to vertex and weakened near basal margin, coarsely punctured between upper eye-lobes, above clypeus area covered with moderate punctures; antennae about as long as a half of body; segment 1 cylindrical, slightly shorter than segment 2 and segment 3 united; segment 4 shorter than segment 3; segments 4-10 slightly decreasing gradually in length, minutely long reddish hairs apically; segment 11 slightly longer than segment 9. *Pronotum* slightly longer than broad, nearly as broad as elytra, evenly rounded at side; disc distinctly convex, moderately punctulate largely hidden by pubescence. *Scutellum* hemi-circular. *Elytra* narrowed apically, distinctly oblique and short emarginated apically with outer angle projecting; disc covered with densely and moderately punctuate hidden by pubescence. *Ventral surfaces* with dense fine punctures largely hidden by pubescence. *Legs* fairly slender.

Distribution: Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Pahom Pok, 18.10.2006(2♀, 2♂), Samoeng, 13.10.2007(3♀, 2♂), 2.09.2003(1♂), Doi Saket, 17.11.2007(3♀, 4♂), Mae Chaem, 1.03.2006(1♀), Doi Sutep, 2.05.2005(1♂), 1.04.2003(1♀), Chiang Dao, 30.04.2006(1♂, 1♀), Chiang Rai Prov.: Wiang Pa Pao, 26.01.2006(4♂, 1♀), Kamphaeng Phet Prov.: Khong Lan, 10.05.2004(2♂), Mae Hong Son Prov.: Mae Sariang, 22.07.2004(1♂), Nan Prov.: Mae Charim, 15.02.2005(1♂), Phayao Prov.: Chiang Khum, 5.09.2004(3♀), 1.12.2005(2♂), 13.05.2002(1♂), Phrae Prov.: Wang Chin, 15.01.2002(1♀), 10.12.2005(3♂).

Remark: The species differs from *C. punctiger* in having lateral lobes of parameres are slightly shorter than *C. punctiger*; upper ringed part is normal and moderate spines rows are furnished on internal sac. Specimens were collected throughout the year except early continued to mid rainy seasons.

Chlorophorus punctiger Holzschuh, 1991

Figures 19G, 82A-B

Chlorophorus punctiger Holzschuh, 1991, *FBVA Berichte, Schriftenreihe der Forstlichen Bundesversuchsanstalt*. Vol. 51. Wien, Austria. 75 pp., 92 ill.

Description: *Body* length 13 mm and breadth 3.5 mm, black somewhat tinged with reddish brown on antennae tibiae and tarsi; body in large part clothed with olive green to yellowish pubescence; head covered with yellowish sulphur hairs; antennae covered with thin grayish pubescence; pronotum covered with greenish sulphur pubescence, furnished with a transverse and short black band near basal margin, a pair of black spot at each side; scutellum and elytra covered with yellowish sulphur; elytra marked with a pair of narrowed arcuate band at each near humeral angles; slightly broader black band near middle, curving forward along suture and together, a large spot not closer at fourth of elytra near apex, touching lateral margin; ventral surface densely pale sulphur yellow pubescence for the most parts; legs blackish brown, covered with pale sulphur yellow hairs.

Head slightly broader than apex of prothorax, a moderately deep groove running from frons to vertex and weakened near basal margin, sparsely and coarsely punctured between upper eye-lobes, above clypeus area moderate punctures. Antennae slightly longer than a half of body; segment 1 sub-cylindrical, about as long as segment 2 and segment 3 united; segment 4 as long as segment 3; segments 4-10 decreasing gradually in length; segment 11 longer than segment 9. *Pronotum* as broad as long, nearly as broad as elytra, evenly rounded at side; disc distinctly convex, moderately punctured. *Scutellum* hemi-circular. *Elytra* distinctly narrowed apically, distinctly truncate and fairly emarginated apically with outer angle projecting;

disc covered with dense fine punctures largely hidden by pubescence; sutural end angled with fairly toothed. *Ventral surfaces* with densely fine punctures largely hidden by pubescence. *Legs* fairly slender.

Distribution: Thailand.

Material examined: Thailand: Nan Prov.: Mae Charim, 15.02.2005(1♀).

Remark: The species differs from *C. ictericus* in having lateral lobes of parameres are slightly longer than *C. ictericus*; upper ringed part is slightly extended and small spines rows are furnished on internal sac. The only one specimen was collected in early summer season.

Chlorophorus rubricollis (Castelnau and Gory, 1841)

Figures 19H, 83E-F

Clytus rubricollis Castelnau et Gory, 1841, *Monog* 4. Genus *Clytus*, 88, pl. 16, fig. 102 (Java; PARIS).

Caloclytus rubricollis: Gahan, *Fauna India*, Col. 1: 265.

Description: *Body* length 14.5-18 mm and breadth 3-4.5 mm, head black except vertex reddish brown, covered with pale yellowish pubescence; antennal segments 1-4 reddish brown and remainder brown colour; segments 3-4 covered with reddish brown pubescence, remainder covered with ashy-grey pubescence; pronotum red, covered with reddish brown pubescence, furnished with pale yellowish hairs at sides and basal margin; scutellum pitchy black, covered with brownish yellow pubescence; elytra black to dark brown, furnished with ashy-grey bands: One crosses the base from near the shoulder, passes along the suture for a short distance and then turns to cross the elytron in a slightly oblique direction to the outer margin; a second transverse band some way behind the middle and third at the apex; small bands, round, grey spot on the disc of each elytron close to the shoulder; ventral surfaces

dark reddish brown except prosternum red, covered with densely yellowish white pubescence; legs dark reddish brown, covered with yellowish white pubescence.

Head narrower than prothorax, punctured, a narrow and deep groove running from frons to vertex. *Antennae* distinctly more shorter than body in both sexes, reach to the middle of the elytra; segment 1 fairly slender and slightly arched, longer than segment 3; segment 4 about as long as segment 3; segments 4-10 decreasing slightly in length; segment 11 about as long as segment 8. *Pronotum* oblong-ovate, about one-fifth longer than broad, narrower than the base of the elytra; disc covered with reticulate-punctured throughout. *Scutellum* subtriangle, rounded at tip. *Elytra* gradually narrow from basal to apical; distinctly truncate and strongly emarginated apically with outer angle projecting; sutural end angled with fairly toothed. *Ventral surfaces* finely punctured, with the episterna, two transverse bands on the metasternum and one at the hind border of each of the first two abdominal segments. *Legs* fairly long; middle and hind femora carinate on each side.

Distribution: SE Asia, Sunda Is., Myanmar, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 8.03.2002(1♂), 1.10.2005(1♂), Samoeng, 1.06.2001(1♀), Doi Pahom Pok, 18.10.2006(1♂), Mae Hong Son Prov.: Mae Sariang, 5.03.2006(1♀). Phrae Prov.: Wang Chin, 10.12.2005(1♂).

Remark: The species differs from other species in same genus in having pronotum is red color. Specimens were collected in mid summer and winter, early and late rainy seasons.

Chlorophorus sappho Gressitt and Rondon, 1970

Figure 19I

Chlorophorus sappho Gressitt et Rondon, 1960, - Gressitt & Rondon, 1970, *Pac. Ins. Monogr.*, 24: 178.

Description: *Body* length 12 mm and breadth 2.5 mm, elongate, subparallel-sided, black, tinged with reddish brown on apical portion of antennal segments, along external margin of elytron, and on tibiae and tarsi; body in large part closely clothed with olive green pubescence, with a slightly golden tint above and slightly paler and more sulphur yellow beneath; head largely clothed, a few subglabrous punctures between upper eye-lobe; antennae rather finely clothed, the pubescence becoming thinner and more silvery gray distally; pronotum with an elongate inverted V-shaped black mark and on each side with an obliquely oval spot directed towards apex of the V-shaped; elytron with an elongate black lunule on basal portion, covering humerus and extending to extreme base in front of humerus, somewhat obliquely placed and somewhat approaching suture just beyond apex of basal 1/4, produced posterolaterally and joining submedian transverse band; a portion of external margin dark below basal lunule; submedian band broadened externally, besides connection with lunule, and extending forward along suture to end of basal 1/4, somewhat concave posteriorly; a large spot somewhat before apex and slightly closer to submedian band than to apex, somewhat rounded internally and not quite reaching suture; ventral surfaces in large part densely clothed with olive green pubescence; legs very thinly clothed with slightly greenish pubescence becoming sparser and paler on apical portions of tibiae and on tarsi.

Head barely broader than apex of prothorax, finely grooved medially above and finely ridged medially in front; gena a little shallower than interior eye-lobes. Antenna fairly slender, just over 1/2 as long as body; segment 1 fairly slender and slightly arched, barely longer than segment 3; segment 4 distinctly shorter than segment 3; segments 4-10 decreasing slightly in length; segment 11 about as long as segment 8. *Pronotum* distinctly longer than broad, somewhat attenuated apically and narrower at apex than at base; disc subevenly convex, distinctly granulose. *Scutellum* short and rounded behind. *Elytra* long, slightly narrowed behind humerus and then very feebly narrowed to well behind middle and then moderately narrowed to apex subobliquely truncate and somewhat toothed externally; disc finely punctured with a few slightly larger punctures. *Ventral surfaces* punctures hidden by dense pubescence. *Legs* moderately slender; mid and hind femora finely carinate externally;

hind tibia slightly sinuate, feebly carinate; hind tarsal segment 1 slightly longer than segment 2 and segment 3 combined.

Distribution: Laos and Thailand.

Material examined: Thailand: Chaing Rai Prov.: Wiang Pa Pao, 17.03.2005(1♀).

Remark: The species differs from *C. punctiger* and *C. ictericus* in having elytra are furnished with a transverse black band at near apical. The only one specimen was collected in mid summer season.

Cleomenes micarius Holzschuh, 1991

Figures 17H-I, 81A-B

Cleomenes micarius Holzschuh, 1991, *FBVA-BERICHTS, Schriftenreihe der Forstlichen Bundesversuchsanstalt*, Wien, Austria. Vol. 51.

Description: *Body* length 12-17 mm and breadth 2.5-3.5 mm, black covered with silver hairs, particularly on ventral side, in part yellowish; head black, covered with long silver hairs except middle of frontal area; antennal segments 1-5 and segments 10-11 reddish brown; brown on remainder; pronotum black; scutellum black, covered with densely long reddish brown hairs; elytra black, furnished with two fairly broad yellow stripes, about 3/4 as long as elytra, two short yellow stripes near the apical, two short narrowed yellow stripes near each humeral angle; ventral surfaces black; legs bright dark brown.

Head broader than prothorax at widest part; frons sparsely and finely punctulate, slightly raised of frontal margin; vertex roughly punctulate; antennal tubercles massive and obtusely raised. Antennae about as long as body; segment 1 shorter than segment 3, cylindrical, moderately punctured; segment 3 longer than segment 1 and segment 2 combined; segment 4 shorter than segment 3; segments 5-7

sub-cylindrical, each about as long as segment 4; segments 8-10 each shorter than segment 5, decreasing in length; segments 8-11 slightly flattened; segments 7-10 apical toothed. *Pronotum* longer than broad, subcylindrical, slightly narrowed at apex than at base, slightly swollen at sides; disc slightly convex, covered with deeply punctured, furnished with long silver hairs along lateral sides and margins; densely long silver hairs on the middle distinctly separate disc to two areas; a slightly knot at each lateral sides. Scutellum small, sub-trapezoidal. *Elytra* slightly broader than prothorax; humeri directed slightly forward and upward; lateral margin slightly concave at the middle; disc covered with rows of strong punctures; apex truncate without toothed; sutural end angled with small reddish brown toothed. *Ventral surfaces* sparse finely punctulate. *Legs* moderately long; femora suddenly swollen; fore and mid femora swollen about 0.5 times as long as their length; hind femora swollen about 0.7 times as long as length.

Distribution: Thailand.

Material examined: Thailand: Chiang Mai Prov.: Chiang Dao, 4.02.2003(1♂, 2♀), 18.04.2004(1♂), 18.04.2004(1♀), 7.08.2005(1♂), Samoeng, 20.01.2002(1♀), 7.04.2004(2♂), 2.02.2006(1♀), Fang, 2.03.2002(1♂), 5.09.2003(1♀), 6.07.2005(1♂), Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♂), 17.03.2005(1♀), Doi Luang, 19.11.2002(1♂), 16.12.2004(1♀), Phitsanulok Prov.: Wang Thong, 16.05.2003(1♀), 23.08.2003(2♂), 23.10.2005(2♀), 5.06.2006(2♂).

Remark: This species is very distinct characters of body is black color, covered with silver hairs; pronotum is covered with silvery hairs, furnished with a pair of large black oval band pubescence and deeply punctured throughout; rows of strong punctures are placed on elytra. Specimens were collected throughout the year.

Clytosaurus siamensis Jordan, 1894

Figures 18A, 81C-D

Clytosaurus siamensis Jordan, 1894, *Novit. Zool.* 1: 497, pl. 13, fig. 9

(Siam; BMNH).

Xylotrechus signaticollis Pic, 1922, *Mel. Exot.-Ent.* 35: 8 (Tonkin;PARIS); 1931, *Bull. Soc. Ent. Fr.* 1931: 258.

Description: *Body* length 22-23.5 mm and breadth 7-8 mm, black, somewhat reddish on antenna, some parts of femura, tibiae, tarsi and palpi; body covered with olive green pubescence, furnished with yellowish sulphur pubescence bands; head black, covered with yellowish sulphur pubescence; antennae reddish covered with olive green pubescence, furnished with long reddish brown hairs on ventral side; pronotum black, clothed with yellowish sulphur pubescence, furnished with black bands on disc with following: A large irregular black band like plus symbol on middle, broadened band reaching to anterior and posterior portion, narrowed band reaching to each side to above fore legs coxa, not touching coxa; a large suboval black band at each basal angles; scutellum black covered with densely yellowish brown; elytron black, covered with yellowish sulphur pubescence, furnished with black markings with following: An incomplete subbasal suboval, starting from behind scutellum running toward along basal margin and then backward to humeral angles, the same band obliquely running backward to near the middle and then transverse running to external suture, touching external suture; a moderately and sinuately black band at the middle, reaching along sutural margin to behind scutellum, slightly reaching backward, curving forward black band reaching to each external suture and touching; a very large suboval black band behind sinuately black band on each side; a large transverse black band at apex, subparallel, gradually narrowed to apex. Ventral surfaces dark auburn to reddish with pale yellowish for most parts, furnished with grayish on pro-sternum and meta-sternum; anterior portions of femora reddish and posterior portion dark auburn; tibiae and tarsi reddish; legs clothed with yellowish olive green pubescence.

Head narrower than prothorax, punctured throughout, a moderately deep groove running from frons to vertex, antennal tubercles slightly massive and slightly raised. Antenna shorter than body; segment 1 subcylindrical, finely punctured;

segment 3 longer than segment 1, moderately apical spine; segment 4 shorter than segment 3, apical spine as long as segment 3; segment 5 slightly shorter than segment 4, apical spine shorter than segment 4; segments 6-10 decreasing in length; segment 11 shorter segment 10. *Pronotum* about as broad as elytra, nearly oval, irregularly depressing at each lateral side near basal margin and lateral side near apical margin, covered with punctured, furnished with a longitudinal row of large granule, starting near apical margin to middle, a transverse short ridge at middle, roughly granulate behind middle, evenly convex, rounded at side. *Scutellum* triangular. *Elytra* about 2 times as long as broad, subparallel, narrowed apically, truncately and moderately emarginated apically with outer angle projecting; sutural slightly dehiscent; sutural end angled with moderately toothed. *Ventral surfaces* finely punctured. *Legs* fairly long and slender; hind tarsal segment 1 distinct as long as segment 2 and segment 3 united, distinct longer than last.

Distribution: Thailand and Laos.

Material examined: Thailand: Lamphun Prov.: Mae Tha, 7.04.2002(1♂), 19.11.2004(1♀), Phrae Prov.: Wang Chin, 2.05.2002(1♀).

Remark: This species is very distinct characters of body is covered with olive green pubescence and furnished with yellowish sulphur pubescence bands; pronotum is black, clothed with yellowish sulphur pubescence and furnished with a large irregular black band like plus symbol on middle. Specimens were collected from late summer and continued to early rainy and early winter seasons.

Cyriopalus wallacei Pascoe, 1866

Figures 23C, 77E-F

Cyriopalus wallacei Pascoe, 1866, *Proc. Zool. Soc. Lond.* 1866: 530, pl. 42, fig. 3 (Penang; Sarawak; BMNH).-Duffy, 1968, *Imm. Stages Or. T. Beetles*, 107.

Cyriopalpus wallacei: Wallace, 1869 etc, *The Malay Archipelago*, ill.

Description: *Body* length 42-51 mm and breadth 12-19 mm, entirely pitchy, pubescence tawny; frons, anterior portion of neck pubescence; dorsal surface of antennae with minute tawny pubescence; segments 3-12 verrucate ventrally; interspaces of corrugation on thorax very pubescence in males, sparsely in females; elytra and sternum thickly clothed with auratus pubescence.

Head with a obscure glabrous median carina between antennal insertion and a weak groove between upper eye-lobes; mandible abruptly bent at apex, molar pointed; clypeus bare, coarsely punctate at side, posterior margin with two fissure beneath antennifer; frons subvertical; neck granulated. Antenna as long as body in males, tip of last segment reaching apex, much shorter in females; scape widen at apex, punctulate; segment 3 as long as segment 1; segments 4-11 subequal; segments 3-11 strongly flabellate, external process 2 times to 7 times longer than segment proper, successively lengthened; last segment as long as external process of segment 10.

Pronotum quadrate, apex with one transverse groove, two transverse grooves near base, side with undulating margin; disc rugose, more subtransverse intricate carinae in females; anterior of disc with a median hump in females absent in males. *Elytra* 5 times as long as broad in males, 4 times in females; parallel, rounded only at tip; truncated, with a long sutural and macronate at angle. *Legs* compressed laterally, finely punctate; fore coxae cavity completely closed behind; mid and hind femora strongly notched subapically.

Distribution: Borneo, Malaysia, Myanmar, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Sutep, 1.04.2003(1♂), Samoeng, 7.04.2004(1♀), Fang, 5.09.2003(1♂), Mae Cheam, 1.03.2006(1♂), Mae Jo, 19.08.2005(1♀), Chiang Rai Prov.: Wiang Pa Pao, 17.03.2005(1♂), Nan Prov.: Mae Charim, 6.03.2002(1♀), Mae Hong Son Prov.: Khun Yuam, 19.11.2005(1♀), Kamphaeng Phet Prov.: Khlong Lan, 10.05.2004(1♂).

Remark: This species is very distinct characters of body is entirely pitchy and tawny pubescence; a strongly flabellated is present on each apex of antennal segments

3-11 and external process is 2 times to 7 times longer than segment proper. Specimens were collected from mid and continued to early rainy season, mid rainy season continued to early winter seasons.

Demonax albidofasciatus Gressitt and Rondon, 1970

Figures 21D, 84C-D

Demonax albidofasciatus Gressitt et Rondon, 1970, - Gressitt & Rondon, 1970, *Pac. Ins. Monogr.*, 24: 178.

Description: *Body* length 23 mm and breadth 6.5 mm, black, in part clothed with white, grayish or blackish brown pubescence; head black with thin gray pubescence, denser on anterior portion; antenna black, in part slightly pitchy reddish distally, with thin gray pubescence, densely and whitish on segment 5; prothorax black with base margined with dense white pubescence on each side and disc with thin gray pubescence except on a transversely oval black spot on each side slightly anterior to middle; scutellum densely clothed with white; elytra black with 2 narrow white bands, 1st commencing near suture at end of basal 1/8, bending posteriorly parallel to suture and then turning at right angles as a transverse band just before end of basal 1/3, but not reaching external margin; 2nd commencing on suture, widest, extending very slightly forward and backward along suture, extending outward and slightly backward but narrowing and disappearing before external margin; apical 1/8 clothed with grayish pubescence; a little grayish pubescence on humerus, partly glabrous, and remainder of disc with blackish to somewhat brownish pubescence; ventral surfaces black with patches of densely white pubescence covering central portions of most sclerites, including hind coxa and abdominal sternites 1-3; last 2 abdominal sternites with thinner grayish white pubescence in part; legs black with very thin pale gray pubescence on femora and short oblique brownish black hairs on tibia; antennae with a fringe of fine oblique brownish hairs on lower inner side.

Head 5/6 as broad as prothorax at widest part, finely granulate to rugulose, with a few rows aspirate punctures between upper eye-lobes, smoother on frons and

finely rugose-punctate on gena; frons about as broad as long, somewhat concave; inner side of antennal insertions obtusely raised; gena about as deep as eye-lobes. Antenna nearly $1/3$ longer than body; segments 2-5 somewhat broadened and flattened, segment 3 nearly as long as segment 1 and segment 2 combined, with a fairly strong spine at apex; segment 4 about as long as segment 1, with a spine similar to that of segment 3; segment 5 a little longer than segment 3, with a very short spine; segment 6 slightly longer than segment 5 with a weak tooth at apex; segments 6-10 decreasing somewhat in length; segment 11 hardly longer than segment 10.

Pronotum nearly $1/3$ longer than broad, widest well behind middle and narrower at apex but not base; disc subevenly convex, slightly more raised along median portion subasperate-subreticulate; remainder of disc largely similar but more weakly.

Scutellum short, broadly rounded behind. *Elytra* 5.3 times as long as broad, distinctly narrowed between humerus and middle, then more gradually narrowed towards apex subtruncate and somewhat dehiscent; disc with minute scale-like reticulations.

Ventral surfaces smoothly and finely punctured. *Legs* long; femora not very stout, rugose-punctate; hind tibia straight; hind tarsal segment 1 nearly 2 times as long as segment 2 and segment 3 united, about as long as remainder combined.

Distribution: Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Doi Saket, 7.07.2003(1♀), Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♂), Nan Prov.: Mae Charim, 5.08.2004(1♂).

Remark: The species differs from *D. aldoantennatus* in being elytra are black furnished with 2 narrow white bands; first band is commencing near suture at end of basal $1/8$; second band is commencing on suture. Specimens were collected in early and late rainy seasons.

Demonax alboantennatus Gressitt and Rondon, 1970

Figures 21E-F, 85C-D

Demonax alboantennatus Gressitt et Rondon, 1970, - Gressitt & Rondon, 1970,
Pac. Ins. Monogr., 24: 178.

Description: *Body* length 9.5-10.5 mm and breadth 2-2.5 mm; elytra, legs and distal portion of antennae largely dark brown; body partly clothed with gray to whitish pubescence; head and prothorax evenly clothed with thin grayish pubescence, latter showing reticulations and with more whitish and denser pubescence on lower borders; antennae closely clothed with more whitish pubescence; scutellum with whitish; elytron with dark auburn on dark areas, marked with stripes and bands of whitish gray; a faint basal band, a short stripe internal to humerus, a sutural stripe continuous with basal band and curving somewhat evenly away from suture at end of basal 1/4, arching backward onto disc and then slightly forward to external margin, a postmedian oblique band, wider and projecting forward at suture, and an apical band nearly as long as broad; ventral surfaces with white pubescence, thinner on last 3 abdominal sternites and central basal portions of 1-2; legs thinly clothed with gray.

Head slightly broader than apex of prothorax, with a few large punctures visible on occiput; gena not quite as deep as inferior eye-lobe. Antenna fully 9/10 as long as body, slender; segment 3 distinctly longer than segment 1 and segment 2 united, with spines nearly 1/2 as long as segment 4; segment 4 much shorter than segment 3, with spines just over 2/5 as long as segment 5; segment 5 slightly longer than segment 3, without spines; segments 5-10 gradually decreased in length, short; segment 11 as long as segment 9. *Pronotum* 1/5 longer than broad, subevenly convex at side; disc evenly convex, finely reticulate. Scutellum fairly small, subtriangular. *Elytra* more than 2 times as long as head and prothorax combined, fairly slender, subparallel-sided, but slightly constricted in central portion; apex narrowed and subobliquely truncate with outer angles, slightly toothed; disc somewhat shagreened. *Ventral surfaces* minutely punctured. *Legs* long and slender; hind femur well exceeding elytral apex, bearing sparse brown setae based in visible punctures; hind

tibia slightly curved before apex; hind tarsal segment 1 over 2 times as long as segment 2 and segment 3 combined.

Distribution: Laos, Vietnam and Thailand.

Material examined: Thailand: Mae Hong Son Prov.: Mae Sariang, 26.08.2007(2♀).

Remark: The species differs from *D. albidofasciatus* elytra are furnished with dark auburn on dark areas and marked with stripes and bands of whitish gray; a faint basal band is a short stripe internal to humerus; a sutural stripe is continuous with basal band and curving somewhat evenly away from suture at end of basal 1/4; a postmedian oblique band is wider and projecting forward at suture and an apical band is nearly as long as broad. Specimens were collected in mid rainy season.

Demonax alcanor Gressitt and Rondon, 1970

Figure 21G

Demonax alcanor Gressitt et Rondon, 1970, - Gressitt & Rondon, 1970, *Pac. Ins. Monogr.*, 24: 178.

Description: *Body* length 13.5 mm and breadth 2 mm, black; mouthparts and appendages somewhat reddish brown, largely clothed with fine close grayish to whitish pubescence; head and prothorax thinly clothed with punctures, granules and reticulation; pronotum with a pair of small black spots; antennae thinly clothed with pale gray hairs; scutellum with thin, dull gray pubescence; elytron with a dull brown humeral-marginal area, an obliquely longitudinal black stripe from just behind scutellum to just beyond middle of disc at start of 2nd quarter, a narrow, oblique and transverse band a short distance behind preceding, wider externally than at suture, and finally a broader, subtransverse band about 1/2 way between preceding and apex, narrower than the 2 adjacent gray areas and speckled with pale hairs; ventral surfaces densely and subuniformly clothed with silvery white pubescence; legs thinly clothed

with gray pubescence spotted with large punctures, pubescence lacking or dark brown on parts of hind leg.

Head hardly wider than apex of prothorax, some large punctures on occiput; gena as deep as lower eye-lobes. *Antennae* 9/10 as long as body, somewhat flattened; segment 3 shorter than segment 1 and segment 2 combined, with a strong spine nearly reaching to middle of following segment; segment 4 slightly shorter, with similar spine; segment 5 subequal with a minutely toothed at apex; segments 5-10 gradually decreasing in length; segment 11 as long as segment 8. *Pronotum* 1/5 longer than broad, evenly rounded at side; disc evenly convex, with fine reticulations and with some granules anteriorly. *Scutellum* small, rounded-triangular. *Elytra* slender, 2 times as long as head and prothorax combined, slightly narrowed behind humerus; apex narrowed and subobliquely truncate; disc minutely punctulate, slightly raised on disc near basal portion of suture. *Ventral surfaces* smooth. *Legs* slender; hind tibia slightly sinuate; hind tarsal segment 1 slightly longer than segment 2 and segment 3 united.

Distribution: Laos, Thailand.

Material examined: Thailand: Chiang Rai Prov.: Khun Chae, 15.07.2003(1♀).

Remark: This species is very distinct a character of elytra are black, covered with pale grayish hairs which is furnished with black bands. The only one specimen was collected in mid rainy season.

Demonax dignus Gahan, 1895

Figures 21A, 84A-B

Demonax dignus Gahan, 1895, *Ann. Mus. Civ. Genova* 34: 26 (Burma; GENOVA); 1906, *Fauna India*, Col. 1: 286.

Demonax rubricollis Pic, 1923, *Mel. Exot.-Ent.* 39: 10 (Laos; PARIS).

Description: *Body* length 11-13 mm and breadth 2.5-3 mm, head black, somewhat ferruginous, thinly covered with grey pubescence; pronotum ferruginous red, sparsely pubescent, the front margin blackish, the base narrowly bordered with white pubescence; antennae dark reddish brown, covered with silvery pubescence; scutellum black, covered with ashy-white pubescence; elytra dark brown, each marked with a transverse spot and two bands of ashy-white pubescence. The spot crosses the disc at about one fifth from the base; the first band crosses somewhat obliquely at the middle and continued forwards for some distance along the suture; the second band on at about one fifth from the apex, posterior border ill-defined, the elytron between bands and the apex covered with grey pubescence; ventral surfaces grey, the prosternum between and before the coxae, the mesosternum, the hind border of the metasternum, spots on the episterna and the first two abdominal segments in greater part white; legs dark reddish brown, covered with pale yellowish to brown hairs.

Head finely punctured, a narrow and deep groove running from frons to vertex. Antenna cinereous, about equal in length to the body in the female, slightly longer in the male; segment 3 and segment 4 shortly spined at the apex; segment 1 roughly punctured; segment 3 longer than segment 1 and segment 2 combined; segment 4 distinctly shorter than segment 3; segment 5 longer than segment 4; segments 5-11 decreasing in length. Scutellum triangle. *Pronotum* subcylindrical, about one-third longer than broad; finely asperate or granulated. *Elytra* about two and a half times as long as the prothorax, very feebly dentate at the outer angles of the truncate apex. *Ventral surfaces* finely punctured. *Legs*: Front and middle femora strongly punctured and asperate, especially on posterior portion; hind femora less strongly punctured, extend some distance past the apex of the elytra in both sexes; segment 1 of hind tarsi slightly longer than the remaining joints united.

Distribution: Myanmar, Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Fang, 22.09.2006(1♂, 2♀), Doi Inthanon, 15.08.2006(1♂), Mae Chaem, 7.04.2005(1♀), Chiang Rai Prov.: Wiang Pa Pao, 23.08.2003(1♂).

Remark: This species is very distinct a character of prothorax is ferruginous red. Specimens were collected from late summer, mid and continued to late rainy seasons.

Demonax elongatus Gressitt and Rondon, 1970

Figure 21B

Demonax elongates Gressitt et Rondon, 1970, - Gressitt & Rondon, 1970, *Pac. Ins. Monogr.*, 24: 178.

Description: *Body* length 12.5 mm and breadth 3.5 mm, black, partly tinged with brownish black, extensively clothed with pale pubescence; apices of antennal segments and distal segments somewhat reddish brown; distal portions of tarsi reddish brown; head and prothorax rather thinly clothed with whitish gray, more whitish on sides of posterior margin of prothorax and slightly tawny at middle of side of latter, and with a pair of subrounded blackish spots on center of pronotum; antennae rather closely clothed with thin pale gray pubescence; scutellum densely clothed with whitish gray; elytron with 4 bands of whitish gray pubescence: A fairly narrow basal band; a longitudinal sutural stripe commencing behind scutellum and gradually curving outward after about 1/5 length of elytron, then bending sharply into a transverse band not quite reach external margin; a fairly narrow postmedian band extends narrowly forward along suture; and an apical spot, oblique anteriorly and less whitish at extreme apex; ventral surfaces in large part clothed with grayish white pubescence, duller on last 2 abdominal sternites; legs thinly clothed with grayish pubescence more brownish at apex of hind femur and on hind tibia and tarsus as well as other tarsi.

Head barely broader than apice of prothorax, finely punctured with a few larger punctures on occiput; gena about as deep as eye. Antenna slightly longer than body; segments 3-5 somewhat thickened apically and each with a small endoapical tooth; segment 3 as long as segment 1 and segment 2 united, longer than segment 4; segment 5 nearly as long as segment 3; segments 5-11 gradually shorter. *Pronotum* 1/6 longer than broad, widest behind middle; disc somewhat vermiculate to subgranulose. Scutellum short and rounded behind. *Elytra* nearly 2 times as long as head and prothorax combined, gradually narrowed to near apex and then more suddenly narrowed with apex subobliquely truncate and slightly emarginated with outer angle briefly toothed; disc minutely punctured, slightly swollen near base parallel to suture. *Ventral surfaces* minutely punctured. *Legs* fairly long; hind femur considerably exceeding elytral apex; hind tibia slightly sinuate; 1st hind tarsal segment 2 times as long as segment 2 and segment 3 united.

Distribution: Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 2.06.2004(1♂), Fang, 5.09.2003(1♀), Samoeng, 3.08.2005(1♂), Kampaeng Phet Prov.: Khosam Pi Nakhon, 1.12.2005(1♀).

Remark: The species differs from *D. semiluctuosus* in having elytra are black; a white pubescence spot is placed on basal of each elytron and a pair of subrounded blackish spots are furnished on center of pronotum. Specimens were collected from rainy and continued to mid winter seasons.

Demonax semiluctuosus (White, 1855)

Figures 21C, 84E-F

Clytus semiluctuosus White, 1855, *Cat. Col. Brit. Mus.* 8: 283
(Tenasserim; BMNH).

Rhaphuma praecana Chevr., 1863, *Mem. Soc. R. Sci. Liège* 18: 277

(Cochinchine; Paris).

Clytanthus mouhoti Pascoe, 1869, *Trans. Ent. Soc. Lond.* Ser 3, 3: 604

(Malacca&Laos; BMNH).

Demonax semiluctuosus: Gahan, 1906, *Fauna India*, Col. 1: 285.

Demonax albobifasciatus Pic, 1920, *Mel. Exot. Ent.* 32: 1 (Tonkin; Paris).

Description: *Body* length 9-13 mm and breadth 2.5-3 mm, black; head and prothorax faintly covered with grayish pubescence; antennal segments 6-9 covered with ashy-gray pubescence; pronotum with a narrow white border on each side at the basal margin; the disc with a glabrous spot on each side before the middle; scutellum white; elytra deeply black, somewhat velvety, marked each with an oblique spot and two bands of white pubescence, the spot placed near the suture at about 1/5 from the base; the first band very narrow, crosses a little obliquely before the middle and continued forward for some distance along the suture; the second band broader, on about 1/5 from the apex; ventral surfaces black; the prosternum, mesosternum, an oblique spot on each of the mesothoracic episterna, an elongate spot on each of the metathoracic episterna, an oblique band on each side of the metasternum and the first two abdominal segments more or less completely covered with ashy-white pubescence, the rest less densely covered with dark gray pubescence.

Head punctured, a narrow and shallow groove running from frons to vertex; antennal tubercles slightly massive. Antennae about equal in length to the body in the female, very slightly longer in the male; segment 3 and segment 4 shortly spined at the apex. *Pronotum* oblong-ovate, nearly as wide in the middle as the base of the elytra, densely rugulose-punctate. *Elytra* very little more than twice as long as the prothorax, truncate and unarmed at the apex. *Ventral surfaces* finely punctured. *Legs* fairly long, slender; middle and front femora glabrous, strongly punctured and aspirate posteriorly, pubescent and less strongly punctured in front; hind femora extend past the apex of the elytra by 1/5 or 1/4 of length in the female, and by nearly

1/3 of length in the male; segment 1 of the hind tarsi scarcely longer than the rest united.

Distribution: China and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Chiang Dao, 7.08.2005(1♂), Mae Cheam, 5.09.2004(1♀), Mae Taeng, 2.06.2004(1♂), Samoeng, 2.09.2003(1♂), 7.04.2004(1♀), Lampang Prov.: Chae Son, 2.07.2004(1♂, 1♀).

Remark: The species differs from *D. elongatus* in having pronotum is covered with grayish pubescence without a pair of subrounded blackish spots on center; an oblique spot and two bands of white pubescence are marked on elytra; the spot near the suture is placed on one fifth from the base. Specimens were collected from late summer and continued to rainy seasons.

Demonax tenuiculus Holzschuh, 1991

Figure 21I

Demonax tenuiculus Holzschuh, 1991, *FBVA Berichte, Schriftenreihe der Forstlichen Bundesversuchsanstalt*. Vol. 51. Wien, Austria. 75 pp., 92 ill.

Description: Body Length 5.5 mm and breadth 1.5 mm, black, partly clothed with brownish, grayish or whitish pubescence; antennae and legs reddish brown; head and antennae covered with grayish pubescence; prothorax thinly and unevenly clothed with gray anteriorly and posteriorly, furnished with white hairs at each side of basal margin; scutellum covered with white hairs; elytron with dark auburn hairs on black areas and with 3 bands of whitish pubescence: 1st slightly oblique and slightly arched at near middle line, slightly curving forward to suture; 2nd at about 3/4 of elytra; 3rd at apex; ventral surfaces covered with whitish hairs for most parts, but sparse on last 3 abdominal sterna; legs with thin gray pubescence and sparsely oblique setae.

Head broader than apex of prothorax, with moderately punctured on vertex, finely punctured on frons; gena as deep as entire eye; a narrow and shallow groove running from frons to vertex and then disappearing. Antennae about as long as a half of body; segment 3 longer than segment 1 and segment 2 united, with spined nearly about as long as segment 4; segment 4 distinctly shorter than segment 3, spine about as long as segment 5; segment 5 slightly shorter than segment 3; segment 6 shorter than segment 5; segments 6-9 gradually decreasing in length; segment 11 about as long as segment 5. *Pronotum* about as long as broad, fairly and evenly convex at side, disc covered with sub-reticulate throughout. Scutellum small, triangular. *Elytra* about 2.2 times as long as head plus prothorax, narrower than the widest of prothorax, apex narrowed, subtruncate, slightly oblique, with moderately toothed at outer corner; sutural end angled with slightly toothed; disc covered with finely punctured throughout. *Ventral surfaces* fairly even, finely punctured for most parts. *Legs* slender.

Distribution: Thailand

Material examined: Thailand: Tak Prov.: Umphang, 30.06.2007(1♀).

Remark: The species differs from *D. vilis* in being elytra are furnished with a white band on apex; prothorax is as long as broad. The only one specimen was collected in early rainy season.

Demonax vilis Holzschuh, 1991

Figures 21H, 85A-B

Demonax vilis Holzschuh, 1991, *FBVA Berichte, Schriftenreihe der*

Forstlichen Bundesversuchsanstalt. Vol. 51. Wien, Austria. 75 pp., 92 ill.

Description: *Body* length 5.5-6 mm and breadth 1-1.5 mm, black, partly clothed with brownish, grayish or whitish pubescence; antennae reddish brown;

legs dark brown; head and antennae covered with gray pubescence; pronotum thinly and unevenly clothed with gray anteriorly and posteriorly, furnished with white hairs at each side at basal margin; scutellum dark auburn; elytra with dark auburn hairs on black areas and with 2 bands of whitish pubescence: 1st slightly oblique, at about 1/4 of elytra, not touching each external side, and slightly arched, slightly curving forward to suture reaching to external side but not touching; 2nd at about 3/4 of elytra, substraight band, reaching to external side and touching; ventral surfaces covered with whitish hairs on prosternum, but scattered on remainders sternum; legs with thin gray pubescence and sparsely oblique setae.

Head broader than apex of prothorax, with finely punctured; a narrow and shallow groove running from frons to basal margin. Antennae slightly longer than a half of body; segment 3 longer than segment 1 and segment 2 combined, with spines; segment 4 distinctly shorter than segment 3, an apical spine about as long as segment 5; segment 5 shorter than segment 3; segment 6 shorter than segment 5; segments 6-9 gradually decreasing in length; segment 11 shorter than segment 5. *Pronotum* longer than broad, fairly and evenly convex at side; disc covered with sub-reticulate throughout. Scutellum small, subtriangular. *Elytra* about 2.2 times as long as head and prothorax united, about as broad as prothorax, apex narrowed and subtruncate, slightly toothed at outer corner, covered with finely punctured throughout; sutural end angled without toothed. *Ventral surfaces* fairly even, finely punctured for the most parts. *Legs* slender.

Distribution: Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Saket, 24.08.2007(1♀, 1♂), Phetchabun Prov.: Nam Nao, 10.06.2007(1♀).

Remark: The species differs from *D. tenuiculus* in being elytra are black, furnished with dark auburn hairs on black areas and without a white band on apex; prothorax longer than broad. Specimens were collected from early and continued to mid rainy seasons.

Dere adelpha Holzschuh, 1995

Figure 17K

Dere adelpha Holzschuh, 1995, FBVA *Berichte, Schriftenreihe der Forstlichen Bundesversuchsanstalt*. Vol. 84. Wien, Austria. 63 pp., 72 ill.

Description: *Body* length 7.5 mm and breadth 2.5 mm; head, antennae, prothorax, elytra brown; scutellum reddish brown; ventral surfaces reddish brown, covered with silver pubescence; legs reddish brown covered with silver hairs, including prosternum with densely silvery pubescence; antennae reddish brown with sparsely long silvery hairs.

Head slightly broader than apex of pronotum, finely punctured on frons; frons sub-trapezoidal, moderately concave. Antennae slightly longer than a half of body; segment 1 shorter than segment 3, roughly punctate; segment 2 about 0.5 times as long as segment 1, roughly punctate with subasperate-punctate; segment 3 about as long as segment 1 and segment 2 united; segments 4-6 each gradually swollen to apical; segments 7-10 subequal and toothed apically; segment 11 about as long as segment 7. *Pronotum* longer than broad, narrowed at apex than at base, swollen at sides, slightly sinuate, slightly convex, covered with moderately punctate throughout; basal margin substraight but projected downward at just outside of corner; scutellum triangle. *Elytra* slightly broader than pronotum; apical margin slightly concave near humeral angles; humeri directed slightly forward and upward; lateral margin slightly concave at the middle, covered with moderately punctured; apex subtransversely truncate, emarginated with a sharp outer toothed and a sharp inner toothed; truncation about 1/4 as wide as widest part of elytra. *Ventral surfaces* finely punctured; meta-sternum without punctures. *Legs* fairly short; femora and tibiae coarsely punctured throughout.

Distribution: Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 22.09.2006 (1♀).

Remark: The species differs from *D. affinis* in having elytra are brown color. The only one specimen was collected in late rainy season.

Dere affinis Gahan, 1906

Figure 17J

Dere affinis Gahan, *Fauna India*, Col. 1: 316, fig. 104 (N. India; BMNH).-

Duffy, 1968, *Imm. Stages Or. T. Beetles*, 154.

Description: *Body* length 9 mm and breadth 2.5 mm, head pitchy black, covered with dark brown hairs; antennae black, covered with dark brown to silvery pubescence; pronotum red except anterior and posterior margins which are furnished with long silvery hairs on anterior margin; scutellum pitchy black, glabrous; elytra dark metallic blue, glabrous; ventral surfaces pitchy black except prosternum which is red, covered with silvery pubescence; legs pitchy black, silvery pubescence.

Head somewhat roughly punctured above, more finely in front. *Pronotum* somewhat dull, densely rugulose-punctate, middle of basal margin reaching to scutellum. *Antennae* shorter than body; segment 1 punctured; segment 3 longer than segment 1 and segment 2 combined; segment 4 about 1/2 as long as segment 3; segment 5 as long as segment 4; segments 5-10 decreasing in length; segment 11 slightly longer than segment 10. *Scutellum* subtriangle, deeply depressed on each angle. *Elytra* subnitid, very densely and somewhat asperately punctured; lateral sides slightly concave at middle and then slightly extend to near apex; apically truncated with strongly toothed; sutural end angles with strongly toothed; the outer spine nearly twice as long as the sutural one; sutural slightly dehiscent. *Ventral surfaces* densely punctulate. *Legs* subglabrous and nitid, the hind femora densely punctured, the clavate portion of the middle and front femora smooth and almost impunctate; middle femora feebly carinate in front.

Distribution: N. India, Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Doi Inthanon, 15.08.2006(2♀).

Remark: The species differs from *D. adelpha* in having elytra are dark metallic blue. Specimens were collected in mid rainy season.

Dialeges pauper Pascoe, 1856

Figures 23D-F, 77C-D

Dialeges pauper Pascoe, 1856, *Trans. Ent. Soc. Lond.* Ser 2, 4: 47, pl. 16, fig. 7 (Borneo; BMNH)-Gahan, 1906, *Fauna India, Col.* 1: 142.-Duffy, 1968, *Imm. Stages Or. T. Beetles*, 105, fig. 52.

Description: *Body* length 23.5-33.5 mm and breadth 4.5-8.5 mm, piceous to fuscous red; maxillary and labial palpi castaneous; head covered with tawny pubescence on area between antennal supports, vertex and anterior of neck; entire antennae black, sometimes castaneous in females; antennal cilia ochraceous with reddish tinge; pronotum and basal half of elytra fuscous, tinge with castaneous towards apex, yellowish-argentate pubescence; disc of elytra with ill-defined patches of darker or lighter fuscous and longitudinal silvery patches according to incident of light, each with a prominent geminate oblong darker fuscous patch behind middle; ventral surfaces reddish fuscous, densely clothed with pubescence of the same color as on elytra; legs castaneous, more reddish in females.

Head elongated behind eye, horizontal; mandible falciform, dorsal carinate, external margin feebly emarginate before molar; labrum and clypeus sunken; frons oblique, anterior margin elevated, middle depressed with a crescentic sulcus behind; gena short, 1/3 as deep as eye, lower margin protrude lateroanterior; gula hollow out in front, concave; a median sulcus between antennal insertion, extenuate posteriorly into a median glabrous stripe along vertex and neck; antennifer raised, inner boarder dilated, almost contiguous medianly; eye divided to owt portion; temple porcate, less distinctive in females; neck granulate to granulostriate. Antenna 1.5 times longer than

body in males, shorter or at most slightly longer than body in females; dorsal entirely bare or at most sparsely pubescent in both sexes; ventrally fringed on segments 3-8 in males, segment 1 twice the diameter of following segment, coarsely punctate and asperate in males, only punctate in females; segment 3 incurved, 2.5 times as long as segment 1 or same length as segment 4 and segment 5 combined; segment 4 slightly shorter than segment 5, as long as segment 1; segments 6 - 11 deplanate; segments 6 - 10 dentate ectoapically in females. *Pronotum* constricted at apex and base; the former much narrower than the later; the widest part at 1/3 from base, as wide as elytra; anterior of lateral side with a protuberance, posterior with congregated chalaza; disc transversely but irregularly wrinkled; pronotum generally with a median raised pubescent, surface, flanked by longitudinal glabrous impression or goffered, either broad squarish, intricate or hatched; side of middle with longitudinal flexous ridges; prosternum transversely plicate. *Elytra* 5 times as long as broad; parallel at basal half, gradually narrow towards apex, roundly truncate with a sutural spine and produced angular tooth; side not much deflexed, overhanging over abdomen; disc with two obscure costiform line dividing elytron into 3 parts, densely pubescent and evenly punctate. *Legs* strongly compressed; fore femora wider at base and middle, gradually narrower towards apex; middle and hind femora subfusiform, ventral margin linear; fore and middle femora of males rugulose; dorsal apical half of all femora planate with two carinae at side in male, rounded in females; fore tibiae curved.

Distribution: India, Pakistan, Myanmar, Thailand, Malaysia, Laos and Vietnam.

Material examined: Thailand: Chiang Mai Prov., Samoeng, 13.10.2007(2♀), Chiang Dao, 30.04.2006(1♂), Doi Pahom Pok, 28.10.2006(1♀), Lamphun Prov.: Mae Tha, 19.11.2004(2♂), Phetchabun Prov., Nam Nao, 15.06.2007(1♀), Phitsanulok Prov.: Nakhon Thai, 1.03.2003(1♂), Phrae Prov.: Wang Chin, 6.08.2004(1♀).

Remark: The species differs from *Aeolesthes aurifaber* in having underside antennae are furnished with long hairs. Specimens were collected from mid and continued to late summer, rainy season continued to early winter seasons.

Epania ruficollis Pic, 1922

Figures 17L-M

Epania ruficollis Pic, 1922. *Mel. Exot.-Ent.* 36: 22 (Laos; Paris).

Description: *Body* length 8-9.5 mm and breadth 2-2.5 mm, black to pitchy; head shiny reddish brown; antennae reddish brown on segment 1 and segment 2, dark auburn on segments 3-11, covered with long reddish and short golden brown hairs; pronotum reddish brown with a slightly dark reddish brown tinge, more reddish on anterior and posterior collar, scattered with long reddish brown hairs; elytron pitchy black, scattered with long reddish hairs; ventral surfaces pitchy black for most parts except pro- and meso-sternum reddish brown; legs pitchy dark auburn, brown on anterior portion of mid and hind femur, covered with long and short reddish brown hairs.

Head about as broad as prothorax, rather closely punctured on vertex, moderately punctured on frons; gena about 1/4 as deep as lower eye-lobes. Antennae longer than body; segment 1 gradually swollen to apex, shiny, roughly punctured; segment 2 very small, about 1/7 as long as segment 1; segment 3 about 6 times as long as segment 2; segment 4 slightly longer than segment 3; segment 5 shorter than segments 2-4 combined; segments 5-10 increasing very slightly in length; segment 11 shorter than segment 10. *Pronotum* slightly longer than broad, distinctly narrower at base than at apex; disc strongly reticulate-punctate; anterior collar slightly swollen, smooth and very sparsely punctured. Scutellum small, narrowed and rounded behind. *Elytra* short as long as a half of abdomen, rounded at tip, slightly longer than broad, subevenly convex and narrowed at side, dehiscent and separately rounded apically; disc somewhat unevenly punctured and aspirate, sparsely punctured behind humerus and near base, dense and more aspirate on middle of apical portion. *Ventral surfaces* partly smooth and shiny, partly sparsely punctured. *Legs* stout; middle femur clavate for distal 3/5, swelling about 3/5 as broad as long; hind femur clavate for apical 2/3, swelling 1/2 as broad as long; hind tibia quite stout and slightly bent; hind tarsal segment 1 slightly longer than segment 2 and segment 3 combined.

Distribution: Vietnam, Laos and Thailand.

Material examined: Thailand: Mae Hong Son Prov.: Mae Sariang, 26.08.2007 (1♂, 1♀).

Remark: This species is very distinct characters of body is black to pitchy; head is shiny reddish brown; pronotum is reddish brown, covered with strongly reticulate-punctate and furnished with a slightly dark reddish brown tinge; elytra are short which is as long as a half of abdomen and rounded at tip. Specimens were collected in mid rainy season.

Epipedocera laticollis Gahan, 1906

Figures 22A-B

Epipedocera laticollis Gahan, 1906, *Fauna India*, Col. 1: 307 (Burma; BMNH).

Description: *Body* length 8-9 mm and breadth 2.5-3 mm, pitchy brown except a pair of narrowed yellowish ivory-band on elytra, furnished with golden brown hairs on anterior and posterior margin of prothorax, tibiae and tarsi; ventral surfaces pitchy brown, sparsely furnished with reddish brown hairs, furnished with densely pale reddish brown on basal angles of prothoracic, mesothoracic and metathoracic, and 1st abdominal sternite; legs pitchy brown, scattered with reddish brown hairs.

Head narrower than prothorax, closely and subreticulately punctured; gena 3/4 as deep as lower eye-lobes. Antennae slightly shorter than body; segment 1 slightly arched, densely punctured; segment 3 about as long as segment 1 and segment 2 combined; segment 4 distinctly shorter than segment 3; segment 5 as long as segment 4, slightly shorter than segment 3; segment 6 slightly shorter than segment 3; segment 7 shorter than segment 4; segment 8 about 2/3 as long as segment 7; segments 8-10 decreasing in length; segment 11 shorter than segment 8. *Pronotum* broader than long, widest at middle, subobtusely rounded at side; base constricted and strongly emarginate on each angle; disc even, with moderately punctured. Scutellum

subtriangular, moderately depressed. *Elytra* about 2.5 times as long as broad, slightly narrowed at middle; apex narrowed externally; apical truncate with a long slender spine at each angle; sutural end angled with a long and slender spine; disc covered with closely and deeply punctured, and crossed by smooth raised ridge in the middle. *Ventral surfaces* minutely punctured. *Legs* with femora feebly swollen; hind tibia evenly arched; hind tarsal segment 1 shorter than segment 2 and segment 3 united and last.

Distribution: Myanmar, Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Doi Sutep, 5.08.2004(1♀), Doi Saket, 5.07.2005(1♂), Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♀), 23.08.2003(1♂), 17.03.2005(1♀), Kamphaeng Phet Prov.: Khlong Lan, 25.08.2003(1♀), Lampang Prov.: Thoen, 10.12.2005(1♂), Lamphun Prov.: Mae Tha, 19.11.2004(1♂), Mae Hong Son Prov.: Khun Yuam, 19.11.2005(1♂), Phayao Prov.: Chiang Muan, 6.10.2004(1♂): Chiang Kham, 5.09.2004(1♂), Phitsanulok Prov.: Wang Thong, 23.10.2005(1♂, 1♀), 5.06.2006(1♂), Chat Trakan, 3.05.2005(1♀).

Remark: The species differs from *E. subatra* in having ventral surfaces are pitchy brown and sparsely furnished with reddish brown hairs. Specimens were collected throughout the year except early and late summer, and late winter seasons.

Epipedocera subatra Gressitt and Rondon, 1970

Figures 22C-D

Epipedocera subatra Gressitt and Rondon, 1960.- Gressitt & Rondon, 1970, *Pac. Ins. Monogr.*, 24: 178.

Description: *Body* length 7 mm and breadth 3.5 mm, pitchy black, varying to reddish brown, densely clothed with silvery pubescence on lower part of sides of prothorax and all across basal constriction, on scutellum, and parts of sides of hind thorax; clypeus and palpi ochraceous; antennae reddish brown on apices of most

segment; pronotum nearly black, slightly pitchy on anterior margin; elytron pitchy black, more reddish posteriorly, with a narrow subtransverse raised ivory white band crossing most of disc at middle; ventral surfaces blackish on thorax and somewhat reddish pitchy on abdomen, with slightly thinner silvery gray pubescence; legs pitchy brown to reddish.

Head narrower than anterior margin of prothorax, closely and subreticulately punctured; gena $\frac{3}{4}$ as deep as lower eye-lobe. Antennae slightly longer than body; segment 1 slightly arched, densely punctured; segment 3 as long as segment 1 and segment 2 united; segment 4 distinctly shorter than segment 3; segment 5 longer than segment 4, nearly as long as segment 3; segment 6 as long as segment 3; segment 7 slightly shorter than segment 4; segment 8 about $\frac{2}{3}$ as long as segment 7; segments 8-10 decreasing slightly in length; segment 11 barely as long as segment 8. *Pronotum* barely broader than long, much wider at apex than at base, subobtusely rounded at side; base constricted and strongly emarginated on each angles; disc even, reticulate-punctate. Scutellum widened in middle, obtusely rounded apically. *Elytra* not quite 5 times as long as broad, slightly narrowed behind humerus, then subparallel-sided behind middle, then very slightly broadened; apex narrowed externally, very slightly dehiscent, emarginated-truncate with a long slender spine on each angle; disc rather deeply and somewhat finely subasperate-punctate, more finely so posteriorly, and middle crossed by smooth raised ridge. *Ventral surfaces* minutely punctured. *Legs* with femora feebly swollen; hind tibia evenly arched; hind tarsal segment 1 barely longer than segment 2 and segment 3 united, slightly longer than last.

Distribution: Borneo, Laos and Thailand (new record).

Material examined: Thailand: Lampang Prov.: Thoen, 10.12.2005 (1♀).

Remark: The species differs from *E. laticollis* in having ventral surfaces are covered with slightly thinner silvery gray pubescence. The only one specimen was collected in mid winter season.

Epipedocera vitalisi Pic, 1922

Figures 22E-F

Epipedocera vitalisi Pic, 1922, *Mel. Exot.-Ent.* 37: 11 (Laos; PARIS).

Description: *Body* length 8.5-10.5 mm and breadth 6. 5-8.5 mm, bright brick red to pitchy black; head, prothorax, scutellum, basal 1/3 and apical 1/3 of elytra red; elytron red, tinge with black band about 1/3 of elytron on the middle of elytra, furnished with narrowed whitish on black band on each side; scutellum silvery pubescence; prothorax furnished with erect golden brown hairs on apical margin; ventral surfaces red, tinge with silvery hairs on basal portion of sternum and basal angles of abdomen; legs red, sparsely reddish hairs.

Head slightly narrower than prothorax, entirely finely reticulate; gena about as deep as eye. Antenna slightly shorter than body; segment 1 densely punctured; segment 3 nearly as long as segment 1 and segment 2 combined; segment 4 about as long as segment 1; segment 5 shorter than segment 3; segments 9-10 subequal; segments 7-10 flattened and serrate; segment 8 shorter than segment 7; segment 9 shorter than segment 8; segment 10 shorter than segment 9; segment 11 shorter than segment 8. *Pronotum* about as broad as long, widest at the middle, entirely finely reticulate, strongly emarginated on each angle and arcuate; lateral sides strongly swollen, broad and rounded. *Elytra* about 3 times as long as broad, slightly narrowed in central portion; apex sub-truncate without toothed; sutural end angled with slightly toothed; disc densely granulose; a shiny raised band at middle. *Ventral surfaces* minutely punctured. *Legs* moderately stout; hind tibiae curved; hind tarsal segment 1 nearly as long as segment 2 and segment 3 united, as long as last.

Distribution: Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 8.03.2002(1♀), 2.06.2004(1♂, 1♀), Doi Sutep, 1.04.2003(1♂), Mae Chaem, 7.04.2005(1♀), Chiang Rai Prov.: Doi Luang, 19.11.2002(1♂).

Remark: The species differs from *E. laticollis* and *E. subatra* in having prothorax is red color. Specimens were collected from summer and continued to early winter seasons.

Erythresthes shimomurai Holzschuh, 1989

Figure 22M

Erythresthes shimomurai Holzschuh, 1989, *Entomologica Basiliensia* 13: 361-390.
29 fig.

Description: *Body* length 29.5 mm and breadth 6.5 mm, wooly pubescence; head and pronotum covered with densely reddish brown hairs; antennae, ventral surfaces and legs black; scutellum reddish brown; elytra covered with reddish wooly pubescence, furnished with golden strongly sutured.

Head slightly narrower than pronotum, a moderately deep groove running from frons to basal margin; antennal tubercles massive and slightly raised; frontal margin covered with roughly punctured and scattered golden hairs. Antennae about as long as a half of body; segment 1 about as long as segment 3, roughly punctate; segment 3 sub-triangular with finely punctured throughout; segment 4 shorter than segment 3, sub-triangular; segments 5-10 each about as long as wide, subsquare; segment 11 as long as segment 3. *Pronotum* longer than broad, narrower at apex than at base, widest at side just before base, swollen at sides; disc slightly convex, furnished with a longitudinal groove in the middle not running to apical and basal margin, a irregular tubercle at each side near apical margin and once at each side near basal margin; a irregular groove each running at lateral side. Scutellum hemi-circular, furnished with a shallow groove running from basal to apical margin. *Elytra* slightly broader than prothorax; humeri directed slightly forward and then upward; sutural partion depressed; sutural margin slightly raised preapically; truncate apically without toothed; sutural end angled without toothed. *Ventral surfaces* covered with finely punctured. *Legs* short; femora slightly swollen.

Distribution: Thailand.

Material examined: Thailand: Chiang Rai Prov.: Wiang Pa Pao,
5.06.2002(1♀).

Remark: This species is very distinct a character of body is wooly pubescence; pronotum is furnished with a longitudinal groove in the middle. The only one specimen was collected in early rainy season.

Erythrur championi White, 1853

Figures 22H-I, 22J♀

Erythrur championi White, 1853, *Cat. Col. Brit. Mus.* 7: 142, pl. 4, fig. 4
(Hong Kong; BMNH).-Gressitt, 1951, *Longicornia* 2: 186.

Description: *Body* length 22-23.5 mm and breadth 4.5-6 mm, bright red, marked with black, brown at anterior portion of head and posteriorly black; antennae black; pronotum red, furnished with raised black stripe on each sides, a black spot on each side near basal margin; scutellum pitchy black; elytra red with suture slightly darker red, small apical spines reddish brown; ventral surface black except prosternum red; legs black.

Head narrower than prothorax, finely punctured to subrugose, finely grooved medially above; antennal tubercles massive and obtusely raised; antennae slightly longer than a half of body; segment 1 slightly longer than segment 3, roughly punctuate, slightly flattened; segment 3 sub-cylindrical, finely punctuate; segment 4 about 0.5 times as long as segment 3; segment 5 slightly shorter than segment 3; segments 5-10 subequal and toothed apically; segment 11 slightly longer than segment 7; segments 5-10 each as long as broad. *Pronotum* longer than broad, much narrower at apex than at base, widest at side just before base, swollen at sides; disc slightly convex, covered with shallowly and subrugosely punctured. *Scutellum* shorter than broad, diamond-shaped, concave medially. *Elytra* broader than

pronotum; humeri directed slightly forward and upward; sutural portion depressed; disc covered with shallowly punctured throughout; rounded apically; sutural end angled with small toothed. *Ventral surfaces* covered with finely punctured. *Legs* short; femura slightly swollen.

Distribution: China, Laos, Cambodia and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Saket, 17.11.2007(1♀), Chiang Dao, 30.04.2006 (2♂), Mae Taeng, 1.10.2005(1♂), 6.07.2003(1♀), 8.03.2002(1♂), Fang, 15.03.2006(1♀), Samoeng, 7.04.2004(1♂), Chiang Rai Prov.: Wiang Pa Pao, 23.08.2003(1♂), Phayao Prov.: Chiang Muan, 6.10.2004(1♂).

Remark: The species differs from *E. laticornis* in having pronotum is red which is furnished with raised black stripe on each sides and a black spot on each side near basal margin. Specimens were collected from mid and continued to late summer, mid rainy and continued to early winter seasons.

Erythrur laosensis Gressitt and Rondon, 1970

Figure 22G

Erythrur laosensis Gressitt and Rondon, 1970, *Pac. Ins. Monogr.*, 24: 178.

Description: *Body* length 16.8 mm and breadth 4 mm, bright vermilion red, marked with black, clothed with minutely pale pubescence, longer and dark on most of black surfaces; head pitchy black, dull reddish along middle of occiput and vertex, and on each side of frons; antenna black; pronotum red with black stripe on each side of median line reaching to swellings but not attaining base, a small spot on median line between middle and base, and lower sides black; scutellum pitchy black; elytra red, with suture slightly darker red, and apical spine pitchy black; ventral surfaces and legs black with apices of tarsi slightly pitchy.

Head much narrower than prothorax, finely punctured to subrugose, finely groove medially above; gena 2/3 as deep as lower eye-lobes. Antennae not quite reaching middle of elytron; segment 1 gradually thickened to apex, about as long as segment 2 and segment 3 united; segment 4 only 2/3 as long as segment 3; segment 5 longer than segment 3; segments 5-7 subequal; segments 8-10 gradually smaller; segment 11 as long as segment 7; segments 5-10 broadly expanded and toothed apically. *Pronotum* almost as long as broad, much narrower at apex than at base, somewhat gradually widened at side to just before base; disc swollen posteriorly, with a fairly sharp tubercle on each side of centre and 3 weak swellings posteriorly; surface vaguely rugose-punctate. Scutellum rounded behind. *Elytra* nearly 6 times as long as broad, very slightly and gradually wide to a short distance before apex evenly rounded externally and sutural end angled with strongly toothed; disc with a strong and median ridge and a lesser one between that and suture becoming very weak posteriorly; surface with numerous low granules, but appearing punctulate because of the transparent nature of the surface. *Ventral surfaces* somewhat finely punctured. *Legs* short with femora finely carinate on each side; hind tarsal segment 1 nearly as long as segment 2 and segment 3 united, shorter than last.

Distribution: Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 19.06.1999 (1♀); Chiang Rai Prov.: Khum Chae, 15.07.2003 (1♀).

Remark: The species differs from *E. laticornis* and *E. championi* in having sutural end angled are furnished with a strong dentation. Specimens were collected from early and continued to mid rainy seasons.

Erythrur laticornis Fairmaire, 1895

Figures 22K-L, 86A-B

Erythrur laticornis Fairmaire, 1895, *Ann. Soc. Ent. Belg.* 39: 180 (Tonkin: BRUXELLES).

Description: *Body* length 15-21 mm and breadth 3.5-4.5 mm, bright red, glabrous for the most parts, marked with black; vertex black; frons reddish brown with black above clypeus; antennae black; pronotum red, furnished with a black spot on each on the middle of side; scutellum pitchy black; elytra red with darker red strongly sutured; minute small apical spine reddish brown; Ventral surface black except prosternum which is red; legs black.

Head narrower than prothorax; frons covered with moderately punctured, furnished with median groove above; antennal tubercles massive and obtusely raised, outer margin black, inner margin reddish brown. Antennae slightly longer than a half of body; segment 1 slightly longer than segment 3, roughly punctulate; surface slightly flattened; segment 3 sub-cylindrical, shallowly striolate throughout; segment 4 about 0.5 times as long as segment 3; segment 5 shorter than segment 3; segments 6-10 sub-rectangular, slightly gradually decreasing in length, toothed apically; segment 11 about as long as segment 7. *Pronotum* longer than broad, much narrower at apex than at base, widest at side just before base, swollen at sides; disc slightly convex, covered with shallowly and subrugosely punctured. Scutellum hemi-circular, shallowly striolate throughout. *Elytra* slightly broader than prothorax; humeri directed slightly forward and upward; sutural partion depressed; disc covered with shallowly sub-vermicular throughout; sutural margin strongly raised preapically; sub-truncate apically, minute small toothed; sutural end angled with short toothed. *Ventral surfaces* covered with finely punctured. *Legs* short; femora slightly swollen.

Distribution: N. Vietnam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 8.03.2002(1♂), 6.07.2003(2♂), 2.06.2004(1♀), 10.10.2005(1♂, 2♀), Fang, 2.03.2002(1♂), 5.09.2003(1♀), 6.07.2005(1♂), Samoeng, 2.02.2006(1♀), Chiang Rai Prov.: Khun Chae, 15.07.2003(1♂), Doi Luang, 16.12.2004(1♀), 6.03.2005(1♂), Wiang Pa Pao, 23.08.2003(1♀), Mae Hong Son Prov.: Mae Sariang, 22.07.2004(1♂), 2.12.2005(1♀), Phayao Prov.: Chiang Muang, 6.10.2004(1♂, 1♀).

Remark: The species differs from *E. championi* in having pronotum is red and furnished with a black spot on each side in the middle. Specimens were collected from early and continued to mid summer, rainy and mid winter seasons.

Euryarthrum lambii Pascoe, 1866

Figure 18B

Euryarthrum lambii Pascoe, 1866, *Proc. Zool. Soc. Lond.* : 524. – Aurivillius, 1912, *Coleopt. Cat.*, 39 : 292. - Hudepohl, 1988, *Entomofauna*, 9 (21) : 413

Description: *Body* length 22.5 mm and breadth 6 mm, black, mat; labial and maxillary palpi castaneous; antennal segment 1-5 black, segment 6 blackish fuscous with apex tinge with reddish-fuscous, segments 7-11 reddish brown with base of segment 7 fuscous; pronotum furnished with silvery on anterior margin; scutellum pitchy black; base of pronotum with transverse band of lacteous pubescence; elytra furnished with two transverse bands of similar pubescence on each elytron; ventral surfaces and legs covered with pale brown hairs.

Head gradually narrower from neck; terminal segment of maxillary palpi dilated at apex, caespitose; mandible deeply acuductate; acutely convex between antennal support, not grooved medianly; antennifer tuberculate; vertex and neck coarsely but shallowly punctate. Antennae slightly longer than body in males, as long as body in females, second last segment reaching elytral apex; segment 1 short, slightly over posterior eye margin, not reaching apex of prothorax; segment 4 beyond base of prothorax in males, reaching in females; segment 6 about 1/3 peduncle and 2/3 clavate; segment 6 obliquely clavate in females; segments 7-10 peduncle laterally, angulate ectoapically. *Pronotum* slightly convex, closely punctured, unevenly swollen sides, distinctly constrict at apical and basal. *Elytra* covered with deeply punctured throughout; subparallel to near apex; apex narrowed and obliquely truncate with outer angle moderately toothed; sutural end angles with toothed, about 2.5 times as long as outer toothed. *Ventral surfaces* finely punctured, posterior margin of each segment from 1-4 with white transverse band in females. *Legs* slender; fore and mid

femora fusiform; hind femora sublinear, wide at apex, 1/3 of apex extended beyond elytral apex, punctures on femora inconspicuous.

Distribution: Malaysia and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Chiang Dao, 4.02.2003(1♀).

Remark: This species is very distinct characters of body is black and mat; antennal segment 6 is blackish fuscous with apex tinge with reddish-fuscous; antennal segments 7-11 are reddish brown; base of segment 7 is fuscous; segments 7-10 are peduncle laterally and angulated ectoapically; elytra are furnished with two transverse bands of similar pubescence on each elytron. The only one specimen was collected in early summer season.

Euryphagus lundii (Fabricius, 1792)

Figures 18C-F, 86C-D

Cerambyx lundii Fabricius, 1792, *Ent. Syst.* 1, 2: 258 (India; KØBENHAVN) loc. cit.

Cerambyx nigripes Olivier, 1792, *Ent.* 4, no. 67, p.52, pl. 20, fig. 149 loc. cit.

Euryphagus lundii : Gahan, 1906b, *Fauna British India, Col.* 1 : 188,

fig. 74. - Fisher, 1935, *J. Fed. Malay States Mus.*, 17 : 594. - Duffy, 1968, *Imm. Stages Or. T Beetles*, 130. - Gressitt & Rondon, 1970, *Pac. Ins.*

Monogr., 24: 178. - Hayashi, 1975, *Bull. Osaka Jonan Women's Jr. Coll.*, 10 : 188. ; 1976, *Bull. Japan Ent. Acad.*, 9 (2): 28.

Description: *Body* length 13-22 mm and breadth 5-8.5 mm, head and prothorax of a dull red, slightly, colour; mesothorax, metathorax and abdomen covered faintly with grey pubescence; elytra entirely fulvous-red; scutellum black; antennae glossy, segment 1 red, the rest black; ventral surfaces dull red, with the sides of the meso- and metathorax black; legs glabrous, glossy; femora red, except at the

base; tibiae and tarsi dark brown or black. Female, head, prothorax above and below and the anterior 2/3 of the elytra carmine-red; scutellum, apical 1/3 of the elytra and body beneath, excepting the prothorax which is black; legs and antennae black or dark brown, with the first antennal joint more or less red at the base.

Head subnitid at the sides, opaque above; the clypeus and occiput rather densely punctuate, the front almost impunctate. Antennal segment 1 sparsely punctuate. *Pronotum* very densely rugulose-punctate; the disc less strongly raised, but similarly provided with three subnitid tubercles, and with an obtuse, feebly elevated ridge behind each of the dorso-lateral tubercles. *Elytra* less closely punctured. *Elytra* entirely opaque, rather densely punctulate, the punctures visible only on the red anterior portion, not on the posterior black part. *Legs* very minutely and very sparsely punctulate.

Distribution: India (Assam, Sikkim, West Bengal), Myanmar, Thailand, Laos, Cambodia, Vietnam, Java, Sumatra, Singapore, Peninsular Malaysia, Sabah (North Borneo) and Sarawak (Borneo).

Material examined: Thailand: Chiang Mai Prov.: Chiang Dao, 5.09.2002(1♂), 4.02.2003(1♀), Doi Saket, 5.07.2005(1♂), Mae Chaem, 5.09.2004(1♂), 7.04.2005(1♀): Fang, 22.09.2006(1♂), Tak Prov.: Phob Pha, 29.01.2002(1♀): Lamphun Prov.: Mae Tha, 7.04.2002(1♂), Uthai Thani, Lan Sak, 25.07.2007(1♂, 1♀).

Remark: This species is very distinct characters of head and prothorax are dull red; antennae are glossy; antennal segment 1 is red and the rest are black. Scutellum is black; elytra are entirely fulvous-red; pronotum is very densely rugulose-punctate. Specimens were collected from late winter and continued to summer and mid rainy seasons.

Gnatholea eburifera Thomson, 1861

Figures 18G, 101E-F

Gnatholea eburifera Thomson, 1861, Class. Ceramb., 375 (Cambodia, Assam; BMNH).-Gahan, 1906, *Fauna India*, Col. 1: 111.-Gressitt, 1951, *Longicornia* 2: 150.-Duffy, 1968, *Imm. Stages Or. T. Beetles*, 127, fig. 71.

Description: *Body* length 15-26 mm and breadth 4-6 mm, reddish brown to dark brown; head, prothorax, scutellum and elytra reddish brown, covered with golden brown pubescence; antennae reddish brown, covered with pale brown hairs; ventral surfaces and legs dark brown, covered with golden brown pubescence.

Head narrower than prothorax, moderately punctured; a narrow groove running from frons to vertex. Antennae longer than body in the male, shorter than body in female; segment 1 shallowly punctured; segment 3 about 2 times as long as segment 3; segment 4 shorter than segment 3; segments 4-10 slightly decreasing in length; segment 11 as long as segment 10. *Pronotum* rather broad in front and narrowed towards the base in the male, apex almost as narrow as base in the female; the disc with two small but distinct tubercles placed transversely just before the middle; disc covered with moderately punctured. Scutellum hemi-circular, subtriangular at tip. *Elytra* as broad as prothorax, rounded at the apex, a little truncate near the suture and armed each with a sutural spine; the surface rather thickly dotted with rather large but shallow sub-nitid punctures; basal margin slightly raised, with two raised whitish bands; disc furnished with two pairs of raised whitish bands behind middle. *Ventral surfaces* finely punctured. *Legs* fairly long, stout.

Distribution: Assam, Myanmar, Malaysia, Thailand, Cambodia, Vietnam, S. China (Kwangsi), Hainan I. and Laos.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 5.09.2004 (1♀), Lampang Prov.: Wang Nua, 11.09.2005 (1♂).

Remark: The species differs from *Stromatium longicorne* in having elytra are furnished with two pairs of raised whitish bands behind middle; thick dots are furnished with rather large but shallow sub-nitid punctures. Specimens were collected in late rainy season.

Hesperophanes erosus Gahan, 1894

Figure 24A

Hesperophanes erosus Gahan, 1894, *Ann. Mus. Civ. Genova*, xxxiv, p. 12.

Description: *Body* length 23 mm and breadth 6 mm, reddish brown, somewhat darker in colour on the upper-side; head reddish brown, rather densely covered with grayish-brown pubescence; pronotum reddish brown, with some irregular spots or patches of grayish brown pubescence, the spaces between obsolete punctured and opaque; scutellum dark reddish brown, covered with grayish-brown pubescence; elytra reddish brown, covered with a closely recumbent pubescence distributed in irregular and partly confluent spots or patches, the naked intervening spaces somewhat glossy; ventral surfaces dark reddish brown, covered with grayish brown pubescence; legs reddish brown, covered with grayish brown pubescence.

Head narrower than prothorax, punctured; a moderately deep groove running from frons to vertex; antennal tubercles massive and obtusely raised. Antennae shorter than body, extended a little beyond the middle of the elytra; segment 1 rugulose, subcylindrical; segment 3 about as long as segment 1 and segment 2 united; segment 4 shorter than segment 3; segment 5 as long as segment 4; segments 5-10 decreasing in length; segment 11 shorter than segment 10. *Pronotum* slightly narrower than elytra, convex above and below, strongly rounded at the sides, marked with a few large but shallow punctures on the antero-median part of the disc. Scutellum hemi-circular, slightly raised edge. *Elytra* strongly and very densely punctured, subparallel to near apex; subtruncate at the apex without outer toothed; sutural end angles with toothed; each elytron furnished with two slightly raised longitudinal costae. *Ventral surfaces* finely punctured; intercoxal process of

prosternum somewhat abruptly deflexed posteriorly and slightly narrowed at the end. Legs fairly long; hind taral segment 1 as long as segment 2 and segment 3 combined and last.

Distribution: Myanmar and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 7.04.2005(1♀).

Remark: This species is very distinct characters of body is reddish brown, covered with grayish-brown pubescence which is furnished with irregular spots or patches of grayish brown pubescence; pronotum is strongly rounded at the sides; elytra are reddish brown which are covered with a closely recumbent pubescence distributed in irregular and partly confluent spots or patches; two slightly raised longitudinal costae are present on each elytron. The only one specimen was collected in late summer season.

Hoplocerambyx spinicornis (Newman, 1942)

Figures 23A-B, 86E-F

Hammaticherus spinicornis Newman, 1942, *Entomologist* 1: 245
(Philippines; BMNH).

Cerambyx? morosus Pascoe, 1857, *Trans Ent. Soc. Lond.* Ser 2, 4: 92
(Borneo; BMNH).

Hoplocerambyx relictus Pascoe, 1866, *Proc. Zool. Soc. Lond.* 1866: 528
(Malaya; BMNH).

Hoplocerambyx spinicornis: Gahan, 1906, *Fauna India, Col.* 1: 131,
fig. 50.-Duffy, 1968, *Imm. Stages Or. T. Beetles*, 89, fig. 44-49.

Description: *Body* length 25-70 mm and breadth 5.5-17.5 mm, brownish black; elytra piceous to reddish brown; head, prothorax, antenna, legs, and underside each covered with finely gray pubescence; the elytra more densely covered with a silky pubescence of a fulvous grey tint and somewhat banded in lighter and darker shades with the incidence of the light.

Head with the eyes well separated above and the space between marked with a moderately deep groove; a shallower groove, bounded on each side by a slight carina, extends thence between the antennal tubers; gular area with three strong transverse ridges. Antennae of the male longer than the body by from one-third of length according to the size of the individual, faintly pubescent; segment 1 sparsely and strongly punctured; segments 3-6 or segment 7 more or less aspirate at the edges, flattened or slightly canaliculated above; antennae of the female shorter than the body, more pubescent than the male, segment 1 sparsely punctured, segment 3 and succeeding joints somewhat flattened above, but not roughened at the edges.

Pronotum slightly longer than broad; the disc with a slightly raised oblong space in the middle, the rest of the surface rather strongly and transversely wrinkled but with the ridges more or less broken and convolute towards the sides. *Elytra* with a slight elevation close to the suture at about one-fourth of length from the base; each elytron obliquely truncate at the apex, with a spine at the suture and a feeble tooth at the outer angle; the surface, especially rubbed bare of pubescence, furnished with two kinds of punctures, some minute and very dense, others larger and less densely spread. *Legs*: The claw-bearing joint of the tarsi long and the paronychium nearly always distinctly visible between the claws.

Distribution: Afghanistan, India, Myanmar, Malaya, Sunda Is., Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 3.08.2005(1♂), Doi Saket, 1.10.2004(1♂), Chiang Dao, 4.02.2003(1♀), Kamphaeng Phet Prov.: Khosam Pi Nakhon, 11.04.2003(1♀), Lamphun, Li, 6.04.2004(1♂), Phetchabun Prov.: Nam Nao, 15.12.2003(1♂).

Remark: This species is very distinct characters of body is brownish black; elytra are piceous to reddish brown which is densely covered with a silky pubescence of a fulvous grey tint and somewhat banded in lighter and darker shades with the incidence of the light; pronotum is strongly and transversely wrinkled but with the ridges are more or less broken and convolute towards the sides. Specimens were collected from mid and continued to late summer, rainy and mid winter seasons.

Hyphus apicalis Pascoe, 1869

Figure 24B

Hyphus apicalis Pascoe, 1869, *Trans. Ent. Soc. Lond.* Ser 3, 3: 505
(Borneo; BMNH).

Description: *Body* length 18.5 mm and breadth 4.5 mm; mostly parts of body helvus; molar, eyes and a small apical end of elytra black; antennae fuscous except segment 1, ventrally fringed with long fuscous bristles; golden pubescence on base of mandible, prosternum, mesosternum, metasternum and abdomen.

Head concave between antennal insertion, impunctate but finely pubescent; mandible pubescent; anterior of frons weakly hollow out; eyes widely separated, strongly emarginated; upper lobe small, oblong; gula and temple contiguous; neck sparsely punctate and pubescent. Antennae filiform, slightly longer than body in females, with the last two segments extending beyond elytra; segment 1 cylindrical, punctulate and pubescent; segment 2 onwards fringed ventrally, getting lesser towards apex; segment 3 longest, 1.5 times as long as segment 1; remainder decreasing in length. *Pronotum* transverse, finely pubescent; sides rounded with a blunt tubercle and a protuberance near apex; disc sparsely punctate; both sides of pronotum gibbose with two laterad node-like tubercles. Scutellum curvilinearly triangular and convex. *Elytra* 6 times as long as broad; gradually narrow at apex, subtruncated; disc punctate, densely covered with minute pubescence. *Legs:* Fore femur fusiform; mid and hind femora fusiform-clavate, pedunculate at base.

Distribution: Borneo, Laos and Thailand (new record).

Material examined: Thailand: Phitsanulok Prov.: Chat Trakan, 5.10.2004(1♀).

Remark: This species is very distinct characters of body is helvus for most parts; antennal segment 2 is onwards fringed ventrally; pronotum is transverse which is rounded with a blunt tubercle and a protuberance near apex of sides; lateral sides of pronotum are gibbose with two laterad node-like tubercles. The only one specimen was collected in late rainy season.

Ibidionidum corbetti obscuripes Holzschuh, 1991

Figure 25D

Ibidionidum corbetti obscuripes Holzschuh, 1991, FBVA *Berichte, Schriftenreihe der Forstlichen Bundesversuchsanstalt*. Wien 51: 35-75, 42 ill.

Description: *Body* length 7 mm and breadth 3 mm, head and prothorax orangy, sparsed with long golden brown hairs; scutellum pitchy brown; elytron ochraceous brown, covered with short hairs; ventral surfaces brown, except abdominal segments 1-3 which are blackish brown, covered with brownish to blackish brown pubescence, sparsed with golden brown hairs; legs pitchy black, covered with blackish brown pubescence, sparsed with golden hairs.

Head distinctly broader than prothorax, slightly rugulose on front, sparsely punctured on vertex and lateral sides; gena 1/6 as deep as lower eye-lobes; eye very large covered 3/4 of head. Antennae shorter than body; segment 1 largest, swollen, finely punctured, slightly longer than segment 2 and segment 3 united; segment 4 as long as segment 3; segment 5 longer than segment 4; segments 5-10 decreasing very slightly in length; segment 11 about as long as segment 10. *Pronotum* about 2 times as long as broad, narrower at apex than at base, constricted at 2/3 near basal margin; disc finely punctured throughout, furnished with four callosities; two anterior callosities larger than two posterior callosities; lateral side furnished with moderately

toothed in the middle. Scutellum subtrapeziform. *Elytra* 3.5 times as long as broad, subparallel posteriorly, rounded apically; disc with deeply punctured with a golden brown hair in each bottom; sutural end angles without tooth. *Ventral surfaces* finely punctured. *Legs* fairly slender; forefemur and mesofemur gradually swollen from 2/3 of legs; hind femur swollen at tip; tibia straight, feebly aspirate; hind tarsal segment 1 as long as segment 2 and 3 united and last.

Distribution: Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Inthanon, 5.09.2004(1♀).

Remark: This species is very distinct characters of head and prothorax are orangy; elytra are ochraceous brown; ventral surfaces are brown except abdominal segments 1-3 which are blackish brown; pronotum is about 2 times as long as broad; elytra are clothed with deep punctures which are furnished with a golden brown hair in each bottom. The only one specimen was collected in late rainy season.

Ipothalia pyrrha Pascoe, 1867

Figures 24C, 87A-B

Ipotha pyrrha Pascoe, 1867, *Ann. Mag. Nat. Hist.* ser 3, 19: 314 (Pegu; BMNH).-Gahan, 1906, *Fauna India, Col.* 1: 223, fig. 83.

?*Ipothalia bicoloripes* var. *semipurpurea* Pic, 1927, *Mel. Exot.-Ent.* 49: 29 (Tonkin: PARIS).

Description: *Body* length 17-19 mm and beadth 3.5-4 mm, dark blue and subnitid; head and scutellum glabrous; pronotum furnished with long reddish brown hairs on anterior margin; the antennae with the first two joints violaceous, the third to fifth and the sixth in part ferruginous, the rest bluish, more or less covered with dark brown pubescence; elytra somewhat greenish, very sparsely dark blue hairs; ventral

surfaces covered with grey pubescence except on the fore part of the prosternum and on the last four abdominal segments which are glabrous and nitid; legs ferruginous red except most part of hind tibia which is reddish brown, furnished with golden brown hairs on apical margin of tibiae.

Head finely and rather sparsely punctulate in front, slightly rugulose above between the antennae and the eyes, coarsely punctulate behind the eyes, rather strongly strigose at the sides and on the gular area beneath. Antenna barely reach to the middle of the elytra; segment 1 rather densely punctulate, and segments 3-5 or segment 6 sub-glabrous, the rest more or less pubescent. *Pronotum* striated transversely near the front margin, and with a few transverse striae near the base; the disc covered with transversely rugulose and punctulate, with a narrow smooth band along the middle and a transverse and narrower one in front. *Elytra* slightly narrowed from the base to the middle and slightly widened again posteriorly, each obtusely rounded at the apex, very densely rugulose-punctate and dull, except near the apex smoother, subnitid, and slightly bluish in colour. *Ventral surfaces* finely punctured in male, very sparsely punctured in female. *Legs* fairly long; femora finely and very sparsely punctulate, the clavate portion almost impunctate in the middle. First joint of the hind tarsi slightly longer than the second and third united.

Distribution: Indonesia, Myanmar, Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Doi Inthanon, 15.10.2006(2♂).

Remark: This species is very distinct characters of body is dark blue and subnitid; the first two joints of antennae are violaceous; the third to fifth and the sixth in part are ferruginous and the rest are bluish; pronotum is covered with transversely rugulose and punctulate; elytra are very densely rugulose-punctate and dull, except near the apex which is smoother, subnitid and slightly bluish in colour. Specimens were collected in late rainy season.

Kunbir atriapicalis Gressitt and Rondon, 1970

Figures 17F-G, 80C-D

Kunbir atriapicalis Gressitt et Rondon, 1970, *Pac. Ins. Monogr.*, 24: 178.

Description: *Body* length 6.5 mm and breadth 1.5 mm, testaceous to pitchy brown or blackish; head and prothorax orange ochraceous; antenna pitchy brown with segment 1 slightly darker; scutellum pitchy brown; elytron ochraceous brown, pitchy brown on apical 1/8, somewhat pale between middle and apical dark area; ventral surfaces and hind thorax and abdomen pitchy to nearly black; legs pitchy brown with fore femur ochraceous, base of fore tibia ochraceous and petioles of mid and hind femora testaceous; body moderately clothed with suberect pale hairs, longer on legs, and some very thin pale pubescence on base of pronotum, postmedian portion of elytron and parts of ventral surfaces.

Head slightly broader than prothorax, moderately punctured at side; gena 1/5 as deep as lower eye-lobes. Antennae about as long as body; segment 1 swollen preapically, sparsely punctured, slightly longer than segment 2 and segment 3 united; segment 4 as long as segment 3; segment 5 longer than segment 4; segments 5-10 decreasing very slightly in length; segment 11 about as long as segment 9. *Pronotum* slightly broader than long, slightly narrower at apex than at base, swollen at side near apex, swollen at middle of side and another slightly weaker swelling between middle and base; disc furnished with 3 raised areas: 1 small and postmedian, the other 2 much larger each on lateral side; disc nearly impunctate. Scutellum narrowed and subtruncate apically. *Elytra* 5.5 times as long as broad, moderately narrowed in basal 1/2, subparallel posteriorly, rounded apically; disc with moderately punctured, partly in subregular rows, mostly as large as interspaces, slightly smaller and sparser apically. *Ventral surfaces* minutely punctured. *Legs* fairly slender; hind femur subfusiform in distal 3/5; hind tibia straight, feebly asperate; hind tarsal segment 1 distinctly longer than as long as last.

Distribution: Laos and Thailand.

Material examined: Thailand: Mae Hong Son Prov.: Mae Sariang, 26.08.2007(1♀), Tak Prov.: Umphang, 30.06.2007(1♂):

Remark: This species is very distinct characters of head and prothorax are orange ochraceous; antennae are pitchy brown; scutellum is pitchy brown; elytra are ochraceous brown except apical 1/8 which is pitchy brown. Specimens were collected from early and continued to mid rainy seasons.

Merionoeda aglaospadix Gressitt and Rondon, 1970

Figure 25C

Merionoeda aglaospadix Gressitt et Rondon, 1970, *Pac. Ins. Monogr.*, 24: 178.

Description: *Body* length 15.5-16 mm and breadth 3.5-4 mm, shiny reddish castaneous, duller on antenna beyond segment 1; slightly pitchy on scutellum and extreme base of femora; body with some fine golden buff pubescence on antennae beyond segment 1, and basal portions of pronotum, and parts of sides of hind thorax; a few pale erect hairs on sides of ventral surfaces and a few on upper portion of head and pronotum; scutellum moderately pubescent; elytron with a very few fine erect hairs; legs with femoral clubs moderately hairs; hind femoral club with longer and denser hairs on inner side; hind tibia moderately hairy.

Head somewhat narrower than prothorax, much longer than broad, moderately punctured behind and between eyes; median portion of occiput impunctate; vertex somewhat concave between antennal insertion, frontoclypeus grooved medially and obliquely on each side; gena 2/3 as deep as lower eye-lobe. Antennae reaching slightly beyond elytral apex; segment 1 slightly arched, thickest before apex, slightly longer than segment 2 and segment 3 united; segment 4 as long as segment 3, slightly broadened apically; segment 5 very much broader; segments 5-10 similar, segments 8-9 nearly as broad as long; segment 10 somewhat narrower; segment 11 longer and narrower. *Pronotum* about as long as broad, slightly narrower at apex than at base, swollen parallel to apical margin, moderately convex at middle of side; disc with 3

fairly broad swellings, one postmedian and one on each side of center, with a few fine punctures in parts of depressed area. Scutellum subtrapeziform, slightly emarginated apically. *Elytra* 2.3 times as long as broad, with humerus projecting somewhat forward and distinctly rounded; side widest a little behind humerus, then distinctly narrowed to middle and then less strongly narrowed to apex, dehiscent from slightly to middle and subevenly narrowed to apex subrounded; disc slightly depressed near center, with subregular rows of punctures of unequal size, mostly much smaller than interspaces, and terminating before apical 1/6. *Ventral surfaces* somewhat heavily punctured at side of hind thorax, nearly impunctate on abdomen. *Legs* fairly stout; fore and mid femora weakly swollen; hind femur strongly swollen for slightly more than distal 1/2, finely punctured; hind tibia fairly straight, without toothed on margin; hind tarsal segment 1 nearly as long as segment 2 and 3 combined, slightly shorter than last.

Distribution: Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 2.06.2004(1♀).

Remark: The species differs from *M. fusca* in having body is shiny reddish castaneous. The only one specimen was collected in early rainy season.

Merionoeda fusca Gressitt and Rondon, 1970

Figures 25A-B, 80E-F

Merionoeda (s. str.) *fusca* Gressitt et Rondon, 1970, *Pac. Ins. Monogr.*, 24: 178.

Description: *Body* length 7.5 mm and breadth 1.5 mm, slender, pitchy brown to testaceous or nearly black; head pitchy brown, draker on frons, pale on palpi; antennae dull brown, pale brown on segments 1-2; pronotum drak castaneous, paler at apex; scutellum blackish; elytron dark brown with most of inner portion of disc testaceous; ventral surfaces pitchy brown, blackish brown on abdomen; legs dark pitchy brown, slightly reddish, testaceous on femoral petioles, ochraceous on fore

tarsus and tibia and mid tarsus; pitchy brown on hind tarsus; body largely clothed with fairly long erect pale hairs, longest on hind legs; antenna with a single row of oblique hairs on ventral sides of segments 1-5; some areas of silvery buff pubescence on hind thorax, exclusive of hind part of metasternum.

Head slightly broader than prothorax, in large part rather closely punctured, more coarsely on occiput and neck than on frons, finely carinate along middle between upper eye-lobe; genae 1/6 as long as lower eye-lobe. Antennae not quite reaching to apex of abdomen; segment 1 arched, gradually thickened distally, sparsely punctured, as long as segment 2 and segment 3 united; segment 4 barely longer than segment 3; segments 4-11 each similar in length; segments 5-10 rather broadened externally, bluntly toothed apically. *Pronotum* slightly longer than broad, slightly narrower at apex than at base, swollen just behind apex, moderately convex near middle of side; disc with a short and longitudinal swelling extending back from apex, a small median swelling just behind center and a much larger one on each side of disc and very slightly oblique; depressed areas rather strongly punctured. *Scutellum* narrowed and emarginated apically. *Elytra* 2.25 times as long as broad, gradually narrowed externally to beginning of apical 1/3, dehiscent from just anterior to middle, somewhat gradually narrowed to before apex; apical rounded-truncate. *Ventral surfaces* somewhat densely punctured on side of thorax, more sparsely punctured on side of abdomen. *Legs* fairly long; fore and mid femora feebly clavate; hind femur somewhat gradually swollen, for apical 1/2, hind tibia arched, strongly asperate, apical spine about 1/3 as long as width of hind femoral club; hind tarsal segment 1 distinctly longer than segment 2 and segment 3 united, about as long as last.

Distribution: Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Sutep, 5.08.2004(1♂), Mae Taeng, 8.03.2002(1♂, 1♀).

Remark: The species differs from *M. aglaospadix* in having body is pitchy brown to testaceous or nearly black. Specimens were collected in mid summer and rainy seasons.

Neocerambyx gigas Thomson, 1878

Figures 26A-B, 87C-D

Neocerambyx gigas Thomson, 1878. *typi Cerambycidae Musei Thomsoniani*. - Paris. 1-9&1-20.

Description: *Body* length 65-96 mm and breadth 19-27 mm, very large sized, black; head dark auburn, clothed with golden brown pubescence; antenna black, covered with golden brown pubescence; pronotum black, covered with golden brown pubescence, tinge with golden brown tuft on apical angles and basal angles; scutellum black, brownish pubescence, tinge with long golden brown along margin; elytra black, golden brown pubescence, tinge with reddish brown hairs; ventral surfaces dark auburn for most parts, furnished with reddish brown on abdominal sternum; disc clothed with golden brown pubescence; legs black, covered with golden brown pubescence.

Head narrower than prothorax, finely punctured on frons, a strong groove running from each lateral side of frons to above eyes; a strongly raised between eyes, with a narrow groove running from frons to vertex; antenal tubercles massive and slightly raised. Antennae more longer than body, stout, strongly; segment 1 slightly depressed, finely punctured, subcylindrical; segment 3 about as long as segment 1, finely punctured; segments 3-5 strongly swollen apex; segment 4 shorter than segment 3; segments 6-10 gradually increasing in length; segment 11 longest. *Pronotum* about as long as broad, unevenly convex at side without toothed; disc covered with strongly rugose, furnished with a smoothly and moderately raised areas along the middle; apical collar covered with finely punctured, somewhat slightly sinuate; basal collar covered with finely punctured, strongly depressed and margin moderately raised, sinuate. Scutellum hemi-circular, sub-triangle at tip; surface finely

punctured. *Elytra* about 2.7 times as long as broad, finely punctured, subparallel, apex rounded; sutural end angles with strongly toothed; humeral angles slightly raised forward; disc unevenly, with elytron costae. *Ventral surfaces* finely punctured. *Legs* long, stout; hind tarsal segment 1 as long as segment 2 and segment 3 united, last longest.

Distribution: Malaysia and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 6.07.2005(1♂), Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♂), 23.08.2003(1♀), 17.03.2005(2♂, 3♀), Mae Hong Son Prov.: Mae Sariang, 22.07.2004(1♀).

Remark: The species differs from *N. grandis* in having antennal segments 3-4 are very strongly swollen at apex. Specimens were collected from mid summer, early and continued to mid rainy seasons.

Neocerambyx grandis Gahan, 1891

Figures 26C-D, 87E-F

Neocerambyx grandis Gahan, 1891, *Ann. Mag. Nat. Hist.* ser 6, 7: 20 (India; BMNH); 1906, *Fauna India*, Col. 1: 125, fig. 48.

Description: *Body* length 61-75 mm and breadth 17-21 mm, dark brown to black; mostly parts of body black, covered with silky pubescence; elytra dark reddish brown, covered with silky pubescence, furnished with a slightly golden luster, and on the elytra give feeble moiré reflections; ventral surfaces and legs dark reddish brown, covered with silky pubescence.

Head slightly narrower than prothorax, with marked above with a narrow and rather feeble groove extending between the eyes and antennal supports; finely punctured on vertex; a moderately deep groove running from frons to vertex; antennal tubercles massive and obtusely raised. Antennae more longer than body in the male,

with segment 3 and segment 4 very strongly, segment 5 less strongly thickened towards the apex, segment 4 about equal in length and thickness to segment 1, segment 3 a little longer and thicker than segment 4, subequal in length to segment 5, shorter than the body in the female, with segment 3 and segment 4 very slightly thickened, segments 7-10 more angulate at the apex than in the male. Scutellum hemi-circular, finely punctured. *Pronotum* somewhat obtusely angulate or protuberant at the middle of each side; disc covered with strongly and irregularly rugose. *Elytra* rounded and unarmed at the apex, subparallel to near apex, slightly dehiscent. *Ventral surfaces* finely punctured; acetabula of front coxae angulate on the outer side; the intercoxal process vertically deflexed posteriorly. *Legs* fairly longer; hind tibia slightly sinuate.

Distribution: India, Assam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 6.07.2005(1♂, 1♀), Mae Chaem, 7.04.2005(1♂), 1.03.2006(1♂, 2♀), Samoeng, 20.01.2002(1♂), Chiang Rai Prov.: Wiang Pa Pao, 5.01.2002(1♀), Kamphaeng Phet Prov.: Khlong Lan, 5.12.2005(1♀), Phayao Prov.: Chiang Muan, 6.10.2004(1♂).

Remark: The species differs from *N. gigas* in having 3rd-4th antennal segments are cylinder. Specimens were collected from mid and continued to late winter, summer and rainy seasons.

Neoplocaederus obesus (Gahan, 1890)

Figures 29C-D, 92A-B

Plocaederus obesus Gahan, 1890, *Ann. Mag. Nat. Hist.* ser 6, 5: 51; 6: 250

(India; BMNH); 1906, *Fauna India*, Col. 1: 121, fig. 47.-Gressitt, 1942,

Lingnan N. H. S. & Mus. Spec. Publ. 1: 16, fig. 7-9 (boil., imm. Stages); 1951,

Longicornia 2: 141.-Duffy, 1968, *Imm. Stages Or. T. Beetles*, 114, fig. 59-61.

Description: *Body* length 27-45 mm and breadth 9-15 mm, reddish-chestnut or testaceous; head reddish-chestnut, covered with a short but rather densely tawny-grey pubescence; antennae ferruginous, with the intermediate joints usually tipped with black at the apex, covered with short reddish hairs; pronotum reddish-chestnut on most parts, blackish at the front and hind margins, covered with tawny-gray hairs; scutellum reddish-chestnut, covered with grayish pubescence; elytra reddish-chestnut, covered with tawny-grey pubescence; ventral surfaces reddish-chestnut, covered with densely tawny-grey pubescence legs red on most parts, finished with pitchy black on all knees.

Head slightly narrower than prothorax, punctured on frons, granulate on vertex; antennal tubercles massive and obtusely raised; antennae more longer than body in male, shorter than body in female; segment 1 stout, rugulose-punctate; the remaining joints very finely granulate, segments 5-10 acutely angulate in front at the apex; antennae of female scarcely longer than the body, not granulate; segments 5-10 acutely angulate at the apex. *Pronotum* narrower than elytra, armed with a strongly, sharply, and slightly recurved spine on each side; strongly corrugate above, the ridges sometimes very irregular, sometimes more or less transverse and wavy. *Scutellum* subtriangle. *Elytra* very finely and closely punctulate all over, but with the punctures hardly visible owing to the covering of pubescence; the truncate apices shortly spined at each of the angles. *Ventral surfaces* finely punctured. *Legs* fairly long.

Distribution: India, Myanmar, Thailand, China, Laos and S. Vietnam.

Material examined: Thailand: Chiang Mai Prov.: Fang, 6.07.2005(1♂); Mae Chaem, 1.03.2006(1♀); Chiang Dao, 18.04.2004(1♂), Kamphaeng Phet Prov.: Pang Si La Thong, 4.06.2002(1♂), Lamphun Prov.: Li, 6.04.2004(1♂), Mae Hong Son Prov.: Mae Sariang, 2.12.2005(1♀), Phrae Prov.: Wang Chin, 15.01.2002(1♀), Uttaradit Prov.: Nam Pat, 7.08.2003(1♂).

Remark: The species differs from *N. ruficornis* in having head, prothorax and elytra are reddish-chestnut or testaceous. Specimens were collected from mid and continued to late winter, summer, early and continued to mid rainy seasons.

Neoplocaederus ruficornis (Newman, 1842)

Figures 29A-B, 92C-D

Cerambyx ruficornis Newman, 1842, *Entomologist* 1: 245 (Philippines; BMNH).

Cerambyx fulvicornis Guer., 1843, *Icon. Règne Anim.*, 227 (Philippines; PARIS).

Plocaederus pruinosus Pascoe, 1866, *Proc. Zool. Soc. Lond.* 1866: 526 (Penang; BMNH).

Plocaederus fulvicornis: Aurivillius, 1912, *Coleopt. Cat.* 39: 50.-Duffy, 1968, *Imm. Stages Or. T. Beetles*, 117.

Description: *Body* length 30-45 mm and breadth 9-15 mm, black; labrum, maxillary and labial palpi castaneous; entire antennae including segment 1 castaneous; elytra with sparsely and silvery pubescence, getting denser towards the apex; 3/4 basal half of femora, entire tibiae and tarsus castaneous; 1/4 apical half of femora black; ventral surfaces pitchy with densely and tawny-grey pubescence.

Head little exserted, triangular; fronts oblique; clypeus coarsely puncture anteriorly, with a elliptical depression; gena short; antennae socket depressed, antennifer coarsely punctured and inner side formed a protuberance; vertex with a median ridge, interrupted a little before upper eye-lobes; neck finely granulate except a weak median furrow. Antennae as long as body; segment 1 finely punctulate, widen and bent downward at tip, subtruncate and carinulate ectoapically; remaining segments compressed dorsi-ventrally; segment 3 and segment 4 slightly, and segments 5-10 strongly angulated externally; segments 5-10 evenly covered with pubescence. *Pronotum* trapezoidal, irregular rugose base wider than apex; sides

convex, armed with a sharp spine preceded by a protuberance in front; posterior margin of intercoxal process ends with a blunt node. Scutellum triangular, tip rounded, pubescent. *Elytra* 3 times as long as broad; disc rugulopunctate on basal half, finer towards apex, subglabrous and punctulate on apical half, middle slightly dented; narrow gradually halfway towards apex, tip subtransversely truncate; armed with sutural spines and an angular cusp. *Ventral surfaces* finely punctured, very pubescent. *Legs*: Femora subclavate alone 3/4 its length, tapered at tip; mid and hind femora compressed laterally and incurvate; inner side of mid femur verruculate.

Distribution: The Philippines, Malaysia, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 8.03.2002(1♂), Kamphaeng Phet Prov.: Pang Si La Thong, 4.06.2002(1♂, 1♀), Lamphun Prov.: Mae Tha, 7.04.2002(1♂), 6.04.2004(1♂, 1♀), Nan Prov.: Mae Chaem, 10.06.2004(1♂), 16.10.2005(1♀), Phetchabun Prov.: Nam Nao, 15.12.2003(1♀), Phrae Prov.: Wang Chin, 15.01.2002(2♂), 6.08.2004(1♀), Uttaradit Prov.: Nam Pat, 7.08.2003(1♂, 1♀).

Remark: The species differs from *N. obesus* in having body is black color. Specimens were collected from mid and continued to late winter, summer, and rainy seasons.

Nida flavovittata Pascoe, 1867

Figures 17D, 17E♀

Nida flavovittata Pascoe, 1867, *Ann. Mag. Nat. Hist.* ser 3, 19: 312 (Pegu; BMNH).-Gahan, 1906, *Fauna India*, Col. 1: 318, fig. 106.

Ceresium vittidorsum Pic, 1905, *Mat. Longic.* 5 (1): 10 (Yunnan; PARIS).

Description: *Body* length 13-14 mm and breadth 1.5-2 mm, black; head and pronotum faintly covered with short grayish pubescence; antennae brown, covered with brown pubescence; pronotum furnished with a C-shaped band of white

pubescence on each side, the open side of the band uppermost; scutellum covered with whitish pubescence. Each elytron furnished with a broad longitudinal band of a yellowish-testaceous colour runs close along the suture, faintly covered with a rather long and somewhat transversely laid pubescence. Ventral surfaces with a grayish pubescence, denser and whiter on the sides of the thorax and abdomen; legs black for most parts, furnished with brownish on anterior portions of femora and fore tibia, covered with brown hairs.

Head closely and roughly punctured. Antennae about one-fifth longer than the body in the male, slightly longer than body in the female; segment 3 scarcely longer than segment 1, but distinctly longer than segment 4; segment 5 slightly longer than the segment 3; segment 6 and segment 7 subequal with segment 5; segments 8-10 gradually shorter. *Pronotum* about one-third longer than broad, slightly rounded at the middle of each side, narrowed gradually towards the base, broadly but feebly constricted before the apex, closely but not strongly punctured; the disc with a short smooth line, sometimes obsolete, along the middle and a transverse cariniform elevation before the middle. Scutellum hemi-circular. *Elytra* closely and almost uniformly punctulate from base to apex, subparallel, slightly concave at the middle; rounded apex; sutural end angles with slightly toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, weakly; femora pedunculate, clavate near the apex.

Distribution: Myanmar, Thailand, SW China and Laos.

Material examined: Thailand: Phetchabun Prov.: Nam Nao, 15.06.2007(1♂): Tak Prov.: Umphang, 30.06.2007(1♀).

Remark: This species is very distinct characters body is black color; pronotum is furnished with a C-shaped white pubescence band on each side; each elytron is furnished with a broad longitudinal band of a yellowish-testaceous colour runs close along the suture. Specimens were collected in early rainy season.

Noserius tibialis Pascoe, 1857

Figures 24D, 88A-B

Noserius tibialis Pascoe, 1857, *Trans. Ent. Soc. Lond.* Ser 2, 4: 95, pl. 23, fig. 4(Borneo; BMNH); 1869, op. cit. ser 3, 3: 500.-Duffy, 1968, *Imm. Stages Or. T. Beetles*, 88.

Description: *Body* length 13-15 mm and breadth 3-3.5 mm, fulvous; finely pubescent on elytra; antennae except segment 1 blackish brown, testaceous towards apex in females, entirely fulvous as segment 1 in males; thorax, elytra and femora testaceous except small apical tip and tibiae which are black; all hind tarsal segments testaceous except first segment in females which is blackish.

Head short; transverse sulcus between elypeus and frons, the later granulate; gena obscure; eye emarginate, lower lobe very large, occupied entire lateral side of head. Antennae longer than body in both sexes, 1/3 longer and more robust in males, 1/5 longer in females; fringed ventrally, denser in males. *Pronotum* with a small lateral tubercle, flatten, impunctate with sparse pubescence. *Elytra* 6 times as long as broad in males, 5 times as long as broad in females; dehiscent at 1/4 from apex in females, feebly dehiscent in males; finely punctate. *Ventral surfaces*: Abdominal sternum as wide as elytra in females; half as wide as elytra in males, long and slender. *Legs* strongly compressed sideway and hind coxae widely separated in females; hind coxae subcontiguous, fore femur slightly inflated laterally, mid and hind femora strongly inflated ventro-laterally with a triangular cross-section in males.

Distribution: Borneo, Myanmar, Malaysia, Java, Laos, S. Vietnam, Cambodia and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 6.07.2005(1♂), Lampang Prov.: Thoen, 2.03.2004(1♂), 10.12.2005(1♀), Mae Hong Son Prov.: Mae Sariang, 22.07.2004(1♀).

Remark: This species is very distinct characters of body is fulvous; thorax, elytra and femora are testaceous except small apical tip and tibiae which are black; all hind tarsal segments are testaceous except first segment of females which is blackish. Specimens were collected from mid summer, rainy and continued to winter seasons.

Nyphasia pascoei Lacordaire, 1869

Figures 24J, 89A-B

Nyphasia pascoei Lacordaire, 1869, *Gen. Col.* 8: 309 (Siam; PARIS).-Gahan, 1906, *Fauna India, Col.* 1: 153 (Burma).-Duffy, 1968, *Imm. Stages Or. T. Beetles*, 141.

Description: *Body* length 14-17 mm and breadth 3.5-4.5 mm; head fulvous red, glabrous except labrum which is reddish brown; antennae black, covered with silvery pubescence; pronotum fulvous red, furnished with golden brown hairs on apical and basal margin; scutellum fulvous red; elytra metallic green, sparsely reddish brown setal hairs on lateral sides and apice; ventral surfaces fulvous red, covered with silvery pubescence; legs black except basal portion of femora which is fulvous red.

Head narrower than prothorax, punctured; a narrow groove running from frons to vertex; frons fairly depressed above clypeus; antennal tubercles slightly massive. Antennae longer than body; segment 1 punctured; segment 3 as long as segment 1 and segment 2 combined; segment 4 shorter than segment 3; segment 5 longer than segment 4; segment 6 longer than segment 5; segments 6-8 each similar in length; segment 9 shorter than segment 8; segments 9-11 decreasing in length; segments 3-5 with distinct apical spines. *Pronotum* punctured; disc unevenly concave; a strongly swollen at middle of each lateral side; a smaller swollen near each apical angle; constrict at basal margin more than apical margin; basal angles with slightly emarginated, sinuate. Scutellum acute, but not prolonged, at the apex. *Elytra* evenly punctured; apical subtruncate without toothed; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long; femora strongly swollen at apex; mid and hind tibiae fairly arched.

Distribution: Thailand, Myanmar, Assam and Laos.

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 3.08.2005(1♀), Mae Taeng, 8.03.2002(1♂), Doi Saket, 17.11.2007(1♂, 1♀), Phrae Prov.: Wang Chin, 6.08.2004(1♂): Tak Prov.: Umphang, 30.06.2004(1♀).

Remark: This species is very distinct characters of head, prothorax and scutellum are fulvous red; antennae are black; elytra are metallic green. Specimens were collected from mid summer, early and continued to mid rainy and early winter seasons.

Oplatocera callidioides White, 1853

Figures 27C, 89C-D

Oplatocera callidioides White, 1853, *Cat. Col. Brit. Mus.* 8: 121, pl. 3, fig.

7 (N. India; BMNH).-Gahan, 1906, *Fauna India, Col.* 1: 108.

Description: *Body* length 48 mm and breadth 21 mm, dark auburn to cinnamon-brown; mostly parts of body dark auburn, covered with reddish brown pubescence; elytra cinnamon-brown, furnished with two large and transverse bands: 1st about 1/5 as broad as elytra, on basal portion; 2nd about 1/5 as broad as elytra, beginning from behind middle, gradually oblique to suture and touching; two suboval bands above middle line; disc covered with golden brown pubescence; ventral surfaces dark auburn, covered with golden brown pubescence; legs reddish brown, darker at knees and tibiae, covered with golden brown pubescence.

Head densely rugulose-punctate. Antennae about as long as body; segment 1 slightly arched, stout, densely granulate; segment 3 longest, about 2.5 times as long as segment 1; segments 3-11 distinctly decreasing in length. *Pronotum* large, transverse, nearly as wide as the elytra, a little depressed above, strongly rounded at the sides but drawn in at the base and the middle furnished with a feeble tubercle; the surface densely rugulose-punctate, sparsely covered with rather long pubescence. Scutellum

hemi-circular, slightly depressed, slightly raised at margin. *Elytra* broader than prothorax, subparallel sided at basal 1/8 and smoothly rounded apically, rather roughly granulate at each side of scutellum and granules getting finer and smaller toward each sides and apices; three distinct costae on each elytron; sutural end angles without toothed. *Ventral surfaces* finely punctured; the intercoxal process of the prosternum gradually obliques in front. *Legs* fairly long, stout.

Distribution: N. India, Laos and Thailand.

Material examined: Thailand: Mae Hong Son Prov.: Khun Yuam, 19.11.2005(1♂).

Remark: The species differs from *O. oberthuri* in having pronotum is dark auburn; basal angles and the middle are furnished with a feeble tubercle. The only one specimen was collected in early winter season.

Oplatocera oberthuri Gahan, 1906

Figures 27A-B, 89E-F

Oplatocera oberthuri Gahan, 1906, *The Fauna of British India including Ceylon and Burma*. C.T. Bingham, ed. London. Xviii+329 pp. 107 figs.

Description: *Body* length 30-37 mm and breadth 9-11 mm, cinnamon-brown; antennae tipped with dark brown at the apex of each joint; pronotum with two black-brown spots on the disc and a narrow dark band towards each side; elytra marked each with two oblique and black-brown bands appear to be made up of a series of elongate spots placed side by side; the oblique apical margin of the elytra blue-black, the lateral margins not dark in the preceding species.

Head rugulose-punctate. Antennae reach past the apex of the elytra by about three joints in the female, and by more than four in the male; segment 1 very densely and very finely rugulose-punctate; segments 3-6 not spined in either sex; all the joints

pubescent, the pubescence longer and somewhat denser on the underside. *Pronotum* transverse, but much narrower than the elytra, slightly constricted and marked with a transverse groove near base and apex, a little dilated and strongly tuberculate at the middle of each side; the dark spots on the disc placed on two slight elevations, between a median canaliculated depression; the surface densely rugulose-punctate, sparsely clothed with long pubescence. *Elytra* with two feebly raised dorsal costae united at about the middle of the posterior dark band, a single costa continued thence almost up to the apical border; the surface very finely rugulose-punctate, covered faintly with short grey pubescence. *Ventral surfaces*: Last ventral segment sinuate at the apex in the female, broadly truncate and fringed with reddish brown hairs in the female. Intercostal process of prosternum abruptly declivous in front. *Legs*: Tips of the femora and tibia and lateral borders of the metasternum, black.

Distribution: India, Bhutan, West China, Taiwan and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Fang, 2.03.2002(1♂), 6.07.2005(1♂, 3♀), Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♂, 2♀), 23.08.2003(1♂, 1♀), 17.03.2005(1♂).

Remark: The species differs from *O. callidioides* in having pronotum is cinnamon-brown and furnished with strongly tuberculate at the middle of each side. Specimens were collected from mid summer, early and continued to mid rainy seasons.

Pachylocerus sulcatus Brongniart, 1892

Figures 28C, 90A-B

Pachylocerus sulcatus Brongniart, 1892, *Nouv. Arch. Mus. Paris* ser 3, 3:

240, pl. 10, fig. 4 (Siam; PARIS).-Gahan, 1906, *Fauna India, Col.* 1: 225.

Description: *Body* length 19-28 mm and breadth 5-8 mm, reddish or reddish brown; mostly parts of body covered with reddish brown pubescence; antennal

segments 2-5 each at the base black; elytra dark brown, tomentose, marked each with five or six rather narrow and longitudinal bands of a reddish colour, more or less obscured in fresh specimens by a covering of tawny or somewhat golden pubescence, with the exception of the one nearest the outer margin.

Head distinctly narrower than prothorax, roughly punctured on frons and granulate on vertex; a narrow and deep groove running from frons to between eye-lobes and weakly on vertex; eye separate to two portions. Antennae distinctly shorter than body; segment 1 finely punctured, short, slightly arched; segment 3 as long as segment 1, slightly longer than broad; segment 4 about as long as segment 3; segment 5 slightly shorter than segment 4; segments 6-11 flattened and subequal with apical serrate. *Pronotum* narrower than elytra; a little angulate at the middle of each side, transversely wrinkled above, marked on the disc with two longitudinal, slightly curved, linear impressions which are less widely separated in front, anterior margin distinctly narrower than posterior margin. Scutellum triangle. *Elytra* subparallel, slightly extend behind middle and then gradually oblique to apex, furnished with slightly raised obtuse costae: The first costa, placed close to the suture, distinct only on the basal 1/3 of the elytron, approaches more closely to the suture posteriorly and appears to be continued as a very feeble sutural elevation again more strongly raised near the apex; second and third costae long, the third united posteriorly with the fifth, marked near the base with a few strong punctures; rounded apex; sutural end angles without toothed. *Ventral surfaces* finely punctured and finely rugulose-punctured. *Legs* fairly long, stout.

Distribution: India, Myanmar, S. China, Thailand and Laos.

Material examined: Thailand: Chiang Mai Prov.: Doi Inthanon, 15.08.2006(1♂), Doi Pahom Pok, 18.10.2006(1♂), Chiang Rai Prov.: Wiang Pa Pao, 30.03.2007(1♂), Phisanulok Prov.: Nakhon Thai, 1.03.2003(1♀).

Remark: This species is very distinct characters of body is reddish or reddish brown; mostly parts of body are covered with reddish brown pubescence; elytra are

dark brown and furnished with five or six narrow longitudinal reddish bands; antennal segments 6-11 are flattened and subequal with apical serrate. Specimens were collected from mid summer, mid and continued to late rainy seasons.

Pachyteria dimidiata Westwood, 1848

Figures 28A, 90C-D

Pachyteria dimidiata Westwood, 1848, *Cab. Orient. Ent.*, 60, pl. 29, fig. 8

(Assam; BMNH).-Gahan, 1906, *Fauna India*, Col. 1: 196.

Description: *Body* length 25.5-31 mm and breadth 9.5-12.5 mm, black above, slightly tinged on the posterior half of the elytra with dark blue or green; ventral surfaces and legs dark blue, almost bare of pubescence, a faint grayish pubescence only covers the side of the hind breast; last six joints of the antennae, and a broad pale yellow band that crosses the elytra at the middle; the antennal joints dull; the elytral band glossy, strongly and rather closely punctured, hind margin straight, and front margin somewhat oblique near the suture and sinuate towards the side, on each elytron.

Head impressed with a median line or groove not extend on to the clypeus, but ends anteriorly at the transverse line that separates the clypeus and front; clypeus rather sparsely and somewhat unevenly punctured, sometimes with a slightly raised smooth median line; front densely and minutely punctulate; vertex somewhat coarsely punctulate, especially around the eyes; antennae of male about equal in length to the body, not much shorter in the female; segment 1 densely punctured. *Pronotum* with a narrow and smooth band along the middle, the disc external of band finely and rather densely punctulate. *Elytra* minutely and very densely punctulate on the dark parts, and faintly covered with dark tomentum; apex of each distinctly emarginated, with the outer angle more prominent than the sutural one. *Ventral surfaces*: Metasternum and abdomen sparsely punctulate. *Legs*: Femora more densely but somewhat unevenly punctured.

Distribution: India, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 20.01.2002(1♀), 2.02.2006(1♂): Doi Saket, 1.10.2004(1♂): Fang, 6.07.2005(1♀): Mae Chaem, 4.04.2005(1♂, 1♀), Lamphang Prov.: Mae Tha, 7.04.2002(1♂), Phrae Prov.: Wang Chin, 5.01.2002(1♀), 6.08.2004(1♂), Tak Prov.: Phob Pha, 5.05.2002(1♀), Utthai Thani, Lan Sak, 25.07.2007(1♂, 1♀).

Remark: The species differs from *P. equestris* in having prothorax is black; elytra are furnished with a broad pale yellow band that crosses the elytra at the middle. Specimens were collected from late winter, early and late summer, and continued to rainy seasons.

Pachyteria equestris Newman, 1841

Figures 28B, 90E-F

Pachyteria equestris Newman, 1841, *Entomologist* 1: 79 (type without locality; BMNH).-Ritsema, 1890, *Note Leyd. Mus.* 12: 170 (Malay Penin).

Pachyteria coomani Pic, 1943, *Echange* 43: 8 (Tonkin; PARIS).

Description: Body length 37.5 mm and breadth 11.5 mm, largely orange and pitchy black; head pitchy black, reddish brown on labrum, orange on vertex; antennal segments 1-2 reddish brown; segments 3-7 yellowish; segments 8-11 black; pronotum orange; scutellum pitchy black; basal 1/2, black on remainder; elytra furnished with a broad orange band that crosses a half of elytra; ventral surfaces pitchy black, with tinge of orange, covered with silvery hairs for most parts; legs pitchy black, covered with dark hairs for most parts except anterior portion of fore leg which is reddish hairs.

Head narrower than prothorax; fairly rugose-punctate on vertex; a narrow groove running from frons to vertex; antennal tubercles massive and slightly raised,

punctured; frons slightly depressed at middle; labrum finely and sparsely punctured, concave apically; gena as deep as lower eye-lobe. Antennae longer than a half of body, stout, strongly and acuminate serrate on segments 6-10, acute ectoapically on segment 1; segment 2 and segment 3 combined, nearly 2 times as long as segment 1; segment 4 slightly shorter than segment 1; segments 4-7 decreasing very slightly in length; segment 8 shorter than segment 9; segments 8-10 decreasing slightly in length; segment 11 about as long as segment 8. *Pronotum* broader than long, expanded at side, with a fairly sharp tubercle on each side, and surface slightly convex, punctured throughout, sparsely reddish hairs at side; disc with slightly longitudinal depression at the middle, constricted at apical and basal; apical sinuate, obtusely concave at basal margin; anterior collar wide in middle, rugulose, very sparsely punctured; basal collar widest and impunctate in wide in middle, finely and more sparsely punctured, with a feeble ridge parallel to basal ridge. Scutellum triangular slightly depressed at middle, finely punctured. *Elytra* about 2.2 times as long as broad, gradually narrowed to apex; apical round without toothed; disc with finely carinate at each side, beginning at middle line, backward to apex; sutural dehiscent. *Ventral surfaces* sparsely with finely punctured. *Legs* long, slightly flattened; femur feebly swollen; hind tibia strongly flattened, gradually broadened to apex, slightly sinuate; hind tarsal segment 1 nearly as long as remainder combined.

Distribution: Indonesia, Malaysia, Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Doi Sutep, 21.01.2001(1♂).

Remark: The species differs from *P. dimidiata* in having prothorax is orangey; elytra are furnished with a broad orangey band that crosses a half of elytra. The only one specimen was collected in late winter season.

Pavieia superba Brongniart, 1890

Figures 28D-E, 91A-B

Pavieia superba Brongniart, 1890, *Ann. Soc. Ent. Fr.* Ser 6, 10: 185 (Siam; PARIS).

Description: *Body* length 23-37 mm and breadth 8-13.5 mm, largely orangey and pitchy black; head pitchy black, glabrous for most parts; clypeus and labrum covered with black pitchy hairs; antennae blackish brown; pronotum orangey, tinge with pitchy black at basal and apical collars, sparsely reddish hairs; scutellum pitchy black, glabrous; elytron pitchy black except two broad of transverse orange bands: 1st behind scutellum; 2nd behind the middle; ventral surfaces pitchy black, tinge with orangey on prosternum; disc covered with reddish brown hairs for most parts; legs dark auburn, covered with reddish brown hairs.

Head strongly depressed, narrower than prothorax, roughly punctured on frons, sparsely punctured on vertex and gena; gena reaching to lateral sides; obtuse ridge running from basal of each mandible to each antennal tubercles; a narrow groove running from frons to between eye-lobes; antennal tubercles massive and slightly acute, sparsely punctured; gena as deep as lower eye-lobe. Antennae more longer than body, stout and strongly; segment 1 strongly depressed at basal, slightly flattened, finely punctured, covered with dark pitchy brown hairs, apical round; segment 3 longer than segment 1 and segment 2 united, finely punctured, covered with dark pitchy brown hairs; segment 4 shorter than segment 3; segment 4 shorter than 3; segments 4-10 gradually increasing in length; segment 11 longest. *Pronotum* broader than long, strongly expanded at side, with a fairly sharp tubercle on each side; strongly constrict at apical and basal; disc strongly convex, with punctured; finely punctured on lateral areas; apical collar glabrous, somewhat very sparsely punctured; basal collar with transverse ridge, glabrous, somewhat very sparsely punctured. Scutellum triangular, longer than broad; surface minutely punctured. *Elytra* about 2.2 times as long as broad, each furnished with three distinct costae; disc covered with finely deep punctured throughout; subparallel to near apex; apex sub-truncate without toothed; sutural end angled without toothed. *Ventral surfaces* with finely punctured for most parts, very sparsely on abdominal sternites. *Legs* fairly, stout; fore and mid femur slightly swollen; hind tibia slightly flattened, gradually broadened to apex, slightly sinuate; hind tarsal segment 1 shorter than segment 2 and segment 3 united and last longest.

Distribution: Thailand and Laos.

Material examined: Thailand: Chiang Mai Prov.: Fang, 6.07.2005(1♂, 4♀), Samoeng, 20.01.2002(1♂), 2.09.2003(1♀), Doi Saket, 5.07.2005(1♂, 1♀), Mae Chaem, 5.09.2004(1♂), Doi Sutep, 2.05.2005(1♀), Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♂), 23.08.2003(1♀), 17.03.2005(2♂, 3♀), Phayao Prov.: Chiang Kham, 13.05.2002(1♂).

Remark: This species is very distinct characters of head is pitchy black; antennae are blackish brown; prothorax is orangey which is tinged with pitchy black at basal and apical collars; elytra are pitchy black and furnished with two broad transverse orange bands. Specimens were collected in late winter, mid summer and rainy seasons.

Perissus mutabilis Gahan, 1894

Figures 24K, 91C-D

Perissus mutabilis Gahan, 1894, *Ann. Mus. Civ. Genova* 34: 23 (Burma; GENOVA); 1906, *Fauna India, Col.* 1: 256.-Duffy, 1968, *Imm. Stages Or. T. Beetles*, 202.

Description: Body length 8-14 mm and breadth 2-4 mm; head and prothorax varies in colour from ferruginous red to black, faintly covered with grayish pubescence; pronotum furnished with a transverse subnude space on the middle of the disc, the basal margin on each white; scutellum white; elytra dull velvety black, banded with ashy and grey pubescence; the first band begins at the suture just behind the scutellum, passes obliquely backwards, then diverges from the suture, and turns almost transversely towards the outer margin, nearly reaches; the second transverse or slightly arcuate band of an ashy-white colour, crosses at about the middle and gradually widens towards the suture; the third transverse band of a darker grey colour, covers a little more than the apical 1/5 of the elytra. Ventral surfaces with the first two abdominal segments and two bands on each side of the breast, one longitudinal

the other oblique, ashy white; the hinder segments of the abdomen covered with dark grey pubescence.

Head minutely granulose, not raised between the antennae, the front regularly rounded off above as to form a continuous curve with the vertex. The antennae extend some distance beyond the middle of the elytra in the male, not to the middle in female; apical joints slightly thickened in female. *Pronotum* about as broad as elytra, closely and rugulose-punctured; disc evenly and moderately convex; evenly swollen sides. Scutellum hemi-circular. *Elytra* punctured throughout, subparallel and gradually narrow to near apex, subtruncate apex; the outer angles without toothed; sutural end angles with toothed; slightly dehiscent. *Ventral surfaces* finely punctured. *Legs* fairly long and slender; the hind femora extend past the apex of the elytra by about 1/4 of length in the female.

Distribution: India, Myanmar, Thailand, Cambodia, Indonesia and Laos.

Material examined: Thailand: Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♂), 23.08.2003(1♂, 1♀); Lamphun Prov.: Mae Tha, 7.04.2002(1♂), 19.11.2004(1♀).

Remark: This species is very distinct characters of head and pronotum are varies in colour from ferruginous red to black; pronotum is furnished with a transverse subnude space on the middle; elytra are dull velvety black and furnished with ashy and grey pubescence bands. Specimens were collected from late summer, early and continued to mid rainy, and early winter seasons.

Phydexia concinna Pascoe, 1871

Figure 24L

Phydexia concinna Pascoe, 1871, *Ann. Mag. Nat. Hist.* ser 4, 8: 373, pl.13, fig. 2 (Assam; BMNH).

Description: *Body* length 14-15 mm and breadth 4 mm, pitchy black to steel-blue; head pitchy black, very sparsely long blackish erect hairs; antennae reddish brown; segment 2 with a long narrow tuft of hairs on one side; segment 3 with a similar tuft at the apex; segments 4-6 almost completely surrounded with brushes of black hair; pronotum pitchy black, sparsely long blackish erect hairs; scutellum black, covered with reddish brown pubescence; elytra steel-blue to violet, very sparsely long blackish erect hairs; ventral surfaces pitchy black, covered with long silvery erect hairs; legs reddish, furnished above and below with some sparsely scattered long erect hairs.

Head about as broad as prothorax, closely punctured above between and around the eyes, less closely on hinder part; a narrow and shallow groove running from frons to vertex; antennal tubercles slightly massive. Antennae shorter than body; segment 1 minutely punctured, rounded apex; segment 3 distinctly shorter than segment 1; segment 4 longer than segment 3; segment 5 shorter than segment 4; segments 5-11 decreasing in length. *Pronotum* narrower than elytra, strongly and very closely punctured, except on the thickened front edge of the anterior transverse groove; unevenly swollen sides. *Elytra* less strongly and less closely punctured, subparallel to near apex, rounded apex; sutural angles without toothed. *Ventral surfaces* distinctly but not closely punctured; episterna of metathorax marked each with a small and deep pit near hinder end. *Legs* fairly long; femora gradually swollen from middle to apex; hind tarsal segment 1 as long as segment 2 and segment 3 combined and last.

Distribution: Himalayas, Assam, N. Myanmar, Laos and Thailand (new record).

Material examined: Thailand: Phrae Prov.: Wang Chin, 20.05.1990(1♀).

Remark: This species is very distinct characters of body is pitchy black to steel-blue; antennae are reddish brown; 2nd antennal segment is furnished with a long narrow tuft of hairs on one side; antennal segment 3 is furnished with a similar tuft at

the apex; 4th-6th antennal segments are covered almost completely surrounded with brushes of black hair; elytra are steel-blue to violet. The only one specimen was collected in early rainy season.

Polyphida metallica (Nonfried, 1893)

Figures 32G-H, 94A-B

Clytus metallicus Nonfried, 1893, *Berl. Ent. Zs.* 38: 338 (Manipur; Berlin).

Polyphida feae Gahan, 1894, *Ann. Mus. Civ. Genova* 34: 29, pl. 1, fig. 8
(Burma; GENOVA).

Polyphida metallica: Gahan, 1906, *Fauna India, Col.* 1: 321.

Description: *Body* length 12 mm and breadth 3 mm, black; head covered silky pubescence somewhat golden tint above, silvery beneath; antennal segments 1-6 black; segments 7-8 brown; segments 9-11 dark reddish brown; disc faintly covered with grey pubescence; prothorax covered with densely silky pubescence; scutellum covered with silvery pubescence; elytra metallic, covered for the most part with golden pubescence, each with a short, glabrous, chalybeate-blue band that runs back a short distance from the shoulder, and two transverse and slightly oblique bands of the same kind placed one just before, the other behind the middle; ventral surfaces pitchy black, covered with silvery pubescence; legs dark reddish brown except apical of hind femur which is red, faintly covered with grey pubescence.

Head as broad as prothorax at basal margin; a feebly impressed, median, black line along the front, a few sparsely punctured on the vertex; front distinctly narrowed between the eyes, more in the male than in the female. Antennae longer than body in male, about equal in length to the body in the female, exceeding by the last two or three joints in the male; segment 1 with a median longitudinal carina in front.

Pronotum narrower than elytra, about one-third longer than broad, subcylindrical, slightly constricted between the middle and apex; disc unevenly convex, depressed

near each basal angle and near each apical angle. *Elytra* subseriately and rather strongly punctured, the punctures move distinct on the glabrous bands; each truncate at the apex, feebly dentate at the angles. *Ventral surfaces* finely punctured, mostly hidden by pubescence. *Legs* fairly long; hind tarsal segment 1 as long as segment 2 and segment 3 united, as long as last.

Distribution: N. India, Myanmar, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 2.07.1994(1♂, 2♀), Phrae Prov.: Wang Chin, 10.12.2005(1♀).

Remark: This species is very distinct characters of elytra are metallic and covered for the most part with golden pubescence; each elytron is furnished with a short, glabrous and chalybeate-blue band that runs back a short distance from the shoulder, and two transverse and slightly oblique bands of the same kind placed one are just before and the other are behind the middle. Specimens were collected in mid rainy and winter seasons.

Polyzonus flavocinctus Gahan, 1894

Figures 33A, 93A-B

Polyzonus flavocinctus Gahan, 1894, *Ann. Mus. Civ. Genova* 34: 17

(Burma; GENOVA); 1906, *Fauna India*, Col. 1: 216.

Description: *Body* length 21-22 mm and breadth 4-5 mm, metallic green; head very sparsely golden hairs; antennae dark reddish brown, covered with metallic greenish bronze pubescence; pronotum furnished with metallic reddish brown hairs; scutellum metallic greenish bronze; elytra metallic greenish blue, furnished with two rather transverse and narrow yellow bands placed at about 1/4 from the base and the other about 1/3 from the apex, the parts of the elytra that border on the bands violaceous black; ventral surfaces covered with golden brown pubescence; legs covered with metallic greenish bronze hairs.

Head narrower than prothorax, rugulose-punctate throughout except frons which is rugose; antennal tubercles massive and slightly raised. Antennae slightly longer than body in male, slightly shorter than body in female; segment 1 stout, slightly curved, marked in front near the base with a broad shallow pit, edges slightly raised; segments 6-10 feebly angulate at the apex on the anterior side and scarcely broader than segment 5. *Pronotum* distinctly longer than broad, densely rugulose-punctate; armed with a rather sharp conical tubercle at each side; rugulose along sides. Scutellum sulcate and smooth along the middle, very finely punctulate at the sides. *Elytra* slightly broader than prothorax, gradually narrowed from the shoulders, obtusely rounded at the apex, finely and very densely punctulate, faintly covered with pubescence, for the most part opaque. *Ventral surfaces* finely punctured. *Legs* fairly long; femora dark blue, densely punctulate; the hind pair reach nearly to the apex of the elytra; hind tarsal segment 1 slightly longer than the next two united.

Distribution: Myanmar, Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 16.10.2005(1♂).

Remark: The species differs from *P. watosoni* in having lateral lobes of male genitalia of *P. flavocinctus* are broader and slender than *P. watosoni*. sclerotized pieces of *P. flavocinctus* are short, narrow and curved meanwhile *P. watosoni* are irregular and broad, and different of internal sac of two species. The only one specimen was collected in late rainy season.

Polyzonus saigonensis Bates, 1879

Figure 33B

Polyzonus saigonensis Bates, 1879, *Cist. Ent.* 2: 413 (Saigon; BMNH); 1906, *Fauna India*, Col. 1: 214.

Polyzonus saigonensis var. *semiviridis* Pic, 1946, *Echange* 62: 14

(Cochin-China; PARIS).

Description: *Body* length 18-20 mm and breadth 4-5 mm, dark metallic blue; the elytra with two very broad, transverse yellow bands placed, placed, one a little before, the other just behind, the middle, the intervening space usually much narrower than either of the bands.

Head very densely rugulose-punctate and very slightly nitid. Antennae black, the male slightly longer than body, the female slightly shorter than the body; segment 1 stout, slightly curved, marked in front near the base with a broad and shallow pit, the edges of which are slightly raised; segments 6-10 feebly angulate at the apex on the anterior side and scarcely broader than segment 5. *Pronotum* distinctly longer than width across the middle; armed with a rather sharp conical tubercle at each side; more or less intricately rugulose above over surface as well as at the sides; the disc gradually raised posteriorly, and the basal depression correspondingly abrupt and deep. Scutellum sulcate and smooth along the middle, very finely punctulate at the sides. *Elytra* gradually narrowed from the shoulders, obtusely rounded at the apex, finely and very densely punctulate, faintly covered with pubescence, for the most part opaque. *Ventral surfaces* blue, covered with silvery-grey pubescence; abdominal segment 5 of the male sinuate at the apex; abdominal segment 6 short, and more deeply sinuate at the apex; abdominal segment 5 of female obtuse at the apex, with a very feeble emargination in the middle. *Legs*: Femora dark blue, densely punctulate; the hind pair reach nearly to the apex of the elytra in both sexes. First joint of the hind tarsus slightly longer than the next two united.

Distribution: S. Vietnam, Myanmar, Malaysia, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Sutep, 2.05.2005(1♀), Mae Chaem, 7.04.2005(1♂), 1.03.2006(1♀), Fang, 22.09.2006(1♂), Samoeng, 2.02.2006(1♂), Doi Inthanon, 15.08.2006(1♀), Mae Hong Son Prov.: Khun Yuam, 19.11.2005(1♀), Tak Prov.: Phop Phra, 5.09.2005(1♂).

Remark: The species differs from *P. watosoni* in having pronotum is more or less intricately rugulose above over its whole surface as well as at the sides. Specimens were collected form summer, rainy and continued to early winter seasons.

Polyzonus subotusus Pic, 1932

Figures 33D-E, 93E-F

Polyzonus subotusus Pic, 1932, *Mel. Exot.-Ent.* 60: 22 (Tonkin; PARIS).

Description: *Body* length 16.5-20.5 mm and breadth 3.5-4 mm, bright golden with tinges pale reddish bronze with two yellowish orange bands extending transversely but not reaching suture, anterior band projecting forward interiorly; posterior band projecting slightly backward; head pale reddish bronze with tinges of green, glabrous; labrum and clypeus reddish brown; mandibles dull green and reddish brown apically; gena bright golden green; antennae dark with tinges of green; dark auburn on remainders; prothorax bright golden green with tinges pale reddish bronze, with tinges bronze hairs at apical margin; scutellum bright golden green with tinges pale reddish bronze; elytron bright blue-green to pale reddish bronze for the most parts, dark brown apically; ventral surfaces pale green, covered with silvery green pubescence; legs bright golden green with tinges pale reddish bronze on femur; green brown on tibiae and tarsus, covered with pale green except fore tibia which is reddish brown.

Head slightly narrower than prothorax at lateral tubercles; occiput punctulate; rugose between antennal supports and with narrow concavity distinctly groove medially; frons medially groove on upper portion, moderately rugose with punctures along margin; labrum minute punctulate, sub-rectangular, round at apical; gena punctulate, 2/5 as deep as lower eye-lobe. Antennae slightly longer than body; segment 1 with fairly punctured, rounded at apex; segment about 2 times as long as segment 1; segment 4 about 1.25 times as long as segment 1; segment 4 shorter than segment 3; segments 5-10 gradually decreasing in length; segment 11 as long as segment 8; segments 6-10 slightly toothed ectoapically. *Pronotum* slightly longer

than broad; side with a blunt tubercle near basal; disc covered with striae mostly transverse except on posmedian portion. Scutellum deltoid, sparsely and finely punctulate, feebly depressed except for a median longitudinal groove, slightly raised at sides. *Elytra* subparallel sided at basal 4/5 and smoothly rounded apically, rather roughly granulate at each side of scutellum and granules getting finer and smaller toward each side and apice; sutural slightly dehiscent. *Ventral surfaces* densely finely punctured. *Legs* moderately stout; hind femur not quite reaching to elytral apex, gradually thickened; hind tibia gradually widened to near apex; hind tarsal segment 1 as long as segment 2 and segment 3 united, as long as last.

Distribution: N. Vietnam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 8.03.2002(1♀), Chiang Rai Prov.: Doi Luang, 19.11.2002(1♂), Wiang Pa Pao, 5.06.2002(1♂), Phayao Prov.: Chiang Muan, 6.10.2004(1♀), Phisanulok Prov.: Chat Trakan, 3.05.2005(1♂).

Remark: The species differs from other species of same genus in having elytra are bright golden with tinges pale reddish bronze and furnished with two yellow orange bands extending transverse but not reaching suture; anterior band is projecting forward interiorly; posterior band is projecting slightly backward. Specimens were collected from mid summer, early and late rainy and continued to early winter seasons.

Polyzonus watsoni Gahan, 1906

Figures 33C, 93C-D

Polyzonus watsoni Gahan, 1906, *Fauna India*, Col. 1: 214.

Description: *Body* length 26-27 mm and breadth 7 mm, metallic green; head, prothorax and scutellum nitid; elytra marked each with two rather large fulvous spots, one at somewhat less than 1/3 from the base, the other at about 1/3 from the apex; the

anterior spot oval in shape, nearer to the suture than to the outer margin; the posterior spot more irregular in shape, extends as close to the outer margin as to the suture; the shoulders and a narrow sutural band nitid, the rest of the surface subnitid, in parts somewhat dull.

Head densely rugulose-punctate above; the front finely and rather densely punctulate, marked with a median groove; the clypeus sparsely punctulate, transversely impressed below, marked off from the front by an arcuate groove. *Antennae* reach only to the apical 1/4 of the elytra; bluish black, segment 1 green, densely punctulate; segments 6-10 acutely angulate or subdentate anteriorly at the apex. *Pronotum* swollen in the half of each side of anterior, with a very small obtuse tubercle at the middle, transversely but somewhat irregularly rugulose above, in part rugulose-punctate; the pronotum convex, very densely and rather finely rugulose-punctate. *Scutellum* rugulose. *Elytra* densely and very finely punctulate; the shoulders less densely punctulate, the sutural nitid band subrugulose. *Ventral surfaces* covered with silvery-grey pubescence excepted prosternum; abdominal segment 5 arcuately emarginated at the apex, abdominal segment 6 feebly emarginated, almost truncate at the apex. *Legs*: Femora glabrous, nitid, very densely punctured; the hind pair reach nearly, but not quite, to the apex of the elytra. First joint of the hind tarsus distinctly longer than the next two joints united.

Distribution: Myanmar, China and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Fang, 22.09.2006(1♂).

Remark: The species differs from *P. flavocinctus* in having pronotum is covered with very densely and rather finely rugulose-punctate. The only one specimen was collected in late rainy season.

Prothema aurata Gahan, 1906

Figures 33F-G, 94C-D

Prothema aurata Gahan, 1906, *Fauna India*, Col. 1: 235, fig. 88 (Assam; BMNH).

Description: *Body* length 10.5-12 mm and breadth 2.5-3 mm, black, marked with areas of sulphur green to golden pubescence; head moderately clothed with greenish golden; antennae black, covered with silvery pubescence, with the proximal three or four joints black, the rest brown, all faintly covered with pale grey pubescence; pronotum black, covered with golden yellow pubescence; disc furnished with two longitudinal and glabrous black bands on middle which are densely punctured, a shorter longitudinal and glabrous black band which is densely punctured on each side; scutellum black, covered with golden yellow pubescence; elytra black, covered with golden yellow pubescence, furnished with a longitudinal glabrous and black bands which is densely punctured, running from each humeral angle to 2/3 elytra, then interrupted with transverse and glabrous black band which is densely punctured; a short and glabrous black bands which is densely punctured behind transverse black band, slightly oblique to each side and touching external suture; ventral surfaces black, covered with pale yellowish to silvery pubescence, lacking on middle of metasternum; Legs black, faintly clothed with ashy-grey pubescence, the tarsi more or less brown.

Head 3/4 as long as prothorax, finely granulate to rugulose-punctate, finely grooved medially to depressed area of frons; gena 3/4 as deep as lower eye-lobes. Antenna slightly longer than body; segment 1 stout; segment 3 somewhat longer than segment 1 and segment 2 combined; segment 4 slightly shorter than segment 1; segment 5 about as long as segment 1; segment 6 slightly longer than segment 5; segments 6-10 subequal in length; segment 11 shorter than segment 3; segments 6-11 strongly expanded; segments 6-10 toothed apically. Antennae of the female slightly longer than the body, with the proximal three or four joints black, the rest brown, all faintly covered with pale grey pubescence; joints sixth to tenth rather sharply angulated anteriorly at the apex. *Pronotum* slightly broader than long, distinctly

narrower at apex than at base, constricted just behind apex, broadly and somewhat evenly rounded at side, widest just behind middle and nearly as wide between middle and apex; disc slightly uneven, closely rugose-subvermiculate. Scutellum subequilaterally triangular. *Elytra* 4.6 times as long as broad, very slightly and subevenly narrowed posteriorly; apex narrowed externally and emarginated-truncate; disc closely rugose-punctate. *Ventral surfaces* finely punctured. *Legs* with hind femur more slender than fore and mid femora; hind tibia nearly straight; hind tarsal segment 1 longer than remainder combined.

Distribution: Assam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Saket, 7.07.2003(1♂, 1♀), 5.07.2005(1♂), 1.10.2004(2♀), Fang, 6.07.2005(1♂, 3♀), Chiang Dao, 4.02.2003(1♂, 3♀), 7.08.2005(2♂, 2♀), Samoeng, 20.01.2002(1♀), 3.08.2005(1♂, 2♀), Mae Taeng, 2.06.2004(1♂), 1.10.2005(2♀), Doi Sutep, 2.05.2002(1♂), 9.10.2002(2♀), 5.08.2004(1♂, 1♀), Chiang Rai Prov.: Wiang Pa Pao, 23.08.2003(1♂), 17.03.2005(1♀), Doi Luang, 19.11.2002(1♀), 16.12.2004(2♂), 6.03.2005(1♀), Lampang Prov.: Mae Tha, 7.04.2002(1♂, 1♀), 19.11.2004(2♀), Thoen, 10.12.2005(1♂), Wiang Nua, 18.04.2003(1♀), 11.09.2005(1♂), Mae Hong Son Prov.: Mae Sariang, 2.12.2005(1♂, 1♀), Nakhonsawan Prov.: Tak Fa, 13.03.2005(1♂, 2♀), Phichit Prov.: Taphan Hin, 10.10.2004(1♂, 1♀), Phrae Prov.: Wang Chin, 6.08.2004(1♂), Tak Prov.: Tha Song Yang, 6.08.2003(1♂, 1♀), 2.02.2006(1♂), Uttaradit Prov.: Ban Khok, 15.05.2005(1♀), Utthai Thani Prov.: Lan Sak, 25.07.2007(1♂, 1♀).

Remark: This species differs from *P. laosensis* and *P. cakli* in having pronotum and elytra are furnished with difference black marks. Specimens were collected throughout the year.

Prothema cakli Heyrovský, 1967

Figure 33J

Prothema cakli Heyrovský, 1967. *Beitr. Ent.*, 17(3/4): 573-621.

Prothema similes Gressitt et Rondon, 1970,- Gressitt & Rondon, 1970,
Pac. Ins. Monogr., 24: 178.

Description: *Body* length 14 mm and breadth 4.4 mm, black, in part marked with golden pubescence; head very thinly clothed with a little pubescence between upper and lower eye-lobe; antennae thinly clothed with gray-buff pubescence; pronotum furnished with a median stripe commencing about center, a sublateral stripe and an area on middle of side, covered with densely golden pubescence; scutellum enter, a sublateral stripe and an area on middle of side, of densely golden pubescence; scutellum entirely pubescent; elytron with a sinuous band commencing on base beside humerus, extending almost to suture and then cirving transversely outward at end of basal 1/3, another subtransverse band just behind middle extending posteriorly to apex and along suture and broadening over apical area. Ventral surfaces largely clothed with yellowish to silvery pubescence, lacking on mesepimeron and hind coxa; legs very thinly clothed with gray-buff.

Head nearly as broad as prothorax, granulose to densely punctured; vertex distinctly concave; gena barely 1/2 as deep as lower eye-lobes. Antennae longer than body in male, about as long as body in female; segment 1 with two ridges above, closely punctured; segment 3 as long as segment 1 and segment 2 combined; segment 4 more shorter than segment 1; segment 5 not quite as long as segment 1; segment 6 slightly longer than segment 1; segments 6-10 decreasing very slightly in length, toothed apically; segment 11 not as long as segment 3. *Pronotum* as broad as long, slightly narrower at apex than at base, subevenly rounded at side, widest just behind middle; disc subevenly convex, subreticulate-punctate. *Scutellum* triangular. *Elytra* just over 4 times as long as broad, very slightly narrowed; apex narrowed externally and rounded, very slightly dehiscent just before apex; disc closely reticulate-subrugose.

Ventral surfaces finely punctured. *Legs* slender, femora finely carinate; hind tibia nearly straight; hind tarsal segment 1 slightly longer than remainder combined.

Distribution: Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 5.09.2004(1♀).

Remark: The species differs from *P. laosensis* in having pronotum is furnished with a median stripe commencing about center; a sublateral stripe and an area are on middle of side; elytron is furnished with a sinuous band commencing on base beside humerus which is extending almost to suture and then transverse cirving outward at end of basal 1/3. The only one specimen was collected in late rainy season.

Prothema laosensis Gressitt and Rondon, 1970

Figures 33H-I, 94E-F

Prothema laosensis Gressitt et Rondon, 1970, *Pac. Ins. Monogr.*, 24: 178.

Description: *Body* length 18-19 mm and breadth 3.5-4.5 mm, black, marked with areas of sulphur green to golden pubescence; head moderately clothed with greenish golden pubescence; antenna more thinly clothed; pronotum furnished with narrow median stripe and a broad interrupted lateral area as well as sternum clothed with greenish gold pubescence; scutellum entirely clothed with golden green pubescence; elytron furnished with a curved basal mark starting on humerus and base and extending posterior towards suture, not quite touching, and slightly curved outward and slightly forward at end of basal 1/3; apical sutural stripe commencing with an obliquely transverse band near middle and extending to apex, diverging slightly from suture and broadening before apex, a slender sublongitudinal stripe extending backward from outer end of submedian band; ventral surfaces almost entirely clothed, densest on episterna; legs thinly clothed with more olive colored pubescence.

Head 3/4 as long as prothorax, finely granulate to rugulose-punctate, finely grooved medially to depressed area of frons; gena 3/4 as deep as lower eye-lobes. Antennae slightly longer than body; segment 1 stout; segment 3 somewhat longer than segment 1 and segment 2 united; segment 4 slightly shorter than segment 1; segment 5 about as long as segment 1; segment 6 slightly longer than segment 5; segments 6-10 subequal in length; segment 11 about as long as segment 3; segments 6-11 strongly expanded; segments 6-10 toothed apically. *Pronotum* slightly broader than long, distinctly narrower at apex than at base, constricted just behind apex, broadly and somewhat irregularly rounded at side, widest just behind middle and nearly as wide between middle and apex; disc slightly uneven, closely rugose-subvermiculate. Scutellum subequilaterally triangular. *Elytra* 4.6 times as long as broad, very slightly and subevenly narrowed posteriorly; apex narrowed externally and emarginated-truncate; disc closely rugose-punctate. *Ventral surfaces* finely punctured. *Legs* with hind femur more slender than fore and mid femora; hind tibia nearly straight; hind tarsal segment 1 nearly as long as remainder combined.

Distribution: Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 20.01.2002(1♂), Chiang Rai Prov.: Doi Luang, 19.11.2002(1♀), Kamphaeng Phet Prov.: Khosam Pi Nakhon, 11.04.2003(1♀), Phetchabun Prov.: Nam Nao, 2.04.2002(1♂), Phitsanulok Prov.: Wang Thong, 16.05.2003(1♂), 23.10.2005(1♀).

Remark: The species differs from *P. cakli* in having prothorax is furnished with narrow median stripe and a broad interrupted lateral area as well as sternum which is clothed with greenish gold; elytron is furnished with a curved mark on basal which is starting on humerus and base and then extending posterior towards suture. Specimens were collected from early and late winter, late summer and continued to early, and late rainy seasons.

Purpuricenus malaccensis (Lacordaire, 1869)

Figures 28F-G, 91E-F

Philagathes malaccensis Lacordaire, 1869, *Gen. Col.* 9: 176, note 2
(Malacca; PARIS).

Purpuricenus fasciatus Brongniart, 1891, *Nouv. Arch. Mus. Paris* ser 3, 3: 241, pl.
10, fig. 5 (Indo-China; PARIS).

Purpuricenus malaccensis; Gahan, 1906, *Fauna India*, *Col.* 1: 185.

Description: *Body* length 12-24 mm and breadth 3.5 -8 mm, largely black, mat, furnished with large yellow bands; frons, clypeus and labrum covered with silvery hairs; pronotum pitchy black, tinge with reddish brown hairs on basal margin; scutellum black, mat; elytron black except two broad and transverse yellow bands: 1st on beginning from basal portion, broadened about 1/4 as long as elytron; lower margin of band slightly sinuate; 2nd behind the middle of elytron, broad about 1/4 as long as elytron, upper margin of band slightly sinuate, lower margin with fairly curving; ventral surfaces covered with silvery pubescence; legs dark auburn, scattered reddish brown hairs.

Head narrower than prothorax, roughly punctured on frons; antennal tubercles massive, strongly raised and obtuse; strongly depressed between eye-lobes; a slightly groove running from frons to between eyes. Antennae more longer than body, stout; segment 1 strong depressed on basal, slightly flattened, punctured, scattered dark pitchy brown hairs, apical round; segment 3 longer than segment 1 and segment 2 united, finely punctured, covered with dark pitchy brown hairs; segment 4 shorter than segment 3; segments 4-10 gradually increasing in length; segment 11 longest. *Pronotum* distinctly broader than long, slightly expanded at side, with a fairly sharp tubercles on each side; disc slightly convex, furnished with large and rough puncture band on basal portion, toward from lateral to middle line, strongly concave at the middle of band; smaller rough punctures covered remainder area; basal collar

with slightly ridge, very sparsely punctured. Scutellum triangular. *Elytra* about 2.5 times as long as broad; each elytron furnished with four distinct costae; disc covered with punctures throughout; subparallel to near apex; apex rounded; sutural end angled without toothed; sutural dehiscent. *Ventral surfaces* with finely punctured. *Legs* fairly, stout; femur slightly swollen; tibiae slightly flattened; hind tarsal segment 1 about as long as segment 2 and segment 3 united and last.

Distribution: Assam, Myanmar, Hainan I., Thailand, Malaysia, Sunda Is. and Laos.

Material examined: Thailand: Chiang Mai Prov.: Fang, 6.07.2005(1♂): Mae Chaem, 7.04.2005(1♂): Chiang Dao, 5.09.2002(1♀): Mae Taeng, 8.03.2002(1♂), Lamphang Prov.: Chae Son, 3.09.2003(1♂), Lamphun Prov.: Mae Tha, 7.04.2002(1♀), Nan Prov.: Mae Charim, 15.01.2002(1♀), Phetchabun Prov.: Nam Nao, 15.12.2003(1♀), Phitsanulok Prov.: Wang Thong, 23.10.2005(1♂), Phrae Prov.: Wang Chin, 15.01.2002(1♂).

Remark: This species is very distinct characters of body is largely black and mat which is furnished with large yellow bands; elytra are black except two broad and transverse yellow bands; pronotum is distinctly broader than long and slightly expanded at side; a fairly sharp tubercles is present on each side and a large rough punctures band is placed on basal portion. Specimens were collected from mid and continued to late winter, mid and continued to late summer and mid continued to late rainy seasons.

Pyrestes bicolor Gressitt and Rondon, 1970

Figures 25F-G, 85E-F

Pyrestes bicolor Gressitt et Rondon, 1970, - Gressitt & Rondon, 1970,

Pac. Ins. Monogr., 24: 178.

Description: *Body* length 14 mm and breadth 2.7 mm, black, with elytron bright red except for extreme basal margin, and margin near scutellum abdomen reddish beyond middle of first sternite; body nearly glabrous above, with a few dull hairs on head and a few reddish hairs on apex of elytron; ventral surfaces scattered with very fine hairs, mostly on abdomen; legs covered with very few hairs.

Head barely broader than apex of prothorax, moderately punctured, subgranulose posteriorly, finely grooved between upper eye-lobes and antennal supports; raised and more shiny in middle of frons; gena nearly as long as lower eye-lobes. Antennae reaching to apical 1/6 of elytron, moderately shiny on segments 1-4; segment 1 short, slightly rugose; segment 3 distinctly longer than segment 1; segment 4 about as long as segment 1; segment 5 longer than segment 4, shorter than 3; segments 5-10 decreasing slightly in length; segment 11 as long as segment 5; segments 5-10 strongly expanded and bluntly toothed apically; segment 11 with a preapical toothed. *Pronotum* nearly half again as long as broad, narrower at apex than at base, very weakly and somewhat evenly convex at middle of side, very slightly constricted obliquely between middle and base and slightly collared at apex; disc with strong punctures, partly in transverse rows with interstices forming partial subtransverse ridges; median portion slightly raised longitudinally, particularly at center and also a slightly transverse raised area at same level, former slightly corrugated behind narrow median swelling at center. Scutellum slightly longer than broad, subacute. *Elytra* 5.5 times as long as broad; humeri slightly projecting, narrowed in first quarter, very slightly widened before apex; apical broadly rounded; suture slightly depressed basally; disc furnished with two faint raised lines, strongly rugose punctures on basal quarter, finely punctured to granulose on remainder. *Ventral surfaces* finely punctured. *Legs* short; hind tarsal segment 1 slightly longer than segment 2 and segment 3 united or last.

Distribution: Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 6.07.2003(1♀), 1.10.2005(1♂), Chiang Rai Prov.: Wiang Pa Pao, 17.03.2005(1♀), 23.08.2003(1♂),

2♀), Kamphaeng Phet Prov.: Khlong Lan, 5.12.2005(1♀), Mae Hong Son Prov.: Mae Sariang, 26.08.2007(2♂), 22.07.2004(1♀), 2.12.2005(1♀), Nakhonsawan Prov.: Tak Fa, 13.03.2005(1♂, 2♀), Nan Prov.: Mae Charim, 15.02.2005(1♂), 16.10.2005(1♀), 15.08.2004(1♂), Phetchabun, Nam Nao, 15.07.2007(1♂), Phrae Prov.: Wang Chin, 6.08.2004(1♀), 15.01.2002(1♀), Tak Prov.: Phop Pha, 29.01.2002(1♀).

Remark: The species differs from *P. dohertii* in being prothorax is black color. Specimens were collected throughout the year except early winter and late summer seasons.

Pyrestes dohertii Gahan, 1906

Figure 25E

Pyrestes dohertii Gahan, 1906, *Fauna India*, Col. 1: 229 (Burma; BMNH).

Description: *Body* length 12 mm and breadth 2.5 mm, reddish brown, covered with reddish brown hairs for most parts, except pronotum glabrous; head black; antennae and scutellum black; pronotum bright red; elytra covered with deeply punctured with reddish brown hairs in the bottom of punctures; ventral surfaces most parts black except abdomen, somewhat first abdomen black; legs blackish brown.

Head slightly as broad as apical of prothorax, closely punctured, groove medianly between upper eye-lobe and antennal insertions; sparsely long silvery hairs on antennal tubercles. Antennae reaching to beginning of apical 1/4 of elytron; segment 1 slightly longer than segment 3, densely and roughly punctured; segment 4 shorter than segment 3; segment 5 slightly longer than segment 3; segment 3 more than 2 times as long as breadth at apex; segments 5-11 decreasing slightly in length; segment 11 shorter than segment 5; segments 5-10 expand and flattened with bluntly toothed apically; segment 11 with bluntly apical. *Pronotum* longer than wide, slightly narrower at apex than at base, slightly collared at apex, weakly swollen near middle of side slightly sinuate at sides; disc covered with transverse ridge throughout. Scutellum slightly longer than broad, gradually narrowed from middle to apical,

rounded apically, roughly punctuate. *Elytra* slightly broader than pronotum, about 3.5 times as long as broad, sub-parallel at side and smoothly rounded apically; humerus distinctly raised anteriorly; sutural end angled without toothed. *Ventral surfaces* covered with finely punctulate. *Legs* fairly short with femora moderately swollen.

Distribution: Myanmar, Laos and Thailand (new record).

Material examined: Thailand: Phitsanulok Prov.: Wang Thong, 23.10.2005(1♀).

Remark: The species differs from *P. bicolor* in having prothorax is bright red. The only one specimen was collected in late rainy season.

Rhaphuma aequalis Holzschuh, 1991

Figures 35E-F, 97C-D

Rhaphuma aequalis Holzschuh, 1991, *FBVA Berichte, Schriftenreihe der Forstlichen Bundesversuchsanstalt*. Vol. 51. Wien, Austria. 75 pp., 92 ill.

Description: *Body* length 12.5-13.5 mm and breadth 2-2.5 mm, reddish brown to pitchy, covered with yellowish to grayish green pubescence; head black covered with yellowish sulphur pubescence; antennae reddish brown covered with grayish pubescence; pronotum black, covered with yellowish green pubescence, furnished with a fairly black suboblong band at each side of the middle line. Scutellum pitchy with yellowish pubescence; elytra reddish brown, furnished with yellowish pubescence except dark brown marking for following: A humeral stripe extending to end of basal third, joining a marginal stripe at each end and also continuing transversely on to disc and then forward back almost to scutellum; a suboblong transverse mark at each just behind middle not reaching suture; a slightly suboblong transverse mark at each on beginning of apical 1/3, not reaching suture; ventral surfaces dark brown with silver yellow pubescence; legs reddish brown thinly clothed with yellowish green except on distal portion of hind femur and distal portion of hind femur which are glabrous.

Head slightly narrower than prothorax, finely punctured; gena not quite as deep as lower eye-lobes; a shallow groove running from frons to vertex; antennal tubercles massive and acutely raised. Antennae slightly shorter than body length; segment 1 subcylindrical; segment 3 longer than segment 1 and segment 2 united, distinctly longer than segment 4; segment 5 as long as segment 3; segments 5-11 slightly decreasing gradually in length; disc covered with finely punctured most parts hidden by pubescence. *Pronotum* longer than broad, slightly broader at base than at apex, weakly convex at side; disc somewhat longitudinally raised, granulate-vermiculate. Scutellum rounded-subtriangular. *Elytra* about 5.7 times as long as broad, slightly narrowed posteriorly; apex narrowed externally, subtruncate and slightly toothed at outer corner; sutural end angled without toothed. *Ventral surfaces* in part slightly granulate. *Legs* slender; hind tibia slightly sinuate; hind tarsal segment 1 about 1.5 times as long as remainder combined.

Distribution: Thailand.

Material examined: Thailand: Chaing Mai Prov.: Chiang Dao, 4.02.2003(2♂), 7.08.2005(1♂), 18.04.2004(1♂), Samoeng, 2.02.2006(1♀), Kamphaeng Phet Prov.: Khong Lan, 10.01.2002(1♀, 1♂), Lampang Prov.: Chae Son, 8.07.2004(2♀): Thoen, 10.12.2005(1♂), 2.03.2004(1♀), Nan Prov.: Mae Charim, 15.02.2005(1♂), Phayao Prov.: Chiang Kham, 9.01.2004(1♂), Phitsanulok Prov.: Chat Trakan, 5.10.2004(1♂): Wang Thong, 5.01.2002(1♂), Phrae Prov.: Wang Chin, 6.08.2004(1♂), Sukhothai Prov.: Khiri Mat, 25.10.2004(1♂).

Remark: The species differs from *R. indifferens* in having lateral lobes of parameres are moderately long and slightly extended; ringed part is normal; median strut is short; sclerotized pieces are narrow and long; median orifice is short. Specimens were collected throughout the year except early winter and early rainy seasons.

Rhaphuma binhensis Gressitt and Rondon, 1970

Figures 34B, 95A-B

Rhaphuma binhensis Gressitt et Rondon, 1970, - Gressitt & Rondon, 1970,*Pac. Ins. Monogr.*, 24: 178.

Description: *Body* length 12-15 mm and breadth 2-3 mm, black to brownish black, largely clothed with gray to whitish pubescence; head largely blackish, tinged with reddish brown anteriorly, rather closely with pale gray pubescence and a few punctures showing on occiput and beneath eye; antennae dark reddish brown, closely clothed with thin pale gray pubescence; pronotum blackish with olive gray pubescence except for a pair of vague black spots just anterior to center of disc; scutellum blackish with whitish gray pubescence; elytron blackish brown, more brownish posteriorly, with gray pubescence with a somewhat olive to silvery tint, black stripes and bands with the following: A discal stripe barely connecting with suture behind scutellum, a humeral stripe, and a narrow marginal stripe all connecting posteriorly at end of basal 1/4 with a slightly oblique band; a broad band at middle, not reaching suture and about 2 times as broad as gray area between it and preceding; a slightly narrower band, much narrowed to suture, reaches, and situated somewhat closer to preceding black band than to apex; ventral surfaces with whitish gray pubescence, becoming denser and more silvery white on side of basal margin of prothorax and along side becoming denser and more silvery white on side of basal margin of prothorax and along side of hind thorax; legs reddish brown with thin olive gray pubescence.

Head slightly broader than apex of prothorax, with distinct punctures on occiput, a narrow groove on frons, and some punctures below eyes; gena not quite as deep as lower eye-lobes. Antennae not quite as long as body; segment 3 slightly longer than segment 1, distinctly longer than segment 4; segment 5 barely longer than segment 3; segments 5-11 decreasing gradually in length. *Pronotum* distinctly longer than broad, somewhat narrower at apex than at base; latter briefly collared; side subevenly rounded; disc fairly evenly convex, somewhat vermiculate. Scutellum

short and rounded behind. *Elytra* 6 times as long as broad, very slightly narrowed posteriorly; apex distinctly narrowed and obliquely truncate; disc minutely punctured. *Ventral surfaces* finely punctured. *Legs* long and slender; hind tibia slightly thickened distally, nearly straight; hind tarsal segment 1 about 2 times as long as segment 2 and segment 3 united.

Distribution: China, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 2.09.2003(1♂, 1♀), 3.08.2005(1♂), Mae Taeng, 8.03.2002(1♀), 2.06.2004(1♀), Fang, 2.03.2002(1♂), 5.09.2003(1♀), 6.07.2005(1♂, 1♀), Mae Chaem, 6.03.2002(1♂), 5.09.2004(2♀), 15.09.2005(1♂), 1.03.2006(1♀), Doi Saket, 7.07.2003(1♂), 5.07.2005(1♀), Chiang Dao, 4.02.2003(1♂), 18.04.2004(1♀), Doi Sutep, 2.05.2005(1♀), Mae Hong Son Prov.: Mae Sariang, 2.07.2004(1♂, 1♀), 2.12.2005(1♀), Khun Yuam, 1.12.2005(1♂), Phetchabun Prov.: Nam Nao, 2.04.2002(1♂, 1♀), Phitsanulok Prov.: Wang Thong, 16.05.2003(1♀), Tak Prov.: Phob Pha, 5.05.2004(1♂).

Remark: The species differs from other species in same genus in having elytra are blackish brown, more brownish posteriorly and furnished with gray pubescence with a somewhat olive to silvery tint and marked. Specimens were collected in summer, early and continued to mid winter seasons.

Rhaphuma clarina Gressitt and Rondon, 1970

Figures 34D-E, 95C-D

Rhaphuma clarina Gressitt et Rondon, 1970, .- Gressitt & Rondon, 1970, *Pac. Ins. Monogr.*, 24: 178.

Description: *Body* length 13-14.5 mm and breadth 2.5-3.5 mm, pitchy black, extensively clothed with yellowish pubescence above and paler yellow beneath; head clothed with pale yellowish to ochreous yellow pubescence above; antennae pitchy,

basally becoming more reddish apically with very thin pale pubescence; pronotum blackish with close ochreous yellow pubescence, paler on lower margins, with a fairly large black spot on each side of middle; scutellum black with ochreous yellow pubescence; elytron brownish black with ochreous yellow pubescence except for following dark brown marks: A short humeral stripe; discal stripe commencing not far from suture a short distance behind scutellum and extending to beyond end of basal 1/3, very slightly oblique, and meeting an oblique stripe from lateral margin; a slightly oblique band just behind middle, with a very narrow extension forward along suture from its anterior inner corner; another subarcuate-oblique band between preceeding and apex, likewise jointed to external margin but not to suture; ventral surfaces with paler yellowish punescence, thinner and more grayish in part; legs brownish balck with sparse olive gray to dark reddish brown pubescence, latter on apical portion of hind femur and on lower parts of hind tibia.

Head about as broad as apex of prothorax, with a few large punctures on each side of occiput and a fine median raised line on frons; gena about as deep as lower eye-lobe. Antennae 3/4 as long as body, moderately slender; segment 3 slightly longer than segment 1 and segment 2 combined, considerably longer than segment 4 and slightly longer than segment 5; segments 5-10 gradually decreasing in length; segment 11 as long as segment 9. *Pronotum* a little longer than broad, slightly broader at base than at apex, moderately convex at side; disc fairly even, vermiculate-subreticulate. Scutellum subrounded behind. *Elytra* subparallel-sided, very slightly narrowed anterior to middle and slightly widened behind middle; apex narrowed externally and obliquely truncate with outer angle slightly toothed; disc finely punctured. *Ventral surfaces* moderately punctured. *Legs* relatively short; hind tibia slightly sinuate; hind tarsal segment 1 more than 2 times as long as segment 2 and segment 3 united.

Distribution: Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Chiang Dao, 4.02.2003(1♀), Mae Chaem, 5.09.2004(1♂), Samoeng, 2.09.2003(1♀), Doi Saket, 1.10.2004(1♀),

Kamphaeng Phet Prov.: Khlong Lan, 10.01.2002(1♂), 25.08.2003(1♂, 1♀), 5.12.2005(1♀), Lampang Prov.: Chae Son, 8.07.2004(1♂): Thoen, 10.12.2005(1), Nan, Mae Charim, 16.10.2005(1♂), Phetchabun Prov.: Nam Nao, 14.08.2004(1♀), Phitsanulok Prov.: Wang Thong, 23.10.2005(2♀), Chat Trakan, 5.10.2004(1♂), 3.05.2005(1♀), Phrae Prov.: Wang Chin, 15.01.2002(2♂).

Remark: This species is very distinct characters of pronotum is blackish which is covered with close ochreous yellow pubescence; disc is covered with vermiculate-subreticulate and a fairly large black spot is placed on each side of middle; elytra are brownish black with ochreous yellow pubescence except dark brown marks. Specimens were collected from mid and continued to late winter, early summer and rainy seasons.

Rhaphuma diana Gahan, 1906

Figures 34C, 95E-F

Rhaphuma diana Gahan, 1906, *Fauna India*, Col. 1: 271 (Burma; BMNH).

Rhaphuma arromotata Pic, 1923, *Mel. Exot.-Ent.* 39: 10 (Laos; PARIS).

Description: *Body* length 13-14 mm and breadth 2.5-3.5 mm, black, densely covered with yellowish pubescence, ornately marked above with black spots and bands; head black, densely covered with yellowish pubescence; antennae and legs brown, faintly covered with greyish pubescence; pronotum with two short, very closely approximated, slightly curved and longitudinal black bands on the disc and a rounded black spot on each side; the discal bands densely punctuate, united in front for about a third of their length; scutellum black, with densely covered with yellow pubescence; elytra black, densely covered with yellow pubescence; each elytron with three longitudinal bands in front, a short one on the disc transversely united behind to its fellow, a longer one extending back from the shoulder, and a marginal band which extends from the base and joins a transverse spot placed just behind the middle; from the inner end of this spot a fourth longitudinal band extends forwards along the disc,

becomes narrower in front and ends a little behind the posterior end of the anterior discal band; two large marginal spots follow behind, one placed at nearly one-third from the apex, the other close to the apex; ventral surfaces black, covered with pale yellow pubescence; legs reddish brown, covered with pale yellow pubescence.

Head punctured; a narrow and shallow groove running from frons to between eyes. The antennae extend to the middle of the elytra in the female, and to a short distance beyond it in the male; the hind femora extend a little beyond the apex of the elytra in the male, not quite to the apex in the female; segment 1 slightly arched, cylindrical; segment 3 longer than segment 1; segment 4 barely as long as segment 1; segment 5 about as long as segment 4; segment 6 as long as segment 5; segments 6-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* as broad as elytra, closely and roughly punctured; disc evenly convex; evenly swollen sides. Scutellum subtriangle, rounded at tip. *Elytra* 4.3 times as long as broad; gradually narrow from humeri to posteriorly; slightly dehiscent, subobliquely truncate with slightly toothed projecting; sutural end angles with toothed; disc covered with finely punctured most hidden by pubescence. *Ventral surfaces* covered with dense finely punctured largely hidden by pubescence; last ventral segment of female with a broad, deep channel along the middle, the channel gradually narrowed and less deep in front; last ventral segment of male gradually narrowed posteriorly, rounded at apex. *Legs* slender; middle femora carinate in front; first joint of hind tarsi nearly twice as long as the second and third united.

Distribution: Myanmar, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Chiang Dao, 7.08.2005(1♀), Mae Taeng, 6.07.2003(1♀), Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♂, 1♀): Doi Luang, 16.12.2004(2♀), Kampharng Phet Prov.: Khosam Pi Nakhon, 1.12.2005(1♂): Nan Prov.: Mae Charim, 11.06.2002(1♂), Phitsanulok Prov.: Wang Thong, 23.10.2005(1♂), 5.01.2002(1♂).

Remark: This species is very distinct a character of pronotum is furnished with two short longitudinal black bands and a rounded black spot are placed on each side. Specimens were collected form mid and continued to late winter, and rainy seasons.

Rhaphuma elongata Gressitt, 1940

Figure 34A

Rhaphuma elongata Gressitt, 1940. *Philippine Journal of Science. Manila.*
72(1/2):1-239. 8 pl.

Rhaphuma elongata Gressitt et Rondon, 1970, - Gressitt & Rondon, 1970,
Pac. Ins. Monogr., 24: 178.

Description: *Body* length 17.5-18 mm and breadth 3.5-4 mm, black, largely clothed with olive-gray to greenish pubescence; head pitchy black with olive-gray pubescence; antennae pitchy black, clothed with paler gray; pronotum blackish with olive-gray to slightly greenish brown pubescence, somewhat whiter along median line in posterior 1/2, with a fairly large blackish spot on each side of center; scutellum black with dense yellowish white pubescence. Elytron black with fairly dense olive-gray pubescence furnished with blackish marks with following: 1, a narrow and transverse band just behind base, starting behind scutellum and extending out surface and then along posterior margin; 2, longitudinal stripe on disc commencing from 1st band and extending straight backward nearly to end of basal 1/3, then curving externally and broadening considerably, not quite merging with lateral stripe; 3, a rhomboid mark on center nearly reaching suture anteriorly and joining to lateral stripe; 4, a subovate spot at beginning of apical 1/3, almost touching suture and not quite reaching external margin; external margin brown with a broad stripe paralleling it in basal 2/3 except extreme base, narrowly brownish partway to apex; ventral surfaces blackish with silvery gray pubescence, with denser silvery white pubesce on most of mesoepisternum, metaepisternum, hind borders of hind coxa, and apical major portions of most abdominal sternites; legs pitchy, thinly clothed with olive-green to gray pubescence.

Head barely broader than apex of prothorax, moderately punctured between upper eye-lobes and behind eye, finely punctured on frons and gena; gena slightly deeper than lower eye-lobe. Antennae reaching to apical 1/6 of elytron; segment 1 feebly arched; segment 3 slightly longer than segment 1; segment 4 barely as long as segment 1; segment 5 as long as segment 4; segment 6 barely longer than segment 5; segments 6-10 decreasing slightly in length; segment 11 about as long as segment 8. *Pronotum* barely longer than broad, subevenly rounded at side; disc fairly even, slightly obliquely depressed on each side across black spot, slightly raised behind disc and slightly depressed along median line behind middle; surface with fairly distinct punctures, particularly anterior to center, and on side of anterior portion of disc and lower side. Scutellum short, rounded behind. *Elytra* 4.6 times as long as broad, distinctly narrowed behind humeri, then very gradually narrowed posteriorly; apex slightly narrowed externally, slightly dehiscent, subobliquely truncate with toothed slightly projecting; disc minutely punctulate. *Ventral surfaces* with a few visible punctures at side of metasternum. *Legs* fairly long and slender; hind tibia nearly straight; hind tarsal segment 1 about 1/3 again as long as remainder combined.

Distribution: China, Laos and Thailand (new record).

Material examined: Thailand: Phrae Prov.: Wang Chin, 6.08.2004(2♀).

Remark: This species is very distinct a character of body is black and largely clothed with olive-gray to greenish pubescence. Specimens were collected in mid rainy season.

Rhaphuma falx Holzschuh, 1991

Figures 34F, 96A-B

Rhaphuma falx Holzschuh, 1991, *FBVA-BERICHTe*, *Schriftenreihe der Forstlichen Bundesversuchsanstalt*, Wien, Austria. Vol. 51.

Description: *Body* length 12-14 mm and breadth 2-2.5 mm, reddish brown to black, partly clothed with yellowish green pubescence; head largely black, pale on labrum and palpi, reddish brown on anterior margin of gena, covered with pale yellowish pubescence; antennae reddish brown; segments 5-10 anterior part reddish brown and posterior part dark brown, thinly reddish golden pubescence; pronotum black, covered with pale yellowish green, somewhat yellowish brown at each side near basal, sparse pale yellowish hairs, furnished with a fairly black suboval stripe on each side of middle of disc line; a small black spot at each side near black suboval stripe; scutellum hemi-circular, dark brown, covered with yellowish pubescence; elytra brown, covered with yellowish green pubescence except dark brown marking with following: A short humeral spot, a discal stripe bending internally toward suture near scutellum and reaching just beyond 4/5 of elytra and then forward back to external side; a slightly and transversely suboblong mark at each near apex, not reaching suture; segments 5-7 apical part reddish brown and distal part dark brown; segments 8-11 dark brown; segments 1-4 reddish brown; ventral surfaces in large part densely clothed with yellowish white pubescence with a slightly silvery or golden tinge; legs orangy brown, covered with pale yellowish pubescence; sparse long setal reddish hairs on meso-femur.

Head broader than apex of prothorax, not quite as broader as broadest part of prothorax, very narrow groove running from frons to vertex; moderately punctured most parts hidden by yellowish pubescence; antennae about as long as body, slender; segment 1 cylindrical, shorter than segment 2 and segment 3 united, slightly longer than segment 4; segment 5 longer than segment 4; segments 5-11 decreasing slightly. *Pronotum* longer than broad, slightly broader at base than at apex, weakly convex at side; disc somewhat longitudinally raised, granulose-vermiculate. Scutellum small, hemi-circular. *Elytra* slightly narrowed behind humerus, slightly broadened before apex which is narrowed externally and slightly and obliquely truncate and strongly toothed at outer corner; sutural end angled with very strongly toothed; disc finely punctured. *Ventral surfaces* with densely and finely punctured largely hidden by pubescence. *Legs* fairly long, slender.

Distribution: Thailand.

Material examined: Thailand: Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♂), 17.03.2005(1♀).

Remark: This species is very distinct characters of body is reddish brown to black; antennae are reddish brown; pronotum is black covered with pale yellowish green; elytra are brown and covered with yellowish green pubescence except dark brown marking; elytral apices are slightly oblique truncation and furnished with a strong dentation at outer corners; sutural end angled are furnished with very strongly toothed. Specimens were collected in mid summer and early rainy seasons.

Rhaphuma gilvitaris Holzschuh, 1992

Figures 35G-H, 97E-F

Rhaphuma gilvitaris Holzschuh, 1992, *FBVA Berichte, Schriftenreihe der Forstlichen Bundesversuchsanstalt*. Vol. 69. Wien, Austria. 63 pp., 38 ill.

Description: *Body* length 12.5-14.5 mm and breadth 3-3.5 mm, reddish brown to black, partly clothed with yellowish green pubescence; head largely black brown, pale on labrum and palpi; reddish brown on anterior margin of gena, covered with yellowish pubescence; antennae reddish brown; thinly silvery pubescence; prothorax dark brown, pale anterior margin, covered with yellowish pubescence, a narrowed blackish stripe on each side of median line. Scutellum reddish brown with yellowish pubescence; elytra dark brown with yellowish pubescence except reddish brown markings for following: A moderate dark brown band starting at behind scutellum and running parallel inner suture 1/4 and also continuing transversely on to disc and then forward back almost humeral angles; two large black spots at near the middle line; a short and narrow black stripe at each near a large spot; a narrow suboblong band slightly forward to external side, not touching suture; a moderate spot at each apex; ventral surfaces in large part densely clothed with yellowish white pubescence; legs

dark brown, covered with pale yellowish green except distal part of femora and distal tibiae which are dark brown.

Head broader than apex of prothorax, narrow and short groove at frons; roughly punctured most parts hidden by yellowish pubescence; antennae about as long as body, slender; segment 1 shorter than segment 2 and segment 3 united, longer than segment 4; segment 5 longer than segment 4; segments 5-11 decreasing slightly in length. *Pronotum* longer than broad, slightly broader at base than at apex, weakly convex at side, granulose-vermiculate. *Scutellum* small, hemi-circular, wider than long. *Elytra* gradually narrowed externally to apex, slightly oblique-truncate and moderately toothed at outer angles; sutural end angled with strong toothed; disc finely punctured. *Ventral surfaces* with densely and finely punctured largely hidden by pubescence. *Legs* slender; hind tarsal segment 1 about 1.5 times as long as remainder combined.

Distribution: Thailand

Material examined: Thailand: Chiang Mai Prov.: Chiang Dao, 7.08.2005(2♀), 5.09.2002(1♀), 18.04.2004(1♀): Doi Sutep, 2.05.2005(1♀): Mae Taeng, 2.06.2004(1♀): Mae Chaem, 7.04.2005(1♀): Chiang Dao, 5.09.2002(1♀), Mae Hong Son Prov.: Khum Yuam, 20.06.2004(1♀), Nan Prov.: Mae Charim, 16.10.2005(1♂), Phayao Prov.: Chiang Kham, 1.12.2005(1♀), Phitsanulok Prov.: Wang Thong, 5.01.2002(1♂), Tak Prov.: Phop Phra, 5.09.2005(1♀), 5.05.2004(1♀).

Remark: The species differs from *R. indifferens* and *R. aequalis* in having pronotum is furnished with a narrowed blackish stripe on each side of median line. Specimens were collected throughout the year except early winter, early and continued to mid summer seasons.

Rhaphuma horsfieldi (White, 1855)

Figure 34G

Clytus horsfieldi White, 1855, *Cat. Col. Brit. Mus.* 8: 284 (Java; BMNH).

Rhaphuma horsfieldi: Gahan, 1906, *Fauna India, Col.* 1: 272.-Gressitt, 1951, *Longicornia* 2: 290.-Duffy, 1968, *Imm. Stages Or. T. Beetles*, 214.

Rhaphuma horsfieldi var. *laosensis* Pic, 1923, *Mel. Exot.-Ent.* 39: 9 (Laos; PARIS).

Description: *Body* length 10-15 mm and breadth 2-3 mm, moderately broad, elongate, black, densely covered with yellowish pubescence, somewhat paler in colour on the body beneath; head and scutellum black, densely covered with yellowish pubescence; antennae reddish, covered with reddish brown hairs; pronotum furnished with marked above with two longitudinal and narrow slightly curved dark brown bands that extend from near the base to a little in front of the middle and a small dark brown spot at each side; elytra black for most parts except anterior margin which is brown; disc furnished with marked each with two longitudinal and narrow dark brown bands that extend to a short distance beyond the middle and are united at their posterior end by a narrow transverse band of the same colour, the inner band at a short distance from the suture and not extended quite to the base in front, the outer band passes over the shoulder right up to the base; a narrow and circumflex dark brown band followed by a small spot between these bands and the apex; antennae and legs testaceous; ventral surfaces black, covered with pale yellow pubescence; legs reddish, covered with yellowish pubescence.

Head slightly narrower than prothorax, punctured; frons slightly broader below; gena about as deep as lower eye-lobe. Antennae reach nearly to the apex of the elytra in the male, to the apical 1/4 in the female; segment 3 and a few of the following joints setose posteriorly at the apex, segment 3 much longer than segment 1; segment 1 weakly arched, punctured; segment 3 longer than segment 1, without toothed at apex; segment 4 about shorter than segment 1, without toothed; segment 5

slightly shorter than segment 3, shorter than segment 6; segments 6-11 decreasing in length. *Pronotum* 1/5 longer than broad, slightly narrower at apex than at base, evenly convex at side, widest just behind middle, subcylindrical; disc evenly swollen, moderately punctured. *Scutellum* subtriangular, rounded at tip. *Elytra* 4 times as long as broad, somewhat gradually narrowed to near apex; apex slightly more narrowed, subobliquely truncate with angles strongly toothed projecting; sutural end angles with moderately toothed; disc minutely granulose-punctate. *Ventral surfaces* minutely punctured. *Legs* fairly long, slender; hind femora extended past the apex of the elytra. First joint of hind tarsi twice as long as the next two joints united.

Distribution: Java, Myanmar, NE India, N. Vietnam, SW China, Laos and Thailand.

Material examined: Thailand: Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♂): Tak Prov.: Umphang, 30.06.2007(1♀).

Remark: This species is very distinct characters of pronotum is furnished with two narrow longitudinal dark brown bands; elytra are furnished with two narrow transvers dark brown bands on apical portion; legs are reddish and covered with yellowish pubescence. Specimens were collected in early rainy season.

Rhaphuma indifferens Holzschuh, 1992

Figures 35C-D, 97A-B

Rhaphuma indifferens Holzschuh, 1992, *FBVA Berichte, Schriftenreihe der Forstlichen Bundesversuchsanstalt*. Vol. 69. Wien, Austria. 63 pp., 81 ill.

Description: *Body* length 14-15 mm and breadth 2-2.5 mm, reddish brown to black, partly band running clothed with pale yellowish pubescence; head largely reddish brown, pale on labrum and palpi, reddish brown on anterior margin of gena, covered with pale yellowish pubescence; prothorax dark brown, covered with pale yellowish pubescence, furnished with two small black spots at the middle line.

Scutellum dark brown, covered with pale yellowish pubescence; elytra dark brown, covered with pale yellowish pubescence, furnished with a small suboblong bands at each side near the middle, a moderate and transvers black band at each side in the middle, not touching suture, a moderate and black band running forward at each side near apex but not touching suture; ventral surfaces in large part densely clothed with yellowish white pubescence; legs dark brown with pale yellowish pubescence.

Head slightly broader than apex of prothorax, a median groove running from frons and then narrowed on vertex, weakly near basal margin, roughly punctured on vertex, finely punctured on frons; antennae about 0.75 times as long as elytra, slender; segment 1 shorter than segment 2 and segment 3 united, longer than segment 4; segment 5 longer than segment 4; segments 6-9 each as long as segment 5; segments 10-11 each shorter than segment 5; segment 10 as long as segment 11. *Pronotum* longer than broad, slightly broader at than at apex, weakly convex at side; disc somewhat longitudinally raised, granulose-vermiculate. Scutellum small, subtriangular. *Elytra* slightly narrowed behind humerus, very slightly broadened before apex which is narrowed externally, truncate and slightly toothed at outer corner; sutural end angled with slightly toothed. *Ventral surfaces* with densely and finely punctured largely hidden by pubescence. *Legs* slender; hind tarsal segment 1 about 1.5 times as long as remainder combined.

Distribution: Thailand

Material examined: Thailand: Chiang Mai Prov.: Doi Saket, 5.07.2005(1♀), Chiang Rai Prov.: Khun Chae, 15.07.2003(1♂), Nan Prov.: Mae Charim, 6.03.2002(1♀), Phrae Prov.: Wang Chin, 6.08.2004(1♂).

Remark: The species differs from *R. aequalis* in having lateral lobes of parameres are long and slender; ringed part is strongly extended at lower part; median strut is long; sclerotized piece are broader than *R. aequalis*. Specimens were collected in mid summer and rainy seasons.

Rhaphuma mekong Gressitt and Rondon, 1970

Figures 34H-I, 96C-D

Rhaphuma mekong Gressitt et Rondon, 1970,- Gressitt & Rondon, 1970,
Pac. Ins. Monogr., 24: 178.

Description: *Body* length 12-13 mm and breadth 2-2.5 mm, black, largely clothed with greenish yellow pubescence; head moderately clothed with yellowish green hairs; antennae thinly clothed with more grayish pubescence; pronotum fairly densely clothed with yellowish green pubescence except for a small blackish spot on each side of center; scutellum densely clothed with more yellowish pubescence; elytron moderately clothed with yellowish green pubescence except for three black bands as follows: 1, transverse band at end of basal 1/5, extending forward almost to scutellum from internal end, parallel to suture, and extending forward on to humerus externally; 2, subtransverse band at middle, not quite reaching suture but touching external margin; 3, subrounded spot halfway between preceeding and apex, not quite touching suture but reaching external margin. Ventral surfaces in large part more densely clothed with yellowish white pubescence; legs moderately clothed with yellowish gray pubescence.

Head narrower than pronotum, minutely punctured; frons broader below; gena about as deep as lower eye-lobes. Antennae not quite as long as body; segment 1 weakly arched, minutely punctured; segment 3 slightly longer than segment 1, minutely toothed at apex; segment 4 about as long as segment 1, also minutely toothed; segment 5 as long as segment 3; segments 5-11 decreasing slightly in length. *Pronotum* 1/5 longer than broad, slightly narrower at apex than at base, evenly convex at side, widest just behind middle; disc evenly swollen, moderately punctured. Scutellum semicircular. *Elytra* 6 times as long as broad, somewhat gradually narrowed to near apex; apex slightly more narrowed, subobliquely truncate with angles very slightly projecting; disc minutely granulose-punctate. *Ventral surfaces* minutely punctured. *Legs* moderately stout; tibia fairly straight.

Distribution: Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Doi Suteh, 1.04.2003(1♂): Chiang Dao, 4.02.2003(1♀), Chiang Rai Prov.: Wiang Pa Pao, 23.08.2003(1♂) Nan Prov.: Mae Charim, 5.08.2004(1♂): Mae Hong Son Prov.: Khun Yuam, 11.02.2003(1♂, 1♀): Phetchabun Prov.: Nam Nao, 2.04.2002(1♀).

Remark: This species has very distinct characters of elytra are moderately clothed with yellowish green pubescence except for three black bands; apex is narrowed and subobliquely truncated. Specimens were collected in early and late summer and mid rainy seasons.

Rhaphuma patkaina Gahan, 1906

Figures 36B, 98A-B

Rhaphuma patkaina Gahan, 1906, *Fauna India*, Col. 1: 272 (Assam; BMNH).

Phaphuma multiinterrupta Pic, 1923, *Mel. Exot.-Ent.* 39: 10 (Laos; PARIS).

Description: *Body* length 11.5-12 mm and breadth 2.5-3 mm, narrow and elongate; head black, densely covered with yellowish pubescence; antennal segment 1 dark reddish brown and remainders pale reddish brown, faintly covered with grayish pubescence; pronotum black, with two approximated, post-median black spots on the disc and a small round median black spot on each side; scutellum dark reddish brown, covered with greenish yellow pubescence; elytra reddish brown, covered with greenish yellow pubescence, furnished with marked each near the base with a short dorsal black vitta, which is joined posteriorly by means of a transverse, slightly curved band to a marginal band which extends back from the base; a black spot at the shoulder, two subelongate black spots at the middle and a transverse and slightly curved black band at 1/3 from the apex; ventral surfaces dark reddish brown, covered with pale yellowish pubescence; legs reddish brown, covered with greenish yellow pubescence.

Head finely punctured; a narrow and deep groove running from frons to vertex. Antennae shorter than body; segment 1 weakly arched, minutely punctured; segment 3 distinctly longer than segment 1, without toothed at apex; segment 4 longer than segment 1, without toothed; segment 5 shorter than segment 3; segments 5-11 decreasing slightly in length. Scutellum subtriangle, rounded at tip. *Pronotum* reticulate-punctate. *Elytra* finely punctured, parallel, slightly narrow to apex, transversely truncate at the apex without toothed; slightly dehiscent; sutural end angles without toothed. *Ventral surfaces* finely punctured largely hidden by pubescence. *Legs* fairly longer; the hind femora reach to the apex of the elytra; middle femoral carinate in front along the distal half.

Distribution: NE India, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 8.03.2002(1♀), 2.06.2004(1♂): Chiang Dao, 5.09.2002(2♀), 4.02.2003(2♂, 1♀), 18.04.2004(2♂): Doi Sutep, 9.10.2002(1♀), 1.04.2003(1♀), 5.08.2004(1♂, 1♀), 2.05.2005(1♂): Fang, 2.03.2002(1♂, 1♀), 6.07.2005(1♂, 2♀); Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♂, 1♀), 23.08.2003(1♂, 3♀): Khun Chae, 15.07.2003(1♂), Kampaeng Phet Prov.: Khosam Pi Nakhon, 11.04.2003(1♀), 1.12.2005(1♂): Khlong Lan, 25.08.2003(1♀), 5.12.2005(1♂), Lampang Prov.: Chae Son, 3.09.2003(1♂): Lamphun Prov.: Mae Tha, 7.04.2002(1♀), Thoen, 2.03.2004(2♂), Phayao Prov.: Chiang Kham, 4.08.2003(1♂, 1♀), 9.01.2004(1♀), Phrae Prov.: Wang Chin, 15.01.2002(1♂), 6.08.2004(1♂), Tak Prov.: Phob Phra, 5.09.2005(1♀).

Remark: This species resembles *R. diana* in body colour and form, and agrees with it in the sculpture of the middle femora, which are carinate in front. Specimens were collected throughout the year except early winter season.

Rhaphuma pseudobinhensis Gressitt and Rondon, 1970

Figures 36A, 96E-F

Rhaphuma pseudobinhensis Gressitt et Rondon, 1970, - Gressitt & Rondon, 1970,

Pac. Ins. Monogr., 24: 178.

Description: *Body* length 10-11 mm and breadth 1.5-2 mm, pitchy brown to reddish brown with bright yellow to gray pubescence; head pitchy with yellow-gray pubescence; antennae reddish brown, partly pitchy basally with golden gray pubescence; pronotum pitchy brown with sulphur yellow pubescence on anterior and basal portions and sides; scutellum pitchy, densely clothed with bright yellow; elytron dark brown with bright yellow pubescence as follows: A vague basal band connecting with a median discal stripe to end of basal 1/6, and an elliptical common sutural spot from shortly behind scutellum to end of basal 1/4, a transverse band just behind disc not quite touching suture and external margin; a band on beginning of apical 1/3, fairly broad at suture and about 1/2 as wide at external margin, oblique and emarginated anteriorly, subtransverse posteriorly; an oblique apical spot about as wide as lateral portion of preceeding; ventral surfaces entirely clothed with pubescence which is partly gray but bright golden yellow on metepisternum, most of metathorax, and obliquely on sides of abdominal sternites 1 and 2; legs reddish brown, darker on femoral clubs, with thin gray to golden pubescence.

Head distinctly broader than apex of prothorax, finely punctured; frontoclypeus slightly broader beneath than above; gena 3/4 as deep as lower eye-lobes. Antennae reaching to apical 1/5 of elytron; segment 1 slightly arched; segment 3 as long as segment 1 and segment 2 united, distinctly longer than segment 4; segment 5 nearly as long as segment 3 and equal to segment 6; segments 6-11 decreasing slightly in length. *Pronotum* 1/5 longer than broad, nearly as broad at apex as at base, weakly convex at side and on disc which is finely granulose to rugose. Scutellum rounded triangular. *Elytra* 6 times as long as broad, slightly narrowed in basal 1/4, then subparallel; apex slightly narrowed and dehiscent, subobliquely truncate with outer angle finely toothed. *Ventral surfaces* smooth. *Legs* moderately slender; hind tibia slightly arched; hind tarsal segment 1 nearly 1/4 again as long as remainder combined.

Distribution: Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Doi Sutep, 5.08.2004(1♂), Mae Chaem, 5.09.2004(1♀), Chiang Dao, 18.04.2004(1♂), 7.08.2005(1♀), Doi Saket, 1.10.2004(1♂), Sukhothai Prov.: Khiri Mat, 25.10.2004(1♂, 1♀).

Remark: The species differs from *R. diana* in having pronotal marks are larger and covered mostly parts of disc. Specimens were collected from late summer, mid and continued to late rainy seasons.

Rhaphuma tricolor Gressitt and Rondon, 1970

Figures 35A-B, 98C-D

Rhaphuma tricolor Gressitt et Rondon, 1970, - Gressitt & Rondon, 1970, *Pac. Ins. Monogr.*, 24: 178.

Description: *Body* length 11.5-12 mm and breadth 2.5-3 mm, pale ochraceous to black, partly clothed with golden yellow or paler pubescence; head black, ochraceous on mouthparts, clothed with pale yellow pubescence; antennae pale ochraceous, very sparsely with pale pubescence; pronotum black, clothed with yellow pubescence except for a large longitudinal black mark on each side of middle of disc and connecting anteriorly with lateral black spot which is elongate, constricted and partly divided in middle; scutellum brown, densely covered with yellow pubescence; elytron pale orangey ochraceous, with a subtriangular black spot on disc behind middle and a larger more rounded preapical spot nearly touching outer margin, remainder largely clothed with pale yellow pubescence except for a large part of basal 2/5 of disc which is subglabrous or clothed with minutely golden hairs; ventral surfaces extensively clothed with pale yellow pubescence, partly lacking on middle of metasternum and on basal portions of abdominal sternites; legs ochraceous except for swollen portion of hind femur which is pitchy black; thinly clothed with pale pubescence.

Head barely broader than apex of prothorax, with a few large punctures on occiput, punctate on apical portion of frons; gena slightly deeper than eye-lobes.

Antennae 3/4 as long as body; segment 3 slightly longer than segment 1 and segment 2 united, considerably longer than segment 4; segment 5 slightly longer than segment 4; segments 5-10 decreasing gradually in length; segment 11 about as long as segment 8. *Pronotum* 1/6 longer than broad, slightly narrower at apex than at base, moderately convex at side; disc fairly strongly raised, slightly grooved postmedially, raised areas rather strongly granulose. Scutellum small, subtransverse behind. *Elytra* slightly narrowed between humerus and middle, very slightly widened preapically; apex narrowed externally and subobliquely truncate; disc minutely punctured. *Ventral surfaces* closely punctured. *Legs* moderately slender; hind tibia very slightly sinuate; 1st hind tarsal segment 2 times as long as segment 2 and segment 3 united.

Distribution: Laos and Thailand (new record).

Material examined: Thailand: Chiang Rai Prov.: Wiang Pa Pao, 2.06.2002(1♂), 23.08.2003(1♂, 1♀), Tak Prov.: Umphang, 30.06.2007(1♂, 2♀).

Remark: This species is very distinct characters of elytra are pale orange ochraceous; legs are ochraceous except for swollen portion of hind femur which is pitchy black. Specimens were collected from early and continued to mid rainy seasons.

Rhytidodera grandis Thomson, 1875

Figures 36D-E, 99A-B

Rhytidodera grandis Thomson, 1865, *Syst. Ceramb.* 576 (Laos; PARIS).

Description: *Body* length 42 mm and breadth 12.5 mm, reddish brown; head, prothorax, tarsi dark auburn; body covered with golden brown pubescence; scutellum reddish brown with short golden brown hairs along margin, glabrous at middle; elytron reddish brown except anterior margin and humeral angles which are dark auburn, furnished with small irregular golden marks scattered on disc; ventral

surfaces clothed with long golden brown pubescence; legs reddish brown, covered with short golden brown pubescence.

Head slightly narrower than apex of prothorax granulose on vertex and neck, moderately raised between eyes; moderately punctured on frons; a deep and median groove running from frons to vertex and weakened near middle of vertex and then disappearing; antennal tubercles massive and obtusely raised. Antennae about 0.75 times as long as body, shiny throughout; segment 1 about as long as segment 3, cylindrical; segment 4 shorter than segment 3; segment 5 longer than segment 3; segment 5 shorter than segment 6; segments 7-11 each about as long as segment 6; segments 3-10 each flattened with apical tooth. *Pronotum* nearly as long as broad, distinctly narrower at apex than at base and distinct collar at apical and basal; side unevenly convex, widest and obtuse somewhat behind middle; disc moderately swollen, with strong vermiculation throughout. Scutellum subtriangular, slightly depressed at the middle. *Elytra* broader than prothorax, parallel sided at basal near apex, slightly obliquely truncate and moderately toothed at outer corner; sutural end angled with strong toothed; disc rather roughly granulate at each side of scutellum and granules getting finer and smaller toward each sides and apices. *Ventral surfaces* covered with finely punctured largely hidden by pubescence. *Legs* short and stout.

Distribution: Laos and Thailand.

Material examined: Thailand: Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(2♀), Mae Hong Son Prov.: Mae Sariang, 22.07.2004(1♂).

Remark: The species differs from *R. integra* in having elytra are parallel sided at basal near apex which are slightly oblique truncation and furnished with moderately toothed at outer corners; sutural end angled are furnished with a strong dentation. Specimens were collected from early and continued to mid rainy seasons.

Rhytidodera integra Kolbe, 1886

Figures 36F, 99C-D

Rhytidodera integra Kolbe, 1886, *Archiv. Naturg.* 52, 1: 237 (China;?BERLIN).-Gahan, 1906, *Fauna India, Col.* 1: 148.-Gressitt, 1942, *Lingnan N. H.S. &**Mus. Spec. Publ.* 1: 25, fig. 16.-Duffy, 1968, *Imm. Stages Or. T. Beetles*, 113.

Description: *Body* length 20-28 mm and breadth 5-7 mm, mostly parts of body dark auburn, covered with yellowish brown hairs; scutellum covered with yellowish brown pubescence; elytron reddish brown except anterior portion which is dark auburn, scattered with small yellowish brown marks; abdominal sternite reddish brown, covered with silvery pubescence; legs clothed with short reddish brown hairs and pale hairs.

Head slightly narrower than apex of prothorax, granulose on neck, moderately raised between eyes; moderately punctured on frons; a deep and median groove running from frons to vertex and weakened near middle of vertex and then disappearing; antennal tubercles massive and obtusely raised. Antennae about 0.75 times as long as body, shiny throughout; segment 1 about as long as segment 3, cylindrical; segment 4 distinctly shorter than segment 3; segment 5 about as long as segment 3; segment 5 slightly longer segment 6; segments 3-4 each gradually swollen to apex; segments 5-10 each flattened and not apical toothed; segments 6-11 about as long as segment 5. *Pronotum* nearly as long as broad, distinctly narrower at apex than at base, distinctly collar at apical and basal; sides unevenly convex, widest and obtuse somewhat behind middle; disc moderately swollen, furnished with longitudinal and strong ridge, depressed at apical and basal margin; strong vermiculation at apical and basal portions. Scutellum hemi-circular. *Elytra* slightly broader than prothorax, parallel sided at basal near apex and smoothly rounded apically, rather roughly granulate at each side of scutellum; sutural end rounded without toothed. *Ventral surfaces* covered with finely punctured largely hidden by pubescence. *Legs* short and stout.

Distribution: Korea, China, Myanmar, Thailand and Laos.

Material examined: Thailand: Chiang Mai Prov.: Doi Saket, 5.07.2005(1♂), 1.12.2005(1♀), Samoeng, 7.04.2004(1♂), 2.02.2006(1♀), Chiang Rai Prov.: Doi Luang, 6.03.2005(1♀), Kamphaeng Phet Prov.: Khlong Lan, 10.01.2002(1♂), Lampang Prov.: Wiang Nua, 18.04.2003(1♀), 11.09.2005(1♂, 1♀), Lamphun Prov.: Mae Tha, 7.04.2002(1♂), Phayao Prov.: Chiang Muan, 6.10.2004(1♂), Phrae Prov.: Wang Chin, 6.08.2004(1♀), 10.12.2005(1♂).

Remark: The species differs from *R. grandis* in having elytra are parallel sided at basal near apex and smoothly rounded apically; sutural end are rounded without toothed. Specimens were collected from summer, mid and continued to late winter seasons.

Rhytidodera mutabilis Holzschuh, 1993

Figure 36G

Rhytidodera mutabilis Holzschuh, 1993, *FBVA Berichte, Schriftenreihe der Forstlichen Bundesversuchsanstalt*, Wien, Austria. Vol. IV.

Description: Body length 29.5-33 mm and breadth 7.5-8.5 mm, reddish brown; body wooly pubescent for most parts; head black covered with dense reddish brown pubescence; pronotum black, covered with dense reddish brown hairs for most parts; antennae covered with reddish brown pubescence; scutellum dark auburn, covered with reddish brown pubescence; elytron reddish brown except anterior portion dark auburn, covered with reddish brown, furnished with a broad and irregular pale brown band behind the middle; ventral surfaces reddish brown except meta-sternum dark auburn, covered with brown pubescence; legs dark auburn, covered with short pale brown pubescence.

Head slightly broader than apex of prothorax, granulose on neck, roughly punctured on frons; a deep and median groove running from frons to vertex; antennal

tubercles massive and obtusely raised. Antennae slightly longer than a half of body, shiny throughout; segment 1 about as long as segment 3, cylindrical, deeply punctured; segment 4 distinctly shorter than segment 3; segment 5 shorter than segment 3; segment 5 about as long as segments 6-10 gradually decreasing in length; segment 11 slightly shorter than segment 5. *Pronotum* nearly as long as broad, distinctly narrower at apex than at base; side unevenly convex, widest and obtuse somewhat behind middle; disc moderately swollen, with strong longitudinal ridge and depressed at apical and basal margin, densely furnished with long reddish brown hairs on the middle; roughly punctured along each lateral sides. Scutellum dark auburn, triangular. *Elytra* broad than pronotum, subparallel sided at base near apex, covered with finely punctured throughout; sutural margin raised preapically; slightly obliquely truncate and slightly toothed at outer corner; sutural end angled with slightly toothed. *Ventral surfaces* covered with dense finely punctured largely hidden by pubescence. *Legs* short and stout.

Distribution: Thailand.

Material examined: Thailand: Chiang Rai Prov.: Wiang Pa Pao, 17.03.2005(1♀).

Remark: The species differs from *R. grandis* in being prothorax is moderately swollen and furnished with longitudinal and strong ridges. The only specimen was collected in mid summer season.

Rosalia decempunctata (Westwood, 1848)

Figures 30A-I, 100A-B

Purpuricenus 10-punctata Westwood, 1848, *Cab. Orient. Ent.*, 59, pl. 29, fig. 2
(Assam: PARIS).

Rosalia decempunctata: Gahan, 1906, *Fauna India*, Col. 1: 179.-Gressitt, 1951, *Longicornia* 2: 214.

Description: *Body* length 20-35 mm and breadth 5-9.5 mm; head black, sometimes with two red spots above; antennae black, covered with blackish pubescence; prothorax and elytra orange, the first with four, or sometimes only three, and the latter with a variable number of black spots; the prosternum red, with the intercoxal part and a triangular spot on each side black; scutellum black, glabrous; ventral surfaces black except prosternum which is orange, covered with reddish brown pubescence; legs black, covered with dark reddish brown hairs.

Head slightly narrower than prothorax, finely punctured; frons deeply depressed, then obtusely raised above clypeus; antennal tubercles massive and obtusely raised; a narrow groove running from frons to vertex. Antennae longer than body, in male extend by their last three joints beyond the apex of the elytra; segment 1 sparsely punctulate; segment 3 slightly longer than segment 4; segments 3-5 each with a blunt spine almost at right angles from the apex, the spine on segment 3 strongest; antenna of female shorter than the body, segments 3-5 dilated, densely pubescent and subspinose at the apex. *Pronotum* globose at the sides in both sexes; the disc with a tubercle on each side in the female, without it in the male; marked with four black spots, two median and two lateral, the anterior median spot, two dorsally placed, one at the middle and the other midway between it and the base, one small lateral spot at about 1/5 from the base, one dorso-lateral between the middle and apex, sometimes a small black spot at the base close to the scutellum; the median dorsal spot is generally present, but any or all of the other spots are liable to disappear. *Ventral surfaces*: Intercoxal processes of prosterna and mesosterna narrow. *Legs*: Femora subclavately thickened below the middle, sparsely punctulate and more or less nitid.

Distribution: Sikkim, Assam, Hainan I., Borneo, Java, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 2.03.2002(1♀), 6.07.2005(1♂), Mae Chaem, 7.04.2005(1♀), 1.03.2006(1♂), Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♀), 23.08.2003(1♂, 1♀), 17.03.2005(1♂), Doi Luang, 19.11.2002(1♀), 6.03.2005(1♂, 1♀), Lampang Prov.: Wiang Nua, 18.04.2003(1♂).

Remark: The species differs from *R. formosa* in elytra are furnished with six black spots. Specimens were collected from mid and continued to late summer, early continued to mid rainy and early winter seasons.

Rosalia formosa (Saunders, 1839)

Figures 31A-D, 100C-D

Cerambyx formosa Saunders, 1839, *Trans. Ent. Soc. Lond.* 2: 178, pl. 16, fig. 4 (E. Indies; BMNH).

Rosalia formosa: Gahan, 1906, *Fauna India*, Col. 1: 180.

Description: *Body* length 21-40 mm and breadth 8-12 mm; head black; pronotum red, with three or four black spots; elytra red, furnished with a broad black band at the base and another behind the middle; two black spots, one dorsal and one lateral, placed obliquely on each between the bands. Ventral surfaces red, with the last ventral segment, the entire of the mesothorax, and the coxal borders of the prothorax and metathorax black.

Head narrower than prothorax, covered with deeply punctured except vertex which is granulated; antennal tubercles massive and obtusely raised; frons deep depression; antennal supports strongly raised internally. Antennae of male extending by more than the last four joints beyond the apex of the elytra; segment 1 nitid, rather sparsely punctulate; segment 3 slightly longer than segment 4; segments 3-5 or 6 armed each with a sharp oblique spine at the apex; antennae of female longer than the body; segments 3-5 spined and densely covered with pubescence the apex. *Pronotum* globose, slightly tuberculate at the sides; disc with four black spots, two median and two lateral, the antero-median spot small and subject to disappear; each of the lateral spots furnished on the position of a small conical tubercle, distinct in the female. *Scutellum* linguiform, smooth, depressed at middle. *Elytra* narrower than prothorax, finely punctured throughout, mostly covered with pubescence, parallel sided at basal 4/5 and smoothly rounded apically; sutural end angled without toothed. *Ventral*

surfaces finely punctured. *Leg*: Femora subclavately thickened below the middle, sparsely and feebly punctulate, and nitid. Intercoxal process of prosternum and mesosternum narrow.

Distribution: Nepal, India, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 2.03.2002(2♀), Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♂, 1♀), 23.08.2003(1♂, 1♀), 7.03.2005(1♀).

Remark: The species differs from *R. decempunctata* in having elytra are red and furnished with a broad black band at the base and another behind the middle. Specimens were collected from mid summer, early and continued to mid rainy seasons.

Rosalia lameerei Brongniart, 1890

Figures 31E-F, 100E-F

Rosalia lameerei Brongniart, 1890, *Ann. Soc. Ent. Fr.* Ser 6, 10 (Bull.): cxxi (Laos; PARIS).-Gahan, 1906, *Fauna India*, Col. 1: 176.-Gressitt, 1951, *Longicornia* 2: 214.

Description: *Body* length 16-28 mm and breadth 4-7 mm, closely covered above with very short pale lavender-blue pubescence, varied with spots and bands of black pubescence; head covered dark reddish brown, furnished with pale lavender-blue on vertex; antennae pale blue, with the first two joints entirely and the rest at the apex black; segments 3-6 tufted with black hairs at the apex; pronotum black, covered with lavender-blue pubescence, furnished with a large subhemicircular blackish band on anterior portion above middle line, a blackish spot on each lateral side; elytra furnished with bands with following: One at the base, the second at one-fourth from base, the third just behind the middle, and the fourth a little before the apex; ventral surfaces for the most part pale blue, with the mesothorax almost wholly black; legs

black, furnished with a pale blue ring or spot on the thickest part; hind tibia dilated and fringed with hairs at the apex; middle and hind tarsi pale blue above.

Head black, sparsely punctate on sides, glabrous and glossy; the front minutely, and the vertex more strongly punctulate; mandibles vary in the male according to the size and development of the individual, in large males rather long and horizontal, furnished each with a strong dorsal ridge and a tooth near the base; in smaller males obliquely inclined as in the female, with the dorsal tooth small or even entirely absent. Antennae longer than the body by the last five joints in the male and the last four in the female; segments 3-6 strongly, and some of the succeeding joints feebly. *Pronotum* rounded at the sides, slightly narrowed towards the base. Scutellum linguiform. *Ventral surfaces* covered with finely punctured throughout. *Legs* black; the femora gradually thickened and subfusiform towards the apex.

Distribution: Laos, Myanmar, Thailand, SW China and Taiwan.

Material examined: Thailand: Chiang Mai Prov.: Fang, 22.09.2006(1♂), Doi Inthanon, 15.08.2006(1♂).

Remark: The species differs from *R. formosa* and *R. decempunctata* in having body is covered with very short pale lavender-blue pubescence. Specimens were collected in mid rainy season.

Scalenus drescheri (Fisher, 1936)

Figures 24E-G, 88E-F

Coloborhombus drescheri Fisher, 1936, *Tijdschr. Ent.* 79: 176 (Java; USNM).

Description: *Body* length 27-42 mm and breadth 6.5-11.5 mm, yellowish brown to black; head dark brown, tinge with reddish brown on clypeus and labrum, covered with golden brown hairs; pronotum dark brown, covered with velvety dark brown pubescence; scutellum black, covered with black hairs; elytron yellowish

brown, somewhat dark brown on basal 1/4, yellowish brown on remainder; ventral surfaces pitchy black, covered with reddish brown pubescence, tinge with silvery hairs on 1st abdominal sternite; legs reddish brown, black on femur, covered with reddish brown to golden brown hairs.

Head narrower than prothorax, covered with finely punctured; strongly raised between eye-lobes; a narrow groove running from frons to vertex; antennal tubercles massive and obtusely raised; frons deep depression; antennal supports strongly raised internally. Antennae longer than a half of body, moderately stout, strongly and acuminate serrate on segments 5-9, acute ectoapically on segment 1; somewhat toothed ectoapically on segments 3-8; segment 2 and segment 3 united longer than segment 1; segment 4 slightly shorter than segment 1; segments 4-8 gradually decreasing in length; segment 9 as long as segment 10; segment 11 longer than segment 10. *Pronotum* about as long as broad; disc slightly convex, with a fairly acute tubercle on each side, constricted at apical and basal. Scutellum triangle, depressed at the middle. *Elytra* about 3.5 times as long as broad, gradually narrowed about 2/3 of elytra and then gradually extended to near apex; rounded apical; sutural very dehiscent; disc with three feeble costae, 1st and 2nd uniting behind middle. *Ventral surfaces* smooth, somewhat with very sparsely punctured. *Legs* moderately; tibiae flattened; femur feebly swollen; hind tibia slightly sinuate, strongly flattened; hind tarsal segment 1 longer than segment 2 and segment 3 united and last.

Distribution: Java, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 5.09.2004(1♂, 1♀): Mae Taeng, 6.07.2003(1♀): Fang, 6.07.2005(1♂), Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♂, 1♀), 23.08.2003(2♀), 17.03.2005(1♂), Doi Luang, 11.11.2002(1♀), Lampang Prov.: Chae Son, 8.07.2004(1♂), Thoen, 2.03.2004(1♂), Wiang Nua, 11.09.2005(1♀), Lamphun Prov.: Mae Tha 19.11.2004(1♂, 1♀), Mae Hong Son Prov.: Mae Sariang, 2.12.2005(1♂): Khun Yuam, 19.11.2005(1♀): Nan Prov.: Mae Charim, 5.08.2004(1♀), Phitsanulok Prov.: Chat Trakan, 3.05.2005(1♂), Phrae Prov.: Wang Chin, 6.08.2004(1♀), 10.12.2005(1♂, 1♀), Tak Prov.: Tha Song

Yang, 2.02.2006(1♂), Phob Pha, 29.01.2002(1♀), Utthai Thani, Lan Sak,
25.07.2007(1♂, 1♀).

Remark: The species differs from *S. hemipterus* in being elytra are cover entire abdomen. Specimens were collected from winter, early and continued to mid summer seasons.

Scalenus hemipterus (Olivier, 1795)

Figures 24H-I, 88C-D

Cerambyx hemipterus Olivier, 1795, *Ent.* 4, 67: 127, pl. 23, fig. 181 (Java).

Stenocorus hemipterus Fabricius, 1901, *Syst. Eleuth.* 2: 310.

Colobus hemipterus: Serville, 1833, *Ann. Soc. Ent. France* 2: 555.

Coloborhombus hemipterus: Thomson, 1864, *Syst. Ceramb.*, 486.-Gressitt, 1951,
Longicornia 2: 190.

Nothopeus hemipterus: Gahan, 1906, *Fauna India, Col.* 1: 203, fig. 78.-Duffy, 1968,
Imm. Stages Or. T. Beetles, 182.

Description: *Body* length 30 mm and breadth 8 mm, black, more or less tinged with violaceous or dark blue; vertex of head, prothorax and elytra covered with black tomentum, which is denser and somewhat velvety in appearance on the pronotum; elytra somewhat variable in colour, in some specimens dark brown passing into dull tawny towards the edges, in other entirely violaceous blue; ventral surfaces rather faintly covered with pubescence which for the most part blackish, but on the sides of the posterior half of the first abdominal segment has a silvery grey luster.

Head narrower than prothorax, finely punctured; a shallow groove running from frons to antennal tubercles; antennal tubercles massive and obtusely raised.

Antennae about equal in length to the body in the male, reaching but little past the apices of the elytra in the female; segment 1 short, punctured, distinctly shorter than segment 3; segments 3-11 decreasing in length; segments 3-10 each with apical toothed. *Pronotum* armed with a small coical tubercle just before the middle of each side, narrowed posteriorly the lateral tubercles, constricted and transversely depressed at the base; the disc a little protuberant on each side just in front of the basal depression. *Elytra* extended a little beyond the hind coxae in the female, and not beyond them in the male, approximate at the suture for less than half their length, then strongly dehiscent, each in its posterior half so as to form a triangle with its inner side strongly oblique and its outer side nearly straight, the apex acute in the female, slightly obtuse in the male. *Ventral surfaces* finely punctured. *Legs* fairly long; hind tibia strongly compressed, widest about the middle, narrowed slightly towards the apex and more strongly towards the base; first joint of the hind tarsus as long as the remaining joints united.

Distribution: N. India, Myanmar, Thailand, Malaysia, Taiwan, Java, Sumatra and Laos.

Material examined: Thailand: Chiang Mai Prov.: Fang, 22.09.2006(1♂, 1♀).

Remark: The species differs from *S. drescheri* in being elytra are short and extended a little beyond the hind coxae in the female, and not beyond them in the male. Specimens were collected in late rainy season.

Sclethrur amoenus (Gory, 1833)

Figure 36C

Clytus amoenus Gory, 1833, *Mag. Zool.* 3, Ins. Pl. 58 (Philippines).

Sclethrur amoenus: Newman, 1842, *Entomologist* 1: 247.

Sclethrur stenocylindrus Fairmaire, 1895, *Ann. Soc. Ent. Belg.* 39: 184

(Tonkin; PARIS).-Gressitt, 1951, *Longicornia* 2: 308.

Description: *Body* length 17 mm and breadth 3 mm, cylindrical; maxillary and labial palpi helvus; entire head black with 2 bluish pubescent dots behind eyes; pronotum black, middle and base of latero-dorsal of pronotum with 2 bluish mark at each side, another bluish spots beside fore coxal cavity; interior half of prosternum fusco-castaneous; antennae castaneous, segment 1 black; scutellum albus; elytra pitchy, 1/4 of base with a very small submedian bluish spots; apical half of elytral disc with 2 transverse and narrow bluish stripes, 5/9 of basal half with tawny bristles, 4/9 apical half with blackish fuscous tomentum; under surfaces fuscous-castaneous; posterior half of pro- and mesosternum with a narrow band of albus pile; ventral of metasternum with golden tawny pile; episternum of metathorax with dense velutinous bluish-albus pubescence; similar pubescence also present on latero-posterior of 1st abdominal segment; femora bright ferrugineous-testaceous; tibiae and tarsus fuscous; apex of tibiae clothed with golden bristles, mid and hind pairs with additional bluish-white pubescence.

Head feebly raised between antennal insertion, impubis except for a few scattered long tawny bristles; inner margin of antennifer strongly ridged; clypeus convex anterior-posteriorly, glabrous; frons same plane as clypeus, oblique, sunken, lateral margin with gena well-defined, anterior with a triangular glabrous raised, carinate medianly to posterior, distantly punctate; gena parallel-sided, constricted below eyes, exserted, as deep as eyes; the latter large, bulging, feebly notched at dorsal; temple goffered; vertex longitudinally puncto-striate with a weak median carina, tomentose; gula with few crescentic striations. Antennae very short, extended a little beyond prothorax; segment 1 glabrous, diameter distinctively bigger than successive segments; segment 3 twice as long as segment 1; segments 5-11 subequal, all a little longer than segment 4; segments 8-11 gradually shorten, the longest about half of segment 4; segment 3 and 4 acutely spine endoapically. *Pronotum* elongated, cylindrical, very much exserted anterior of fore coxae; apex with an annular ring at margin and a broad glabrous annular band behind it; slightly more than 2 times as long as wide; side weakly convex, latero-anterior with a protuberance, sometimes

parallel-sided; pronotum with two glabrous longitudinal stripe side of median, extended to 1/3 from apex, not reaching basal margin at posterior, the bluish mark placed on this stripes; basi-median with a similar glabrous stripe but with few coarse granules, attenuate posteriorly, sometimes stripe abscent and being replaced by subnitid surface; disc coarsely granulate especially on the basal half, area between the granules finely and densely microgranulate; entire surface impubis except few long tawny bristles. Scutellum relatively small, triangular, apex acute. *Elytra* 6.5 times as long as broad, dorsal flat, side and 1/4 of apex strongly convex; apex truncate; 5/8 of basal half coarsely punctate, punctures deep and piliferous; setae very long; 3/8 of apical half densely punctulate, tomentose; 1/8 of apical tip somewhat less punctulate, subglabrous; bluish-white transverse stripe on disc made of few rows of flattened setae; epipleura sinuate. *Ventral surfaces*: Anterior half of prosternum glabrous, posterior half pilose; mesothorax exserted, pilose ventrally, episternum of mesothorax sparsely punctate, subglabrous; metasternum densely punctulate; abdominal sterna subinvestitus, pubescence scarce, finely punctulate, denser on 1st and 2nd basal segments. *Legs*: Fore and mid femora fusiform; hind femora gradually clavate, apical tip constricted, apex barely or not extended beyond elytral apex; all femora glossy, setaceous at ventral; tibiae glossy, setaceous; first hind tarsal segment only little longer than segment 2 and segment 3 united.

Distribution: Singapore, Sumatra, Borneo, Philippines, N. Vietnam, Hainan I., Laos and Thailand.

Material examined: Thailand: Chiang Rai Prov.: Wiang Pa Pao, 23.08.2003(1♀).

Remark: This species is very distinct characters of body is cylindrical; pronotum is black; middle and base of latero-dorsal of pronotum are furnished with 2 bluish marks at each side, another bluish spots beside fore coxal cavity; interior half of prosternum is fusco-castaneous; elytra is pitchy and a very small submedian bluish spots are present on 1/4 of base; 2 transverse and narrow bluish stripes are placed on apical half of elytra; tawny bristles are present on 5/9 of basal half ; 4/9 apical half is

furnished with blackish fuscous tomentum. The only one specimen was collected in mid rainy season.

Stromatium longicorne (Newman, 1842)

Figures 18H-I, 92E-F

Arhopalus longicornis Newman, 1842, *Entomologist* 1:246 (Luzon; BMNH).

Stromatium asperulum White, 1855, *Cat. Col. Brit. Mus.* 8: 300
(Hong Kong; BMNH).

Stromatium longicorne: Gahan, 1906, *Fauna India, Col.* 1: 115.-Gressitt,
1951, *Longicornia* 2: 150.-Duffy, 1968, *Imm. Stages Or. T. Beetles*, 126.

Description: *Body* length 17-25 mm and breadth 5-8 mm, varies from testaceous to dark brown in colour, rather densely covered with grayish-tawny pubescence; head testaceous to dark brown, covered with grayish-tawny pubescence; antennae brown to dark reddish brown, covered with grayish pubescence, furnished with long grayish hairs undersides; prothorax brown to dark brown, rather densely covered with grayish-tawny pubescence; scutellum reddish brown to dark brown, covered with brown hairs; elytra brown to dark brown, rather densely covered with grayish-tawny pubescence; ventral surfaces brown to dark brown, covered with golden brown pubescence; legs brown to dark brown, covered with golden brown pubescence.

Head closely and rugulose-punctured; a deep and median groove running from frons to vertex; antennal tubercles massive and obtusely raised. Antennae nearly twice as long as the body in the male, a little longer than the body in the female; segment 1 closely punctulate, canaliculated anteriorly near the base in the male. *Pronotum* as broad as elytra, densely and strongly punctulate, the punctures more or less hidden by the pubescence; dilated and somewhat rounded at the sides in the male, width across the middle equal to that of the elytra and marked with a large, densely

tomentose depression on each side; more sharply rounded at the sides in the female; the disc with four very feeble obtuse tubercles and a submedian callosity. Scutellum hemi-circular. *Elytra* rounded at the apex, armed each with a sutural spine; the surface rather densely punctured, the punctures more or less covered over by the pubescence, marked with numerous large conspicuous punctures with raised front edges each with a tawny seta. *Ventral surfaces* finely punctured. *Legs* fairly long.

Distribution: Assam, Myanmar, SE Asia, E. Indies, The Philippine, S. China, Hainan, Taiwan, Ryukyu, Bonins, Hong kong, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 7.04.2005(1♀), 1.03.2006(1♂), Chiang Rai Prov.: Doi Lang, 16.12.2004(1♂), Lampang Prov.: Wiang Nua, 11.09.2005(1♂, 1♀), Lamphun Prov.: Mae Tha, 19.11.2004(1♀), Nan Prov.: Mae Charim, 5.08.2004(1♂), Phitsanulok Prov.: Chat Trakan, 3.05.2005(1♀), Sukhothai Prov.: Khiri Mat, 25.10.2004(1♂), Tak Prov.: Phob Pha, 5.08.2004(1♀).

Remark: The species differs from *Gnatholea eburifera* in having elytra are smooth without two pairs of raised whitish bands behind middle; disc is furnished with numerous large conspicuous punctures; lateral sides of prothorax are strongly convex. Specimens were collected throughout the year except early summer and late winter seasons.

Xoanoderma regularis Gahan, 1890

Figures 29E, 101A-B

Xoanoderma regularis Gahan, 1890, *Ann. Mag. Nat. Hist.* ser 6, 5: 52

(N. India; BMNH); 1906, *Fauna India*, Col. 1: 150.-Duffy, 1968, *Imm. Stages Or. T. Beetles*, 118.

Description: *Body* length 17-21 mm and breadth 5-6 mm, fuscous sparsely with tawny pubescence on head; antennae evenly and densely covered with tawny

pubescence; disc of prothorax bare, side and prosternum with dense tawny pubescence; elytra with well-marked longitudinal and narrow stripes of luteous to tawny pubescence near base, extending from humeral angle that combine into wider sutural stripes at middle and 5 diagonally arranged discrete narrow and longitudinal stripes near apex; legs castaneous, with dense luteous pubescence; undersurfaces very pubescent.

Head as long as thorax; gena strongly exerted; labrum, clypeus and frons at same plane; clypeus punctulate with fine bristles along margin; a distinct semicircular sulcus below antennae support, a squarish area of same plane with clypeus in front; antennae insertion feebly raised; upper eye lobes very closely approximate, leaving a groove in between; lower eye lobes very large, extending beyond antennal condyle; gula with a clear transverse groove, convex and raised between lower eye. Antennae slightly longer than body; segment 1 cylindrical, granulo-punctulate, remaining segments punctulate and pubescent; segment 3 and segment 4 feebly thickened at apex; segments 5-10 angulated ectoapically; segment 3 longer than segment 1; segment 4 half as long as segment 3; segment 5 subequal to segment 3; last segment dentated subapically. *Pronotum* trapezoid, apex narrower than base; side unarmed, convex and rugose; pronotum with four longitudinal ridges, two on each side of median followed by two additional undulating ridges and a short carina further to each lateral side; areas between dorsal ridges glabrous, densely covered with pubescence at sides. *Elytra* 5 times as long as broad, parallel, truncated with a sutural spine and cusp at angle, flattened; scrobiculated, with large and deep crateriform puncture $\frac{2}{3}$ from lateral margin, smaller one near base, $\frac{1}{3}$ of apical tip sparsely punctate; punctured area at side resemble honey-comb; pubescence on disc unevenly arranged, resulting 3-4 imperfect longitudinal overlapping stripes near base that combine in the middle of suture, disassociate about $\frac{2}{3}$ from base diagonally towards apex into five discrete narrow longitudinal stripes that reunited at apex; posterior end with a distinct submarginal carina. *Legs*: Fore femur clavate, not so compressed laterally.

Distribution: NE India, Myanmar, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Pahom Pok, 28.10.2006(1♀, 1♂).

Remark: The species differs from *X. striata* and *X. vitticollis* in being elytra are covered with tawny pubescence for mostly area. Specimen were collected in late rainy season.

Xoanodera striata Gressitt and Rondon, 1970

Figures 29F, 101C-D

Xoanodera striata Gressitt et Rondon, 1970, - Gressitt & Rondon, 1970, *Pac. Ins. Monogr.*, 24: 178.

Description: *Body* length 21 mm and breadth 6.5 mm in male, length 30.5-31.5 mm and breadth 9-10 mm in female, pitchy black above; most of elytron reddish; antennae, ventral surfaces and legs reddish ochraceous, in part tinged with pitchy on venter; in part clothed with dense pale tawny pubescence; fairly general on upper part of head except along median line; prothorax furnished with two narrow parallel stripes on each side of disc; elytron in form of a series of longitudinal stripes of moderate length, commencing near middle of base, each next one closer to suture and overlapping in scope, then proceeding from suture anterior to middle, overlapping, toward external margin near apex, with outer most extending around apex and recurving forward beside suture, and also a narrow complete sutural stripe and a few isolated dots; venter entirely covered with silvery buff; antennae and legs with thinner, fairly even tawny buff pubescence.

Head narrower than prothorax, fairly level with a very weak depressed line between eyes and antennal supports; gena 1/4 as lower eye-lobe. Antennae 1/8 longer than body; segment 1 broadened to near apex, subrugose-punctate; segment 3 as long as segment 1, nearly 1/2 again as long as segment 4; segment 5 as long as segment 3; segments 5-10 increasing slightly in length; segment 11 distinctly longer; segments 3-10 flattened and becoming more and more produced and serrate. Female, antennae

not quite as long as body, quite broad; last segment hardly longer than 10. *Pronotum* as long as broad, narrower at apex than at base, constricted near apex, subevenly rounded at side in general outline, but not even; disc with several strongly longitudinal ridges, each slightly irregular, 2 on each side of a median groove anterior to middle and a single median one behind middle; side with irregular vermiculate ridges. *Elytra* 3.4 times as long as broad, gradually narrowed and broadly rounded apically, with a narrow oblique truncation with a fine tooth at each angle; disc very coarsely and deeply subreticulate-punctate on basal 1/2, more posteriorly so externally and corresponding to unstriped area, and much more finely and closely punctured on remainder. *Ventral surfaces* smooth and almost hidden by pubescence. *Legs* moderately stout; hind tarsal segment 1 barely as long as segment 2 and segment 3 united or last.

Distribution: Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 2.02.2006(1♂), Mae Taeng, 1.10.2005(1♀), Uttaradit Prov.: Ban Khok, 15.05.2005(1♀).

Remark: The species differs from *X. vitticollis* in having sutural end angles are furnished with toothed. Specimens were collected in early summer, early and late rainy seasons.

Xoanodera vitticollis Gahan, 1891

Figure 29G

Xoanodera vitticollis Gahan, *Ann. Mag. Nat. Hist.* ser 6, 7: 32 (Borneo; BMNH).

Lajoyeia interrupta Pic, 1933, *Met. Exot.-Ent.* 41: 10 (Cochin; PARIS).

Description: *Body* length 17 mm and breadth 5 mm, dark pitchy brown; head and antennae reddish brown; legs largely reddish brown; body in part clothed with fairly thick tawny buff pubescence, on much of head other than neck and gena; a

finely median line and two median line on each lateral partly merged sublongitudinal lines on pronotal disc, on scutellum, and on elytron in form of a series of longitudinal stripes but continued; a pair of uncontinue stripes commencing near middle of base; a pair of uncontinue stripes commencing behind scutellum; a few isolated dots scattered at apex; ventral surfaces entirely covered with silvery buff; antenna and legs with thinner, fairly even tawny buff pubescence.

Head slightly narrower than prothorax, a deep depression between eyes and antennal supports; vertex granulate; gena 1/4 as deep as lower eye-lobe. Antennae slightly shorter than body; segment 1 broadened to apex, slightly punctured; segment 3 as long as segment 1, about 1.3 times as long as segment 4; segment 5 as long as segment 3; segments 5-11 increasing slightly in length; segments 3-10 flattened and becoming more and more produced and serrate. *Pronotum* as long as broad, narrower at apex than at base, subevenly rounded at side in general outline, but not even; disc covered with subcorrugate throughout. *Elytra* about 3.1 times as long as broad, subparallel and gradually narrow apically, rounded apex without toothed; sutural slightly dehiscent; sutural end angles without toothed; disc covered with deep with deep punctures throughout. *Ventral surfaces* smooth and almost hidden by pubescence. *Legs* moderately stout; hind tarsal segment 1 slightly shorter than segment 2 and segment 3 united, shorter than last.

Distribution: Borneo, S. Vietnam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 7.04.2005(1♀).

Remark: The species differs from *X. striata* in being elytra are subparallel and rounded apex without toothed; sutural end angles are smooth without toothed. The only one specimen was collected in late summer season.

Xylotrechus buqueti (Castelnau and Gory, 1841)

Figure 32A

Clytus buqueti Castelnau et Gory, 1841, *Mon. Gen. Clytus*, 86, pl. 16, fig. 99
(Java; PARIS).

Xylotrechus buqueti; Chevr., 1863, *Mem. Soc. Sci. Liège* 18: 323 (71).-

Gahan, 1906, *Fauna India, Col.* 1: 243.-Gressitt, 1951, *Longicornia* 2: 242.-

Duffy, 1968, *Imm. Stages Or. T. Beetles*, 207.

Description: *Body* length 7-13 mm and breadth 2-4 mm, dark brown; head, prothorax and scutellum covered with grayish or tawny-yellow pubescence; antennae covered with pale reddish brown; pronotum without spot at the sides, the disc with a median band, which is widened and somewhat rounded at the base, narrowed in front, and two large lateral spots, black; tawny-yellow pubescence formed into bands on the elytra, bands arranged as follows: 1st a transverse band at the base; 2nd a short sutural band which begins at a little distance behind the scutellum, at its hind end turns outwards almost at right angles and then passes straight across the elytron to the side; 3rd a short transverse band a little behind the base, which is bent backwards at its outer end and almost touches the sutural band at its inner end; 4th a transverse band at about 1/3 from the apex, this band produced forward in a triangle at the suture and sometimes also angulated behind at the suture; 5th an apical band produced at the suture, with its front border strongly oblique; ventral surfaces with a pubescent white spot on each of the mesothoracic episterna, another near the antero-lateral angles of the metasternum, two spots on each of the metathoracic episterna, and four almost complete bands on the abdomen; legs dark reddish brown, covered with pale yellowish pubescence.

Head punctured; frons strongly raised, furnished with longitudinal and strong ridge running from frons to between eye-lobes and weakly near vertex. Antennae shorter than body; segment 1 punctured, slightly longer than segment 1 and segment 2 united; segment 4 slightly shorter than segment 3; segments 4-11 decreasing in length.

Pronotum punctured; disc evenly convex; evenly and slightly swollen sides; basal distinctly constrict more than apical; basal margin slightly sinuate. Scutellum hemi-circular. *Elytra* closely and rugulose-punctured; subparallel to near apex and gradually oblique to apex; subtruncate apex without toothed; the outer angles with slightly toothed; sutural end angles with slightly toothed; slightly dehiscent.

Ventral surfaces finely punctured for most parts, sparsely on abdominal sternite. *Legs* fairly long; hind tarsal segment 1 distinctly longer than segment 2 and segment 3 united and last.

Distribution: India, Assam, Andamans, Myanmar, Thailand, Java and Laos.

Material examined: Thailand: Chaing Rai Prov.: Doi Luang, 6.03.2005(1♀).

Remark: This species differs from *X. unicarinatus* in having pronotum is covered with grayish or tawny-yellow pubescence without spot at the sides; apex is subtruncated without toothed; the outer angles are furnished with slightly toothed. The only specimen was collected in mid summer season.

Xylotrechus chinensis (Chevrolat, 1852)

Figure 32C

Clytus chinensis Chevrolat, 1852, *Revue Mag. Zool.*, (2) 4: 416.

Xylotrechus chinensis: Chevrolat, 1863, *Mém. Soc. Sci. Liege*, 18: 313.

Description: *Body* length 27 mm and breadth 8 mm, brown to pitchy black, in part pale testaceous, largely clothed with yellowish gray to dark auburn hairs; head reddish brown, moderately clothed with yellowish hairs; antennae reddish brown, covered with short reddish brown hairs; pronotum dark pitchy brown to blackish, moderately clothed with yellowish to dark reddish brown pubescence, furnished with three colored bands: 1st a moderately yellowish band at anterior portion; 2nd a large reddish brown band at middle; 3rd a moderately pitchy dark band at posterior portion,

with a short longitudinal groove at the middle near basal margin; scutellum pitchy black, covered with dark brown hairs; elytron reddish brown, furnished with yellowish bands of following: A pair of moderately oblique yellow bands starting behind scutellum and gradually wide at side on each side; a narrowed yellow band starting behind a oblique yellow band and gradually oblique toward to each side; a transverse and moderate yellow band at 1/3 of elytra, substraight, reaching to each side and touching external suture; interspace covered with dark auburn hairs; anterior portion about third of elytra covered with dark brown hairs; ventral surfaces pitchy for most parts, covered with pale reddish brown pubescence; femora dark auburn, remainder reddish brown covered with pale olive green hairs.

Head distinct narrower than prothorax, vertex moderately punctured; frons very sparsely furnished with moderately punctured; a narrow groove running from frons and wider at vertex; frons raised; antennal tubercles massive and obtusely raised. Antennae slightly longer than prothorax; segment 1 subcylindrical, finely punctured; segment 3 shorter than segment 1, as long as segment 4; segment 5 as long as segment 3, as long as segment 6; segments 6-10 decreasing slightly in length; segment 11 nearly as long as segment 7. *Pronotum* suboval shape, about as long as broad, basal broader than apex; evenly and strongly swollen at side; disc evenly swollen, punctured throughout. Scutellum subtriangular. *Elytra* about 2.1 times as long as broad, subparallel, apex narrowed externally and dehiscent internally; outer angled with slightly toothed; sutural end rounded. *Ventral surfaces* covered with finely punctured. *Legs* moderately slender.

Distribution: Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Inthanon, 15.08.2006(1♀).

Remark: This species is very distinct characters of body is brown to pitchy black, in part is pale testaceous; disc is covered with yellowish gray to dark auburn hairs for most parts; pronotum is moderately clothed with yellowish to dark reddish

brown pubescence and furnished with three colored bands; elytra are reddish brown, furnished with yellowish bands; sutural end angles are rounded. The only one specimen was collected in mid rainy season.

Xylotrechus unicarinatus Pic, 1917

Figure 32B

Xylotrechus unicarinatus Pic, 1917, *Mel. Exot.-Ent.* 22: 20 (Tonkin; PARIS).

Description: *Body* length 13.5 mm and breadth 4.5 mm, reddish brown to pitchy black, largely clothed with yellowish gray to dark auburn hairs; head reddish, tinge with dark auburn at vertex, covered with yellowish pubescence; antennal segments 1-5 reddish brown; segments 6-11 dark auburn; antenna covered with finely reddish hairs; pronotum black with yellowish and tinge with reddish brown hairs; disc furnished with a pair of yellow bands on each side near anterior margin, reaching to lateral side along anterior margin; a narrowed sinuate reddish brown band at the middle; a large black band at basal portion and a small one black band at apical portion; a large yellow spot at each lateral side near basal angle; scutellum reddish brown with densely sulphur yellow pubescence; elytron brownish with sulphur yellow pubescence except pitchy black marks with following: 1st a narrow black band on fourth of elytra, reaching and touching external suture at each side; 2nd transverse and moderate black band, starting behind 1st band, gradually oblique to external suture, touching external suture and inner suture; 3rd a broad transverse black band at the middle, reaching and touching external and inner suture; 4th a transverse black band behind 2nd band near apex; ventral surfaces blackish to reddish brown, rather densely clothed with sulphur yellow pubescence; legs reddish for most parts except dorsum of femura which is clothed with sulphur yellow hairs.

Head narrower than apex of prothorax, moderately punctured; a deep and median groove running from frons to vertex; antennal tubercles slightly massiv and obtusely raised. Antennae shorter than a half of body; segment 1 cylindrical, finely punctured; segment 3 shorter than segment 1; segment 4 as long as segment 3;

segments 4-10 slightly decreasing in length; segment 11 slightly longer than segment 8. *Pronotum* as long as broad, convex at side; disc covered with granulose to subasperate, furnished with a irregular foveae at each side of the middle; a longitudinal obtusely raised ridge at the middle. *Scutellum* hemi-circular. *Elytra* about 2.5 times as long as broad, subparallel, narrowed to apex, subtruncate and strongly toothed at outer corner; sutural end angled with slightly toothed; disc covered with finely punctured. *Ventral surfaces* covered with finely punctured. *Legs* moderately slender.

Distribution: N. Vietnam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Inthanon, 15 .08. 2006(1♀).

Remark: This species differs from *X. buqueti* in having pronotum is black, covered with yellowish which is tinged with reddish brown hairs; a pair of yellow bands are present on each side near anterior margin and reaching to lateral side along anterior margin of prothorax. The only one specimen was collected in mid rainy season.

Xystrocera festiva Thomson, 1861

Figures 27E-F, 102A-B

Xystrocera festiva Thomson, 1861, *Classif. Ceramb.*, 251 (Java; PARIS).

-Pascoe, 1869, *Trans. Ent. Soc. Lond.* Ser. 3, 3: 506.-Gahan, 1906,

Fauna India, Col. 1: 107.-Duffy, 1968, *Imm. Stages Or. T. Beetles*, 86.

Description: *Body* length 30-38 mm and breadth 7-9 mm, testaceous red to reddish brown; head reddish brown, very sparsely golden brown hairs; antennae pitchy black, sparsely pale brown hairs; sides of the prothorax metallic or blue and the upper surface of the same colour except over a large median subcordate spot which is testaceous yellow, furnished with golden brown hairs on anterior and posterior

margins; elytra testaceous yellow along the inner or sutural half of each, metallic green or blue along the outer half and around the apex; legs testaceous, the tibia dark brown except at the apex, the femoral peduncles dark brown in their distal half; ventral surfaces pale reddish brown, covered with short pale reddish hairs; legs testaceous red on most parts of femora and apical of tibiae, furnished with black on basal of femora, most parts of tibiae.

Head narrower than prothorax, punctured; a narrow groove running from frons to vertex; antennal tubercles massive and obtusely raised. Mandible very strongly bent inward at middle. Antennae longer than body, nearly twice as long as the body in the male, barely longer than the body in the female; strongly aspirate, and more or less denticulate beneath, in the male, less strongly aspirate in the female; third and fourth joints and the fifth to a less extent dentate beneath at the apex. *Pronotum* about as broad as elytra at the middle, sparsely and subasperately punctulate, the prosternum and sides finely and rather densely punctulate; in male, a definite smooth line with a strongly sinuous course forms the boundary between the two differently punctured areas; in the female disc of prothorax finely, subasperately punctulate, the sides and prosternum sparsely punctulate. *Elytra* distinctly, but not very densely punctulate; each rounded without toothed at the apex. *Ventral surfaces* finely punctured except abdominal sternites glabrous. *Legs* fairly long; femora fairly swollen, flattened; tibiae flattened; hind tarsal segment 1 longer than segment 1 and segment 2 united, as long as last.

Distribution: Java, Sumatra, Borneo, Myanmar, Assam, N. Vietnam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Saket, 1.10.2004(1♂), 5.07.2005(1♀), Mae Chaem, 5.09.2004(1♂), Doi Sutep, 1.04.2003(1♀), Samoeng, 7.04.2004(1♂), Mae Taeng, 1.10.2005(1♀), Kamphaeng Phet Prov.: Khosam Pi Nakhon, 11.04.2003(1♀), Khlong Lan, 10.01.2002(1♂), Phayao Prov.: Chiang Kham, 9.01.2004(1♀), Phitsanulok Prov.: Wang Thong, 23.10.2005(1♂), Uttaradit Prov.: Ban Khok, 15.05.2005(1♀).

Remark: The species differs from *X. blobosa* in having prothorax is metallic or blue and the upper surface of the same colour except over a large median subcordate spot which is testaceous yellow; elytra are testaceous yellow along the inner or sutural half of each elytron; legs are testaceous; the tibia are dark brown except at the apex. Specimens were collected from late winter and continued to summer, and rainy seasons.

Xystrocera globosa (Olivier, 1795)

Figures 27D, 102C-D

Cerambyx globosus Olivier, 1795, *Ent.* 4: 27, pl. 12, fig. 81 (Orient).

Xystrocera globosa: Serville, 1834, *Ann. Soc. Ent. Fr.* 3: 69.-Gahan, 1906, *Fauna India*, Col. 1: 106, fig. 42.-Beeson & Bhatia, 1939, *Ind. For. Rec.* (n.s.) *Ent.* 5: 200.-Gressitt, 1951, *Longicornia* 2: 130, pl. 6, fig. 1.-Duffy, 1968, *Imm. Stages Or. T. Beetles*, 83, fig. 42-43.

Xystrocera globosa var. *mediovitticollis* Breuning, 1957, *Bull. Inst. Fr. Afr. Noire* A 19: 1241 (China, Japan, Tonkin).

Description: *Body* length 15-32 mm and breadth 4.5-8.5 mm, reddish to brown; head reddish brown, very sparsely pale reddish brown hairs; antennae reddish brown, covered with short redish brown hairs, furnished with very sparsely long pale reddish brown hairs; pronotum with the front and hind collars, a narrow median longitudinal band sometimes obsolete and a broader lateral band, which in the male runs obliquely from the side of the thorax in front towards the medio-basal lobe behind, metallic blue or green; scutellum dark reddish brown, shiny; elytra testaceous yellow, the outer and apical borders and, on each, a median longitudinal band, which anteriorly is directed obliquely towards the shoulder, also metallic blue or green; ventral surfaces reddish brown, covered with pale reddish brown hairs; legs reddish brown, darker at undersides, covered with golden brown hairs.

Head densely punctulate; a narrow groove running from frons to vertex; antennal tubercles massive and obtusely raised. Antennal segment 1 aspirate, with spiniform anterior process at the apex; segments 3-5 strongly aspirate, each in the male with the apex thickened and dentate beneath; segment 3 thicker and about one-fourth shorter than the fourth. *Pronotum* densely and finely granulated on the disc in the male, less densely granulated in the female; prosternum of the male with a transversely striated glossy band of metallic colour, close to the front margin, the rest of its surface as well as the lower part of the sides of the prothorax forming a convexly raised, very minutely and densely punctulate, area of a dull red colour; the corresponding area in the female more or less concave, sparsely granulated and not extended on to the sides, the lateral bands run straight back instead of taking an oblique direction as in the male. Scutellum longer than broad, glabrous; surface slightly depressed and slightly raised at margin. *Elytra* densely and rather strongly punctured; each with three slightly raised longitudinal lines, two dorsal and one lateral. *Ventral surfaces* finely punctured except abdominal sternites minutely punctured. *Legs* fairly long; femora fairly swollen, flattened; tibiae flattened; hind tarsal segment 1 longer than segment 1 and segment 2 united, as long as last.

Distribution: Japan, Korea, China, Taiwan, The Philippines, Malaysia, S. Asia, Pacific Island, Madagascar, Mauritius, Egypt, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 20.01.2002(1♂), Mae Chaem, 5.09.2004(1♂), Chiang Dao, 5.09.2002(1♀), Phayao Prov.: Chiang Muan, 6.10.2004(1♂), Phrae Prov.: Wang Chin, 10.12.2005(1♀).

Remark: The species differs from *X. fastiva* in having pronotum is furnished with a narrow median longitudinal band sometimes obsolete and a broader lateral band, which in the male is runs obliquely from the side of the thorax in front towards the medio-basal lobe behind and covered with metallic blue or green color; elytron is furnished with a median longitudinal band, which anteriorly is directed obliquely towards the shoulder, also metallic blue or green. Specimens were collected from mid and continued to late winter, and late rainy seasons.

Zoodes fulguratus Gahan, 1906

Figures 32D-F, 99E-F

Zoodes fulguratus Gahan, 1906, *Fauna India*, Col. 1: 117 (Burma; BMNH).*Cornutaemospila piceosignata* Pic, 1927, *Mel. Exot.-Ent.* 49: 20 (Tonkin; PARIS).

Description: *Body* length 20-22 mm and breadth 5-6 mm, yellow brown to black; head reddish except fons and above eyes which are black; disc covered with grayish pubescence, scattered with long hairs, furnished with marked on the front with a triangular black spot which extends between the antennal supports and joins a transverse black spot on the vertex; antennal segments 1-3 reddish brown, remainder brown, covered with grayish pubescence and scattered with long hairs; pronotum reddish brown, furnished with the long hairs front and hind margins, two short bands on the disc extending from the base to the middle and a few spots on each side, blackish brown; disc covered with grayish pubescence and scattered with long hairs; scutellum reddish brown, covered with reddish brown hairs; elytra pale yellow, somewhat whitish colour; faintly covered with grayish pubescence and scattered with long hairs, especially on the underside; disc furnished with two zigzag bands, placed one before the other, at some distance behind the middle and a line joining the inner ends of these two bands, dark brown; the space between the zigzag bands somewhat paler than the rest of the elytron; ventral surfaces brown, covered with pale brown hairs; legs brown, covered with pale brown pubescence.

Head slightly narrower than prothorax, roughly punctured; a narrow groove running from fons to vertex; antennal tubercles massive and subacutely raised. Antennae longer than body; segment 1 closely and roughly punctured; segment 3 punctured, longer than segment 1 and segment 3 united; segment 4 slightly shorter than segment 3; segments 4-9 similar in length; segment 10 shorter than segment 9; segment 11 shorter than segment 10. *Pronotum* narrower than elytra, with a small tubercle at the front end of each of the two discal bands, and some granules along the bands. *Scutellum* hemi-circular, minutely granulate. *Elytra* broader than prothorax,

parallel at near apex, each with two slightly raised dorsal lines; slightly and obliquely to apex and smoothly rounded apically; rather roughly granulate at each side of scutellum and granules getting finer and smaller towards each sides and apices; slightly dehiscent sutures; sutural end angled without toothed. *Ventral surfaces* minutely punctured. *Legs* fairly long.

Distribution: Myanmar, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 8.03.2002(2♀, 2♀), 6.07.2003(1♂), 2.06.2004(1♀), Mae Chaem, 2.06.2004(1♀), 5.09.2004(1♂, 3♀), 7.04.2005(1♀), Fang, 2.03.2002(1♀), 8.03.2002(1♂), Chiang Rai Prov.: Wiang Pa Pao, 17.03.2005(1♀), Lampang Prov.: Wiang Nua, 11.09.2005(1♀), Lamphun Prov.: Mae Tha, 7.04.2002(1♀).

Remark: This species is very distinct characters of body is yellow brown to black and covered with grayish pubescence; elytra are covered with grayish pubescence and furnished with two zigzag bands. Specimens were collected from mid and continued to late summer, early and late rainy seasons.

Subfamily Lamiinae Latreille, 1825

Abryna regispetri Paiva, 1860

Figures 37A, 103A-B

Abryna regispetri Paiva, 1860, *Desc. Deux Ins. Col.*, 5, pl. 1, fig. 1.-

Lacordaire, 1872, *Gen. Col.* 9: 102, fig. 3.-Breuning, 1962, 1. c., 483.

Description: *Body* length 23-33.5 mm and breadth 9.5-11.5 mm, dark reddish brown; head covered with unevenly brownish pubescence; antennae covered with reddish brown pubescence except segment 2 which is covered with brownish pubescence; segment 1 and segments 3-4 sparsely pale brown pubescence spots; pronotum covered with unevenly brownish pubescence throughout; scutellum

glabrous for most parts except along edge; elytra covered with reddish brown pubescence, furnished with small pale brown pubescence spots throughout; two densely pale brown pubescence bands alternated with broad and transverse brownish pubescence bands with following: 1st about 1/6 as broad as long of elytra above middle; 2nd behind middle; three densely irregular brownish pubescence bands on apical portion of each elytron, somewhat united; thoracic sternites covered with brownish pubescence; abdominal sternites covered with pale brown pubescence, furnished with small whitish brown pubescence spots throughout; legs covered with unevenly brown pubescence.

Head flatten, broader than anterior margin of prothorax, shallowly rugose-punctate; frons slightly broader than long, lateral margins straight, anterior margin substraight; genae as deep as eye-lobes; antennal tubercles widely separated; a narrow and shallow groove running from frons to vertex. Antennae as long as body; segment 1 finely punctured, gradually swollen to tip; segment 3 about 1.3 times as long as segment 1, slightly bent, finely punctured; segment 4 shorter than segment 3; segments 4-11 decreasing in length. *Pronotum* narrower than elytra, broader than long, subrectangular, shallowly rugose; anterior margin slightly swollen; posterior margin slightly sinuated; lateral side unevenly and slightly swollen with a small tubercle at each side near apical margin; a small tubercle on each under lateral side near apical margin. Scutellum hemicircular. *Elytra* subparallel, truncated at tip without toothed, rather punctured at each side of scutellum and punctures getting finer and towards each sides and apices; basal margin slightly sinuated; outer apical angles without toothed; sutural end angles with slightly toothed. *Ventral surfaces* punctured. *Legs* fairly long, stout; fore legs longest; each tarsal segment large and extend to lateral side.

Distribution: Malaysia, Myanmar, Cambodia, China, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Inthanon, 15.08.2006(2♂).

Remark: This species is very distinct characters of body is dark reddish brown; pronotum is covered with unevenly brownish pubescence throughout; elytra are covered with reddish brown pubescence; small pale brown pubescence spots are present throughout and two densely pale brown pubescence bands are alternated with broad and transverse brownish pubescence bands on elytra. Specimens were collected in mid rainy season.

Acalolepta pseudospeciosa Breuning, 1964

Figures 53C-E, 114E-F

Acalolepta pseudospeciosa Breuning, 1964, *Bull. Soc. R. Sci. Nat. Laos* 14: 45.

Description: *Body* length 20-29 mm and breadth 6-10 mm, black; head, prothorax, thoracic sternites and leg covered with silky pubescence; antennal segments 1-2 black, covered with brownish pubescence; antennal segments 3-8 reddish brown, covered with brownish pubescence, alternated with reddish brown pubescence; antennal segments 9-11 reddish brown, covered with pale reddish brown pubescence; scutellum covered with brownish pubescence; elytra covered with silky pubescence, furnished with a slightly golden luster hairs, and on the elytra give feeble moiré reflections; abdominal sternites covered with silky pubescence along middle and dark reddish brown pubescence at sides, furnished with a densely silky pubescence spot at each side of abdominal segments 2nd- 5th.

Head as broad as anterior margin of prothorax, finely punctured, sparsely and moderately punctured on frons and vertex ; a narrow and shallow groove running from frons to vertex; antennal tubercles moderately separated; antennae supports fairly raised. Antennae about 2.3 times as long as body in the male, about 1.5 times as long as body in female; segment 1 finely punctured, slightly depressed, slightly subtruncated at tip with finely punctured; segment 3 about 1.7 as long as segment 1, cylindrical; segment 4 slightly shorter than segment 3; segments 4-9 decreasing in length; segment 10 as long as segment 9; segment 11 longest in male, as long as segment 3 in female. *Pronotum* distinctly narrower than elytra, as broad as long; disc

slightly convex, furnished with punctured at middle and sparsely on anterior margin; anterior margin as broad as posterior margin; a longitudinal tubercle on middle separated to two areas; lateral sides slightly swollen with moderately and obtusely toothed at middle; apical margin substraigh; basal margin slightly sinuted. Scutellum hemi-circular. *Elytra* distinctly narrow at apex in male, subparallel in female, slightly subobliquely truncated without toothed; disc rather granulate at each side of scutellum and toward to 1/6 of elytra; minutely punctured above middle line; outer apical angles without toothed; sutural end angles without toothed; slightly dehiscent. *Ventral surfaces* finely punctured. *Legs* fairly longer, stout; fore legs longest in male, normal in female.

Distribution: Laos, Vietnam and Thailand.

Material examined: Thailand: Chaing Mai Prov.: Mae Chaem, 1.03.2006(1♀), Fang, 15.03.2006(1♂, 1♀), Chiang Dao, 30.04.2006(2♀), Doi Inthanon, 15.08.2006(1♂, 1♀), Doi Pahom Pok, 18.10.2006(1♂), Samoeng, 13.10.2007(1♂, 1♀), Chiang Rai Prov.: Wiang Pa Pao, 26.01.2006(1♂, 3♀).

Remark: This species is very distinct characters of body is covered with silky pubescence for most parts; elytra are covered with silky pubescence, furnished with a slightly golden luster hairs; elytra are gave feeble moiré reflections. Specimens were collected from late winter, mid continued to late summer, mid and continued to late rainy seasons.

Aesopida malasiaca Thomson, 1864

Figure 37G

Aesopida malasiaca, Thomson, 1864, l.c.-Breuning, 1939. l.c.

Description: *Body* length 16 mm and breadth 7 mm, black; head densely covered with brownish pubescence, alternated with whitish hairs throughout, furnished with two short transverse dark reddish brown pubescence bands on vertex,

and then continued to pronotum; antennal segment 1 and 3 covered with brownish hairs alternated with whitish hairs throughout, each segment furnished with dark reddish brown hairs on inner side; antennal segment 2 covered with brownish hairs alternated with whitish hairs throughout; antennal segments 4-10 each segment covered with brownish hairs alternated with whitish hairs, and alternated with blackish pubescence band; antennal segments 4-10 each segment furnished with blackish band at middle; antennal segment 11 a brownish band alternated with a blackish pubescence band; pronotum covered with brownish hairs alternated with whitish hairs throughout, furnished with pubescence stripes or bands with following: 1st a pair of short dark reddish brown pubescence bands on apical portion, running continued from vertex to 1/4 of pronotum; 2nd a longitudinal dark reddish brown pubescence stripe on each side, starting from apical margin to basal margin; 3rd a pair of short reddish brown pubescence bands at middle, starting from behind middle line to basal margin and touching; interspace between bands furnished with densely whitish hairs; scutellum covered with a brownish hairs band alternated with whitish hairs band at middle, furnished with a dark reddish brown pubescence band on each side of a brownish hairs alternated with whitish hairs band; elytra covered with brownish pubescence, darker on anterior portion, furnished with short whitish pubescence bands throughout; disc furnished with pubescence bands with following: 1st three short dark reddish brown pubescence bands on middle of each elytron, each band different position; 2nd a densely dark reddish brown pubescence mark at middle of each lateral side; 3rd a transverse and uncontinued zigzag reddish brown pubescence stripe at 3/4 of elytra; pro- and meso thoracic sternites covered with dark brown pubescence; meta thoracic sternites and 1-2 abdominal sternites each segment covered with whitish pubescence, furnished with yellowish brown pubescence spots, somewhat united; abdominal segment 3 covered with whitish pubescence, furnished with a dark reddish brown band at middle; abdominal segment 4 covered with whitish pubescence, furnished with three dark reddish brown pubescence bands, a middle band biggest; abdominal segment 5 covered with dark reddish brown pubescence, furnished with whitish hairs at middle and apical margin; legs covered with whitish pubescence; meso-tibiae furnished with a blackish pubescence on apical margin; tarsal segments 1-2 covered with brownish pubescence; tarsal segment 3 covered with

blackish pubescence, furnished with brown hairs on apical margin; tarsal segment 5 covered with a brown pubescence band alternated with a blackish pubescence band.

Head as broad as anterior margin of prothorax; frons broader than long, a longitudinal row of minutely and strongly punctured at middle; anterior margin slightly concave at middle; genae 1/2 as deep as eye-lobes; antennal tubercles widely separated; two small longitudinal ridges on between upper eye-lobes; a narrow and shallow groove running from frons to vertex. Antennae shorter than body; segment 1 finely punctured, subcylindrical; segment 3 as long as segment 1, slightly curved; segment 4 about 2/3 as long as segment 3; segments 4-11 decreasing in length. *Pronotum* narrower than elytra, broader than long; anterior margin slightly narrower than posterior margin; disc unevenly convex, furnished with a transverse row of minute small ridges at middle; a small tubercle on middle of each side; apical margin slightly swollen at middle; basal margin slightly sinuated; lateral sides slightly swollen, each lateral side furnished with a small tubercle behind apical margin. Scutellum subtrapezoidal, rounded at angles. *Elytra* short, moderately concave at anterior portion, and then gradually oblique to apex, slightly concave behind humeral angles at each lateral side, subtruncated without toothed; a longitudinal and strongly raised ridge with granules at each side of scutellum; humeral angles slightly raised, with granulate; apex strongly depressed, with finely punctured; outer apical angles with moderately toothed; sutural end angles without toothed. *Ventral surfaces* finely punctured; abdominal sternites 1-2 each segment furnished with a oval fovea at each side. *Legs* short, stout; hind tarsal segment 1 shorter than segment 2 and segment 3 united, last longest.

Distribution: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, Vietnam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 3.08.2005(1♂).

Remark: This species is very distinct characters of pronotum is covered with brownish hairs alternated with whitish hairs are scattered throughout and furnished

with dark reddish brown pubescence stripes or bands; elytra are covered with brownish pubescence, darker on anterior portion and furnished with short whitish pubescence bands throughout. The only one specimen was collected in mid rainy season.

Agelasta bifasciana White, 1858

Figures 37C-D, 104C-D

Agelasta bifasciana White, 1858, *Ann. Mag. Nat. Hist.* ser. 9, 2: 273.

Mesosa glabrofasciata var. *bisinuata* Pic, 1937, *Echange* 53: 4.

Agelasta (Pseudagelasta) bifasciana: Breuning, 1939, 1. c., 487.

Description: *Body* length 20-26 mm and breadth 9-11 mm; head dark reddish brown, covered with whitish hairs alternated with brownish hairs throughout; clypeus dark reddish brown, glabrous; labrum reddish brown, covered with brown pubescence, furnished with reddish brown hairs on anterior margin; antennae dark reddish brown; segment 1 covered with whitish hairs alternated with brownish hairs throughout; segment 2 covered with whitish pubescence, furnished with brownish hairs throughout; segments 3-4 each basal margin covered with whitish pubescence and apical margin covered with dark reddish brown pubescence, furnished with brownish hairs on dorsal; segments 5-8 each basal margin covered with whitish pubescence and apical margin covered with reddish brown pubescence; segments 9-11 covered with dark reddish brown pubescence; prothorax dark reddish brown, covered with whitish hairs alternated with brownish hairs throughout; scutellum dark reddish brown, covered with a transverse whitish pubescence band alternated with a transverse brownish pubescence band; elytra black, covered with whitish hairs alternated with brownish hairs throughout, furnished with two transverse zigzag brownish pubescence stripes: One on 1/3 of elytra and another on 2/3 of elytra; ventral surfaces dark brown, covered with whitish pubescence, furnished with small brown pubescence spots throughout, somewhat combined; femora reddish brown,

darker on tibiae; tibiae covered with whitish pubescence bands alternated with brownish pubescence bands; dorsal femora covered with densely whitish hairs alternated with brownish hairs and ventral covered whitish hairs.

Head slightly narrower than anterior margin of prothorax, finely punctured, furnished with minute moderate punctures on vertex and frons; frons broader than long, anterior margin straight; a narrow and shallow groove running from frons to vertex; antennal tubercles widely separated. Antennae slightly shorter than body; segment 1 finely punctured, gradually swollen to apex, subtruncated apex with finely punctured; segment 3 as long as segment 1 and segment 4; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, broader than long; apical margin narrower than basal margin; disc slightly uneven convex with a pair of slightly raised tubercles above middle line, a slightly raised tubercle on middle behind middle line; a transverse and irregular zigzag groove on 1/3 of disc; apical margin sinuate; basal margin swollen at middle; lateral sides unevenly sinuate each with a small tubercle near anterior margin. Scutellum subtrapezoid. *Elytra* about 1.5 times as long as broad, moderately punctured throughout; subtruncated apex without toothed; sutural end angles without toothed; basal margin sinuate, slightly depressed at middle; a longitudinal and narrow shallow groove running from behind scutellum along internal suture to apex. *Ventral surfaces* finely punctured. *Legs* fairly long, stout.

Distribution: India, Vietnam, Laos, Jordan and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Doi Pahom Pok, 28.10.2006(3♂, 1♀).

Remark: The species differs from *A. birmanica* in having elytra are covered with moderate punctures throughout. Specimens were collected in late rainy season.

Agelasta birmanica (Breuning, 1935)

Figures 37E-F, 104E-F

Paragelasta birmanica Breuning, 1935, *Fol. Zool. Hydrob.* 8: 273.*Agelasta (Pseudagelasta) birmanica*: Breuning, 1939, l. c., 488.

Description: *Body* length 21-24 mm and breadth 7-8 mm, dark brown; genae covered with brownish pubescence; frons and vertex covered with dark reddish brown pubescence, furnished with four longitudinal brown pubescence stripes running from frons to vertex; clypeus reddish brown, trapezoidal, glabrous; labrum reddish brown, covered with brownish pubescence, furnished with long reddish hairs; antennal segments 1-2 covered with brownish pubescence; antennal segments 3-9 each covered with reddish brown pubescence, furnished with brownish hairs on basal margin; segments 10-11 each covered with reddish brown pubescence; pronotum covered with dark reddish brown pubescence, scattered with brown hairs throughout; scutellum covered with brownish pubescence; elytra covered with brownish pubescence, furnished with densely reddish brown pubescence spots, somewhat combined; ventral surfaces covered with brown pubescence except middle of abdominal sternites; legs covered with brownish pubescence except apical margin which is blackish pubescence; tarsal segments 1-4 each covered with black pubescence; tarsal segment 5 covered with brownish pubescence except apical margin which is black.

Head narrower than prothorax, sparsely and shallowly punctured; frons as broad as long, anterior margin slightly sinuate; a fairly deep groove running from frons to vertex; antennal tubercles widely separate and slightly raised. Antennae slightly longer than body in male, slightly shorter than body in female; segment 1 closely and roughly punctured in male, finely punctured and sparsely and roughly punctured in female; segment 3 slightly curved, as long as segment 1; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 as long as segment 10. *Pronotum* narrower than elytra, shallowly vermiculated; anterior margin slightly broader than posterior margin, swollen at middle; posterior margin sinuate;

lateral sides slightly swollen, each furnished with a small tubercle near apical angle. Scutellum hemicircular. *Elytra* about 2 times as long as broad, gradually narrow from humeral angles to apex, smoothly rounded apically, granulate at each side of scutellum and towards each sides; slightly depressed at middle of anterior margin of each elytron; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long; femora slightly swollen at middle.

Distribution: Myanmar, Vietnam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Pahom Pok, 28.10.2006(2♂, 1♀).

Remark: The species differs from *A. bifasciana* in having elytra are furnished with granulated at each side of scutellum. Specimens were collected late rainy season.

Agelasta mouhoti Pascoe, 1862

Figures 37B, 104A-B

Agelasta mouhoti Pascoe, 1862, *J. Ent.* 1: 335.

Cacia albofasciata Pic, 1917, *Mel. Exot. Ent.* 23: 7.

Agelasta (Dissosira) mouhoti: Breuning, 1939, l.c., 483.

Description: *Body* length 7-13 mm and breadth 4-6 mm, reddish brown; head covered with unevenly brownish pubescence; antennae covered with pale brownish pubescence in female; segments 1-3 and segment 5 covered with pale brownish pubescence, segment 4 and segments 6-11 covered with reddish brown pubescence in male; prothorax covered with unevenly brown pubescence; scutellum covered with pale brown pubescence; elytra covered with brownish pubescence, furnished with reddish brown pubescence bands and spots with following: A broad and transverse

zigzag band about 1/6 as broad as elytra on 1/4 of elytra; a narrower and transverse zigzag band on 2/3 of elytra; small spots scattered on disc throughout, somewhat combined; ventral surfaces dark reddish brown pubescence, covered with pale brown pubescence; legs dark reddish brown; femora covered with brownish pubescence; tibiae covered with brownish pubescence except apical margin which is covered with blackish pubescence; tarsi covered with blackish pubescence.

Head as broad as anterior margin of prothorax, finely punctured; frons as broad as long, anterior margin concave at middle; a narrow and shallow groove running from frons to vertex; genae as broad as eye-lobe; antennal tubercles widely separated, slightly raised. Antennae slightly longer than body in male, slightly shorter than body in female; segment 1 finely punctured, slightly oblique truncation at external tip with finely punctured; segment 3 as long as segment 1; segment 4 slightly shorter than segment 3; segments 4-11 decreasing in length. *Pronotum* slightly convex, finely punctured, scattered moderately and shallowly punctured; lateral sides swollen without toothed; apical margin slightly narrower than basal margin; anterior margin substraight and posterior margin sinuated. Scutellum triangular. *Elytra* about 1.7 times as long as broad, gradually narrow from humeral angles to apex, smoothly rounded apically, scattered moderately punctured throughout; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long; femora slightly swollen at middle.

Distribution: Cambodia, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 6.07.2003(1♂, 2♀), 1.10.2005(1♂, 1♀), Phetchabun Prov.: Nam Nao, 15.06.2007(1♀).

Remark: This species clearly distinct from characters of body is reddish brown; elytra are covered with brownish pubescence, a broad and transverse zigzag band is about 1/6 as broad as elytra present on 1/4 of elytra, a narrower and transverse zigzag band is placed on 2/3 of elytra length and small spots are scattered on disc

throughout. Specimens were collected from early and continued to mid and late rainy seasons.

Alidus biplagiatus Gahan, 1839

Figures 42A-B, 103C-D

Alidus biplagiatus Gahan, 1839, *Ann. Mag. Nat. Hist.* ser. 6, 11: 258.-

Gressitt, 1942, l. c.; 1951, l. c.-Breuning, 1965, l. c., 469.

Description: *Body* length 20-25 mm and breadth 6-9 mm, dark reddish brown to black; head black, covered with dark reddish brown pubescence; antennal segments 1-3 covered with dark reddish brown pubescence; segment 3 furnished with brownish pubescence on basal margin; antennal segments 4-11 reddish brown, covered with pale reddish brown pubescence; segments 1-4 furnished with pale reddish brown long hairs under sides; pronotum black, covered with dark reddish brown pubescence, furnished with a suboblong blackish pubescence band on each side; the bands furnished with brownish hairs arounded; scutellum black, covered with dark reddish brown pubescence; elytra black, pale at apical portion, covered with dark reddish brown pubescence, scattered with irregular brownish pubescence spots, densely on apical portion; disc furnished with a transverse and zigzag brownish pubescence stripe at 4/6 of elytra; ventral surfaces black, covered with dark reddish brown pubescence, furnished with small brownish pubescence spots throughout; legs covered with dark reddish brown pubescence, furnished with small brownish pubescence marks throughout.

Head narrower than prothorax: frons unevenly with shallowly punctured, anterior margin substraight; genae as broad as eye lobe; vertex finely punctured, depressed along eye-lobes; antennal tubercles widely separated and antennae supports slightly raised. Antennae slightly longer than body in male, slightly shorter than body in female; segment 1 finely punctured; segment 3 slightly shorter than segment 1; segment 4 longer than segment 3, slightly arched near basal margin; segment 5 shorter than segment 4; segments 5-10 decreasing in length; segment 11 longer than segment

10. *Pronotum* distinctly narrower than elytra, broader than long; anterior margin slightly narrower than posterior margin; disc furnished with minutely and shallowly corrugate-vermiculate at middle; a V shape groove on anterior portion; apical margin substraight; basal margin swollen at middle; lateral sides slightly swollen, each furnished with a small tubercle near apical margin. Scutellum linguiform. *Elytra* about 1.7 times as long as broad, subparallel, smoothly rounded apically, rather granulate at each side of scutellum and getting smaller toward at 1/4 of elytra; humeral angles slightly raised; basal margin slightly sinuated; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, stout.

Distribution: Oriental, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 7.04.2005(1♀), Chiang Rai Prov.: Doi Luang, 17.03.2005(1♂, 1♀), 19.11.2002(1♂): Nakhonsawan Prov.: Tak Fa, 13.03.2005(1♀), Phetchabun Prov.: Nam Nao, 20.02.2005(1♂), Tak Prov.: Tha Song Yang, 2.02.2002(1♂).

Remark: This species clearly distinct from characters of body is dark reddish brown to black; pronotum is black, covered with dark reddish brown pubescence and furnished with a suboblong blackish pubescence band on each side; the area around the bands are furnished with brownish hairs. Specimens were collected in summer and early winter seasons.

Anamera alboguttata Thomson, 1864

Figures 38B, 105A-B

Anamera alboguttata Thomson, 1864, *Syst. Cer.*, 63.-Lacordaire, 1869, *Cen. Col.* 9: 383.-Breuning, 1943, l. c., 321. fig. 215.

Description: *Body* length 11-11.5 mm and breadth 3.5-4 mm, reddish brown to black; head black, covered with whitish pubescence for most parts except vertex which is sparse hairs; antennal segments 1-2 black, covered with whitish pubescence;

antennal segments 3-4 reddish brown, each covered with whitish pubescence on basal portion alternated with reddish brown pubescence on apical portion; antennal segments 5-11 covered with silvery reddish brown pubescence; prothorax covered with whitish pubescence for most parts, furnished with a longitudinal whitish pubescence band on each side; interspace between longitudinal bands which is sparsely reddish brown hairs; a pale whitish pubescence spot behind each lateral side toothed; scutellum glabrous; elytra covered with reddish brown pubescence, furnished with whitish pubescence spots with following: 1st a small spot at each side of scutellum; 2nd a pair of small spots behind scutellum; 3rd a small spot behind each humeral angle; 4th a pair of irregular and moderate spots behind 2nd; 5th a moderate spot on each side of 4th; 6th a large spot at middle of each elytron; 7th a large spot behind 6th; 8th a moderate spot at each near apex; 9th a row of small spots along inner suture of each elytron, somewhat united or disappearing; 10th somewhat sparse small spots on lateral sides or disappearing; ventral surfaces and legs covered with silvery brown pubescence.

Head as broad as prothorax, finely punctured; frons as broad as long, slightly convex, sparsely with moderately deep punctures; anterior margin substraight; genae about 2/3 as deep as eye-lobes; antennal tubercles fairly separated; antennal supports strongly raised; vertex sparsely covered with moderately deep punctures; a moderately deep groove running from frons to vertex. Antennae about 1.4 times as long as body; segment 1 finely punctured, gradually thicken to tip, slightly arched; segment 3 slightly longer than segment 1, slightly swollen at tip; segment 4 slightly shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, slightly broader than long, slightly convex; disc furnished with a moderately raised tubercle at middle near basal margin, sparsely punctured at sides; anterior margin as broad as posterior margin; apical margin slightly swollen; basal margin sinuated; lateral sides slightly swollen, with moderately and obtusely toothed. Scutellum hemicircular. *Elytra* distinctly wider than prothorax, smoothly rounded apically, rather big and deep punctures at each side of scutellum toward to humeral angles, and then punctures getting slightly smaller toward each sides and apices; humeral angles slightly raised; basal margin slightly

sinuated, slightly depressed near humeral angles; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* shorter, stout; hind tarsal segment 1 slightly shorter than segment 2 and segment 3 united, as long as last.

Distribution: Myanmar, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Pahom Pok, 18.10.2006(1♂), 28.10.2006(1♀), Chiang Rai Prov.: Wiang Pa Pao, 23.08.2003(1♂).

Remark: The species differs from *A. desемaculata* in having sclerotized pieces of male genitalia are broader than *A. desемaculata*, inner and outer sides of lateral lobes are curved and furnished with moderately long hairs. Specimens were collected from mid and continued late rainy seasons.

Anamera concolor Lacordaire, 1869

Figure 38F

Anamera concolor Lacordaire, 1869, *Gen. Col.* 9: 383, note I.-Breuning, 1943, l. c., 322.

Description: *Boby* length 19 mm and breadth 8-8.5 mm, reddish brown; head covered with brownish pubescence for most parts except genae which is covered with whitish brown pubescence; antennae covered with golden brown pubescence; prothorax dark reddish brown, pale on anterior portion, covered with yellowish brown pubescence, furnished with two broad longitudinal whitish pubescence bands, each band running from apical margin to basal margin, and touching; interspace between bands broader than each band, scattered with yellowish brown hairs; scutellum sparse dark reddish brown hairs on edge; elytra covered with unevenly whitish hairs alternated with yellowish brown hairs throughout, furnished with a pair of whitish pubescence bands alternated with yellowish brown pubescence bands with following: 1st a pair of largely oval bands behind middle line; 2nd a pair of irregular and largely oval bands at 4/5 of elytra; thoracic sternites covered with brownish pubescence along

middle, furnished with whitish pubescence along lateral sides; abdominal sternites covered with brownish pubescence.

Head as broad as prothorax; frons slightly broader than long, finely punctured; anterior margin slightly concave at middle; labrum subtrapezoidal, deeply depressed anterior margin, strongly concave at middle of apical margin; genae about 1/2 as deep as eye-lobes; antennal tubercles moderately separated; antennae supports strongly raised; vertex sparsely and fairly punctured; a narrow and shallow groove running from frons to vertex. Antennae slightly longer than body; segment 1 finely punctured, slightly arched, gradually thicken to tip; segment 3 as long as segment 1, subcylindrical, slightly swollen at tip; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, slightly convex, furnished with a small tubercle on middle near basal margin, a short transverse and deep groove behind a small tubercle, sparsely and moderately punctured; anterior margin as broad as posterior margin; apical margin straight; basal margin sinuated; lateral sides sinuated, each with fairly and slightly acuted toothed. Scutellum hemicircular, longer than broad. *Elytra* distinctly broader than prothorax, slightly convex, gradually oblique from 3/4 of elytra to apex, smoothly rounded apically, rather punctured at each side of scutellum and punctures getting finer toward each sides and apices; humeral angles granulated; basal margin sinuated; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, stout; hind tarsal segment 1 shorter than segment 2 and segment 3 united, and last.

Distribution: Thailand and Laos.

Material examined: Thailand: Phitsanulok Prov.: Chat Tra Kan, 5.10.2004(1♀), Chiang Mai Prov.: Fang, 22.09.2006(1♀).

Remark: The species differs from *A. obese* in having body is reddish brown. Specimens were collected in late rainy season.

Anamera desemaculata Breuning, 1940

Figures 38A, 105C-D

Anamera densemaculata Breuning, 1940, *Fol. Zool. Hydrob.* 10: 414, 1943,

l. c., 322.

Description: *Body* length 16.5 mm and breadth 7 mm, pitchy black; head, antennal segment 1 and scutellum covered with whitish pubescence; antennal segment 2 covered with reddish brown for most parts, furnished with whitish hairs on basal portion; antennal segment 3 covered with reddish brown pubescence; antennal segments 4-10 each covered with dark reddish brown pubescence for most parts, furnished with whitish hairs on basal portion; antennal segment 11 covered with dark reddish brown pubescence; pronotum covered with whitish pubescence for most parts, furnished with a longitudinal whitish pubescence band at each side; interspace between bands scattered with whitish hairs; elytra covered with blackish hairs, furnished with whitish pubescence spots with following: 1st a small spot at middle basal margin of elytron; 2nd a moderate spot at each side of scutellum; 3rd a small spot behind each humeral angle; 4th a moderate spot above middle near inner suture on each elytron; 5th a moderate spot above middle of external suture, and touching of each elytron; 6th a large oval spot behind middle line near inner suture of each elytron; 7th a moderate oval spot at 3/4 of each elytron; 8th a small spot on apical portion of each elytron; 9th a row of small spots along each inner suture of elytron, somewhat united or disappearing; ventral surfaces covered with pale brown pubescence; femora covered with dark reddish brown pubescence; fore tibiae covered with reddish brown pubescence; mid- and hind tibiae each covered with whitish pubescence, furnished with reddish brown hairs on apical portion; tarsal segment covered with whitish pubescence.

Head as broad as prothorax; frons as broad as long, slightly convex, finely punctured; anterior margin slightly concave at middle; genae about 2/3 as deep as eye-lobes; antennal tubercles moderately separated; antennal supports strongly raised; vertex scattered with moderately deep punctures; a fairly deep groove running from

frons to vertex. *Pronotum* narrower than elytra, broader than long, scattered with moderately deep punctures; disc slightly convex, with moderately raised tubercle at middle near basal margin; anterior margin as broad as posterior margin; apical margin straight; basal margin sinuated; lateral sides slightly swollen, with moderately and slightly acute toothed at middle. Scutellum hemicircular. *Elytra* distinctly broader than prothorax, distinctly narrow apex, slightly depressed above middle line, smoothly rounded apically, rather deeply punctured at each side of scutellum and punctures getting finer toward each sides and apices; basal margin sinuated, depressed near humeral angles; elytra gradually narrow from humeral angles to apices; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, stout; hind tarsal segment 1 slightly shorter than segment 2 and segment 3 united, as long as last.

Distribution: Vietnam, Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Doi Sutep, 1.04.2003(1♂).

Remark: The species differs from *A. alboguttata* in having sclerotized pieces of male genitalia are narrower than *A. alboguttata*, inner and outer sides of lateral lobes are slightly sloped and furnished with densely long hairs. The only one specimen was collected in late summer season.

Anamera harmandi Pic, 1936

Figure 38C

Anamera harmandi Pic, 1936, *Bull. Soc. Ent. Fr.* 41: 216.-Breuning, 1943, l. c., 322.

Description: *Body* length 14.5 mm and breadth 5.5 mm, dark reddish brown; frons covered with whitish brown to brownish pubescence; genae covered with whitish brown pubescence; vertex covered with brownish pubescence, furnished with two brownish pubescence bands starting from between upper eye-lobe, running separated to each side of vertex, and continued to occiput; antennae covered with pale

reddish brown pubescence; pronotum covered with brownish pubescence, furnished with two longitudinal whitish pubescence bands; interspace between bands broader than each band, sparsely with brownish hairs; scutellum covered with whitish pubescence; elytra covered with reddish brown pubescence, furnished with whitish pubescence spots with following: 1st densely small spots united on apical margin toward each humeral angle, somewhat a large spot separated from band; 2nd a moderately circular spot above middle line of each elytron; 3rd a large spot behind middle line of each elytron; 4th a large spot at 4/5 of each elytron; 5th a pair of large spots at apex; 6th small spots scattered along internal sutures and lateral sutures, somewhat united or disappearing; ventral surfaces covered with silvery pubescence; legs covered with silvery brown pubescence.

Head as broad as prothorax; frons as broad as long, sparsely and moderately punctured; anterior margin substraight; genae about 1/2 as deep as eye-lobe; antennal tubercles fairly separated, scattered with deeply punctured; densely clothed with deeply and closely punctured between and behind upper eye-lobe; a narrow and shallow groove running from frons to vertex; labrum subtrapezoidal, strongly concave at apical margin. Antennae as long as body; segment 1 finely punctured, slightly arched, gradually thicken to tip, slightly oblique truncation with finely punctured; segment 3 as long as segment 1, slightly swollen at tip; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 slightly longer than segment 10. *Pronotum* narrower than elytra, broader than long, scattered with punctured; anterior margin slightly broader than posterior margin; a moderately raised tubercle on middle near basal margin; apical margin straight; basal margin slightly sinuated; lateral sides slightly swollen, with moderately and subacutely toothed at middle. Scutellum hemicircular. *Elytra* distinctly broader than prothorax, gradually narrow at each side from humeral angles to apice, smoothly rounded apically, rather moderately and deeply punctured at each side of scutellum toward to humeral angles and continued to middle, and then punctures getting slightly fine toward apices; basal margin slightly sinuated; sutural end angles without toothed. *Ventral surfaces* covered with finely punctured. *Legs* short, stout; hind tarsal segment 1 shorter segment 2 and segment 3 united, and last.

Distribution: Thailand and Laos.

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 20.01.2002(1♀), Doi Inthanon, 15.08.2006(1♀).

Remark: The species differs from *A. alboguttata* in being elytra are covered with reddish brown hairs and furnished with densely whitish pubescence spots. Specimens were collected late in winter and mid rainy seasons.

Anamera obesa Pic, 1928

Figure 38E

Anamera obesa Pic, 128, *Mel. Exot. Ent.* 52: 19.-Breuning, 1943, l. c., 323.

Description: *Body* length 19.5 mm and breadth 7 mm, black; head covered with whitish pubescence; antennal segments 1-2 dark brown, covered with slivery pubescence; antennal segments 3-10 reddish brown, covered with slvery pubescence, each segment furnished with reddish brown hairs on apex; segment 11 covered with reddish brown pubescence; pronotum covered with whitish pubescence, furnished with two broad longitudinal whitish pubescence bands, each band running from apical margin to basal margin and touching; interspace between bands as broad as band; lateral side furnished with a longitudinal whitish pubescence stripe, somewhat separated by lateral toothed; scutellum covered with whitish pubescence; elytra covered with unevenly whitish pubescence throughout, furnished with a pair of large oval whitish pubescence bands behind middle line; ventral surfaces covered with whitish pubescence; femora covered with whitish pubescence; tibiae covered with whitish pubescence, furnished with reddish brown hairs on apical margin.

Head as broad as prothorax; frons slightly broader than long, finely punctured; anterior margin slightly concave at middle; labrum subtrapezoidal, strongly concave at middle of apical margin; genae about 2/3 as deep as eye-lobes; antennal tubercles moderately separated; antennal supports strongly raised; vertex sparsely and fairly

punctured; a narrow and shallow groove running from frons to vertex. Antennae slightly longer than body; segment 1 sparsely and fairly punctured, slightly arched, gradually thicken to tip; segment 3 as long as segment 1, subcylindrical, slightly swollen at tip; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, slightly convex, furnished with a small tubercle on middle near basal margin, a short transverse and deep groove behind a small tubercle, sparsely and moderately punctured; anterior margin as broad as posterior margin; apical margin straight; basal margin sinuated; lateral sides sinuated, with fairly and slightly acuted toothed. Scutellum subrectangular, rounded at corner. *Elytra* distinctly broader than prothorax, slightly convex, gradually oblique from 3/4 of elytra to apex, smoothly rounded apically, rather punctured at each side of scutellum and punctures getting finer toward each sides and apices; humeral angles granulated; basal margin sinuated; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, stout; hind tarsal segment 1 as long as segment 2 and segment 3 united, and last.

Distribution: Vietnam, Laos, Myanmar and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 5.09.2004(1♀).

Remark: The species differs from *A. concolor* in being body is black. The only one specimen was collected in late rainy season.

Anamera strandi Breuning, 1940

Figure 38D

Anamera strandi Breuning, 1940. *Folia Zoologica et Hydrobiologica*, 10: 115-214.

Description: *Body* length 13.5 mm and breadth 5.5 mm, dark reddish brown; head covered with whitish pubescence for most parts; vertex furnished with two densely whitish pubescence bands starting from between upper eye-lobe, running separated to each side of vertex, and continued to occiput; interspace between bands

sparsely whitish hairs and reddish brown hairs; antennae covered with pale reddish brown pubescence; pronotum covered with whitish pubescence for most parts, furnished with two longitudinal whitish pubescence bands; interspace between bands broader than each band, sparsely whitish hairs; scutellum covered with whitish pubescence; elytra covered with reddish brown hairs, furnished with densely whitish pubescence spots with following: 1st a longitudinal and irregular row of spots on each elytron, somewhat united or separated, starting from middle of each basal margin of elytron, running to each apice; 2nd small spots scattered along lateral sutures and internal sutures, somewhat united or disappearing; ventral surfaces and femora covered with slivery pubescence; tibiae covered with slivery pubescence, furnished with reddish brown hairs on apical margin.

Head as broad as prothorax; frons as broad as long, sparsely and moderately punctured; anterior margin substraight; genae about 1/2 as deep as eye-lobes; antennal tubercles fairly separated, scattered with deeply punctured; densely with deeply and closely punctured between and behind upper eye-lobes; a narrow and shallow groove running from frons to vertex; labrum subtrapezoidal, slightly concave at apical margin. Antennae slightly longer than body; segment 1 rugulose, slightly arched, gradually thicken to tip, slightly oblique truncation with finely punctured; segment 3 shorter than segment 1, slightly swollen at tip; segment 4 as long as segment 3; segment 5 shorter than segment 4; segments 5-10 decreasing in length; segment 11 slightly longer than segment 10. *Pronotum* narrower than elytra, broader than long, scattered with punctured; anterior margin slightly broader than posterior margin; a moderately raised tubercle on middle near basal margin; apical margin straight; basal margin slightly sinuated; lateral sides slightly swollen, with moderately and subacutely toothed at middle. Scutellum hemicircular. *Elytra* distinctly broader than prothorax, gradually narrow at each side from humeral angles to apice, smoothly rounded apically, rather moderately and deeply punctured at each side of scutellum toward to humeral angles and continued to middle, and then punctures getting slightly fine toward and apices; basal margin slightly sinuated; sutural end angles without toothed. *Ventral surfaces* covered with finely punctured. *Legs* short, stout; hind tarsal segment 1 shorter segment 2 and segment 3 united, and last.

Distribution: Java, Myanmar and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Doi Saket, 7.07.2003(1♀).

Remark: The species differs from *A. alboguttata* in having elytra are covered with reddish brown hairs and furnished with densely whitish pubescence sopts with following: a irregularly longitudinal row of spots on each elytron, somewhat united or separated, starting from middle of each basal margin of elytron, running to each apice; small spots scattered along lateral sutures and internal sutures, somewhat united or disappearing. The only one specimen was collected in mid rainy season.

Anameromorpha metallica Pic, 1923

Figure 38G

Anameromorpha metallica Pic, 1923, *Mel. Exot. Ent.* 40: 10.-Breuning, 1945, l. c., 325 (Laos).

Description: *Body* length 19.5 mm and breadth 7 mm, metallic blue tinge with purple; head covered with slivery bronze pubescence; antennae metallic dark blue, covered with dark blue to blackish pubescence; pronotum covered with slivery bronze pubescence for most parts; scutellum slivery bronze pubescence; elytra covered with metallic dark blue; ventral surfaces and legs metallic dark blue, covered with slivery brown pubescence, tinge with bronze.

Head slightly narrower than prothorax, fairly deep punctures with dark blue in the bottom; frons strongly convex, as broad as long, punctured, depressed above anterior margin; anterior margin straight; genae about 1/2 as deep as eye-lobe; antennal tubercles fairly separated; antennal supports strongly raised; vertex strongly depressed behind antennal tubercles, sparsely punctured; a narrow and shallow groove running from frons to vertex. Antennae slightly longer than body; segment 1 finely punctured, gradually thicken to tip, slightly oblique truncation at tip with punctured; segment 3 longer than segment 1, gradually thicken to tip, slightly swollen tip;

segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, slightly broader than long, fairly convex; disc scattered with moderately deep punctures with a dark blue hair on bottom; anterior margin as broad as posterior margin; apical margin straight; basal margin substraight; lateral sides strongly swollen with moderately and obtusely toothed at middle. *Elytra* distinctly wider than prothorax, slightly concave behind humeral angles, smoothly rounded apically, rather punctured at each side of scutellum and getting finer toward each sides and apices; humeral angles slightly raised and obtuse; basal margin straight; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, stout.

Distribution: Borneo, Vietnam, Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Fang, 22.09.2006(1♀).

Remark: This species is very distinct characters of body is metallic blue tinge with purple; lateral sides of pronotum are strongly swollen and furnished with a moderate and obtuse dentation at middle. The only one specimen was collected in late rainy season.

Annamanum chebanum (Gahan, 1895)

Figure 37H

Uraecha chebana Gahan, 1895, *Ann. Mus. Civ. Genova* 34: 41.

Annamanum chebanum: Breuning, 1943, l. c., 402, fig. 290.-Gressitt, 1951, l. c., 387.

Description: *Body* length 16 mm and breadth 5 mm, reddish brown to dark reddish brown; head dark brown, covered with brownish pubescence; antennal segments 1-2 covered with pale brownish pubescence; antennal segments 3-10 each covered with brownish pubescence on basal portion alternated with reddish brown

pubescence on apical portion; antennal segment 11 covered with reddish brown pubescence; pronotum covered with yellowish brown pubescence, furnished with densely yellowish brown pubescence marks with following: Two marks above middle line; a irregular mark on base of each lateral toothed; scutellum covered with yellowish brown pubescence; anterior portion of elytra covered with dark reddish brown pubescence, scattered with yellowish brown hairs at each side and behind scutellum; two broad oblique whitish pubescence bands at middle, but not touching inner sutures; a hemicircular dark brown pubescence band behind each a broad oblique whitish pubescence band; posterior portion covered with brownish pubescence; ventral surfaces covered brownish pubescence; legs covered with brownish pubescence.

Head as broad as prothorax; frons longer than broad, scattered with fairly shallow punctures; anterior margin slightly swollen; genae about 1/2 as deep as eye-lobes; antennal tubercles moderately separated; vertex scattered with moderately shallow punctures; a moderately deep groove running from frons to vertex. Antennae longer than body; segment 1 subcylindrical, scattered with moderately and shallowly punctured; segment 3 longer than segment 1, finely punctured; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, broader than long, granulate; anterior margin broader than posterior margin; disc strongly depressed at basal angles; apical margin slightly swollen at middle; basal margin slightly sinuated; lateral sides slightly swollen, with moderately and obtusely toothed at middle. Scutellum hemicircular. *Elytra* distinctly narrower than prothorax, subparallel, truncated without toothed, rather granulate at each side of scutellum, and toward to 1/5 of elytra, and then punctured toward each sides and apices; humeral angles granulate; basal margin sinuated; outer apical conners without toothed; sutural end angles without toothed. *Ventral surfaces* scattered with moderately and shallowly punctured. *Legs* fairly long, stout, scattered with moderately and shallowly punctured; hind tarsal segment 1 as long as segment 2 and segment 3 united, and last.

Distribution: Myanmar, India, Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Doi Sutep, 9.10.2002(1♀).

Remark: This species is very distinct characters of body is reddish brown to dark reddish brown; pronotum is covered with yellowish brown pubescence and densely yellowish brown pubescence marks are present on disc; elytra are furnished with two broad oblique whitish pubescence bands at middle and a hemicircular dark brown pubescence band behind each a broad oblique whitish pubescence band. The only one specimen was collected in late rainy season.

Anoplophora birmanica Hüdepohl, 1990

Figure 39A

Anoplophora birmanica Hüdepohl, 1990, *Entomofauna, Zeitschrift für Entomologie* 11: 441-466.

Description: *Body* length 48 mm and breadth 18 mm, head black, covered with dense yellow to pale green or blue pubescence over entire head except for middle line running between antennal tubercles to frontoclypeal suture and a V-shaped region at middle vertex to occiput at back of head. Pronotum black, dorsally with two broad, longitudinal bands of pale yellow, green, or blue pubescence around a diamond shaped glabrous region at center; laterally with coating of pubescence around lateral spines. Scattered long, erect, black hairs present on surface of pronotum and posterior of pronotal spines. Mesothorax black, densely coated with yellow or very pale green pubescence except where rubbed from mesosternal process and margin of mesocoxae. Pale green to yellow pubescence also on mesepisternum and mesepimeron. Scutellum densely yellow to pale green pubescence. Scutellum densely yellow to pale green pubescence. Elytra shiny and black with very weak iridescent bluish sheen and 17-20 small to moderate sized patches of yellow to pale green pubescence on each elytron. Numerous long, erect, black hairs present on surface. Abdomen: black, coated with dense yellow to pale green or blue pubescence. Legs black, coated with light yellow or pale green pubescence on femora, tibiae, and tarsi.

Head with moderately produced genae; quadrate shape from frontal view. Antennae of males exceed apex of elytra by 4 antennomeres (last antennomere very long and flattened, longer than two previous antennomeres combined); of females by 2-3 antennomeres; antennomeres strongly pale blue or green annulate at basal one-third to one-half; segment 1 with moderate cicatrix. Eye deeply emarginated, lower lobe about one-half as high as gena in both sexes. Labium with palpi 4-segmented and densely pale blue setose on outer margin; apical palpomere conical; second palpomere inflated at apex, about 1.75 times wider at widest point than at base. Only small apical sensillum patch present on apical labial palpomere. Moderate crest present between labial palpi bases. Approximately 10-20 long setae at apex of labium and dense fringe of short hairs present at anterior margin. Maxilla with palpi 5-segmented; outer margin with pale blue green or yellow setae; apical palpomere conical; second palpomere short and strongly constricted at basal one-third. Third maxillary palpomere weakly inflated, 1.5 times as wide at widest point than at base. Only apical sensillum present on apical maxillary palpomere. Labrum trapezoidal and wider at apex than at base; base with numerous pale blue or green setae; apex at sides with 10-20 long, dark setae. No calli present. Sparse punctures present. Dense fringe of setae present at sides of apical margin but not at middle. Clypeus membranous, without setae or evident punctuation. Mandible large, triangular. Articulation prominent, cutting surface sharp, unserrated and crescent-shaped; patch of pale green or blue pubescence on outer side. Gula broad and short, about as wide as long. Metathorax black but covered with dense yellow to light green pubescence except where rubbed at middle of metasternum. Metepisternum also with same dense pale yellow to green pubescence. *Pronotum* furnished with three pronotal calli present with abrupt middle and two small lateral calli. Fringe of hairs oriented anteriorly along margin of occiput of head. Lateral pronotal spine very strong although not extremely long, thickened at base, with apex acute and slightly, posteriorly curved. Procoxal cavity moderately open laterally and closed posteriorly. Prosternal intercoxal process strongly expanded posteriorly, closing procoxal cavity. Scutellum triangular with truncate or slightly rounded posterior apex. Mesepimeron contacting mesocoxa fully. Mesosternal intercoxal process prominent, with ventral and anterior projection, distinctly extending below plane of mesocoxae. Metasternum with very

broad mesocoxal extension with broadly rounded separation from mesosternum, just posterad of midline of mesocoxae. Metasternal notch acute. *Elytra* no granulae at base or elsewhere. Humeri prominent, forming sinuate outline at base. Apex of female terminal ventrite truncate with depression ventrally at middle. Apex of male terminal ventrite truncate. *Legs*: Antennal cleaner fringes prominent at apical one-half of meso- and metatibiae and apex of protibia. Femora cylindrical, moderate length; metafemur extending beyond posterior margin of third ventrite.

Distribution: Myanmar and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Fang, 6.07.2005(1♀).

Remark: The species differs from *A. stanleyana* in having elytron is shiny and black with very weak iridescent bluish sheen and 17-20 small to moderate sized patches of yellow to pale green pubescence are present on disc. The only one specimen was collected in mid rainy season.

Anoplophora elegans (Gahan, 1888)

Figures 39D-F, 106A-B

Cyriocrates elegans Gahan, 1888, *Ann. Mag. Nat. Hist.* ser. 6, 2: 450.

-Breuning, 1943, l. c., 295, fig. 186.

Melanauster macrospilus Gahan, 1900, *Ann. Mag. Nat. Hist.* (7) 5: 347- 354.

Melanauster superbus Pic, 1925, *Mel. Exot. Ent.* 43: 20.

Melamauster superbus var. *albonotatus* Pic, 1926, *Exot. Entomologiques* 46: 1-32.

Anoplophora (Cyriocrates) elegans: Breuning, 1944, *Novitates Entomologicae* 14 (Troisième Supplément, Fasc. 108): 289-296.

Cyriocrates elegans ab. *albonotata* var. *coloremutilabilis* Tippmann, 1953,
Entomologische Blätter 49: 148-153.

Description: *Body* length 27-40 mm and breadth 10-17 mm, head black with short coating of appressed white, green, yellow, or purple hairs around gena and frons. Prothorax black, covered with dense patch of white, purple, yellow, or light green pubescence on either side of middle disk and pronotal spine but shifted anteriorly somewhat. Fringe of short hairs at anterior margin of pronotum, some erect and some oriented anteriorly along margin of occiput of head and a few longer hairs present on posterior of lateral spines. Mesothorax black with dense coating of iridescent white, purple, yellow, or light green hairs on most sclerites except mesepimeron (mostly glabrous). Mesepisternum with bold white, purple, yellow, or green iridescent pubescence. Metathorax black, with coating of bold white, purple, yellow, or green iridescent pubescence on all sclerites. Elytra shiny and black with weak iridescent purple, coppery, or green sheen. Eight to eleven small patches of white, purple, or light green, slightly iridescent pubescence forming 5 very vague transverse row. No noticeable long, erect black hairs present. Hind wing dark amber/smoky tinted. Legs black with white, purple, or light yellow or green pubescence on tarsomeres 1-3 and tibiae. Abdomen black with coating of iridescent bluish or bluish-white appressed hairs.

Head with moderate genae, not divergent at mandibular articulation; round to subtly quadrate in appearance. Antennae of males exceed apex of elytra by about 5 antennomeres; of females by about 2-3 antennomeres; antennomeres strongly green, white, yellow, or purple annulate at extreme apex and base. Scape with moderate-sized, punctuate cicatrix. Eye emarginated, lower lobe a little more than one-half as high as gena. Labium with palpi 4-segmented; apical palpomere football shaped, inflated at middle; second palpomere inflated at apex, nearly 2 times wider at widest point than at base. Small apical sensillum patch present only on apex of apical labial palpomere. Low, rounded crest present between labial palpi bases. Approximately 10 long setae extending beyond apex at middle of labium. Maxilla with palpi 5-segmented; apical palpomere conical; second palpomere short and strongly

constricted at basal one-third. Third-fifth maxillary palpomere inflated, each about 1.6 times as wide at widest point than at base. Apical sensillum present only on apex of apical maxillary palpomere. Labrum trapezoidal and wider at apex than at base, slightly indented at middle of apex. No calli present at anterior margin. Few sparse punctures apparent at apical half of labrum. Dense fringe of setae on apical margin except at middle and sides. Few longer setae present on outer margin. On underside, two dense fields of appressed, thickened setae present on either side. No patch of punctures present beside articulation of labrum. Clypeus membranous, without setae (except for some along anterior margin of frons) or evident punctuation. Mandible large, triangular, with conspicuous patch of iridescent purple, green, yellow, or white pubescence (dependent upon elytral pubescence color) in triangular outer basal region. Articulation prominent, cutting surface sharp, unserrated and crescent-shaped. Gula broad and short, slightly less than twice as wide as long. *Pronotum* black with one weak posteromedial callus and stronger anterior and posterior constriction. Lateral pronotal spine strong, thickened at base, with acute and slightly posteriorly directed apex. Procoxal cavity moderately open laterally and closed posteriorly. Prosternal intercoxal process expanded posteriorly, closing procoxal cavity. Scutellum conspicuously white, purple, yellow, or green pubescent; triangular with narrowly rounded posterior apex. Mesonotum fused to scutellum, middle with asymmetrical left-shifted seam over very finely striate stridulatory region; several punctures present at sides. Mesepimeron mostly glabrous in comparison to other ventral and lateral sclerites; contacting mesocoxa fully. Mesosternal intercoxal process very prominent with strong ventral and anterior projection; rarely with weak development. Metepisternum without modification aside from pubescence as described. Metasternum with very broad mesocoxal extension with transverse separation from mesosternum, just posterad of midline of mesocoxae. Metasternal notch deep with narrowly transverse apex. *Elytra*: Base of elytra smooth; no granulae or punctuation present. Very strong humeri, forming sinuate outline at base. *Legs*: Antennal cleaner fringes prominent at apical one-half of meso- and metatibiae and apex of protibia. Femora cylindrical, moderate in length; metafemur extending to posterior margin of third or fourth ventrite. Apex of female terminal ventrite obtusely

V-shaped with fringe of short hairs at margin. Apex of male terminal ventrite truncate without any notch at middle.

Distribution: S. Chiana (Hainan Island), Myanmar, Vietnam, Thailand and Laos.

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 7.04.2004(1♀), Chiang Dao, 5.09.2002(1♂), Chiang Rai Prov.: Wiang Pa Pao, 17.03.2003(1♀), 23.08.2003(1♂), Phrae Prov.: Wang Chin, 10.12.2005(1♂).

Remark: The species differs from *A. horsfieldii* in having pronotum is black and furnished with one weak posteromedial callus and stronger anterior and posterior constriction. One dense patch of white, purple, yellow, or light green bubescence is furnished on either side of middle disk and pronotal spine but shifted anteriorly somewhat. Specimens were collected in mid all seasons.

Anoplophora horsfieldii (Hope, 1842)

Figures 39G-I, 106C-D

Oplophora horsfieldii Hope, 1842, *J. Proc. Ent. Soc. Lond.* (1): 60-62.

Cerosterna voluptuosa Thomson, 1856, *Rev. Mag. Zool. Appli.* (2)8: 528-530.

Cyriocrates horsfieldii: Thomson, 1868, *Physis ou recueil d'Histoire Naturelle* 12: 179-183.

Cyriocrates horsfieldi tonkinensis Kriesche, 1924, *Deutsche Entomologische Zeitschrift*, 1924: 285-290.

Anoplophora horsfieldi: Breuning, 1944, *Novitates Entomologicae* 14 (Troisième Supplément, Fasc. 108): 289-296.

Cyriocrates nigrotrifasciatus Pic, 1953, *Échange* 69: 2.

Description: *Body* length 36-32 mm and breadth 12-13.5 mm; head black with bright dense, yellow pubescent patches present on frons, gena, and vertex. Patches on frons and vertex separated by glabrous regions. Prothorax black with two longitudinal yellow stripes of pubescence, with extensions of patches on vertex. Moderate-length hairs present at anterior margin, some erect and some oriented anteriorly along margin of occiput of head. Sparse, long dark hairs present on posterior of pronotal spines and scattered around posterior one-half of pronotum. Venter with dense, bright yellow pubescence everywhere except on mesosternum and mesepimeron which have darker, less conspicuous hairs. Scutellum covered with inconspicuous light yellow or white pubescence. Mesepimeron lacking bright yellow pubescence; contacting mesocoxa fully. Mesosternal intercoxal process covered with bright yellow pubescence (remainder of mesosternum has darker, less conspicuous hairs). Metathorax black and covered with yellow pubescence on all sclerites. Elytra shiny and black without iridescent sheen and 6-8 large patches of bright yellow pubescence (rarely dirty white) forming four broad, transverse rows. No erect hairs present on surface. Legs black with partial coating of white pubescence on tarsi, femora, and tibiae. Abdomen: black with dense coating of bright yellow pubescence.

Head with moderate genae, not divergent at mandibular articulation; vertex bulging and rounded, giving head overall rounded appearance. Antennae of males exceed apex of elytra by 5 antennomeres; of females by about 2 antennomeres. Antennomeres strongly white annulate at basal one-fourth to one-half except eleventh, which in males is annulate at basal one-third and apical one-half; resembling two antennomeres. In females, eleventh antennomere is also banded, appearing as two segments, with narrow basal middle annulation. Scape with strong cicatrix with coarse punctures. Eye deeply emarginated, lower lobe small, less than half as high as gena. Labium with palpi 4-segmented; apical palpomere conical; second palpomere inflated at apex, nearly two times wider at widest point than at base. Only small apical sensillum patch present on apical labial palpomere. Narrow, moderately high setose crest present between labial palpi bases. Fifteen to thirty long setae at apex of

labium. Maxilla with palpi 5-segmented; apical palpomere conical; second palpomere short and strongly constricted at basal one-third. Third maxillary palpomere inflated, about 1.75 times as wide at widest point than at base. Only apical sensillum present on apical maxillary palpomere. Labrum trapezoidal and wider at apex than at base. No calli present at anterior margin. Sparse punctures present along apical half. Dense fringe of setae on apical margin, shorter at middle than sides; 10-15 long, wavy setae present at sides at apex. Two dense longitudinal rows of setae on underside on either side of middle crest base. Clypeus membranous, without setae or evident punctuation. Mandible large, triangular, with outer basal region weakly depressed and housing numerous white setae. Very prominent articulation, cutting surface, unserrated and crescent-shaped. Gula and short, approximately twice as wide as long. *Pronotum* with rounded posteromedial callus and middle impression and highly raised anterior and posterior margins. Lateral pronotal spine not very long, thickened at base, with acute and posteriorly curved apex. Procoxal cavity partially open laterally and closed posteriorly. Prosternal intercoxal process expanded posteriorly, just closing procoxal cavity. Scutellum triangular with rounded posterior apex. Mesonotum fused to scutellum. Mesosternal intercoxal process not strongly produced, with weak ventral and anterior projection. Metasternum with broad mesocoxal extension with transverse separation from mesosternum, just posterad of midline of mesocoxae. Metasternal notch acute. *Elytra* no granulae at base or elsewhere. Humeri weakly produced. *Legs*: Antennal cleaner fringes prominent at apical one-half of meso- and metatibiae and apex of protibia. Femora cylindrical, moderate in length; metafemur extending to region of fourth ventrite. Apex of female terminal ventrite truncate with fringe of long hairs and without notch at middle. Apex of male terminal ventrite truncate with fringe of long hairs and without notch at middle.

Distribution: China, Taiwan, Vietnam, Thailand and India.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 1.03.2006(1♀), Doi Saket, 7.07.2003(1♂), Chiang Dao, 5.09.2002(1♀),

4.02.2003(1♂), Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♂, 1♀), 23.08.2003(1♂, 1♀), 17.03.2005(1♂).

Remark: The species differs from *A. elegans* in having pronotum is black and furnished with two longitudinal yellow stripes of pubescence, with extensions of patches on vertex. Specimens were collected from early, late and continued to summer and rainy seasons.

Anoplophora longehirsuta Breuning, 1968

Figures 40A-E, 107A-B

Anoplophora longehirsuta Breuning, 1968, *Bull. Soc. R. Sci. Nat. Laos* 16: 23 (Laos).

Anoplophora parelegans Chiang, 1981, *Acta Entomologica Sinica* 24: 78-84.

Description: *Body* length 34-47 mm and breadth 12-17 mm; head black clothed in iridescent green pubescence; pronotum black, entirely clothed with iridescent green pubescence except for lateral pronotal spines and oval median region. Long, black erect hairs also prevalent over surface of pronotum. Venter with dense clothing of light iridescent green (rarely light blue) pubescence over all sclerites. Elytra shiny and black with strong iridescent violet or green sheen and 5-8 complete or nearly complete transverse bands of pale green to iridescent green pubescence on each elytron, more or less arranged in transverse rows. Numerous long, erect, black hairs present on surface. Legs black, coated with pale or iridescent green pubescence on femora, tibiae, and tarsi. Abdomen: black, coated with dense pale green or iridescent green pubescence.

Head with moderately produced genae and quadrate shape from front view. . Antennae of males exceed apex of elytra by 5 antennomeres (last antennomere very long and flattened, longer than two previous antennomeres combined); of females by 2-3 antennomeres; antennomeres strongly pale blue annulate at basal one-half of all but apical antennomere (mostly non-annulate); scape with strong, coarsely punctured

cicatrix. Eye deeply emarginated, lower lobe a little less than one-half as high as gena in both sexes. Labium with palpi 4-segmented and densely pale blue setose on outer margin; apical palpomere swollen at middle; second palpomere inflated at apex. Only small apical sensillum patch present on apical labial palpomere. Maxilla with palpi 5-segmented; apical palpomere conical; second palpomere short and strongly constricted at basal one-third to one-half. Third maxillary palpomere weakly inflated. Only apical sensillum present on apical maxillary palpomere. Labrum trapezoidal and wider at apex than at base; most of surface clothed with short, bright, iridescent green scal-like setae; 10-20 long, dark setae originating at middle in transverse row and extending beyond apex. Dense fringe of setae present at sides of apical margin. No calli present. Sparse punctures present. Clypeus membranous, without setae or evident punctuation. Mandible large, triangular; with dense patch of iridescent green pubescence at triangular outer basal impression. Articulation prominent, cutting surface sharp, unserrated and crescent-shaped. Gula broad and short, about twice as wide as long. *Pronotum* black with one weak postero-medial callus emphasized by a moderate posterior constriction. Lateral pronotal spine very strong, thickened at base, with apex acute and slightly posteriorly curved. Procoxal cavity moderately open laterally and closed posteriorly. Prosternal intercoxal process expanded posteriorly, closing procoxal cavity. Scutellum very densely iridescent green pubescence; triangular but with broadly rounded posterior apex. Mesepimeron contacting mesocoxa fully. Mesosternal intercoxal process weakly produced without noticeable ventral and anterior projection. Metathorax as rest of venter, covered by dense pale green to iridescent green pubescence. Metasternum with very broad mesocoxal extension broadly rounded separation from mesosternum, just posterad of midline of mesocoxae. Metasternal notch acute. *Elytra* very few granulae present at humerus and/or between humerus and scutellum (very rarely, granulae appearing completely absent). Humerus moderate to strong, forming sinuate outline at base. Apex of female terminal ventrite truncate with variably produced notch at middle of apex. Apex of male terminal ventrite truncate; without notch or depression at apex. *Legs*: Antennal cleaner fringes prominent at apical one-half of meso- and metatibiae and apex of protibia. Femora cylindrical, moderate to long; metafemur extending beyond posterior margin of third ventrite.

Distribution: Laos, Myanmar, China, Thailand and Vietnam.

Material examined: Thailand: Chiang Mai Prov.: Fang, 2.03.2002(1♂, 1♀), 5.09.2003(2♀), 6.07.2005(1♂, 1♀), Samoeng, 20.01.2002(1♂), 7.04.2004(1♂), Doi Saket, 5.07.2005(1♀), Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♂, 3♀), 23.08.2003(1♂, 2♀), 17.03.2005(1♂).

Remark: The species differs from *A. zonator* in having humerus and/or between humerus and scutellum are furnished with very few granulae (very rarely, granulae appearing completely absent). Specimens were collected from late winter, mid and continued to late summer, and rainy seasons.

Anoplophora medenbachii (Ritsema, 1881)

Figures 39C, 106E-F

Melanauster medenbachii Ritsema, 1881, *Note from the Leyden Museum* 3: 39-40.

Anoplophora medembachi: Breuning, 1944, *Novitates Entomologicae* 14 (Troisième Supplément, Fasc. 108): 289-296.

Nemophas malachiticus Nonfried, 1891, *Berliner Entomologissche Zeitschrift* 36: 359-380.

Melanauster medenbachi var. *sumatrensis* Fisher, 1934, *Miscellanea Zoologica Sumatrana* 88: 1-7.

Description: *Body* length 32-34 mm and breadth 10-12 mm; head black, clothed with dense gray to blue pubescence. Scattered long black hairs present around inner eye margin, antennal tubercle, and frontoclypeal margin. Pronotum covered with dense fringe of short hairs at anterior margin of pronotum oriented anteriorly along margin of occiput of head and scattered erect, black hairs on pronotal spines and around disc. Venter nearly completely clothed with blue to greenish-gray

pubescence. Mesothorax black, with complete coating of blue to light blue-gray hairs on all sclerites (sometimes rubbed from middle of mesosternal process). A few long hairs on coxa and mesosternal process. Scutellum with dense blue or gray pubescence. Mesepimeron contacting mesocoxa fully; covered by blue or blue-gray pubescence. Mesepisternum covered by blue or blue-gray pubescence. Metathorax black and coated with blue or blue-gray pubescence, rubbed at middle of metasternum. Metepisternum fully coated with blue or blue-gray pubescence. Elytra shiny and black with weak purple, copper, or green iridescence and with five nearly straight, transverse bands of blue or light blue-gray pubescence, equally spaced from base to apex. Numerous short, erect, black hairs present on surface of elytra. Legs black, coated with gray or light blue pubescence on tarsi, tibiae, and femora. Abdomen black and clothed with gray or light blue pubescence.

Head: Genae moderate, not diverging at mandibular articulation; front of head with quadrate appearance. Antennae of males exceed apex of elytra by more than 5 antennomeres; of females by 3 antennomeres. Basal antennomeres to 8 or 10 with basal half boldly annulate in blue-gray or light blue; remaining antennomeres with partial annulations. Scape completely clothed with blue or gray pubescence. Scape with strong cicatrix. Basal antennomeres not thickened in females relative to male. Eye moderate sized, deeply emarginated, lower lobe about half as high as gena in both sexes. Labium with palpi 4-segmented; apical palpomere conical; second palpomere with 6-8 long setae on inner surface and inflated at apex, about 1.6 times wider at widest point than at base. Only small apical sensillum patch present on apical labial palpomere. Moderate rounded setose crest present between labial palpi bases. Approximately 6-8 long setae at apex of labium. Maxilla with palpi 5-segmented; apical palpomere conical; second palpomere short and strongly constricted at basal one-third. Third and fourth maxillary palpomeres inflated, 1.5-1.7 times as wide at widest point than at base. Only apical sensillum present on apical maxillary palpomere. Labrum trapezoidal and wider at apex than at base; with weak indentation at middle of apex. No calli present at anterior margin. Partially covered with short scale-like pale blue pubescence. Dense fringe of setae on apical margin, but much shorter at middle of apex. Sides with 15-30 long, wavy setae and shorter setae and

punctures elsewhere. On underside, two dense fields present on either side. Clypeus membranous, without setae or evident punctuation (except for numerous long frontoclypeal setae extending over surface). Mandible large, triangular. Articulation prominent, cutting surface sharp, unserrated and crescent-shaped. Very shallow outer base with inconspicuous patch of short white hairs along with some longer black hairs. Gulabroad and short to quadrate, approximately 1.3 times as wide as long. *Pronotum* black, densely clothed with blue-gray to blue pubescence throughout except, in most specimens, region behind posterior constriction mostly glabrous. One moderate, postero-medial callus present; lateral pronotal spine strong, thickened at base, with semi-acute and posteriorly curved apex. Procoxal cavity widely open laterally and closed posteriorly. Prosternal intercoxal process strongly expanded posteriorly, closing procoxal cavity. Scutellum tongue-shaped with slightly rounded posterior apex. Mesonotum fused to scutellum, middle with asymmetrical left-shifted seam over very finely striate stridulatory region and with several punctures and setae present laterally. Mesepimeron contacting mesocoxa fully. Mesosternal intercoxal process moderate, with small ventral and anterior projection. Metasternum with very broad mesocoxal extension with transverse to slightly arcuate separation from mesosternum, just posterad of midline of mesocoxae. Metasternal notch acute. *Elytra* furnished with ten to twenty variably-sized and produced granulae at base, mostly concentrated on humerus and linearly along costae at basal one-fourth. Basal one-fourth also with many punctures, these diminishing posteriorly. *Leg*: Antennal cleaner fringes prominent at apical one-third to one-half of tibiae. Femora cylindrical, moderately long; metafemur extending to posterior margin of fourth ventrite or beyond. Apex of female terminal ventrite truncate with gradual indentation at middle of apex and dense fringe of hairs. Apex of male terminal ventrite broadly rounded with scattered long, black hairs.

Distribution: Indonesia (Sumatra and Java), Malaysia and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Chiang Dao, 4.02.2003(1♂), Chiang Rai Prov.: Wiang Pa Pao, 17.03.2005(1♀).

Remark: This species is very distinct characters of pronotum is covered with dense fringe of short hairs at anterior margin of pronotum oriented anteriorly along margin of occiput of head and scattered erect and black hairs on pronotal spines and around disc; elytra are shiny and black with weak purple, copper, or green iridescence ; five nearly straight, transverse bands of blue or light blue-gray pubescence, equally are spaced from base to apex. Specimens were collected in early and late summer seasons.

Anoplophora sollii (Hope, 1839)

Figures 41A-B, 107C-D

Oplophora sollii Hope, 1839, *Proc. Linn. Soc. Lond.* 1: 42-44.

Callophora sollii: Thomson, 1864, *Mémoires de la Société Royale des Sciences de Liège* 19: 1-540.

Description: *Body* length 41-70 mm and breadth 15-23 mm; head black covered with dense coating of green or blue-green setae throughout, especially frons, gena, and vertex. Prothorax black but covered, except for lateral spines and middle longitudinal region, with dense blue-green or green iridescent pubescence. Clothed with abundant long, black, erect hairs over most of surface and moderate-length hairs at anterior margin, some erect and some oriented anteriorly along margin of occiput of head. Mesothorax black but mostly covered, as rest of venter, with dense light green iridescent pubescence. Scutellum covered with dense pale-green pubescence. Metathorax black but with near complete covering of iridescent green. Metepisternum with green or blue-green iridescent pubescence. Metasternum with green or blue-green iridescent pubescence. Elytra shiny and metallic dark green with very strong iridescent green or blue-green and 20-25 small round spots of dense white to pale green pubescence. Legs black with pale blue or green pubescence on tarsomeres 1-3 and sparsely at middle of each tibia. Tarsi with bright iridescent blue-green pubescence on unworn specimens. Abdomen black, densely clothed with green or blue-green iridescent pubescence.

Head with prominent genae, divergent at mandibular articulation so front of head has trapezoidal appearance; genae much more outwardly produced in females than males. Antennae of males exceed apex of elytra by 3-4 antennomeres; of females by about 1-2 antennomeres. Antennomeres strongly white to light blue annulate at basal one-half of most antennomeres to antennomeres to antennomere 8, and then annulations becoming indistinct. Scape of both sexes with very weak cicatrix with several punctures. Eye deeply emarginated, lower lobe small, less than half as high as high as gena. Labium with palpi 4-segmented; apical palpomere conical; second palpomere inflated at apex, nearly two times wider at widest point than at base. Only small apical sensillum patch present on apical labial palpomere. High setose crest present between labial palpi bases. Approximately 12-20 long setae at apex of labium. Maxilla with palpi 5-segmented; apical palpomere conical; second palpomere short and strongly constricted at basal one-third. Third maxillary palpomere inflated, twice as wide at widest point than at base. Only apical sensillum present on apical maxillary palpomere. Labrum trapezoidal and wider at apex than at base. No calli present at anterior margin. Sparse punctures present. Dense fringe of setae on apical margin; several long black setae present on outer surface. At basal half, numerous small scale-like iridescent blue-green setae present. Clypeus membranous, without setae or evident punctuation. Mandible large, triangular, with outer basal region depressed and in male with numerous iridescent scale-like blue-green setae present. Articulation prominent, cutting surface sharp, unserrated and crescent-shaped. Gula broad and short, approximately twice as wide as long. *Pronotum* heavily sculptured with pronounced posteromedial callus and middle impression and highly raised anterior and posterior margins. Numerous wrinkles present around posterior callus. Lateral pronotal spine very strong, thickened at base, with apex acute and posteriorly curved. Procoxal cavity partially open laterally and closed posteriorly. Prosternal intercoxal process strongly expanded posteriorly, closing procoxal cavity. Scutellum triangular with pointed posterior apex. Mesepimeron contacting mesocoxa fully. Mesosternal intercoxal process very prominent, with ventral and strong anterior projection. Metathorax very broad mesocoxal extension with transvers separation from mesosternum, just posterad of mesocoxae. Metasternal notch acute. *Elytra* no granulae at base or elsewhere. Humeri very prominent, forming sinuate outline at

base. *Legs*: Antennal cleaner fringes prominent at apical one-half of meso- and metatibiae and apex of protibia. Femora cylindrical, short; metafemur extending to posterior margin of third ventrite in male, a little shorter in female. Apex of female terminal ventrite truncate with fringe of long hairs and a shallow depression at middle. Apex of male terminal ventrite truncate with fringe of long hairs and a very vague notch at middle.

Distribution: India (Assam and Sikkim), Myanmar and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 2.03.2002(2♂, 2♀), 5.09.2003(1♂, 2♀), 6.07.2005(2♂, 3♀).

Remark: This species is very distinct characters of elytra are shiny and metallic dark green, covered with very strong iridescent green or blue-green and 20-25 small round spots of dense white to pale green pubescence are present on disc. Specimens collected in mid summer and rainy seasons.

Anoplophora stanleyana Hope, 1839

Figure 39B

Anoplophora stanleyana Hope, 1839, *Proc. Linn. Soc. Lond.* 1: 42-44.

Anoplophora angustata Pic, 1934, *Mélanges Exotico-Entomologiques* 63: 1-36.

Anoplophora tonkinea Breuning, 1944, *Novitates Entomologicae* 14 (Troisième Supplément, Fasc. 107): 281-288.

Anoplophora stanleyana chapaensis Breuning, 1950, *Longicornia* 1: 511-536.

Anoplophora stanleyana var. *bloriosa* Tippmann, 1953, *Entomologische Blätter* 49: 148-153.

Anoplophora stanleyana var. *melancholica* Tippmann, 1953, *Entomologische Blätter* 49: 148-153.

Description: *Body* length 48 mm and breadth 18 mm; head black clothed in pale green, slightly iridescent pubescence. Prothorax entirely clothed with pale green to iridescent green pubescence except for lateral pronotal spines and oval median region. Long, black erect hairs also present over surface of pronotum to varying degree. Venter with dense clothing of pale green to brighter iridescent green pubescence over all sclerites. Scutellum very densely pale green to greenish white pubescent. Metathorax as rest of venter, covered by dense pale green to iridescent green pubescence. Elytra shiny and black with strong iridescent violet or green sheen and 9-20 variably sized patches of pale green to iridescent green pubescence on each elytron, not arranged in transverse rows. Numerous long, erect, black hairs present on surface. Legs black, coated with pale or iridescent green pubescence on femora, tibiae, and tarsi. Abdomen: black coated with dense pale green or iridescent green pubescence.

Head black, with moderately produced genae and quadrate in shape from anterior view. Antennae of males exceed apex of elytra by 3-5 antennomeres (last antennomere very long and flattened, longer than two previous antennomeres combined); of females by 2-3 antennomeres; antennomeres strongly white or pale blue annulate at basal one-half; scape with cicatrix strong, coarsely punctured. Eye deeply emarginated, lower lobe a little less than one-half as high as gena in male. Labium with palpi 4-segmented and densely pale blue setose on outer margin; apical palpomere football shaped, swollen at middle; second palpomere inflated at apex, about 1.75 times wider at widest point than at base. Only small apical sensillum patch present on apical labial palpomere. High setose crest present between labial palpi bases. Approximately 10-15 long setae at apex of labium. Underside with two dense longitudinal rows of setae along margin of crest. Maxilla with palpi 5-segmented; apical palpomere conical; second palpomere short and strongly constricted at basal one-third to one-half. Third maxillary palpomere weakly inflated, 1.8 times as wide at widest point than at base. Only apical sensillum present on apical

maxillary palpomere. Labrum trapezoidal and wider at apex than at base; most of surface clothed with short, bright, iridescent green scal-like setae; 10-20 long, dark setae originating at middle in transverse row and extending beyond apex. Dense fringe of setae present at sides of apical margin. No calli present. Sparse punctures present. On underside of labrum, two dense fields present on either side. Clypeus membranous, without setae or evident punctuation. Mandible large, triangular; with dense patch of pale green pubescence at triangular outer basal impression. Articulation prominent, cutting surface sharp, unserrated and crescent-shaped. Gula broad and short, about twice as wide as long. *Pronotum* black with one weak postero-medial callus emphasized by a moderate posterior constriction. Lateral pronotal spine very strong, thickened at base, with acute and slightly posteriorly curved apex. Procoxal cavity moderately open laterally and closed posteriorly. Prosternal intercoxal process expanded posteriorly, closing procoxal process expanded posteriorly, closing procoxal cavity. Scutellum triangular but with broadly rounded posterior apex. Mesonotum fused to scutellum, middle with asymmetrical left-shifted seam over very finely striate stridulatory region. Mesepimeron contacting mesocoxa fully. Mesosternal intercoxal process weakly produced without noticeable ventral and anterior projection. Metasternum with very broad mesocoxal extension with broadly rounded separation from mesosternum, just posterad of midline of mesocoxae. Metasternal notch acute. *Elytra* very few granulae present at humerus and/or between humerus and scutellum. Humerus moderate to strong, forming sinuate outline at base. *Legs*: Antennal cleaner fringes prominent at apical one-half of meso- and metatibiae and apex of protibia. Femora cylindrical, moderate to long; metafemur extending beyond posterior margin of third ventrite. Apex of female terminal ventrite truncate with variably-produced notch at middle of apex. Apex of male terminal ventrite truncate; without notch or depression at apex.

Distribution: Inidia (Assam and Sikkim), Bhutan, Vietnam, Myanmar and Thailand (new record).

Material examined: Thailand: Nan Prov.: Mae Charim, 15.02.2005(1♀).

Remark: The species differs from *A. birmanica* in having elytron is shiny and black, covered with strong iridescent violet or green sheen and 9-20 variably sized patches of pale green to iridescent green pubescence are present on disc. The only one specimen was collected in early summer season.

Anoplophora zonator (Thomson, 1878)

Figures 40F-H, 107E-F

Cyriocrates zonator Thomson, 1878, *Revue et Magasin de Zoologie pure et appliquée* (3) 6: 45-68.

Melanauster fasciatus Pic, 1925, *Mélanges Exotico-Entomologiques* 43: 1-32.

Anoplophora zonatrix: Breuning, 1944, *Novitates Entomologicae* 14 (Troisième Supplément, Fasc. 107): 281-288.

Anoplophora zonatrix major Breuning, 1968, *Bulletin de la Société Royale des Sciences Naturelles du Laos*, 16(15 part): 1-64.

Description: *Body* length 28-39 mm and breadth 8-15 mm; head black, coated with dense, bright, iridescent green pubescence everywhere except behind upper eye margin in some specimens. Scattered long, black hairs around inner eye margin, antennal tubercle, and frontoclypeal margin. Scape completely clothed (except where rubbed) in blue or green pubescence. Pronotum black with dense coating of iridescent green or blue-green pubescence throughout except for middle longitudinal region, and, in most specimens, the region behind posterior constriction mostly glabrous. Pronotum with dense fringe of short hairs at anterior margin of pronotum oriented anteriorly along margin of occiput of head and scattered erect, black hairs on pronotal spines and around disk. Venter nearly completely clothed with blue to greenish-gray pubescence. Mesothorax black, with complete coating of iridescent green or pale green hairs on all sclerites (sometimes rubbed from middle of mesosternal process). A few long hairs on coxa and mesosternal process. Scutellum with dense iridescent

green pubescence. Mesepimeron covered by green pubescence. Mesepisternum covered by green pubescence. Mesosternal intercoxal process covered with numerous long black hairs. Metathorax black and coated with green pubescence, rubbed at middle of metasternum. Metepisternum fully coated with green pubescence. Elytra shiny and black with very weak iridescent and 5-6 nearly complete transverse bands of iridescent green pubescence, equally spaced from base to apex. Some transverse bands with interruptions and irregularities on posterior margins. Numerous long, erect, black hairs present on surface of elytra. Legs black, coated with iridescent green pubescence on tarsi, tibiae, and femora. Abdomen black and clothed with iridescent green pubescence.

Head: Genae moderate, not diverging at mandibular articulation; front of head with quadrate appearance. Antennae of males exceed apex of elytra about 5 antennomeres; of females by 3-4 antennomeres. Antennomeres with basal half boldly annulate in blue-green or light blue. Scape with cicatrix strong. Basal antennomeres not thickened in females relative to males. Eye moderate sized, deeply emarginated, lower lobe about half as high as gena in both sexes. Labium with palpi 4-segmented; apical palpomere conical; second palpomere inflated at apex. Only small apical sensillum patch present on apical labial palpomere. Moderate rounded setose crest present between labial palpi base. Maxilla with palpi 5-segmented; apical palpomere conical; second palpomeres short and strongly constricted at basal one-third. Third and fourth maxillary palpomeres inflated. Only apical sensillum present on apical maxillary palpomere. Labrum trapezoidal and wider at apex than at base; with weak indentation at middle of apex. No calli present at anterior margin. Partially covered with short scale-like pale blue or green pubescence. Dense fringe of setae on apical margin, but shorter of apex. Sides with scattered long, wavy setae and shorter setae and punctures elsewhere. Clypeus membranous, without setae or evident punctuation (except for numerous long frontocypeal setae extending over surface). Mandible large, triangular. Articulation prominent, cutting surface sharp, unserrated and crescent-shaped. Very shallow outer base with patch of short pale green or blue iridescent hairs along with some longer black hairs. Gula broad and short to quadrate. *Prothorax* with one moderate posteromedial callus and a moderate

posterior and anterior constriction. Lateral pronotal spine strong, thickened at base, with semi-acute and posteriorly curved apex. Procoxal cavity widely open laterally and closed posteriorly. Prosternal intercoxal process strongly expanded posteriorly, closing procoxal cavity. Scutellum broadly rounded posterior apex. Mesepimeron contacting mesocoxa fully. Mesosternal intercoxal process moderate, with small ventral and anterior projection. Metepisternum fully. Metasternum with very broad mesocoxal extension with transverse to slightly arcuate separation from mesosternum, just posterad of middle of mesocoxae. Metasternal notch acute. *Elytra* furnished with ten to twenty variably-sized and produced granulae at base, mostly concentrated on humerus and linearly along costae at basal one-fourth. Basal one-fourth also with many punctures, these diminishing posteriorly. *Legs*: Antennal cleaner fringes prominent at apical one-third to one-half of tibiae. Femora cylindrical, moderately long; metafemur extending to posterior margin of fourth ventrite or beyond. Apex of female terminal ventrite truncate with gradual indentation and depression at middle of apex and dense fringe of hairs. Apex of male terminal ventrite broadly rounded with scattered long, black hairs.

Distribution: Laos, Thailand, Malaysia and Myanmar.

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 2.09.2003(1♂), 7.04.2004(1♂, 1♀), Doi Sutep, 5.08.2004(1♂), Fang, 2.03.2002(1♀), 5.09.2003(2♂, 1♀), 6.07.2005(1♂), Mae Chaem, 5.09.2004(1♀), Chiang Rai Prov.: Doi Luang, 19.11.2002(1♂), 16.12.2004(1♀), 6.03.2005(1♀), Khun Chae, 15.07.2003(1♂, 3♀), Wiang Pa Pao, 23.08.2003(1♂, 2♀), 17.03. 2005(1♂), Phrae Prov.: Wang Chin, 6.08.2004(1♀).

Remark: The species differs from *A. zonator* in having elytra are furnished with ten to twenty variably-sized and produced granulae at base and mostly concentrated on humerus and linearly along costae at basal one-fourth. Specimens were throughout the year except early and late winter seasons.

Apomecyna cretacea (Hope, 1831)

Figures 42J, 108C-D

Callidium cretaceum Hope, 1831, *In Gray, Zool. Misc.*, 28.*Apomecyna multinotata* Pic v. *laosensis* Pic, 1938, *Bull. Soc. Ent. Fr.* 43: 124.*Apomecyna cretacea*: Breuning, 1964, l. c., 24.

Description: *Body* length 12.5-13 mm and breadth 3-3.5 mm; head dark brown to black, covered with brownish pubescence; occiput covered with blackish pubescence; antennae dark brown, covered with brownish pubescence; pronotum dark brown to black, covered with brownish pubescence, furnished with a transverse and curved pale brown pubescence band at middle, and a curved band furnished with five densely grayish pubescence spots, the last spot at sides biggest; scutellum dark brown, covered with brownish pubescence; elytra reddish brown, darker on anterior portion, covered with brownish pubescence, furnished with densely grayish pubescence spots with following: 1, A cluster of nine spots behind middle of each elytron, somewhat spots united; 2, a cluster of nine spots at 3/4 of each elytron, somewhat spots united; 3, four small spots on each apice; narrow and transverse reddish brown pubescence bands scattered behind middle line; ventral surfaces and legs dark reddish brown, covered with brownish pubescence.

Head narrow than prothorax, deeply punctured; frons broader than long; anterior portion narrower than posterior portion; anterior margin slightly concave at middle; genae about 1/6 as deep as eye-lobes; antennal tubercles widely separated; a deep groove running from frons to vertex; strongly depressed between antennal tubercles. Antennae shorter than a half of body; segment 1 short, suboval, punctured; segment 3 longer than segment 1, punctured, gradually thicken to tip; segment 4 slightly shorter than segment 3; segment 5 about 1/2 as long as segment 4; segment 6 slightly short segment 5; segments 6-11 decreasing in length. *Pronotum* narrower than elytra, closely and deeply punctured, slightly convex, broader than long; anterior

margin narrower than posterior margin; apical margin substraight; basal margin substraight; lateral sides unevenly swollen without toothed. Scutellum hemicircular, broader than long. *Elytra* parallel to 5/6 of elytra, and then gradually narrow to apex, truncated apex without toothed, furnished with longitudinal rows of deep punctures; disc gradually oblique from 4/5 of elytra to apex; sutural end angles without toothed. *Ventral surfaces*: Thoracic sternite scattered with fairly deeply punctured; abdominal sternites finely punctured, scattered with moderately punctured. *Legs* short, stout, fairly deep punctured; hind tarsal segment 1 shorter than segment 2 and segment 3 united, last longest.

Distribution: Central of Asia, Laos, Thailand

Material examined: Thailand: Kamphaeng Phet Prov.: Khosam Pi Nakhon, 11.04.2003(1♂), Phayao Prov.: Chiang Muan, 6.10.2004(1♀), Phitsanulok Prov.: Khlong Lan, 5.12.2005(1♂), Phrae Prov.: Wang Chin, 15.01.2002 (1♂).

Remark: The species differs from *A. sultator niveosparsa* in having pronotum is dark brown to black, covered with brownish pubescence and a transversely brown pubescence band is present on middle; elytra are furnished with a cluster of nine grayish pubescence spots behind middle of each elytron. Specimens were collected from mid and continued to late winter, late summer and late rainy seasons.

Apomecyna sultator niveosparsa Fairmaire, 1895

Figures 42H-I

Apomecyna saltator niveosparsa Fairmaire, 1895, *Ann. Soc. Ent. Belg.* 39: 185.

Apomecyna saltator niveosparsa: Breuning, 1964, l. c., 29.

Description: *Body* length 12.5-13 mm and breadth 3-3.5 mm, dark reddish brown; head covered with brownish pubescence, scattered with small whitish pubescence spots; antennal segments 1-3 covered with whitish hairs alternated with

brownish hairs throughout; antennal segments 4-11 covered with silvery reddish brown pubescence; pronotum covered with brownish pubescence, furnished with small whitish pubescence spots united at middle, and then continued from middle to middle of basal margin, sparsely whitish pubescence spots at sides and lateral sides; scutellum covered with brownish pubescence; elytra covered with brownish pubescence, furnished with whitish pubescence spots or marks with following: 1, a irregular mark at $1/4$ of each elytron; 2, a irregular mark at $3/4$ of each elytron, somewhat spots separated; sparsely small spots on disc; ventral surfaces covered with brownish pubescence; legs covered with brownish pubescence, furnished with small reddish brown pubescence spots throughout, somewhat spots united.

Head slightly narrow than prothorax, closely and deeply punctured; frons broader than long; anterior margin slightly concave at middle; genae about $1/5$ as deep as eye-lobes; antennal tubercles widely separated; a deep groove running from frons to vertex. Antennae shorter than a half of body; segment 1 short, suboval, punctured; segment 3 longer than segment 1, punctured, slightly curved; segment 4 slightly shorter than segment 3; segment 5 distinctly shorter than segment 4; segment 6 slightly shorter than segment 5; segments 6-11 decreasing in length. *Pronotum* narrower than elytra, closely and deeply punctured, slightly convex, broader than long; apical margin substraight; basal margin substraight; lateral sides unevenly swollen without toothed. Scutellum hemicircular. *Elytra* slightly concave at sides behind humeral angles, and then gradually extend to $5/6$ of elytra, and then gradually narrow to tip, truncated apex without toothed, furnished with longitudinal rows of deep punctures; disc gradually oblique from $4/5$ of elytra to apex, furnished with grooves on each side which furnished with punctures on bottom; sutural end angles without toothed. Thoracic sternites closely and moderately punctured; abdominal sternites finely punctured. *Legs* short, stout; hind tarsal segment 1 shorter than segment 2 and segment 3 united, last longest.

Distribution: Vietnam, Laos and Thailand.

Material examined: Thailand: Kamphaeng Phet Prov.: Khosam Pi Nakhon,

11.04.2003(1♀), Phayao Prov.: Chiang Muan, 6.10.2004(1♀), Phitsanulok Prov.: Khlong Lan, 5.12.2005(1♀), Phrae Prov.: Wang Chin, 15.01.2002(1♀).

Remark: The species differs from *A. cretacea* in having pronotum is covered with brownish pubescence; small whitish pubescence spots are united at middle and then the spots are continued from middle to middle of basal margin and sparsely whitish pubescence spots at sides and lateral sides; elytra are furnished with densely whitish pubescence spots or marks. Specimens were collected from mid and continued to late winter, late summer and continued to rainy seasons.

Apriona germari (Hope, 1831)

Figures 42C, 111C-D

Lamia germari Hope, 1831, *In Grey, Zool. Misc.* 1: 28.

Apriona rugicollis Chevrolat, 1852, *Rev. Mag. Zool. Ser.* 2, 4: 418.

Apriona plicicollis Motschulsky, 1853, *Etudes Ent.* 2: 48.

Apriona germari: Stebbing, 1903, *Ins. Affect. Forest* 1: 25, t. 4, f. 3c.-

Matsushita, 1933, *J. Fac. Agric. Hokk.* 34: 337.-Gressitt, 1939, *Lingn. Sci. J.*

18: 16; 1951, l. c., 409.-Gilmour, 1958, l. c., 58-60, pl. 4, fig. 3, 4, 11, 12.

Description: *Body* length 36-56 mm and breadth 11-19 mm, dark reddish brown to black; head black, covered with yellowish sulfur pubescence; antennal segment 1 black, covered with yellowish brown pubescence; antennal segment 2 covered with pale brown pubescence; antennal segments 3-11 covered with dark reddish brown pubescence, each furnished with whitish hairs on basal margin; pronotum dark reddish brown, covered with yellowish sulfur pubescence; elytra dark reddish brown, covered with yellowish pubescence; ventral surfaces dark reddish brown, covered with yellowish sulfur pubescence; femora black, covered with whitish pubescence; dorsal of fore tibiae covered with reddish brown pubescence, ventral

covered with whitish pubescence, furnished with dark reddish brown hairs on inner sides; meso- and meta tibiae covered with whitish pubescence, furnished with dark reddish brown hairs at tip.

Head as broad as anterior margin of prothorax, finely punctured; frons longer than broad, a transversal and deep groove on anterior margin; anterior margin substraight; eyes very large; genae about 1/8 as deep as eye-lobes; a narrow and shallow groove running from frons to vertex; antennal tubercles moderately separated. Antennae slightly longer than body in male, as long as body in female; segment 1 finely punctured, furnished with granulate on apical margin, thickening gradually toward the tip; segment 3 slightly longer than segment 1, cylindrical; segment 4 shorter than segment 3; segments 3-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, broader than long; apical margin as broad as basal margin; disc covered with shallow rugulose; two transversal and deep groove, one running on apical portion and another running on basal portion; interspace between apical collar and anterior groove broader than interspace between basal collar and basal groove; apical margin straight; basal margin sinuated; lateral sides slightly swollen, with moderately and acutely toothed at middle. Scutellum hemicircular. *Elytra* subparallel, slightly concave at middle, obliquely truncated without toothed, rather granulate at each side of scutellum and toward to 1/5 of elytra, and then finely toward each sides and apices; humeral angles slightly raised and slightly acuted; outer apical conners with moderately toothed; sutural end angles with strongly toothed. *Ventral surfaces* finely punctured most hidden by pubescence; 5th abdominal sternites subtrapezoidal, and apical margin slightly concave in male; 5th abdominal sternites subtriangular, and deep concave at tip in female. *Legs* fairly long, stout; fore tibiae strongly arched at apical portion in male, slightly arched at apical portion in female.

Distribution: India, Myanmar, Indonesia, China, Korea, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Saket, 16.07.2004(1♂), Lamphun Prov.: Mae Tha, 7.04.2002(1♀), Li, 6.04.2004(1♂), 12.04.2005(1♀),

Mae Hong Son Prov.: Khun Yuam, 11.02.2003(1♂), Nan Prov.: Mae Charim, 6.03.2002(1♀), 16.10.2005(1♂), Uttaradit Prov.: Nam Pat, 7.08.2003(1♀).

Remark: The species differs from *A. swainsoni* in having elytra are dark reddish brown and covered with yellowish pubescence; antennal segments 3-11 are covered with dark reddish brown pubescence, each furnished with whitish hairs on basal margin. Specimens were collected from summer, mid and continued to late rainy seasons.

Apriona swainsoni (Hope, 1840)

Figures 42D, 111E-F

Lamia swainsoni Hope, 1840, Proc. Linn. Soc. Lond. 1: 79.

Apriona swainsoni: Aurivillius, 1922, Col. Cat. 73: 132.-Wu, 1937, Cat.

Ins. Sin. 3: 745.-Gressitt, 1951, l. c., 410.-Gilmour, 1958, l. c., 42-44, pl. 1, fig. 1, 2, 8, 9.

Description: *Body* length 33-37 mm and breadth 10-17 mm, dark reddish brown to black; head black, covered with brownish pubescence; antennal segments 1-3 covered with brownish; antennal segment 4 covered with brownish pubescence alternated with dark reddish brown pubescence; antennal segments 5-11 covered with dark reddish brown; pronotum covered with brownish pubescence; scutellum black, covered with dark brown pubescence; elytra dark reddish brown, darker on anterior portion, covered with brownish pubescence, furnished with densely whitish pubescence spots throughout, somewhat united; ventral surfaces black, covered with dark brown pubescence; meso and meta thoracic sternites each furnished with densely whitish pubescence spots on lateral sides; legs black, covered with brownish pubescence.

Head as broad as anterior margin of prothorax; frons longer than broad, finely punctured, furnished with moderately punctured with a blackish hair in the bottom of

punctures; a transverse and deep groove on anterior margin; anterior margin slightly swollen, slightly sinuated; genae about 1/7 as deep as eye-lobes; antennal tubercles moderately separated; a moderately deep groove running from frons to vertex, and then continued to prothorax; vertex finely punctured, furnished with minutely granulate behind each eye. Antennae slightly longer than body in male, shorter than body in female; segment 1 finely punctured, furnished with roughly granulate at outer tip, slightly thickening gradually toward the tip; segment 3 slightly longer than segment 1, slightly biconcave at middle; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 slightly longer than segment 10. *Pronotum* broader than long, covered with strongly corrugate-vermiculate; a transverse and deep groove running on anterior margin, a deeper groove running on posterior portion; anterior margin substraight; posterior margin sinuated; lateral sides swollen with moderately and acutely toothed. Scutellum hemicircular, longer than broad. *Elytra* subparallel, truncated apex without toothed, rather granulate at each side of scutellum and toward about 1/4 of elytra, and then punctured toward each sides and apices; apex strongly depressed; outer apical conner with slightly toothed; sutural end angles with strongly and acutely toothed. *Ventral surfaces* finely punctured; apical margin of 5th abdominal tergite substraight in male, strongly concave in female. *Legs* fairly long, stout; hind tarsal segment 1 shorter than segment 2 and segment 3 united, last longest.

Distribution: India, Vietnam, China, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 2.03.2002(1♂), 6.07.2005(1♀).

Remark: The species differs from *A. germari* in having elytra are dark reddish brown, darker on anterior portion; disc is covered with brownish pubescence and densely whitish pubescence spots are scattered throughout; antennal segments 1-3 are covered with brownish pubescence. Specimens were collected in mid summer and rainy seasons.

Arctolamia cruciatus Hüdepohl, 1990

Figures 44D-G, 110A-B

Arctolamia cruciata Hüdepohl, 1990, *Entomofauna: Zeitschrift für Entomologie*.
11(18): 285-309, 9 fig.

Description: *Body* length 39-44 mm and breadth 13-14 mm, black; head covered with brownish to yellowish brown pubescence; antennal segment 1 covered with yellowish brown pubescence alternated with blackish pubescence; antennal segment 2 covered with blackish pubescence; antennal segments 3-5 each covered with yellowish brown pubescence alternated with blackish pubescence; antennal segments 6-8 each covered with pale yellow to whitish pubescence alternated with dark reddish brown pubescence; antennal segments 9-11 each covered with reddish brown pubescence alternated with silvery pubescence; pronotum covered with blackish pubescence, furnished with blackish long hairs on anterior and posterior margin; scutellum covered with yellowish brown pubescence; elytra covered with blackish pubescence, furnished with dense pubescence stripe and bands with following: 1, a transverse and narrow yellowish brown pubescence stripe running on basal margin; 2, two large and irregular oval pale brown pubescence bands at middle, somewhat disappearing; 3, two large irregular oblong pale brown pubescence bands, running from behind middle to apex and touching, somewhat united with large irregular oval bands at middle; disc furnished with strongly fringed with dark reddish brown long hairs throughout; ventral surfaces covered with dark brown to yellowish brown pubescence; legs covered with dark brown to yellowish pubescence except knees which is glabrous.

Head narrower than prothorax; frons as broad as long, scattered moderately punctured with dark reddish brown in the bottom, anterior margin substraight; genae about 1/2 as deep as eye-lobes; antennal tubercles widely separated; a deep groove running from frons to vertex. Antennae as long as body in female; segment 1 scattered moderately punctured, slightly swollen at tip; segment 3 shorter than segment 1, slightly swollen at tip; segment 4 longer than segment 3; segment 5 shorter

than segment 4; segments 5-10 decreasing in length; segment 11 slightly longer than segment 10. *Pronotum* narrower than elytra, strongly convex with very strongly rugose; anterior margin as broad as posterior margin; apical margin slightly swollen; basal margin slightly sinuated; lateral sides slightly swollen, with strongly and acutely toothed. Scutellum hemicircular. *Elytra* slightly convex, gradually obliques from 2/3 of elytra to apex, smoothly rounded apically; disc rather granulate at each side of scutellum and getting bigger toward to humeral angles; basal margin sinuated; sutural end angles without toothed. *Ventral surfaces* finely punctured most hidden by pubescence. *Legs* fairly long, stout; hind tarsal segment 1 shorter than segment 2 and segment 3 united, and last.

Distribution: Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 2.03.2002(1♂), 5.09.2003(♀), Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♀, 1♂).

Remark: The species differs from *A. fasciata* in having elytra are covered with blackish pubescence; a narrow and transverse yellowish brown pubescence stripe is present on basal margin; two large and irregular oval pale brown pubescence bands are placed on middle; two large and irregular oblong pale brown pubescence bands are extended from behind middle to apex and touching, somewhat united with large irregular oval bands at middle. Specimens were collected in mid summer, early and late rainy seasons.

Arctolamia fasciata Gestro, 1890

Figures 44H-J, 110C-D

Arctolamia fasciata Gestro, 1890, *Ann. Mus. Civ. Genova ser. 2*, 10: 222.

-Breuning, 1943, l. c., 194.

Description: *Body* length 24-40.1 mm and breadth 8-15 mm, black; frons and genae covered with yellowish brown pubescence; vertex covered with blackish

pubescence; antennal segment 1 covered with blackish pubescence, furnished with yellowish brown pubescence on basal margin; antennal segment 2 covered with blackish pubescence; antennal segments 3-5 each covered with yellowish brown pubescence, furnished with black tuft at apical margin; antennal segments 6-8 each covered with whitish pubescence alternated with dark reddish brown pubescence; antennal segments 9-10 each covered with reddish brown pubescence alternated with silvery pubescence; pronotum covered with golden brown pubescence, furnished with blackish long hairs throughout in female, sparsely blackish long hairs in male; scutellum covered with yellowish brown pubescence; elytra covered with pale brown pubescence, furnished with densely pubescent stripes with following: 1st a narrow and transverse yellowish brown pubescence stripe running on basal margin; 2nd a broad and transverse blackish pubescence stripe, slightly curved, about 1/4 as broad as long of elytra, running behind 1st stripe; 3rd a broad and transverse blackish pubescence stripe, strongly curved, about 1/4 as broad as long of elytra, running at middle; disc furnished with strongly fringed with blackish long hairs throughout; ventral surfaces covered with yellowish brown pubescence; legs covered with yellowish pubescence except knees which is glabrous.

Head narrower than prothorax, finely punctured; frons as broad as long, anterior margin substraight, a narrow and transverse groove running above anterior margin; genae about 1/3 as deep as eye-lobe; antennal tubercles widely separated; a deep groove running from frons to vertex. Antennae about 1.3 times as long as body in male, as long as body in female; segment 1 scattered punctured, gradually thicken to tip, slightly arched at inner sides of apical margin; segment 3 as long as segment 1, slightly swollen at tip; segment 4 longer than segment 3; segment 5 shorter than segment 4; segments 5-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, strongly convex with very strongly rugose; anterior margin as broad as posterior margin; apical margin slightly swollen; basal margin slightly sinuated; lateral sides slightly swollen, with strongly and acutely toothed. Scutellum hemicircular. *Elytra* convex, gradually obliques from 2/3 of elytra to apex, smoothly rounded apically; disc rather strongly granulate at each side of scutellum and toward to humeral angles, limited on only 2nd stripe; basal margin sinuated;

sutural end angles without toothed. *Ventral surfaces* finely punctured most hidden by pubescence. *Legs* fairly long, stout; hind tarsal segment 1 shorter than segment 2 and segment 3 united, and as long as last.

Distribution: Malaysia, Myanmar, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 2.03.2002(1♂), 5.09.2003(1♀), 6.07.2005(1♂, 1♀), Mae Chaem, 5.09.2004(1♂, 2♀), 1.03.2006(1♂, 1♀), Doi Saket, 16.07.2004(1♀), 1.12.2005(1♀), Chiang Rai Prov.: Wiang Pa Pao, 23.08.2003(1♀), 5.06.2002(1♂).

Remark: The species differs from *A. fruhstorferi* in having pronotum is covered with golden brown pubescence and furnished with blackish long hairs throughout in female and sparsely blackish long hairs in male. Specimens were collected in mid summer, mid winter and rainy seasons.

Arctolamia fruhstorferi Aurivillius, 1902

Figures 44B-C, 110E-F

Arctolamia fruhstorferi Aurivillius, 1902. *Entomol. Tidskr.*, 23:207-224, 9 figs.

Description: *Body* length 31-49.5 mm and breadth 11-14 mm, black; head covered with brownish pubescence, furnished with strongly fringed with long reddish hairs throughout; antennal segment 1 covered with blackish pubescence, furnished with yellowish brown pubescence on basal margin, strongly fringed with dark reddish brown hairs throughout; antennal segment 2 covered with long blackish pubescence; antennal segments 3 covered with yellowish brown pubescence alternated with blackish pubescence, fringed with dark reddish brown long hairs throughout; antennal segments 4-5 each covered with yellowish brown pubescence alternated with blackish pubescence, furnished with blackish long hairs on apical margin in male; antennal segments 4-6 each covered with yellowish brown pubescence alternated with blackish pubescence, furnished with long blackish hairs on apical margin in female; antennal

segments 6-9 each covered with silvery whitish pubescence alternated with reddish brown pubescence; antennal segments 10-11 each covered with reddish brown pubescence. Pronotum covered with brownish pubescence, fringed with dark reddish brown hairs on anterior margin; scutellum covered with yellowish brown pubescence; elytra covered with pale brown pubescence, furnished with dense pubescence stripes with following: 1st a narrow and transverse yellowish brown pubescence stripe running on basal margin; 2nd a broad transverse zigzag dark reddish brown pubescence stripe, slightly curved, about 1/4 as broad as long of elytra, running behind 1st stripe; 3rd a broad transverse dark reddish brown pubescence stripe, strongly curved, about 1/3 as broad as long of elytra, running behind middle; disc furnished with strongly fringed with yellowish brown long hairs throughout, scattered with shorter reddish brown hairs; ventral surfaces and legs covered with dark brown pubescence.

Head narrower than prothorax, scattered with moderately punctured, with dark reddish brown hairs in the bottom; frons as broad as long, anterior margin substraight; genae about 1/3 as deep as eye-lobe; antennal tubercles moderately separated; a deep groove running from frons to vertex. Antennae about 1.3 times as long as body in male, distinctly shorter than body in female; segment 1 finely punctured, gradually thicken to tip; segment 3 as long as segment 1, subcylindrical; segment 4 longer than segment 3; segment 5 shorter than segment 4; segments 5-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, strongly convex with very strongly rugose; anterior margin as broad as posterior margin; apical margin slightly swollen; basal margin slightly sinuated; lateral sides slightly swollen, with strongly and acutely toothed. Scutellum hemicircular. *Elytra* subparallel in male, slightly concave behind humeral angles; disc convex, gradually obliques from 2/3 of elytra to apex, smoothly rounded apically, rather strongly granulate at each side of scutellum and toward to humeral angles, limited on only 2nd stripe; basal margin sinuated; sutural end angles without toothed. *Ventral surfaces* finely punctured most hidden by pubescence. *Legs* fairly long, stout; hind tarsal segment 1 shorter than segment 2 and segment 3 united, and slightly shorter than last.

Distribution: Thailand, Vietnam and Laos.

Material examined: Thailand: Chiang Mai Prov.: Fang, 2.03.2002(1♀), Mae Chaem, 7.04.2005(1♂).

Remark: The species differs from *A. fasciata* in having pronotum is covered with brownish pubescence and fringed with dark reddish brown hairs on anterior margin. Specimens were collected in mid and late summer seasons.

Arctolamia villosa Gestro, 1888

Figure 44A

Arctolamia villosa Gestro, 1888. *Ann. Mus. civ. Genova*, 26: 87-132, figs.

Description: *Body* length 31-42 mm and breadth 11-16 mm, black; frons and genae covered with pale brown pubescence; vertex covered with blackish pubescence; antennal segment 1 covered with blackish pubescence, furnished with yellowish brown pubescence on basal margin; antennal segment 2 covered with blackish pubescence; antennal segments 3-5 each covered with yellowish brown pubescence, furnished with long blackish hairs at apical margin; antennal segments 6-8 each covered with whitish pubescence alternated with dark reddish brown pubescence; antennal segments 9-10 each covered with reddish brown pubescence alternated with slivery pubescence; segment 11 covered with reddish brown, furnished with slivery hairs on basal and apical; pronotum covered with blackish pubescence, sparsely long blackish hairs; scutellum covered with pale brown pubescence; elytra covered with pale brown to brownish pubescence, fringed with long blackish hairs throughout; ventral surfaces covered with pale yellowish brown to yellowish brown pubescence; legs covered with dark brown to yellowish brown pubescence except knees.

Head narrower than prothorax, finely punctured; frons broader than long, anterior margin substraight; genae about 1/3 as deep as eye-lobe; antennal tubercles widely separated in female, moderately separated in male; a deep groove running

from frons to vertex. Antennae about 1.3 times as long as body in male, as long as body in female; segment 1 scattered punctured, gradually thicken to tip, slightly arched at inner sides of apical margin; segment 3 as long as segment 1, slightly swollen at tip; segment 4 longer than segment 3; segment 5 shorter than segment 4; segments 5-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, strongly convex with very strongly rugose; anterior margin as broad as posterior margin; apical margin slightly swollen; basal margin slightly sinuated; lateral sides slightly swollen, with strongly and acutely toothed. Scutellum hemicircular. *Elytra* slightly extend at middle of sides, and then gradually narrow to apex, strongly convex at middle, and then gradually obliques from 2/3 of elytra to apex in female, slightly convex and subparallel in male, smoothly rounded apically; disc rather granulate at each side of scutellum and getting bigger toward to humeral angles; basal margin slightly sinuated; sutural end angles without toothed. *Ventral surfaces* finely punctured most hidden by pubescence. *Legs* fairly long, stout; hind tarsal segment 1 shorter than segment 2 and segment 3 united, and shorter than last.

Distribution: China and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Pahom Pok, 28.10.2005(2♀).

Remark: The species differs from other species in same genus in having elytra are covered with pale brown to brownish pubescence and fringed with long blackish hairs throughout. Specimens were collected in early winter season.

Aristobia approximator (Thomson, 1865)

Figures 43A-C, 109A-B

Celosterna approximator Thomson, 1865, *Syst. Ver.*, 552.

Aristobia birmanica Gahan, *Ann. Mus. Civ. Genova* 34: 40.

Aristobia approximator: Brongniart, 1891, *Nouv. Arch. Hist. Nat.* ser. 3, 3: 247.-Breuning, 1943, l. c., 190.

Description: *Body* length 22-35 mm and breadth 8-14 mm, reddish brown to black; head black; frons and genae covered with blackish pubescence; behind eyes area and vertex covered with yellowish pubescence, furnished with a pair of small black bands; clypeus brown, glabrous; labrum dark brown, covered with long reddish brown hairs; antennal segments 1-3 black, covered with blackish hairs; segment 3 yellow, covered with yellow hairs, furnished with tuft of black hairs on apical margin; segments 4-11 yellow, covered with yellow pubescence; pronotum black, dorsal covered with yellowish pubescence, furnished with two longitudinal black pubescence bands; ventral black, covered with reddish brown pubescence, somewhat furnished with yellowish brown hairs; scutellum dark brown, covered with yellowish pubescence; elytra reddish brown, darker on anterior portion, ochraceous, furnished with brown bands continued to network throughout; ventral surfaces black, covered with silvery pubescence; legs black, covered with brown pubescence.

Head about as broad as anterior margin of prothorax, finely punctured; frons as broad as long; minutely granulate above eyes; genae about 1/3 as deep as eye-lobes in female, 1/4 in male; a narrow and shallow groove running from frons to vertex; antennal tubercles distinctly separate. Antennae shorter than body in both sexes; segment 1 finely punctured, subtruncate on external apex, with minutely punctured; segment 4 longer than segment 1 and segment 2 united; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra; disc unevenly, minutely punctured; apical collar broader than basal collar; anterior margin substraight; posterior margin slightly sinuate; lateral sides slightly sinuate with strongly toothed on middle. Scutellum subtriangular, rounded at tip. *Elytra* about two times as long as broad, finely punctured, subparallel to near apex; humeral angles slightly raise forward; fairly depassed on middle of each elytron; slightly depressed at apex; truncate apex, outer angles with slightly toothed; moderately punctured scattered on anterior portion and lateral sides to apex; each elytron furnished with two costae; sutural end angles with moderately toothed. *Ventral surfaces* finely

punctured; apical margin of 5th abdominal sternite slightly depressed in male, fairly depressed in female. *Legs* fairly long, stout.

Distribution: India, Myanmar, Thailand, Cambodia, Vietnam and Laos.

Material examined: Thailand: Lamphun Prov.: Li, 6.04.2004(1♂), Kampaeng Phet Prov.: Pang Si La Thong, 4.06.2002(1♂), Nakhonsawan Prov.: Tak Fa, 13.03.2005(1♂), Nan Prov.: Mae Charim, 6.03.2002(1♀), Phrae Pro.: Wang Chin, 6.08.2004(1♂), 10.12.2005(1♂, 2♀), Uttaradit Prov.: Nam Pat, 7.08.2003(2♂, 2♀).

Remark: This species is very distinct characters of pronotum is black; dorsal sides are covered with yellowish pubescence and furnished with two longitudinal black pubescence bands; elytra are reddish brown, darker on anterior portion; disc is ochraceous and net brown bands are covered throughout. Specimens were collected from mid and continued to late summer, early and continued to mid rainy, and mid winter seasons.

Aristobia horridula (Hope, 1831)

Figures 43D, 109C-D

Lamia horridula Hope, 1831, *In Gray, Zool. Misc.*, 2.

Cerosterna fasciculate Redtenbacher, 1848, *Hungel, Kashmir* 4(2): 552, pl. 27, fig. 2.

Aristobia fasciculate: Lacordaire, 1869, *Gen. Col.*, 327, pl. 97, fig. 5.-
Fairmaire, 1887, *Ann. Soc. Ent. Belg.* 21: 134.

Description: *Body* length 30-35 mm and breadth 11-14 mm, dark reddish brown to black; head black, covered with brown pubescence, furnished with small whitish pubescence spots, scattered with long dark reddish brown hairs and on anterior margin of frons; clypeus brown, glabrous; labrum reddish brown, covered

with brownish hairs, furnished with minutely reddish brown hairs; antennae reddish brown, darker on segments 1-2, covered with brownish pubescence, scattered with minutely reddish long hairs; segment 3 furnished with tuft of black hairs on apical margin; pronotum black, covered with brownish pubescence, scattered with small whitish pubescence spots; scutellum dark reddish brown, covered with brownish hairs except anterior margin; elytra dark reddish brown, covered with brown pubescence; disc furnished with small clusters of blackish hairs throughout, scattered with small whitish pubescence spots; ventral surfaces black, covered with brownish pubescence, scattered with whitish pubescence spots; legs dark reddish, covered with brownish pubescence except outer side of apical portions of meso- and hind tibiae which are blackish pubescence, sparsely whitish hairs.

Head about as broad as anterior margin of prothorax, finely punctured; a narrow groove running from frons to vertex; frons broader than long; genae about 1/3 as deep as eye-lobes; antennal tubercles distinctly separate. Antennae slightly shorter than body in both sexes; segment 1 closely and finely punctured, subtruncate at external apical margin with roughly punctured; segment 3 as long as segment 1 and segment 2 united; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra; disc unevenly with a large strongly raised tubercle on middle; anterior margin about as broad as posterior margin; a moderate groove each on anterior and posterior portion; disc uneven with roughly depressed; disc uneven with slightly raised in middle; lateral sides slightly sinuate, with very strongly and acutely toothed at middle. Scutellum triangular. *Elytra* about 2 times as long as broad, finely punctured; disc furnished with minutely and roughly punctured at each side and behind of scutellum; sparsely granulate on anterior margin; humeral angles slightly depressed and then raised forward; truncated apex, outer angles without toothed; sutural end angles without toothed. *Ventral surfaces* finely punctured; mesosternal process moderately raised; apical margin of 5th abdominal sternite furnished with a shallow groove at middle in female, disappearing in male. *Legs* fairly long, stout.

Distribution: India, China, Myanmar, Vietnam, Laos and Thailand.

Material examined: Thailand: Kampheang Phet Prov.: Pang Si La Thong, 4.06.2002(1♂), Lamphun Prov.: Li, 6.04.2004(2♂), 12.04.2005(1♀), Nan Prov.: Mae Charim, 6.03.2002(1♂), Phichit Prov.: Taphan Hin, 10.10.2004(1♂), Phrae Prov.: Wang Chin, 6.08.2004(1♀), Uttaradit Prov.: Nam Pat, 7.08.2003(1♀).

Remark: The species differs from *A. approximator* in having elytra are furnished with small clusters of blackish hairs throughout and scattered with small whitish pubescence spots. Specimens were collected from mid and continued to late summer, and rainy seasons.

Aristobia voeti Thomson, 1878

Figures 43E, 109E-F

Aristobia voeti Thomson, 1878, *Rev. Zool. Ser.* 3, 6: 51.-Gahan, 1894, *Ann. Mus. Civ. Genova* 24: 40.-Gressitt, *Lingn. Sci. J.* 16: 57.-Breuning, 1943, l. c., 191.-Gressitt, 1951, l. c., 357.

Aristobia angustifrons Gahan, 1888, *Ann. Mag. Nat. Hist. ser.* 6, 1: 276.

Aristobia pulcherrima Nonfreid, 1892, *Ent. Nach.* 18: 94.

Description: *Body* length 34-46 mm and breadth 11-15 mm, dark brown to black; head black, covered with blackish pubescence, scattered with long dark brown hairs; clypeus brown, glabrous; labrum black, covered with long reddish brown pubescence; antennal segments 1-2 black, covered with blackish pubescence; segment 1 densely furnished with long blackish hairs on ventral of apex, scattered with long blackish hairs; segment 3 dark brown, a half of segment on anterior portion covered with whitish pubescence and a half of segment on posterior portion covered with black tuft; segment 4 dark brown, a half of segment on anterior portion covered with whitish pubescence and a half of segment on posterior portion covered with blackish pubescence, furnished with small black tuft on ventral of apex; segments 5-10 dark brown, a half of segment on anterior portion covered with whitish pubescence and a

half of segment on posterior portion covered with reddish brown pubescence; segment 11 dark brown, covered with whitish pubescence except middle area which is reddish brown pubescence; prothorax black, covered with brown pubescence, scattered with long reddish brown hairs; scutellum black, covered with brownish pubescence; elytra black, covered with whitish pubescence, furnished with black bands with following: A large irregular black band on each humeral angle and reaching to each lateral side of scutellum; a transversely suboblong black band behind each large irregular black band, running from near middle to each external sutures and touching; a pair of moderately black spots on middle line; a large and broad transverse band on each lateral sides behind middle line, running from middle to external sutures and touching; a sub-hemicircular band on 4/5 of elytron; a small spot on each near apex; scattered minute small spots along internal sutures; ventral surfaces black, covered with pale brown pubescence; legs dark brown to black, covered with whitish pubescence bands alternated with blackish pubescence bands.

Head about as broad as anterior margin of prothorax, finely punctured; furnished with minute granulate above eyes; a narrow and shallow groove running from frons to vertex; frons distinctly longer than broad; genae about 1/5 as deep as eye-lobes; antennal tubercles distinctly separate. Antennae slightly longer than body in both sexes; segment 1 finely punctured, subcylindrical, subtruncate at tip with roughly punctured; segment 3 slightly longer than segment 1; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 as long as segment 5. *Pronotum* distinctly narrower than elytra; disc unevenly, with transverse groove near anterior and posterior margins; anterior collar as broad as posterior collar; anterior margin straight; posterior margin slightly sinuate; lateral sides slightly sinuate with strongly and acutely toothed at middle. Scutellum linguiform. *Elytra* about 2.2 times as long as broad, subparallel to near apex; humeral angles raised forward; disc rather granulate at each humeral angle and granulates slightly smaller each side of scutellum, finely punctured toward each sides and apices; apex slightly depressed; truncated apex; outer angles with slightly toothed; sutural end angles with moderately toothed. *Ventral surfaces* finely punctured; apical margin of 5th abdominal margin strongly depressed in female, slightly depressed in male. *Legs* fairly long, stout;

tibiae gradually extend from basal margin to apical margin; meso-tibia slightly concave behind middle; hind tibia slightly swollen behind middle.

Distribution: China, Myanmar, Thailand and Laos.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 5.09.2004(1♀), 1.03.2006(1♂), Fang, 5.09.2003(1♂, 1♀), 6.07.2005(1♂), Doi Saket, 1.12.2005(1♀), Chiang Rai Prov.: Doi Luang, 6.03.2005(1♂), Lampang Prov.: Wiang Nua, 18.04.2003(1♀), Lamphun Prov.: Li, 6.04.2004(1♀), 12.04.2005(1♂, ♀), Thoen, 2.03.2004(1♂), Nan Prov.: Mae Charim, 5.08.2004(1♀), Phetchabun Prov.: Nam Nao, 15.12.2003(1♂), Phitsanulok Prov.: Khlong Lan, 25.08.2003(1♂), Chat Trakan, 3.05.2005(1♀), Nakhon Thai, 20.12.2004(1♂), Wang Thong, 23.10.2005(1♂), Phayao Prov.: Chiang Kham, 13.05.2002(1♂), 1.12.2005(1♀), Sukhothai Prov.: Khiri Mat, 25.10.2004(1♀), Uttaradit Prov.: Ban Khok, 15.05.2006(1♂).

Remark: This species is very distinct characters of antennal segment 3 is dark brown and a half of segment on anterior portion is covered with whitish pubescence and an another portion is covered with black tuft; elytra is black, covered with whitish pubescence and furnished with black bands. Specimens were collected from mid and continued to late summer, rainy and mid winter seasons.

Astathes dimidiata (Guérin-Ménéville, 1844)

Figure 42E

Tetraopes dimidiata Guérin-Ménéville, 1844, *J. B. Baillère*. 7: i-iv +5- 576, 110 pls.

Description: *Body* length 19 mm and breadth 6 mm, mostly parts of body reddish brown, covered with reddish brown pubescence; antennal segments 1-3 covered with reddish brown pubescence; antennal segments 4-7 pale yellow, covered with pale yellow pubescence; antennal segments 8-11 dark reddish brown, covered with dark reddish brown pubescence; elytra divided to two areas by colour with

following: Area above middle line which is brilliant metallic violet, covered with dark violet pubescence; area behind middle line which is reddish brown, covered with reddish brown pubescence.

Head broader than anterior portion of prothorax; frons broader than long, closely and moderately punctured; anterior margin slightly sinuated; each eye separated to two portion, upper eye-lobe smaller than lower eye-lobe; antennal tubercles widely separated; antennae supports slightly raised; vertex scattered with small punctures; a narrow and shallow groove running from frons to vertex. Antennae shorter than body; segment 1 punctured, subcylindrical; segment 3 as long as segment 1, cylindrical; segment 4 about 2/3 as long as segment 3; segments 4-10 decreasing in length; segment 11 slightly longer than segment 10, acuted at tip. *Pronotum* narrower than elytra, broader than long; apical margin distinctly narrower than basal margin; a broad transverse groove on basal margin; disc moderately convex, furnished a moderately deep fevea at each side on middle line; apical margin straight; basal margin sinuated; lateral sides strongly swollen without toothed. Scutellum hemicircular. *Elytra* slightly narrow at sides behind humeral angles, gradually extend from middle to 5/6 of elytra, and then gradually narrow to apex, smoothly rounded apically; basal margin sinuated; brilliant metallic violet area scattered with punctured; reddish brown area covered with closely and shallowly punctured; sutural end angles without toothed. *Ventral surfaces* finely punctured; 5th abdominal segment broad, furnished with longitudinal groove running at middle. *Legs* short, weak; hind tarsal segment 1 shorter than segment 2 and segment 3 united, last longest.

Distribution: Borneo, Myanmar, Thailand, Indonesia and Malaysia.

Material examined: Thailand: Chiang Mai Prov.: Fang, 2.03.2002(1♀).

Remark: The species differs from *A.violaceipennis* and *A.gibbicollis* in having elytra are divided to two areas by colour with following: anterior portion is brilliant metallic violet and covered with dark violet pubescence; posterior portion is reddish

brown and covered with reddish brown pubescence. The only specimen was collected in mid summer season.

Astathes gibbicollis Thomson, 1865

Figure 42F

Astathes gibbicollis Thomson, 1865, *Syst. Cer.*, 559.-Gahan, 1901, *Trans. Ent. Soc. Lond.*, 41.

Astathes (Tetraophthalmus) gibbicollis: Breuning, 1956, l. c., 510.

Description: *Body* length 12-12.5 mm and breadth 4-4.5 mm, reddish brown, covered with reddish brown pubescence; antennal segments 4-5 pale brown, covered with pale brown pubescence; meta thoracic furnished with a densely blackish pubescence mark at each side; tibiae covered with blackish pubescence except basal margin which is covered with reddish brown pubescence; tarsal segments dark reddish brown, covered with dark reddish brown.

Head broader than anterior portion of prothorax; frons broader than long, closely and moderately punctured; anterior margin slightly sinuated; each eye separated to two portions, upper eye-lobe smaller than lower lobe; antennal tubercles widely separated; antennal supports slightly raised; vertex scattered with small punctured; a narrow and shallow groove running from frons to vertex. Antennae shorter than body; segment 1 punctured, subcylindrical; segment 3 as long as segment 1, cylindrical; segment 4 about 2/3 as long as segment 3; segments 4-10 decreasing in length; segment 11 slightly longer than segment 10, acuted at tip. *Pronotum* narrower than elytra, broader than long; apical margin slightly narrower than basal margin; disc furnished with a strongly raised tubercle at middle; apical margin straight; basal margin sinuated; lateral sides swollen without toothed. Scutellum hemicircular. *Elytra* punctured, slightly narrow at sides behind humeral angles, gradually extend from middle to 5/6 of elytra, and then gradually narrow to apex, smoothly rounded apically; basal margin sinuated. *Ventral surfaces* finely punctured; 5th abdominal

segment very broad, furnished with longitudinal groove running at middle. *Legs* short, weak; hind tarsal segment 1 shorter than segment 2 and segment 3 united, and last.

Distribution: India, Malaysia, Myanmar, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 1.10.2005(2♀).

Remark: The species differs from *A. violaceipennis* and *A. dimidiata* in having elytra are reddish brown and covered with reddish brown pubescence. Specimens were collected in late rainy season.

Astathes violaceipennis (Thomson, 1857)

Figure 42G

Tetraophtalmus violaceipennis Thomson, 1857, *Archives Entomologiques*, Paris. 1: 45-67. pl. 8.

Description: *Body* length 15.5-16 mm and breadth 6.5-7 mm, head and antennal segments 1-5 reddish brown, covered with golden brown pubescence; antennal segments 6-11 dark reddish brown, covered with dark reddish brown pubescence; pronotum reddish brown, scattered with reddish brown pubescence; scutellum covered with reddish brown pubescence; elytra brilliant dark vilolet, covered with dark vilolet pubescence; ventral surfaces and femora reddish brown, covered with reddish brown pubescence; tibiae and tarsal segment covered with dark vilolet pubescence.

Head broader than anterior margin of prothorax, closely and roughly punctured; frons broader than long; anterior margin slightly sinuated; genae about 1/2 as deep as eye-lobes; antennal tubercles widely separated; eyes separated to two parts, upper eyes smaller than lower eyes; a deep groove running from fronus to vertex. Antennae shorter than body; segment 1 gradually thicken to tip, minutely punctured;

segment 3 longer than segment 1, cylindrical; segment 4 about 1/2 as long as segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, broader than long, distinctly constrict at basal portion, a fairly tubercle at middle; anterior margin slightly concave at middle; basal margin sinuated; lateral sides sinuated, swollen at middle without toothed. Scutellum hemicircular, rounded at tip. *Elytra* gradually narrow lateral sides from humeral angles to above middle, and then gradually extend to 3/4 of elytra, and then gradually narrow to apex, smoothly rounded apically, rather punctured at each side of scutellum and punctures getting finer toward each sides and apices; basal margin sinuated; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* short, stout; hind tarsal segment 1 shorter than segment 2 and segment 3 united, and last.

Distribution: India, Vietnam, Myanmar, Nepal and Thailand (new record).

Material examined: Thailand: Chiang Rai Prov.: Wang Pa Pao, 5.06.2002(1♀), Chiang Mai Prov.: Samoeng, 2.02.2006(1♀).

Remark: The species differs from *A. dimidiata* and *A. gibbicollis* in having elytra are brilliant dark violet and covered with dark violet pubescence. Specimens were collected in early summer and rainy seasons.

Batocera davidis Fairmaire, 1878

Figures 45A-D, 113C-D

Batocera davidis Fairmaire, 1878, *Annls Soc. Ent. Fr.*, (5), 8, p. 131.

Description: *Body* length 45-65 mm and breadth 11-21 mm, reddish brown to black; head black, covered with brownish pubescence, furnished with a broad longitudinal whitish pubescence band running from lateral sides of eyes to occiput, and then continued to lateral sides of thorax and 1st abdominal sternum; antennal segment 1-2 dark brown, covered with brownish pubescence; antennal segments 3-11 reddish brown, covered with reddish brown pubescence; pronotum dark brown to

black, covered with brownish pubescence, furnished with a pair of depressed orangey brown pubescence band at middle; scutellum dark brown to black, covered with yellowish brown pubescence; elytra reddish brown, darker on anterior portion and apical margin; disc covered with brownish pubescence, furnished with moderate yellowish brown pubescence spots with following: A large spot at 1/6 of each middle of elytron; a pair of large spots above middle line; a pair of moderate spots behind middle line; a pair of small spots at 4/5 of elytra; a pair of small spots at 5/6 of elytra; a pair of small spots on apex, somewhat scattered with minute small spots or united; ventral surfaces dark brown; pro- and meso sternum covered with dark brown pubescence; meta sternum and 1st abdominal sternum covered with dark brown except middle which is covered with silvery hairs; abdominal sternites 2nd- 5th covered with silvery pubescence; legs dark brown, covered with silvery brown pubescence.

Head as broad as anterior margin of prothorax, finely punctured; frons longer than broad, slightly depressed above anterior margin; genae about 1/5 as deep as eye-lobes in female, 1/6 in male; a narrow and shallow groove running from frons to vertex; antennal tubercles moderately separated and strongly raised antennae supports. Antennae about 1.3 times longer than body in male, slightly longer than body in female; segment 1 punctured, slightly obliquely truncated with closely and roughly punctured; segment 3 about 1.4 times as long as segment 1, shallowly and closely punctured, furnished with strong spines on inner sides and small spines on outer sides; segment 4 shorter than segment 3, minute shallowly and closely punctured, furnished with small spines on inner sides and outer sides; segments 4-10 decreasing in length, scattered with small spines; segment 11 longer than segment 10 sparsely spines; segment 9 with inner moderately toothed apically in male, disappearing in female. *Pronotum* narrower than elytra, broader than long, unevenly slightly convex; a moderately transverse and deep groove on anterior portion; a transverse and shallow groove on posterior portion; lateral sides strongly swollen with strongly and acutely toothed at middle; anterior margin straight and posterior margin sinuated. Scutellum subhemicircular, longer than broad. *Elytra* about 2.3 times as long as broad, subparallel and truncated at tip without toothed, rather granulate at each side of scutellum and toward to about 1/6 of elytra; humeral angles strongly raised and

acuted; basal margin sinuated; outer apical angles with moderately toothed; sutural end angles with strongly toothed. *Ventral surfaces* finely punctured; apical margin of 5th abdominal sternite strongly concave in female, slightly concave in male. *Legs* long, stout; fore legs of male longer than female; ventral of fore tibiae asperated in male, smooth in female; fore tibiae slightly arched near apex.

Distribution: China, Vietnam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Chiang Dao, 5.09.2002(1♂), 18.04.2004(1♀), Samoeng, 7.04.2004(1♂), Uttaradit Prov.: Ban Khok, 15.05.2005(1♀).

Remark: The species differs from *B. rufomaculata* in having elytra are rather granulated at each side of scutellum and toward to about 1/6 of elytra; outer apical angles are furnished with a moderate dentation; sutural end angles are furnished with a strong dentation. Specimens were collected from late summer and continued to early and late rainy seasons.

Batocera lineolata Chevrolat, 1852

Figures 46A-F, 113E-F

Batocera lineolata Chevrolat, 1852, *Rev. Mag. Zool.*, ser. 2, 4: 417.-Bates, 1873, *Ann. Mag. Nat. Hist.* ser. 4, 12: 312.-Matsumura, 1908, *Thous. Ins. Jap.* 3(726), pl. 54, f. 3.-Matsushita, 1933, *J. Fac. Agric. Hokk.* 34: 337.-Gressitt, 1939, *Lingn. Sci. J.* 18: 60.-Gressitt, 1951, l. c., 407.

Description: *Body* length 42-65 mm and breadth 12-19 mm, reddish brown to black; head dark reddish brown to black, covered with brownish pubescence, furnished with a broad longitudinal whitish pubescence band running from lateral sides of eyes to occiput, and then continued to lateral sides of thorax and abdomen; antennal segments 1-2 dark reddish brown, covered with brownish pubescence; antennal segments 5-11 reddish brown pubescence, covered with reddish brown

pubescence; prothorax dark brown, covered with brownish pubescence, furnished with a pair of depressed yellowish brown pubescence band at middle; scutellum reddish brown, covered with yellowish brown pubescence; elytra reddish brown, covered with brownish pubescence, furnished with broad longitudinal whitish yellow pubescence bands on middle of each elytron, somewhat continued or combined; ventral surfaces dark reddish brown, covered with golden brown pubescence; legs dark reddish brown to black, covered with brownish pubescence.

Head as broad as anterior margin of prothorax, finely punctured, sparsely and moderately punctured on frons; frons distinctly longer than broad, anterior ridge moderately raised, slightly depressed above anterior ridge; genae about 1/4 as deep as eye-lobes in female, 1/5 in male; a narrow and shallow groove running from frons to vertex; antennal tubercles moderately separated and strongly raised antennal supports. Antennae about 1.3 times as long as body in male, slightly longer than body in female; segment 1 punctured, slightly dentate ectoapically with small granules; segment 3 about 1.4 times as long as segment 1, closely and roughly punctured, furnished with a row of spines along inner side, slightly swollen at apice; segment 4 shorter than segment 3, furnished with a row of spines along inner side, sparsely smaller spines on upper sides; segment 5 shorter than segment 4, furnished with spines on inner sides, sparsely spines on disc; segments 5-10 decreasing in length, each furnished with spines on inner sides, sparsely on disc; segment 11 longer than segment 10, sparsely spined; segments 3-10 each inner apical margin with minute spines not along apical margin in both sexes. *Pronotum* narrower than elytra, broader than long, finely punctured, sparsely and moderately punctured; disc furnished with a pair of tubercles between a pair of yellowish brown pubescence; a moderately deep groove on anterior portion, interspace covered with finely punctured; a moderately deep groove on posterior portion, interspace covered with finely punctured; basal collar covered with minute transverse grooves; anterior margin substraight and posterior margin sinuated; lateral sides swollen with strongly and acutely toothed at middle. Scutellum subtriangular, rounded at tip. *Elytra* about 2.3 times as long as broad, subparallel, subtruncated apex without toothed, rather largely granulate at each side of scutellum and toward to about 1/5 of elytra; humeral angles strongly raised

and acuted; basal margin sinuated; outer apical angles without toothed; sutural end angles with strongly toothed. *Ventral surfaces* finely punctured. *Legs* long, stout; fore legs of male longer than female; ventral of fore tibiae asperated in male, smooth in female; fore tibiae slightly arched near apex.

Distribution: China, Japan, Taiwan, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 2.03.2002(1♂), Doi Pahom Pok, 18.10.2006(2♂, 1♀), Doi Saket, 17.11.2007(1♀, 3♂), Samoeng, 13.10.2007((3♂, 3♀).

Remark: This species is very distinct characters of elytra are reddish brown, covered with brownish pubescence and broad longitudinal whitish yellow pubescence bands are present on middle of each elytron, somewhat continued or combined. Specimens were collected from mid summer, late rainy and continued to early winter seasons.

Batocera numitor Newman, 1842

Figures 49A-D, 114C-D

Batocera numitor Newman, 1842, *Entoml.* 1: 275.

Description: *Body* length 63-75 mm and breadth 20-23 mm, reddish brown to black; head black, covered with brownish pubescence, furnished with a broad longitudinal whitish pubescence band running from lateral sides of eyes to occiput, and then continued to lateral sides of thorax and abdomen; antennal segments 1-4 black, covered with brownish pubescence, furnished with long dark reddish brown hairs throughout; antennal segments 5-11 reddish brown, covered with reddish brown pubescence, sparse with reddish brown long hairs; prothorax black, covered with brownish pubescence, furnished with a pair of depressed orangey pubescence bands at middle; scutellum linguiform, slightly concave at middle; elytra reddish brown, darker on anterior portion, covered with yellowish brown, furnished large orangey

pubescence spots with following: Four moderate spots on anterior portion at about $1/4$ of elytra, somewhat combined or continued; a pair of small spots behind middle line; a pair of small spots at $6/8$ of elytra; thorax dark reddish brown, covered with dark brown pubescence; abdominal reddish brown, covered with pale brownish pubescence; legs dark reddish brown, covered with pale brownish pubescence.

Head as broad as anterior margin of prothorax, finely punctured; frons distinctly longer than broad, moderately but sparsely punctured, anterior ridge strongly raised, depressed above anterior ridge; anterior margin substraight; genae about $1/6$ as deep as eye-lobes in female, $1/7$ in male; a narrow and shallow groove running from frons to vertex; antennal tubercles moderately separate, strongly raised antennal supports. Antennae longer than body in male, as long as body in female; segment 1 moderately punctured, gradually extend to apex, slightly dentated ectoapically with closely and roughly punctured; segment 3 about 2 times as long as segment 1, closely and roughly punctured, furnished with strong spined on inner sides, slightly swollen at apical; segment 4 shorter than segment 3, closely and roughly punctured, inner sides with strongly spined, strongly dentated inner apically; segments 5-10 decreasing in length, scattered with small spines; segment 11 longer than segment 10, scattered with small spines; segments 5-9 each fairly dentated inner apically. *Pronotum* narrower than elytra, longer than broad; disc furnished with minutely short and strong rigdes; a transverse and moderately deep groove on anterior portion, interspace covered with finely punctured; a transverse and shallower groove on posterior portion, covered with minutely and slightly raised ridge; apical margin substraight and basal margin sinuated; lateral sides strongly swollen with strongly and acutely toothed at middle. Scutellum linguiform, concave at middle. *Elytra* distinctly narrow apically in male, subparallel in female, subtruncated apex without toothed, rather granulate at each side of scutellum and toward to about $1/5$ of elytra ; humeral angles strongly raised and acuted; basal margin sinuated; outer apical angles without toothed; sutural end angles with moderately toothed; moderately dehiscent in female, slightly dehiscent in male. *Ventral surfaces* finely punctured. *Legs* long, stout; fore legs of male longer than female, asperated in male, finely punctured in female; fore tibiae slightly arched near apex.

Distribution: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Pahom Pok, 18.10.2006(1♀), Samoeng, 13.10.2007(3♂, 2♀).

Remark: This species is very distinct a character of 3rd-9th antennal segments are furnished with strongly spines on inner sides of each segment. Specimens were collected early winter season.

Batocera parryi Hope, 1845

Figures 51A-D, 112A-B

Batocera parryi Hope, 1845, *Trans. Ent. Soc. London*, 4, p. 77.

Description: *Body* length 39-61 mm and breadth 12-18 mm, black; head covered with brownish pubescence, furnished with a broad longitudinal whitish yellow pubescence band running from lateral sides of eyes to occiput, and then continued to lateral sides of thorax and abdomen; frons slightly longer than broad, slightly depressed above anterior margin; genae covered with whitish brown pubescence, 1/4 as broad as eyes; a narrow and shallow groove running from frons to vertex; antennal tubercles moderately separated and strongly raised antennae supports; antennal segments 1-4 covered with brownish pubescence; antennal segments 5-11 dark reddish brown, covered with short reddish brown hairs; prothorax covered with brownish pubescence, furnished with a pair of irregular oval whitish pubescence spots at middle; scutellum covered whitish pubescence; elytra covered with brownish pubescence, furnished with four irregularly oval whitish brown bands on each elytron, somewhat minutely small spots or disappearing; ventral surfaces covered with dark brown pubescence; legs covered with pale brownish pubescence, furnished with densely dark reddish brown pubescence on apical margin of meso and meta tibiae.

Head as broad as anterior margin of prothorax, finely punctured; frons slightly longer than broad, slightly depressed above anterior margin; genae about 1/6 as deep as eye-lobes; a narrow and shallow groove running from frons to vertex; antennal tubercles moderately separated and antennal supports strongly raised. Antennae about 1.5 times as long as body in male, slightly longer than body in female; segment 1 punctured, moderately toothed apically with closely punctured; segment 3 about 2 times as long as segment 1, closely and roughly punctured in male, finely punctured in female, minutely and strongly spined on inner sides, slightly swollen at apical margin with two strong spines; segment 4 about 1/2 as long as segment 3, finely punctured, scattered with small spines, slightly swollen at tip with two moderate spines; segments 5-10 decreasing in length, finely punctured, scattered small spines; segment 11 longer than segment 10, finely punctured, sparse small spines; segments 5-9 each slightly swollen at tip with small spines on inner sides; segment 10 slightly swollen at tip with strongly toothed on inner sides in male, disappearing in female. *Pronotum* narrower than elytra, broader than long; disc furnished with irregular foveae on each lateral side of band; a broad transverse deep groove on anterior portion; a transverse and fairly deep groove on posterior portion; interspace between moderately deep broad groove and anterior collar broader than interspace between deeply and fairly grooved and posterior collar; lateral sides strongly swollen with strongly and acutely toothed at middle. Scutellum subtriangular, rounded at tip. *Elytra* distinctly narrow at apex in male, subparallel in female, truncated without toothed, rather granulate at each side of scutellum and toward to about 1/5 of elytra; humeral angles strongly raised and slightly acuted; basal margin slightly sinuated; outer apical angles with slightly toothed; sutural end angles with strongly toothed. *Ventral surfaces* finely punctured. *Legs* long, stout; fore legs of male longer than female, asperated in male, finely punctured in female; fore tibiae slightly arched near apex.

Distribution: India, Myanmar, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Saket, 2.02.2003(1♂),

7.07.2003(1♀), Samoeng, 2.09.2003(1♀), Nan Prov.: Mae Charim, 16.10.2005(1♀), Uttaradit Prov.: Ban Khok, 15.05.2005(1♂, 1♀).

Remark: The species differs from *B. rubus* in having elytra are black, covered with brownish pubescence and four irregularly oval whitish brown bands are present on each elytron, somewhat minute small spots or disappearing. Specimens were collected in early summer and rainy seasons.

Batocera roylei (Hope, 1833)

Figures 47A-F, 112C-D

Lamia roylei Hope, 1833, *Proc. Zool. Soc. Lond.* 4: 86.

Batocera downesi Hope, 1845, *Trans. Ent. Soc. Lond.* 4: 76.

Batocera princes Redtenbacher, *In Hugel, Kaschmir* 4(2): 551, t. 27, f. 1.

Batocera roylei: Gressitt, 1940, *Philip. J. Sci.* 72: 111; 1951, l. c., 407.

Description: *Body* length 46-78 mm and breadth 14-23 mm, black; head covered with blackish pubescence, furnished with a broad longitudinal whitish yellow pubescence, band running from lateral sides of eyes to occiput, and then continued to lateral sides of thorax and abdomen; a narrow brownish pubescence stripe running along each lateral side of frons; antennal segments 1-4 black, covered with brownish pubescence, furnished with long dark reddish brown hairs; antennal segments 5-11 dark reddish brown, covered with short reddish brown hairs, furnished with long reddish brown hairs; pronotum covered with dark reddish brown pubescence, furnished with a pair of densely yellowish brown bands at middle, somewhat combined at each tip; scutellum covered with yellowish brown pubescence; elytra covered with whitish brown pubescence, furnished with four subcircular whitish brown bands on each elytron, gradually small from anterior to posterior band, sparsely covered with small spots or disappearing; ventral sides covered with pale brownish

pubescence; legs covered with pale brownish pubescence, furnished with densely blackish pubescence on apical margin of meso- and meta-tibiae.

Head as broad as anterior margin of prothorax, finely punctured; frons slightly depressed above anterior margin, longer than broad, anterior margin slightly raised; genae about 1/6 as deep as eye-lobes; a narrow and shallow groove running from frons to vertex; antennal tubercles widely separated; antennae supports strongly raised, slightly depressed at middle. Antennae about 1.8 times as long as body in male, slightly longer than body in female; segment 1 closely and roughly punctured, strongly toothed apically in male, finely punctured in female; segment 3 about 1.4 times as long as segment 1, closely and roughly punctured in male, finely punctured in female, moderately spined inner sides, slightly swollen at apical margin; segment 4 shorter than segment 3, minute roughly punctured, small spines on inner sides; segments 5-10 decreasing in length, finely punctured, scattered small spines; segment 11 longer than segment 4, finely punctured, sparsely small spines. *Pronotum* narrower than elytra, broader than long; disc furnished with irregular foveae on each lateral side of band; a transverse and moderately deep groove on anterior portion; a transverse and deep groove on posterior portion; interspace between moderately deep groove and anterior collar broader than interspace between deep groove and posterior collar; lateral sides strongly swollen with strongly and acutely toothed at middle. Scutellum irregular subtrapezoidal. *Elytra* distinctly narrow at apex, obliquely truncated without toothed, rather granulate at each side of scutellum and toward to about 1/5 of elytra; humeral angles strongly raised and acuted; basal margin sinuated; outer apical angles with slightly toothed; sutural end angles with strongly toothed. *Ventral surfaces* finely punctured. *Legs* long, stout; fore legs of male longer than female, asperated in male, finely punctured in female; fore tibiae slightly arched near apex.

Distribution: India, China, Vietnam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 2.03.2002(1♂, 1♀), 5.09.2003(1♀), 6.07.2005(1♂), Mae Taeng, 8.03.2002(1♀), Lamphun Prov.: Thoen,

10.12.2005(1♂), Nan Prov.: Mae Charim, 15.02.2005(1♀), Phayao Prov.: Chiang Muan, 6.10.2004(1♂), Phetchabun Prov.: Nam Nao, 14.08.2004(1♂), Phitsanulok Prov.: Chat Trakan, 5.10.2004(1♂), Wang Thong, 23.10.2005(1♀): Phrae Prov.: Wang Chin, 15.01.2002(1♀).

Remark: The species differs from *B. parryi* and *B. rubus* in having pronotum is covered with dark reddish brown pubescence and a pair of densely yellowish brown bands is present on middle, somewhat combined at each tip. Specimens were collected from mid and continued to late summer, winter and rainy seasons.

Batocera rubus (Linnaeus, 1758)

Figures 48A-E, 112E-F

Cerambyx rubus Linnaeus, 1758, *Syst. Nat.* ed. 10: 390.

Lamia rubus: Fabricius, 1775, *Syst. Ent.* 77.

Lamia stigma Voet, 1778, *Cat. Col.* 2: 15, pl. 13, f. 54.

Batocera albofasciata Stebbing, 1914, *Ind. For. Ins.*, 366, f. 244.

Batocera rubus: Gressitt, 1940, *Lingn. Sci. J.* 19: 8; 1951, l. c., 408.

Description: *Body* length 38-45 mm and breadth 12-15 mm, reddish brown to black; head black, covered with brownish pubescence, furnished with a broad longitudinal whitish pubescence band running from lateral sides of eyes to occiput, and then continued to lateral sides of thorax and abdomen; antennal segments 1-4 black, covered with brownish pubescence; antennal segments 5-11 reddish brown pubescence, covered with reddish brown pubescence; pronotum dark brown, covered with brownish pubescence, furnished with a pair of depressed whitish pubescence bands at middle; scutellum dark brown, covered with whitish pubescence; elytra reddish brown, covered with brownish pubescence, furnished with densely whitish

pubescence bands and spots with following: A moderate spot at 1/6 of elytra on middle of each elytron; a pair of large irregular spots, somewhat a pair of large irregular rectangular bands at middle line; a pair of large irregular spots, somewhat small spots, at 4/6 of elytra; a pair of small spots at 5/6 of elytra; ventral surfaces dark reddish brown, covered with brownish pubescence; legs dark reddish brown to black, covered with brownish pubescence.

Head as broad as anterior portion of prothorax, finely punctured; frons distinctly longer than broad, anterior ridge moderately raised, slightly depressed above anterior ridge; genae about 1/6 as deep as eye-lobe; a narrow and shallow groove running from frons to vertex; antennal tubercles moderately separated and strongly raised to antennal supports. Antennae about 1.5 times as long as body in male, slightly longer than body in female; segment 1 punctured, dentate ectoapically with small granules; segment 3 about 2 times as long as segment 1, punctured, furnished with a row of spines along inner side, slightly swollen at apice; segment 4 about 1.8 times as short as segment 3, furnished with a row of spines along inner side, smaller spines scattered throughout, slightly swollen at apice; segments 4-10 decreasing in length, each scattered with small spines throughout in male, disappearing in femlae; segment 11 slightly longer than segment 10, sparsely small spines; segment 9 toothed apically in male, disappearing in female; apical margin of antennal segments with small spines in female, disappearing in male, somewhat sparsely. *Pronotum* narrower than elytra, broader than long, finely punctured, sparsely and moderately punctured; disc uneven with minute strong ridges, furnished with a moderately raised tubercle near each whitish band; a broad and shallow groove on anterior portion, interspace covered with finely punctured; a moderately deep groove on posterior portion, interspace covered with finely punctured; apical and basal collars covered with finely punctured; anterior margin substraight and posterior margin sinuated; lateral sides strongly swollen with strongly and acutely toothed at middle. Scutellum subtriangular, rounded at tip. *Elytra* distinctly narrow at apex, subtruncated apex without toothed, rather largely granulate at each side of scutellum and toward to about 1/4 of elytra; humeral angles strongly raised and acuted; basal margin sinuated; outer apical angles with slightly toothed; sutural end angles with

strongly toothed. *Ventral surfaces* finely punctured. *Legs* long, stout; fore legs of male longer than female, asperated in male, finely punctured in female; fore tibiae slightly arched near apex.

Distribution: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 10.01.2002(1♀), Mae Chaem, 7.04.2005(1♂), Fang, 2.03.2002(1♂), Phayao Prov.: Chiang Kham, 13.05.2002(1♀), Uttaradit Prov.: Ban Khok, 15.05.2005(1♂).

Remark: The species differs from *B. parryi* in having elytra are reddish brown, covered with brownish pubescence and densely whitish pubescence bands and spots are scattered on disc. Specimens were collected from mid and continued to late summer, early rainy and later winter seasons.

Batocera rufomaculata De Geer, 1775

Figures 50A-F, 113A-B

Batocera rufomaculata De Geer, 1775, *Mémoires pour servir à l'histoire des insectes*, 5, p. 107.

Description: *Body* length 36-67mm and breadth 12-20 mm, reddish brown to dark reddish brown; head dark brown, covered with brownish pubescence, furnished with a broad longitudinal whitish pubescence band running from lateral sides of eyes to occiput, and then continued to lateral sides of thorax and abdomen; antennal segments 1-2 dark brown, covered with brownish pubescence; antennal segments 3-11 reddish brown, covered with reddish brown pubescence; prothorax dark brown to black, covered with brownish pubescence, furnished with a pair of orangey brown pubescence depressed areas at middle; scutellum dark brown to black, covered with whitish yellow pubescence; elytra reddish brown, darker on anterior portion; disc covered with brownish pubescence, scattered with moderate yellowish brown

pubescence spots throughout, somewhat united or disappearing; ventral surfaces dark brown, covered with brown to dark brown pubescence; legs dark brown, covered with whitish brown pubescence.

Head as broad as anterior margin of prothorax, closely and roughly punctured; frons slightly longer than broad, slightly depressed above anterior margin; genae about 1/6 as deep as eye-lobes; a narrow and shallow groove running from frons to vertex; antennal tubercles moderately separated and strongly raised antennal supports. Antennae about 1.3 times longer than body in male, slightly longer than body in female; segment 1 roughly and closely punctured, slightly obliquely truncated with closely and roughly punctured; segment 3 about 2 times as long as segment 1, roughly and closely punctured, furnished with minutely and strongly spined on inner sides; segment 4 about 0.6 as long as segment 3, minute shallowly and closely punctured, minutely and slightly spined on inner sides and apical margin; segments 4-10 decreasing in length, scattered small spines; segment 11 longer than segment 10 sparsely spined; segments 3-6 and segment 10 each slightly swollen at tip with sparsely small spines on inner sides; segment 9 slightly swollen at tip with strongly toothed on inner sides in male, disappearing in female. *Pronotum* narrower than elytra, broader than long, unevenly and slightly convex; disc furnished with irregular feveae at middle line; two broad, transverse and deep groove with follow: One on anterior portion and another on posterior portion; interspace between anterior groove and apical collar with rugose; interspace between posterior groove and basal collar with rugulose; lateral sides strongly swollen with strongly and acutely toothed at middle; anterior margin substraight and posterior margin slightly sinuated. Scutellum subhemispherical, longer than broad, slightly concave at tip. *Elytra* about 2 times as long as broad, subparallel, slightly oblique truncation at tip without toothed, rather granulate at each side of scutellum and toward to middle of elytra; humeral angles strongly raised and acuted; basal margin sinuated; outer apical angles without toothed; sutural end angles with moderately toothed. *Ventral surfaces* finely punctured. *Legs* long, stout; fore legs of male longer than female; dorsal and ventral of fore tibiae asperated in male, smooth in female; fore tibiae slightly arched near apex.

Distribution: Myanmar and Thailand.

Material examined: Thailand: Chiang Rai Prov.: Khun Chae, 15.07.2003(1♂), Kamphaeng Phet Prov.: Pang Si La Thong, 4.06.2002(1♀), Lampang Prov.: Chae Son, 3.09.2003(1♂), Lamphun Prov.: Li, 6.04.2004(1♂), Mae Hong Son Prov.: Mae Sariang, 2.12.2005(1♂), Nakhonsawan Prov.: Tak Fa, 13.03.2005(1♂), Nan Prov.: Mae Charim, 10.06.2004(1♀), Phichit Prov.: Taphan Hin, 10.10.2004(1♂), Phitsanulok Prov.: Nakhon Thai, 1.03.2003(1♀), Phrae Prov.: Wang Chin, 10.12.2005(1♀), Tak Prov.: Phob Phra, 29.01.2002(1♀), Uttaradit Prov.: Nam Pat, 7.08.2003(1♂, 1♀).

Remark: The species differs from *B. davidis* in having elytra are rather granurated at each side of scutellum and toward to middle of elytra; outer apical angles are smooth without a dentation; sutural end angles are furnished with a moderate dentation. Specimens were collected throughout the year except early of each season.

Batocera thomsonii Javet, 1858

Figures 45E, 114A-B

Batocera thomsonii Javet, 1858, *Archives entomologiques*, 1, p. 412, pl. 20, f. 2.

Description: *Body* length 46-56 mm and breadth 16-20 mm, reddish to black; head black, covered with brownish pubescence, furnished with a narrow longitudinal whitish pubescence band running from lateral sides of eyes to occiput, and then gradually extend and continued to lateral sides of thorax and abdomen; antennal segments 1-2 dark brown, covered with brownish pubescence; antennal segments 3-11 reddish brown, covered with reddish brown pubescence; pronotum black, covered with brownish pubescence, furnished with a pair of orangey pubescence on depressed areas at middle; scutellum black, covered with brownish pubescence; elytra reddish brown, darker on anterior portion, covered with brownish pubescence, furnished with a pair of large oval spots at middle line, somewhat sparse spots; ventral surfaces dark

reddish brown, covered with brownish pubescence; legs dark reddish brown to black, covered with brown pubescence.

Head as broad as anterior margin of prothorax, finely punctured; frons longer than broad, depressed above anterior margin, densely covered with brownish pubescence; anterior margin substraight and slightly raised; genae about 1/6 as deep as eye-lobes; a narrow and shallow groove running from frons to vertex; antennal tubercles moderately separated and strongly raised antennal supports. Antennae slightly longer than body; segment 1 fairly arched on inner sides near basal margin, finely punctured, slightly dentate ectoapically with roughly punctured; segment 3 about 1.5 times as long as segment 1, finely punctured, furnished with a row of spines on inner sides, and smaller on outer sides; segment 4 about 1/2 as long as segment 3, a row of minute spines on inner sides, smaller on outer sides; segments 4-10 decreasing in length, minute small spines; segment 11 longer than segment 10, minute small spines. *Pronotum* narrower than elytra, broader than long; disc furnished with a slightly raised tubercle at each side of a orangey pubescence on depressed area; a transversely and moderately shallow groove on anterior portion, interspace covered with finely punctured; a narrow, transverse and deep groove on posterior portion, interspace covered with finely punctured; interspace between a narrow, transverse and deep groove and basal collar wide and slightly convex, covered with finely punctured; lateral sides swollen with strongly and acutely toothed at middle; anterior margin substraight and posterior margin slightly sinuated. Scutellum linguiform. *Elytra* about 2.2 times as long as broad, subparallel, truncated apex without toothed, rather granulate at each side of scutellum and toward to about 1/4 of elytra; humeral angles strongly raised forward and obtusely; basal margin sinuated; outer apical angles with moderately toothed; sutural end angles with strongly toothed. *Ventral surfaces* finely punctured. *Legs* long, stout; fore tibiae slightly arched near apex.

Distribution: Malaysia, Sumatra, Borneo, Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 3.08.2005(3♀), Fang, 2.03.2002(1♂), Kampaeng Phet prov.: Khlong Lan, 10.05.2004(1♀).

Remark: This species is very distinct a character of a pair of largely oval spots are furnished on middle line of elytra, somewhat sparsely spots. Specimens were collected throughout year except mid summer, early and continued to mid rainy seasons.

Blepephaeus ocellatus (Gahan, 1888)

Figures 52A, 115A-B

Monochamus ocellatus Gahan, 1888, *Ann. Mag. Nat. Hist. ser. 6*, 2: 262.

Epepeotes pauloperforatus Pic, 1930, *Mel. Exot. Ent.* 61: 17.

Blepephaeus ocellatus: Breuning, 1943, l. c., 359.

Description: *Body* length 15-17 mm and breadth 4-6 mm; dark reddish brown, covered with reddish brown pubescence for mostly parts.

Head broader than anterior margin of prothorax, finely punctured; frons as broad as long, anterior margin concave at middle; eyes large; genae about 1/6 as deep as eye-lobe; a narrow and shallow groove running from frons to vertex; antennal tubercles separate and strongly raised antennal supports. Antennae about 2 times as long as body; segment 1 finely punctured, cylindrical, external apex subtruncated with minute roughly punctured; segment 3 longer than segment 1 and segment 2 combined; segment 4 as long as segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* slightly narrower than elytra, slightly concave; disc unevenly, anterior margin and posterior margin slightly depressed; apical margin and basal margin substraight; lateral sides slightly swollen with moderately and obtusely toothed at middle. Scutellum subtriangular, rounded tip. *Elytra* about 2.4 times as long as broad, subtruncated apex without toothed, outer angles without toothed; disc furnished with strongly punctured at each side of scutellum and anterior portion, sparsely on posterior portion; humeral angles slightly raised forward; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long.

Distribution: India, Malaysia, Myanmar, Vietnam, Laos, Bhutan and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 3.08.2005(1♀), Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♂).

Remark: This species is very distinct characters of body is dark reddish brown and covered with reddish brown pubescence for most parts; lateral sides of pronotum are slightly swollen and furnished with a moderate and obtuse teeth at middle; elytra are furnished with strongly punctured at each side of scutellum and anterior portion; elytral apex is subtruncated without a dentation and outer angles are smooth without a dentation. Specimens were collected from early and continued to mid rainy seasons.

Blepephaeus succinator (Chevrolat, 1852)

Figures 52B, 115C-D

Monohammus succinator Chevrolat, 1852 Chevrolat, 1852, *Revue et Magasin de Zoologie, Paris*, (2) 4:414-422.

Monohammus obfuscatus White, 1858, *Proc. Zool. Society of London*. 26: 398-413, 1 pl.

Coelosterna fleutiauxi Lameere, 1893, *Annales de la Société Entomologique de France*. Paris, 42:39-50.

Neanthes scutellaris Fairmaire, 1895, *Annales de la Société Entomologique de Belgique*. 1895: 173-190.

Perihammus fuscomaculatus Breuning, 1948, *Bulletin du Musée Royal d'Histoire Naturelle de Belgique*, Bruxelles, 24(38): 1-44.

Description: *Body* length 52-27 mm and breadth 6-8 mm, dark brown to black; head black, covered with whitish hairs alternated with brownish hairs for most parts, furnished with minute long hairs; genae covered with dark reddish brown hairs; clypeus brown, glabrous; labrum dark brown, covered with whitish hairs alternated with brownish hairs, furnished with long reddish brown hairs; antennal segments 1-2 black, covered with brownish pubescence; antennal segments 3-10 dark reddish brown, each covered with densely whitish brown band on anterior portion alternated with densely dark reddish brown band on posterior portion; antennal segment 11 dark reddish brown, covered with reddish brown pubescence; pronotum black, covered with whitish hairs alternated with brownish hairs, furnished with densely dark brown pubescence bands with following: A pair of broad longitudinal bands on each sides; a broad longitudinal band on each lateral side; scutellum black, covered with whitish hairs alternated with brownish hairs on middle and reddish brown hairs on lateral sides; elytra black, covered with whitish hairs alternated with brownish hairs, furnished with densely dark brown pubescence bands with following: A irregularly and largely hemicircular band on basal portion and reaching to each lateral side of scutellum, touching basal margin; a irregularly oval band on each humeral angle; a pair of largely and irregularly trapezium bands behind middle line; small spots scattered near apex, somewhat on basal portion or disappearing; ventral surfaces black, covered with dark brownish pubescence; legs black, covered with whitish hairs alternated with brownish hairs, furnished with blackish hairs on apical portion of outer side of meso-tibiae and hind-tibiae.

Head as broad as apical margin of prothorax, finely punctured; frons as broad as long; anterior margin straight; genae about 1/4 as deep as eye-lobes; anternal tubercles separate and moderately raised. Antennae about 1.5 times as long as body in male, slightly as long as body in female; segment 1 finely punctured, slightly arched; segment 3 longer than segment 1 and segment 2 combined; segment 4 as long as segment 3; segment 5 slightly shorter than segment 4; segments 5-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* distinctly narrower than elytra, slightly convex, furnished with a oblique row of punctures above basal collar; apical margin substraight and basal margin slightly sinuate; lateral sides slightly sinuate with

moderately and acutely toothed at middle. Scutellum subtriangular, rounded tip. *Elytra* about 2 times as long as broad, subparallel to near apex, slightly concave behind humeral angles; rather minutely punctured at each side of scutellum and minutely granulate on each humeral angles; humeral angles slightly raised forward; truncated apex without toothed; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long; meso-tibiae and hind-tibiae slightly concave on outer side near apex.

Distribution: Thailand

Material examined: Thailand: Chiang Mai Prov.: Doi Pahom Pok, 18.10.2006((1♂), Samoeng, 13.10.2007(1♂).

Remark: This species differs from *B. ocellatus* in having pronotum is black; disc is covered with whitish hairs alternated with brownish hairs and furnished with densely dark brown pubescence bands; elytra are black; disc is covered with whitish hairs alternated with brownish hairs and furnished with densely dark brown pubescence bands. Specimens were collected in late rainy season.

Cacia cretifera luteofasciata (Pic, 1917)

Figures 54A-B, 108E-F

Mesosa luteofasciata Pic, 1917, *Mat. Longic.* 10(2): 11.

Description: *Body* length 11-15 mm and breadth 4.5-6.5 mm, black, median sized; head covered with dark reddish brown pubescence, pale on anterior portion of frons and genae; antennal segments 1-2 covered with dark reddish brown pubescence; antennal segments 3-4 each covered with slivery brown pubescence, furnished with blackish tuft at tip; antennal segments 5-11 each covered with slivery pubescence on basal portion alternated with dark reddish brown pubescence on apical portion; prothorax and scutellum covered with dark reddish brown pubescence; elytra covered with dark reddish brown pubescence, furnished with a broad irregularly zigzag

yellowish brown pubescence band, about $1/5$ as broad as long of elytra at middle; disc scattered with small yellowish brown pubescence spots on apical portion, sparse on basal portion, somewhat disappearing; ventral surfaces covered with dark reddish brown; femora covered with dark reddish brown, sparsely furnished with densely yellowish brown pubescence spots; tibiae covered with dark reddish brown pubescence, each furnished with densely yellowish brown pubescence marks at middle, somewhat united.

Head narrower than prothorax, finely punctured, scattered with deeply punctured throughout; frons as broad as long, slightly convex; anterior margin slightly concave at middle; genae about $2/3$ as deep as eye-lobes; antennal tubercles widely separated; antennal supports slightly raised; a fairly deep groove running from frons to vertex. Antennae slightly longer than body in male, shorter than body in female; segment 1 finely punctured, gradually thicken to tip; segment 3 slightly longer than segment 1, slightly arched; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 as long as segment 10. *Pronotum* narrower than elytra, unevenly convex, covered with corrugate-vermiculate; disc furnished with deeply punctured at each side; anterior margin slightly narrower than posterior margin; apical margin slightly swollen; basal margin slightly sinuated; lateral sides slightly swollen, with a slightly raised small tubercle at each side near apical margin. Scutellum triangular. *Elytra* short, subparallel to $3/4$ of elytra, and then gradually narrow to apex, smoothly rounded apically; disc rather punctured at each side of scutellum and punctures getting finer toward each sides and apices; humeral angles slightly raised and obtuse; basal margin slightly sinuated, depressed near humeral angles; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* short, stout; hind tarsal segment 1 shorter than segment 2 and segment 3 united, last longest.

Distribution: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, Laos and Thailand.

Material examined: Thailand: Kamphaeng Phet Prov.: Khlong Lan, 10.05.2004(1♂, 1♀); Phayao Prov.: Chiang Kham, 4.08.2003(1♂), 9.01.2004(1♀), Phitsnulok Prov.: Nakhon Thai, 1.03.2003(1♂), Uttaradit Prov.: Ban Khok, 15.05.2005(1♀).

Remark: This species is very distinct characters of body is black; antennal segments 3-4 are covered with silvery brown pubescence, each furnished with blackish tuft at tip; elytra are covered with dark reddish brown pubescence and a broad irregularly zigzag yellowish brown pubescence band is present on middle; pronotum is covered with corrugate-vermiculate. Specimens were collected from mid summer, early and continued to mid rainy, and late winter seasons.

Calothyrsa margaritifera (Westwood, 1848)

Figures 68D, 135C-D

Phryneta margaritifera Westwood, 1848, *Wm Smith, London*, 88 pp. 42 pl.

Description: *Body* length 26-28 mm and breadth 6-8 mm, dark reddish brown to dark brown, covered with brown pubescence; pronotum furnished with a pair of longitudinal whitish pubescence stripes on each side; a longitudinal whitish brown pubescence stipe on middle; elytra dark reddish brown, covered with brown pubescence, furnished with densely whitish pubescence bands with following: A pair of large subtriangular bands above middle line; a pair of largely subtrapezium band behind largely subtriangular band; a pair of curved band near apex; somewhat a densely whitish moderately spot behind each a largely subtrapezium band or united.

Head as broad as anterior margin of prothorax, finely punctured; frons slightly broader than long, anterior margin sinuate, a narrow and transverse groove running along anterior margin; genae about 1/4 as deep as eye-lobes; a narrow and shallow groove running from frons to vertex; antennal tubercles widely separate and slightly raised. Antennae shorter than body in both sexes; segment 1 finely punctured, as long as segment 2 and segment 3 combined; segment 4 slightly shorter than segment 3;

segments 4-11 decreasing in length. *Pronotum* distinctly narrower than elytra, slightly convex; anterior margin swollen and posterior margin sinuate; lateral sides swollen with moderately and obtusely toothed at middle. *Elytra* about 2 times as long as broad, subparallel to near apex and obliquely subtruncated apex without toothed; disc rather granulate at each side of scutellum and toward each lateral side 1/4 of elytra, sparsely and moderately punctured; sutural end angles without toothed. *Ventral surfaces* finely punctured most hidden by pubescence. *Legs* fairly long, stout; femora slightly swollen; hind tarsal segment 1 shorter than segment 2 and segment 3 united, last longest.

Distribution: China, Nepal and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 1.03.2006(1♀), Fang, 15.03.2006(1♂), Nan Prov.: Mae Charim, 20.06.2006(1♂).

Remark: This species is very distinct characters of pronotum is furnished with a pair of longitudinal whitish pubescence stripes on each side and a longitudinal whitish brown pubescence stipe is placed on middle; elytra are dark reddish brown, covered with brown pubescence; disc is furnished with a pair of large subtriangular bands above middle line, a pair of largely subtrapezium band is placed behind largely subtriangular bands and a pair of curved band is present near apex and a pair of curved band is present near apex. Specimens were collected in mid summer and early rainy seasons.

Celosterna pollinosa sulphurea Heller, 1907

Figures 57A-B, 116A-B

Celosterna sulphurea Heller, 1907, *Not. Leyd. Mus.* 29: 54.

Celosterna (s. str.) *pollinosa*: Breuning, 1943, l. c., 198.

Description: *Body* length 40-56 mm and breadth 15-20mm; head black; frons covered with whitish pubescence, remainder covered with sulphur yellow pubescence; clypeus brown, glabrous; labrum dark reddish brown, covered with reddish brown long hairs; antennal segments 1-3 black and remainder dark brown, covered with dark reddish brown pubescence; pronotum black, covered with sulphur yellow pubescence, furnished with a longitudinal black stripe on each lateral sides; disc furnished with minute long reddish brown hairs on each side; scutellum black, covered with sulphur yellow hairs except anterior portion; elytra black, covered with sulphur yellow pubescence; ventral surfaces black, covered with pale sulphur yellow pubescence for most parts, furnished with whitish hairs; legs black, covered with whitish pubescence.

Head as broad as anterior margin of prothorax, finely punctured for most parts; frons longer than broad, slightly raised on anterior edge; anterior margin substraight; eyes very large about 1/2 of head; antennal tubercles moderately separate; a narrow and shallow groove running from forus to between eyes and then wider to vertex. Antennae slightly longer than body in male, slightly shorter than body in female; segment 1 finely punctured, cylindrical; subtruncate at external apex with minutely punctured; segment 3 as long as segment 1; segments 3-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, broader than long; anterior margin as broad as posterior margin; disc furnished with a longitudinal and shallow groove in middle; distinctly constrict at basal portion more than apical portion; anteriorly transverse groove concave at middle; posteriorly transverse groove straight; apical margin and basal margin slightly sinuate; lateral sides slightly sinuate, with strongly and acutely toothed at middle. Scutellum subtrapezoidal. *Elytra* about 2.2 times as long as broad, subparallel to near apex; humeral angles fairly raised forward; rather roughly granulate at each side of scutellum and humeral angles; moderately punctured behind scutellum and punctures getting finer towards each sides and apices; truncated at apex; outer angles with moderately toothed; sutural end angles with slightly toothed. *Ventral surfaces* finely punctured most hidden by pubescence. *Legs* fairly long, stout.

Distribution: Indonesia, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 5.09.2004(1♂, 1♀), Mae Taeng, 8.03.2002(1♂), Chiang Rai Prov.: Wiang Pa Pao, 17.03.2005(1♂, 1♀), Lampang Prov.: Wiang Nua, 18.04.2003(1♂, 1♀), Mae Hong Son Prov.: Khun Yuam, 11.02.2003(1♀), Mae Sariang, 2.12.2005(1♂), Nan Prov.: Mae Charim, 5.08.2004(1♀), Phetchabun Prov.: Nam Nao, 20.02.2005(1♂), Tak Prov.: Tha Song Yang, 2.02.2006(1♀), Uttaradit Prov.: Ban Khok, 15.05.2005(1♂).

Remark: This species is very distinct characters of body is black and covered with sulphur yellow pubescence for the most parts; frons is covered with whitish pubescence; lateral sides of pronotum are slightly sinuate and a strong and acute dentation is present on middle; each side of scutellum and humeral angles are covered with roughly granulated. Specimens were collected in summer, rainy and mid winter seasons.

Choeromorpha subfasciata (Pic, 1922)

Figure 58A

Coptops subfasciatus Pic, 1922, *Mel. Exot. Ent.* 36: 26.

Angelasta subfasciata: Pic, 1925, *Mel. Exot. Ent.* 45: 32.

Choeromorpha subfasciata: Breuning, 1939, l. c., 496.

Description: *Body* length 19.5 mm and breadth 9.5 mm, black; vertex and frons covered with narrow whitish pubescence stripes alternated with brownish pubescence stripes, somewhat spots; genae covered with whitish pubescence; antennal segments 1-3 each covered with whitish grey pubescence, furnished with brownish pubescence spots, somewhat united or disappearing; antennal segments 4-7 each covered with densely whitish pubescence alternated with densely blackish pubescence; antennal segments 8-11 covered with blackish pubescence; pronotum covered with narrow whitish pubescence stripes alternated with narrow brownish pubescence stripes, densely furnished with of densely brownish spots on lateral sides,

and scattered on interspaces between stripes; scutellum covered with whitish pubescence on middle, furnished with a curved brownish pubescence stripe along margin, and whitish hairs along edge; elytra covered with whitish pubescence, furnished with rows of densely brownish pubescence spots, somewhat united; a transversely curved whitish pubescence stripe at 2/3 of each elytron, and then together at inner sutures, reaching to external suture and touching; ventral surfaces covered with whitish pubescence, furnished with densely brownish pubescence spots, somewhat united; femora covered with whitish pubescence, densely furnished with brownish pubescence, somewhat united; tibiae covered with whitish brown pubescence; tarsal segments 1-3 covered with whitish pubescence; tarsal segment 5 covered with whitish pubescence alternated with blackish pubescence.

Head narrower than prothorax, closely and moderately punctured throughout; anterior margin substraight, slightly raised; genae about 1/2 as deep as eye-lobes; a fairly deep groove running from frons to vertex; eye separated to upper and lower eye, lower eye-lobe bigger than upper eye-lobes; antennal tubercles widely separated. Antennae shorter than body; segment 1 long, finely punctured, gradually thicken to tip, slightly oblique truncation with punctured; segment 3 shorter than segment 1, slightly swollen at tip; segment 4 longer than segment 3, cylindrical; segment 5 shorter than segment 4; segments 5-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, scattered with moderately punctured, slightly convex; apical margin substraight; basal margin sinuated; anterior margin distinctly more narrower than posterior margin; lateral sides sinuated with a small tubercle on each side near apical margin. Scutellum hemicircular. *Elytra* short, gradually oblique to apex, smoothly roughly apically, rather punctured at each side of scutellum and toward each sides and apices; basal margin sinuated; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, stout; fore legs longest; tarsal segment 1 shorter than segment 2 and segment 3 united, last longest.

Distribution: Malaysia, Vietnam, Laos and Thailand (new record).

Material examined: Thailand: Phayao Prov.: Chiang Muan, 6.10.2004(1♀).

Remark: This species is very distinct characters of pronotum is covered with narrow whitish pubescence stripes alternated with narrow brownish pubescence stripes; elytra are covered with whitish pubescence; rows of densely brownish pubescence spots and a transversely curved whitish pubescence stripe are present on 2/3 of each elytron. The only one specimen was collected in late rainy season.

Cleptometopus similis (Gahan, 1895)

Figure 67F

Smermus similes Gahan, 1895, *Ann. Mus. Civ., Genova* ser. 2, 14: 81.

Cleptometopus similes: Breuning, 1966, l.c., 112.

Description: *Body* length 9 mm and breadth 1.5 mm, elongate, dark reddish brown for most parts, covered with dark reddish brown pubescence; frons, genae and lateral sides of eye-lobes covered with yellowish brown pubescence; vertex furnished with a densely yellowish brown pubescence band at middle, starting from between upper eye-lobes, and gradually extend to occiput, and then continued to pronotum; antennal segments 1-2 covered with reddish brown pubescence; antennal segments 3-9 reddish brown, each segment covered with dark reddish brown, furnished with golden brown hairs on basal portion; antennal segments 10-11 reddish brown, covered with reddish brown pubescence; pronotum furnished with densely yellowish brown pubescence bands with following: A pale longitudinal band continued from vertex at middle; a longitudinal band at each lateral side; scutellum covered with yellowish brown pubescence; elytra reddish brown, darker on basal portion, scattered with yellowish brown pubescence marks throughout; humeral angles covered with densely yellowish brown pubescence band, and then running backward along lateral sides to above middle line; ventral surfaces and legs covered with golden reddish brown pubescence.

Head broader than anterior margin of prothorax, moderately and closely punctured; frons longer than broad; anterior margin substraight; genae about 1/2

as deep as eye-lobes; antennal tubercles nearly separated; antennal supports strongly raised. Antennae about 2.3 times as long as body; segment 1 finely punctured, gradually thicken to tip; segment 3 shorter than segment 1, slightly swollen at tip; segment 4 shorter than segment 3, cylindrical; segment 5 as long as segment 4; segment 6 longer than segment 5; segment 7 slightly shorter than segment 6; segments 7-10 decreasing in length; segment 11 longest. *Pronotum* narrower than elytra, cylindrical, about 1.5 times as long as broad, closely and deeply punctured throughout; apical margin straight; basal margin sinuated; lateral sides slightly sinuated without toothed. Scutellum hemicircular, slightly longer than broad. *Elytra* about 4 times as long as broad, subparallel, slightly concave behind middle at each lateral side, subtruncated at tip without toothed, closely and largely punctured throughout; basal margin substraight; outer apical angles with slightly toothed; sutural end with slightly toothed. *Ventral surfaces* finely punctured. *Legs* short, weak; hind tarsal segment 1 slightly longer than segment 2 and segment 3 united, last longest.

Distribution: Indonesia, Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 7.04.2005(1♂).

Remark: This species is very distinct characters of pronotum is furnished with densely yellowish brown pubescence bands; a pale longitudinal band is continued from vertex at middle and a longitudinal band is placed on each lateral side of pronotum; elytra are covered with closely and largely punctured throughout and scattered with yellowish brown pubescence marks. The only one specimen was collected in late summer season.

Coptops annulipes Gahan, 1864

Figures 58B, 116C-D

Coptops annulipes Gahan, 1864, *Ann. Mus. Civ. Genova* 34: 54.-Breuning, 1939, l.c., 511.

Description: *Body* length 15-18 mm and breadth 5-7 mm, reddish brown to dark brown; head dark brown; frons covered with dark brown pubescence; vertex covered with dark brown pubescence alternated with brownish pubescence; genae covered with brownish pubescence; antennal segments 1-2 dark brown, covered with brownish pubescence; antennal segments 3-10 reddish brown, each covered with brownish pubescence, furnished with brown pubescence on basal margin; antennal segment 11 reddish brown, covered with dark reddish brown pubescence; pronotum reddish brown, covered with brownish pubescence, furnished with two longitudinal dark brown pubescence bands at each side; scutellum reddish brown, darker at tip; elytra reddish brown, darker on basal portion; disc covered with brownish pubescence, furnished with densely whitish and orangey brown pubescence marks throughout; a transverse whitish pubescence band at middle, running gradually oblique from suture to lateral sides and touching external sutures, broad about $\frac{1}{3}$ as long as elytra; apex slightly depressed with orangey brown pubescence; ventral surfaces dark brown, covered with pale brown pubescence; legs dark brown; femora covered with brownish pubescence, furnished with reddish brown bands near apical margin; tibiae covered with brownish pubescence bands alternated with blackish pubescence bands; tarsal segments 1-2 covered with brownish pubescence; tarsal segments 3-4 covered with dark reddish brown pubescence; tarsal segment 5 covered with brownish pubescence alternated with dark reddish brown pubescence.

Head as broad as anterior margin of prothorax; frons as broad as long, finely punctured, anterior margin substraight; genae about $\frac{1}{2}$ as deep as eye-lobes; vertex finely punctured, furnished with two small tubercles; a narrow groove running from frons to vertex; antennal tubercles widely separated and slightly raised. Antennae slightly longer than body in male, slightly shorter than body in female; segment 1 slightly arched at apical margin, finely punctured, obliquely subtruncated with finely punctured; segment 3 slightly arched at basal margin, as long as segment 1; segment 4 as long as segment 3; segment 5 shorter than segment 4; segments 5-10 decreasing in length; segment 11 shorter than segment 10, distinctly arched at apex. *Pronotum* narrower than elytra, broader than long; anterior margin slightly narrower than posterior margin; disc furnished with two moderate tubercles above middle line; two

small tubercles at middle line behind two moderate tubercles; callosity at each side above middle; lateral sides slightly swollen with a small tubercle near apical margin. Scutellum linguiform. *Elytra* about 1.7 times as long as broad, smoothly rounded apically, rather granulate at each side of scutellum and toward to each sides and humeral angles, punctured behind scutellum and punctures getting finer toward each sides and apices; disc furnished with distinct costae; anterior margin each elytron depressed at middle; apical margin depressed with finely punctured; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, stout; femora swollen at middle.

Distribution: Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 8.03.2002(1♂), Mae Chaem, 5.09.2004(1♂), Lampang Prov.: Thoen, 10.12.2005(1♀), Nan Prov.: Mae Charim, 5.08.2004(1♂, 1♀), 15.02.2005(1♀), Phitsanulok Prov.: Chat Trakan, 3.05.2005(1♀).

Remark: The species differs from *C. pascoei* in having pronotum is reddish brown, covered with brownish pubescence; disc is furnished with two longitudinal dark brown pubescence bands are present on each side, two moderate tubercles are placed on above middle line and two small tubercles are present on middle line behind two moderate tubercles. Specimens were collected from early and continued to mid summer, rainy and mid winter seasons.

Coptops pascoei Gahan, 1895

Figures 58C, 116E-F

Coptops pascoei Gahan, 1895, *Ann. Mus. Civ. Genova* 34: 55.-Breuning, 1939, l.c., 512.

Mimocoptops bidentatithorax Pic, 1925, *Mel. Exot. Ent.* 45: 30.

Description: *Body* length 16 mm and breadth 6 mm, reddish brown to dark brown; head dark brown; frons covered with dark brownish pubescence, scattered with brownish hairs; genae covered with brownish pubescence, sparsely whitish hairs; vertex covered with orangey brown hairs alternated with whitish hairs throughout, furnished with two reddish brown bands and then together between eyes; antennal segments 1-2 dark brown, cover with whitish and orangey brown pubescence, furnished with densely dark reddish brown marks on outer side; antennal segment 3 covered with reddish brown pubescence, furnished with dense whitish and orangey brown hairs on inner side of apex; antennal segments 4-11 each covered with whitish and orangey brown pubescence on anterior portion, and reddish brown pubescence on posterior portion; prothorax dark brown, covered with whitish and orangey brown pubescence, sparse black spots; a broad and longitudinal black band on each lateral side; a small spot on middle of basal margin; scutellum dark brown, covered with orangey brown and whitish pubescence, furnished with a densely dark reddish brown band on each side; elytra reddish brown, darker on basal portion, covered with reddish brown pubescence alternated with whitish and orangey brown pubescence; a transverse whitish and orangey brown band on basal portion, about 1/5 as broad as elytra; a pair of dark reddish brown marks on middle line; a pair of moderate dark marks on apex; dark spots on 3/4 of elytra, somewhat combined; apical margin strongly depressed with whitish and orangey brown pubescence; ventral surfaces dark brown, covered with brownish pubescence; legs dark brown; femora covered with whitish brown pubescence; tibiae covered with reddish brown band alternated with brownish band; tarsal segments 1-2 dark brown, covered with whitish hairs; tarsal segment 4-5 covered with whitish band alternated with dark reddish band.

Head as broad as anterior margin of pronotum, finely punctured; frons as broad as long, anterior margin straight; genae about 1/2 as deep as eye-lobes; vertex finely punctured most hidden by pubescence; antennal tubercles widely separated and slightly raised. Antennae slightly longer than body in male, slightly shorter than body in female; segment 1 finely punctured, gradually extend to apex, subtruncated with finely punctured; segment 3 slightly arched, as long as segment 1; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 shorter than segment

10, slightly arched at tip. *Pronotum* narrower than elytra, broader than long, sparsely punctured, a small tubercle on each side behind middle line, two moderate tubercles above middle line, a small tubercle above middle of basal margin; lateral sides swollen with a moderately raised tubercle near anterior margin, minutely punctured; basal margin slightly broader than apical margin; apical and basal margin sinuated. Scutellum subrectangular. *Elytra* about 1.6 times as long as broad, smoothly rounded apically, rather punctured throughout; each elytron furnished with longitudinal ridges; sutural end angles without toothed. *Ventral surfaces* finely punctured; a longitudinal and deep groove running at middle of meta-sternum. *Legs* fairly long, stout; femora slightly swollen at middle; tibiae flatten.

Distribution: Myanmar, Thailand, Indo-China and Laos.

Material examined: Thailand: Phrae Prov.: Wang Chin, 15.01.2002(1♂), Tak Prov.: Umphang, 30.06.2007(1♀).

Remark: The species differs from *C. annulipes* in having pronotum is dark brown; disc is covered with whitish and orangey brown pubescence and sparsed with black spots; a broad longitudinal black band furnished on each lateral side of pronotum. Specimens were collected in early rainy and late winter seasons.

Cremnosterna carrisima (Pascoe, 1857)

Figures 56A-S, 117C-D

Monochamus carissimus Pascoe, 1857, *Trans. Ent. Soc. Lond. Ser. 2*, 4: 104.

Celosterna pardalis Thomson, 1865, *Syst. Cer.*, 552.

Coelosterna tessellata White, 1858, *Proc. Zool. Soc. Lond.* 26: 404.

Coelosterna maculosa Thomson, 1865, *Syst. Cer.*, 552.

Cerosterna ocellata Nonfreid, 1891, *Berl. Ent. Zs.* 36: 379.

Cremnosterna carissima: Breuning, 1943, l.c., 201, fig. 17.

Description: *Body* length 14.5-26.5 mm and breadth 5-9 mm, reddish brown; head covered with yellowish brown pubescence in male, dark reddish brown pubescence in female, furnished with a longitudinal blackish pubescence band, each band running from behind upper eye-lobe, and then continued to pronotum; antennal segments 1-2 dark reddish brown, covered with dark reddish brown pubescence; antennal segments 3-4 covered with reddish brown pubescence except apical margin which is covered with dark reddish brown pubescence; antennal segments 5-11 covered with reddish brown pubescence; pronotum covered with yellowish brown pubescence, furnished with a broad longitudinal blackish pubescence band on each side, running continued from head; a small blackish spot under each lateral side toothed; a densely blackish pubescence band on each lateral side; scutellum covered with yellowish brown pubescence; elytra covered with dark reddish brown pubescence, furnished with small and large yellowish brown pubescence bands and spots with following: 1st a large band on middle of basal margin, and then reaching covered scutellum, lateral sides and behind scutellum; 2nd a row of spots united band, somewhat spots separated, running from middle of basal margin of each elytron to 1/5 of elytron; 3rd a large round spot above middle line of each elytron; 4th a large round spot behind middle line of each elytron; 5th a moderate round spot on 5/6 of each elytron; 6th small and moderate spots scattered on disc throughout, somewhat spots united; spots scattered on disc very variation of patterns, somewhat elytra entirely covered with yellowish brown pubescence, but male genitalia same morphology; ventral surfaces covered with brownish pubescence; 1-2 abdominal sternites each segment furnished with a blackish pubescence spot on each side; legs covered with yellowish brown pubescence, furnished with blackish hairs on knees in both sexes.

Head slightly narrower than prothorax, finely punctured; frons slightly broader than long; anterior margin substraight in female, fairly concave in male; genae about 1/3 as deep as eye-lobes; antennal tubercles moderately separated; antennal supports

strongly raised; a narrow and shallow groove running from frons to vertex.

Antennae about 1.5 times as long as body in male, about 1.1 times as long as body in female; segment 1 finely punctured, gradually thicken to tip, subtruncated with punctured; segment 3 longer than segment 1; subcylindrical, slightly swollen at tip; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 shorter than segment 10 in female, distinctly longer than segment 10 in male.

Pronotum narrower than elytra, broader than long, anterior margin as broad as posterior margin; anterior and posterior margin strongly constrict; disc slightly convex, covered with finely punctured; apical margin swollen at middle; basal margin sinuated; lateral sides fairly swollen with strongly and subacutely toothed at middle.

Scutellum subtriangular, rounded at tip. *Elytra* distinctly broader than prothorax, parallel sides at basal 3/4 and then gradually narrow to apex, slightly truncated at tip without toothed, rather punctured at each side of scutellum and punctures getting finer towards each sides and apices; humeral angles slightly raised, covered with deeply punctured; outer apical corner without toothed; sutural end angles without toothed.

Ventral surfaces finely punctured. *Legs* fairly long, stout; hind tarsal segment 1 shorter than segment 2 and segment 3 united, and last.

Distribution: India, Myanmar, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 20.01.2002(1♂, 1♀), 2.02.2006(1♂, 1♀), Mae Taeng, 6.07.2003(1♀), 2.06.2004(1♂, 1♀), Doi Saket, 1.10.2004(1♂), 5.07.2005(1♂, 2♀), Chiang Rai Prov.: Wiang Pa Pao, 23.08.2003(1♂), 17.03.2005(1♀), Lampang Prov.: Wiang Nua, 18.04.2003(2♂, 4♀), Lamphun Prov.: Mae Tha, 19.11.2004(1♀), Phayao Prov.: Chiang Kham, 4.08.2003(1♂), 9.01.2004(1♂, 1♀), Phitsanulok Prov.: Wang Thong, 16.05.2003(1♀), Phrae Prov.: Wang Chin, 15.01.2002(1♂, 1♀), 6.08.2004(1♂).

Remark: The species differs from *C. plagiata* in having pronotum is furnished with a broad longitudinal blackish pubescence band on each side which is continued from head; lateral lobes of parameres are shorter than *C. plagiata*. Specimens were collected throughout the year except late rainy and mid winter seasons.

Cremnosterna plagiata White, 1858

Figures 56T, 117A-B

Cremnosterna plagiata White, 1858, *Proc. Zool. Soc. Lond.* 26: 403.*Celosterna macuticornis* Thomson, 1865, *Syst. Cer.*, 552.*Cremnosterna plagiata*: Br., 1943, l.c., 202, fig. 19.

Description: *Body* length 21.5-23.5 mm and breadth 7.5-8 mm, dark reddish brown; head covered with brownish pubescence, furnished with a densely blackish pubescence spot behind each upper eye-lobe; antennal segments 1-2 covered with brownish pubescence; antennal segments 3-10 covered with brownish pubescence, each furnished with reddish brown hairs on apical margin; segment 11 covered with dark reddish brown pubescence; pronotum covered with brown pubescence, furnished with a longitudinal row of three small blackish pubescence spots on each side, the last one smallest; scutellum covered with brownish pubescence; elytra covered with brownish pubescence, furnished with pubescence bands and spots with following: 1st a large whitish brown pubescence band above middle line on each side near external suture; 2nd a moderate whitish brown pubescence band at 3/4 of each elytron; 3rd moderate whitish brown pubescence spots along each internal suture, somewhat spots united; 4th small whitish brown pubescence spots scattered throughout, somewhat spots united or disappearing; 5th scattered with blackish pubescence spots, sparse on apical portion, somewhat united especially above and behind 1st band; ventral surfaces covered with brownish pubescence; legs covered with brownish pubescence.

Head slightly broader than apical margin of pronotum, finely punctured; frons as broad as long; anterior margin substraight; genae about 1/6 as deep as eye-lobes; antennal tubercles moderately separated; antennal supports strongly raised; a fairly deep groove running from frons to vertex. Antennae about 1.3 times as long as body in male, slightly longer than body in female; segment 1 finely punctured, gradually thicken to tip, slightly oblique truncation at tip with punctured; segment 3 slightly

shorter than segment 1, subcylindrical, slightly swollen at tip; segment 4 slightly shorter than segment 3; segment 4-10 decreasing in length; segment 11 shorter than segment 10 in female, longer than segment 10 in male. *Pronotum* narrower than elytra, broader than long, anterior margin as broad as posterior margin; disc slightly convex, furnished with a shallow fovea behind middle line on each side; apical margin swollen at middle; basal margin sinuated; lateral sides swollen, with strongly and subacutely toothed at middle. Scutellum subtriangular, rounded at tip. *Elytra* distinctly broader than prothorax, parallel sides at basal 3/4, and then gradually narrow to apex, slightly subtruncated without toothed, rather granulate at each side of scutellum and toward at 1/5 of elytra; humeral angles slightly raised, covered with granulate; basal margin sinuated; outer apical corners without toothed; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, stout; hind tarsal segment 1 shorter than segment 2 and segment 3 united, and last.

Distribution: India, Malaysia, Myanmar, Laos and Thailand.

Material examined: Thailand: Chiang Rai Prov.: Wiang Pa Pao, 17.03.2005 (1♂, 1♀).

Remark: The species differs from *C. carrisima* in having pronotum is furnished with a longitudinal row of three small blackish pubescence spots; lateral lobes of parameres are longer than *C. carrisima*. Specimens were collected in mid summer season.

Cylindrecamptus lineatus (Aurivillius, 1914)

Figures 59B, 117E-F

Olenecamptus lineatus Aurivillius, 1914, *Arkiv Zool.* 8(19): 25.

Olenecamptus interruptus Pic, 1922, *Mel. Exot. Ent.* 37: 14.

Cylindrecamptus lineatus: Breuning, 1940, l.c., 561.

Description: *Body* length 11 mm and breadth 3 mm, cylindrical, black; frons covered with grayish pubescence on middle, furnished with whitish hairs on lateral margin and anterior margin; genae covered with whitish pubescence; vertex covered with dark reddish brown pubescence, furnished with a densely whitish pubescence stripe, each stripe starting from between upper eye-lobes, and running to each side of vertex, and then continued to pronotum; lateral sides of eye-lobes covered with whitish pubescence; antennal segment 1 covered with whitish pubescence; antennal segment 2 covered with dark reddish brown pubescence; antennal segment 3 covered with dark reddish brown pubescence, furnished with whitish hairs on apical portion of inner side; antennal segment 4 basal portion covered with whitish pubescence, apical portion covered with dark reddish brown pubescence; antennal segments 5-11 covered with reddish brown pubescence; pronotum covered with dark reddish brown pubescence, furnished with a longitudinal whitish pubescence stripe running continued from head to each side of pronotum; scutellum covered with whitish pubescence; elytra covered with dark reddish brown pubescence, furnished with longitudinal whitish pubescence stripes with following: 1st a short stripe starting from middle of basal margin of each elytron to 1/6 of each elytron; 2nd a long stripe starting behind scutellum, running along internal suture to 5/6 of elytron, and then continued with short stripe to apice; 3rd a long stripe starting behind each humeral angle, running to middle line of each elytron, and then continue with short stripe to 5/6 of elytron; ventral surfaces whitish pubescence; legs covered with whitish pubescence.

Head broader than pronotum; frons closely and fairly punctured, broader than long; anterior margin sinuated; genae about 1/3 as deep as eye-lobes; antennal tubercles fairly separated; antennal supports strongly raised; vertex finely granulate; a shallow and narrow groove running from frons to vertex. Antennae about 3 times as long as body; segment 1 short, suboval, closely and deeply punctured on external sides; segment 3 about three times as long as segment 1, subcylindrical, slightly swollen at tip; segment 4 slightly shorter than segment 3; segment 5 slightly longer than segment 4; segments 5-10 slightly increasing in length; segment 11 longest. *Pronotum* narrower than elytra, longer than broad, finely granulate, anterior margin

as broad as posterior margin; apical margin substraight; basal margin sinuated; lateral sides slightly sinuated without toothed. Scutellum hemicircular. *Elytra* parallel sides to 5/6 of elytra, and then gradually narrow to apex, slightly oblique truncation without toothed, rather punctured at each side of scutellum and punctures getting slightly finer toward each sides and apices; basal margin sinuated; outer apical corners without toothed; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, stout; femora swollen at middle; meso-tibae furnished with a small spine at middle; hind tarsal segment 1 slightly shorter than segment 2 and segment 3 united, and last.

Distribution: Vietnam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Cheam, 5.09.2004(1♂, 1♀).

Remark: This species is very distinct characters of pronotum is furnished with a longitudinal whitish pubescence stripe which is continued from head to each side; elytra are covered with dark reddish brown pubescence and furnished with three longitudinal whitish pubescence stripes. Specimens were collected in late rainy season.

Cylindrepomus viridipennis (Pic, 1937)

Figure 59A

Olenecamptus viridipennis Pic, 1937, *Echange* 53(468): 7.

Cylindrepomus viridipennis: Breuning, 1940, l.c., 535.

Description: *Body* length 18.5-20.5 mm and breadth 3.5 -4 mm, metallic cyaneous; head covered with green cyaneous pubescence; antennae dark reddish brown, covered with dark reddish brown pubescence; prothorax and scutellum covered with green cyaneous pubescence; elytra covered with metallic green

cyaneous pubescence, furnished with pale green cyneous hairs starting from $\frac{3}{4}$ of internal sutures to apices; ventral surfaces covered with pale metallic green pubescence; legs dark reddish brown, covered with dark reddish brown pubescence.

Head broader than prothorax, finely and very punctulate throughout, longer than broad; frons broader than long; anterior margin concave; genae about $\frac{1}{3}$ as deep as eye-lobes; antennal tubercles moderately separated; antennae supports fairly raised; a fairly deep groove running from frons to vertex. Antennae about 2 times as long as body in male, slightly longer than body in female; segment 1 short, suboval, closely and deeply punctured on external sides, asperate; segment 3 about 6 times as long as segment 1, cylindrical; segment 4 about $\frac{1}{2}$ as long as segment 3; segment 5 as long as segment 4, and segment 6; segment 7 shorter than segment 6; segments 7-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* closely and transversely rugose, about 2 times as long as broad; distinctly constrict at $\frac{4}{5}$ of pronotum above basal margin; apical margin substraight; basal margin sinuated; lateral sides slightly concave above middle, and slightly swollen behind middle, constrict at $\frac{4}{5}$ at each sides, without toothed. Scutellum hemicircular, broader than long. *Elytra* parallel sides at basal $\frac{5}{6}$ and then fairly oblique to apex, truncated tip without toothed, fairly deep punctures throughout; humeral angles slightly raised; basal margin straight; outer apical angles without toothed; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* long, slender; hind tarsal segment 1 as long as segment 2 and segment 3 united, last longest.

Distribution: Vietnam, Laos, Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 2.06.2004(1♀), 7.04.2005(1♀).

Remark: This species is very distinct characters of body is metallic cyaneous; prothorax and scutellum are covered with green cyaneous pubescence; pronotum is about 2 times as long as broad and covered with close and transverse rugose. Specimens were collected from late summer and continued to early rainy seasons.

Diastocera wallichi tonkinensis Kriesche, 1924

Figures 43F-G, 122E-F

Diastocera wallichi tonkinensis Kriesche, 1924, *Deuts. Ent. Zs.*, 289.-Breuning, 1938, 265-266.-Gressitt, 1951, l.c., 433.

Diastocera savioi Yen, 1932, *Peking Nat. Hist. Bull.* 7: 165.

Description: *Body* length 35-43 mm and breadth 12-15 mm, dark greenish bronze; antennal segments 3-5 each furnished with tuft black hairs on apical margin; segments 6-11 each furnished with black hairs under side of apical margin; pronotum furnished with dark brown hairs on apical margin; elytra furnished with densely pubescence bands or stripes with following: A pair of cluster of black pubescence spots on 1/5 of elytra; a transversely oblong dark blue pubescence band on each lateral side near a cluster of black pubescence spots; a transverse blackish blue pubescence stripe behind middle line; a transverse blackish blue pubescence stripe on 4/5 of elytra; ventral surfaces covered with dark brown or red pubescence for most parts; legs furnished with dark brown or red hairs on apical margin of femora.

Head narrower than prothorax, finely punctured; eyes rather small, dark brown; frons broader than long, anterior margin sinuate; genae about 2/3 as deep as eye-lobes; a narrow and shallow groove running from frons to between eyes and then slightly wider to vertex; antennal tubercles distinctly separate and antennal supports strengthened. Antennae about 1.3 times as long as body in male, as long as body in female; segment 1 finely punctured, gradually swollen to apices; segment 3 longer than segment 2; segments 3-10 decreasing in length; segment 11 as long as segment 10, arched at tip. *Pronotum* narrower than elytra, broader than long; disc unevenly convex, finely punctured and sparsely punctured; distinctly constrict on basal portion; rugulose on apical and basal collars; lateral sides unevenly swollen with slightly blunt tooth behind middle. *Scutellum* hemicircular, slightly longer than broad. *Elytra* about 2.1 times as long as broad, rather moderately punctured at each side of scutellum and punctures getting finer and smaller towards each side and apices;

subparallel sided at near apex and smoothly rounded apically; sutural end angles without toothed. *Ventral surfaces* finely punctured for most hidden by pubescence. *Legs* fairly long, stout.

Distribution: Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 2.06.2004(1♂), Doi Saket, 5.07.2005(1♀), Samoeng, 7.04.2004(1♂), Mae Chaem, 1.03.2006(1♀).

Remark: This species is very distinct characters of body is dark greenish bronze; 3rd-5th antennal segments are furnished with tuft black hairs on apical margin; elytra are furnished with three transverse and oblong dark blue pubescence bands. Specimens were collected from mid and continued to late summer, early and continued to mid rainy seasons.

Diboma posticata (Gahan, 1895)

Figure 54C

Sybra posticata Gahan, 1895, *Ann. Mus. Civ. Genova* 34: 78.

Zotalemimon apicale Pic, 1925, *Mel. Exot. Ent.* 43: 29.

Description: *Body* length 11.5 mm and breadth 3.5 mm; head dark reddish brown; frons covered with dark reddish brown pubescence; genae and behind alateral sides of eye-lobes covered with yellowish brown pubescence, scattered with whitish hairs throughout; between upper eye-lobes covered with brownish pubescence, furnished with densely whitish pubescence; vertex covered with dark reddish brown pubescence, furnished with brownish pubescence behind upper eye-lobes; pronotum dark reddish brown, covered with pale reddish brown pubescence, scattered with whitish hairs throughout; lateral sides covered with creamy pubescence; scutellum covered with whitish pubescence, furnished with brownish hairs at middle; elytra reddish brown, covered with reddish brown pubescence, furnished with a large pale

yellowish brown pubescence band on apical margin, about 1/3 as broad as long of elytra; a large band scattered with small whitish pubescence marks throughout, sparsely blackish marks; a row of four pale subcircular dark reddish brown pubescence bands along each external suture; a small longitudinal blackish pubescence mark on each side of scutellum; thoracic and 1st abdominal sternites covered with brownish pubescence; 2-4 abdominal sternite covered with pale brownish pubescence; 5th abdominal sternite covered with pale brownish pubescence, furnished with a large subcircular blackish pubescence band at middle; fore femur dark reddish brown, covered with reddish brown pubescence, scattered with whitish hairs throughout; meso- and hind femora covered with dark reddish brown pubescence, scattered with brownish and whitish hairs throughout; tibiae covered with brownish pubescence, scattered with small reddish brown and whitish pubescence spots; tarsal segment covered with pale brownish pubescence.

Head slightly narrower than prothorax; frons as broad as long, scattered with deeply punctured, lateral sides substraight; anterior margin slightly concave; genae about 1/3 as deep as eye-lobes; antennal tubercles nearly separated; antennal supports strongly raised, with apical tooth; minutely and deeply punctured between upper eye-lobe and behind upper eye-lobes. Antennae shorter than body; segment 1 thicken near basal margin, and gradually narrow to tip, scattered with punctured; segment 3 about two times as long as segment 1, subcylindrical; segment 4 shorter than segment 3, slightly curved; segment 5 shorter than segment 4; segments 5-11 decreasing in length. *Pronotum* narrower than elytra, strongly rugose-punctate, longer than broad, anterior margin slightly broader than posterior margin, furnished with a pair of small tubercles at middle; a slightly raised and longitudinal ridge running on middle, gradually depressed from middle to basal margin; apical margin straight; basal margin slightly sinuated; lateral sides unevenly and slightly sinuated, without toothed. Scutellum hemicircular. *Elytra* distinctly narrow at apex, slightly concave at sides behind humeral angles, gradually narrow from 2/3 of elytra to apex; apical truncated, strongly concave at apical margin; disc rather punctured at each side of scutellum and punctures getting finer and shallower toward each sides and apices; each elytron furnished with three short rows of uncontinued ridges; basal margin slightly sinuated;

outer apical angles with strongly toothed; sutural end angles with slightly toothed.
Ventral surfaces scattered with moderately punctured, sparsely on thoracic sternites.
Legs short, stout; femora slightly swollen; hind tarsal segment 1 shorter than segment 2 and segment 3 united, and last.

Distribution: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 5.09.2003(1♀).

Remark: This species is very distinct characters of pronotum is dark reddish brown; disc is covered with pale reddish brown pubescence and whitish hairs are scattered throughout; strongly rugose-punctate are covered surface of pronotum; lateral sides are covered with creamy pubescence; elytra are reddish brown, covered with reddish brown pubescence and a large pale yellowish brown pubescence band is present on apical margin; the large band is about 1/3 as broad as elytra length and scattered with small whitish pubescence marks throughout. The only one specimen was collected in late rainy season.

Driopea luteolineata Pic, 1926

Figure 67C

Driopea luteolineata Pic, 1926, *Mel. Exot. Ent.* 47: 15.

Description: *Body* length 8 mm and breadth 2 mm, reddish brown to dark reddish brown; head dark reddish brown, covered with pale yellowish pubescence, dense pubescence on vertex; antennal segments 1-2 reddish brown, covered with pale yellowish pubescence; antennal segments 3-5 each segment covered with dark reddish brown, furnished with pale yellow hairs on basal margin; antennal segments 6-11 each segment covered with reddish brown pubescence; pronotum dark reddish brown, covered with pale yellow pubescence, furnished with three longitudinal yellowish brown pubescence stripes; scutellum covered with yellowish brown pubescence;

elytra cover with dense pubescence bands with following: 1st a longitudinal yellowish pubescence stripe running on inner sutures; 2nd a broad longitudinal silvery grey pubescence stripe on each side of 1st; 3rd a longitudinal yellowish pubescence stripe at middle of each elytra; 4th a broad longitudinal silvery grey pubescence stripe on each lateral side of elytron; 5th a longitudinal yellowish pubescence stripe along lateral margin of each elytron; 2nd and 4th together at apical margin; disc scattered with long dark reddish brown hairs, furnished with dark reddish brown pubescence bands with following: A small oval band on each humeral angle; a large and irregularly trapezium band at each side of scutellum; a pair of small irregular bands above middle line, each band near inner sutures; a large and irregularly oval band above middle line, on each lateral side of elytron; a pair of large trapezium bands behind middle line, near inner sutures; a small spot at 4/6 of each lateral margin of elytron; a subcircular spots at 4/6 of each elytron; a pair of large oblique bands at 5/6 of each elytron; a small circular spot at 5/6 of each lateral margin of elytron; a pair of small spots on apical portion; ventral surfaces covered with pale yellowish pubescence; femora covered with pale yellow pubescence; tibiae covered with blackish pubescence except basal margin which is covered with pale yellow hairs; tarsal segment covered with dark reddish brown pubescence.

Head broader than anterior margin of prothorax, finely punctured; frons broader than long, slightly convex; anterior margin substraight; genae about 1/4 as deep as eye-lobes; antennal tubercles fairly separated; antennal supports strongly raised. Antennae about 2.1 times as long as body; segment 1 subcylindrical, slightly swollen at middle, finely punctured, slightly arched at apical margin; segment 3 longer than segment 1, slightly curved; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longest. *Pronotum* narrower than elytra, slightly convex, finely punctured; anterior margin slightly narrower than posterior margin. *Elytron* furnished with eight longitudinal rows of strongly raised hair sockets, subtruncated without toothed; apex fairly depressed; basal margin substraight; outer apical angles without toothed; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* short, stout; hind tarsal segment 1 distinctly longer than segment 2 and segment 3 united, and last.

Distribution: Vietnam, Laos and Thailand (new record).

Material examined: Thailand: Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♂).

Remark: This species is very distinct characters of pronotum is dark reddish brown and covered with pale yellow pubescence; three longitudinal yellowish brown pubescence stripes are present on disc; elytra are covered with longitudinal yellowish pubescence stripes and silvery grey pubescence stripes and eight longitudinal rows of strongly raised hair sockets are present on surface; elytral apex is subtruncated without toothed. The only one specimen was collected in early rainy season.

Epepeotes luscus densemaculatus Breuning, 1943

Figures 54F-G, 118A-B

Epepeotes luscus densemaculatus Breuning, 1943, *Novit. Ent. 3me supp.* 99: 222.- Gressitt, l.c., 362.

Description: *Body* length 20-28 mm and breadth 7-10 mm, reddish brown to dark brown; head black, covered with brown pubescence, densely pubescence on genae, between eyes and vertex, furnished with densely brown pubescence band with following: A small brown pubescence spot behind on each eyes; a suboval brown pubescence band behind each small spot, a transversely subrectangular brown pubescence band on each lateral side of eyes; antennae reddish brown, covered with pale brown hairs; pronotum reddish brown, covered with brown hairs, furnished with densely brown pubescence bands with following: A moderately longitudinal band in middle; a uncontinuely longitudinal band on each upper lateral sides; a narrow longitudinal band on each under lateral sides; scutellum reddish brown, covered with brown hairs except middle; elytra reddish brown, darker on anterior portion, covered with brown pubescence, furnished with dense pubescence band with following: A subhemicircular black pubescence band on each humeral angles; a oblique brown pubescence band on inner side of each a subhemicircular black pubescence band;

small and large irregular brown pubescence bands scattered on disc, somewhat bands united; ventral surfaces dark brown, covered with brown pubescence; legs dark brown, covered with brown pubescence.

Head narrower than prothorax, slightly rugulose on frons and sparsely roughed punctures on remainder; frons distinctly longer than broad; genae about 1/6 as deep as eye-lobe; antennal tubercles distinctly separate and antennal supports strongly raised. Antennae about 2.5 as long as body in male, about 1.5 as long as body in female; segment 1 closely and roughly punctured, subtruncate at apex with punctures; segment 3 about 2 times as long as segment 1, cylindrical; segment 4 slightly shorter than segment 3; segment 5 slightly shorter than segment 4, similar segment 6; segment 7 longer than segment 6; segment 7-10 gradually decreasing in length; segment 11 longest in male, slightly longer than segment 10 in female.

Pronotum slightly narrower than elytra; disc unevenly with scattered granulate; anterior collar narrower than basal collar, very sparsely punctured, a deeply transverse groove on basal margin; posterior collar somewhat smooth; unevenly swollen lateral sides, with a strong and obtuse tubercle on each sides at middle; basal margin sinuate. Scutellum hemi-circular. *Elytra* about 2 times as long as broad, slightly narrow from humeral angles to apex; sparsely punctured at each side of scutellum and smooth towards each sides and apices, somewhat very sparsely punctured; truncated apex without toothed; outer angles with slightly toothed; sutural end angles without toothed. *Ventral surfaces* very fine punctures. *Legs* fairly long; fore legs distinctly longer than mid- and hind legs in male, slightly longer than mid- and hind legs in female; fore tibia slightly arched at apex; meso-tibia slightly swollen behind middle.

Distribution: China, Myanmar, Vietnam, Laos and Thailand.

Material examined: Thailand: Mae Hong Son Prov.: Mae Sariang, 22.07.2004(1♂, 1♀).

Remark: This species is very distinct characters of pronotum is reddish brown, covered with brown hairs and a moderately longitudinal brown pubescence band is

present on middle; each upper lateral side is furnished with a uncontinuely longitudinal band and each under lateral side is furnished with a narrow longitudinal band; elytra are reddish brown, covered with brown pubescence and furnished with a subhemicircular black pubescence band on each humeral angles. Specimens were collected in mid rainy season.

Epicedia maculatrix (Perty, 1831)

Figure 68G

Lamia maculatrix Perty, 1831, *Dissert. Monachii, Lindauer*. 44 pp.

Description: *Body* length 29 mm and breadth 10 mm, dark brown to black; head black, covered with brown pubescence; clypeus dark reddish brown, covered with pale yellowish hairs; labrum reddish brown, scattered with reddish brown hairs; antennae black, covered with brown pubescence; prothorax black, covered with brown pubescence; scutellum black, covered with brown pubescence; elytra black, covered with brown pubescence, furnished with blackish pubescence bands with following: A pair of large suboval bands above middle line; a large subhemicircular band on each lateral side, starting above middle and gradually extending, widest at 3/4 of elytra and then gradually narrow to apex; small spots scattered on disc, somewhat disappearing; ventral surfaces black, covered with brown pubescence; legs black, covered with brown pubescence.

Head as broad as anterior margin of prothorax; frons broader than long, asperate, densely punctured; anterior margin of frons concave at middle; genae about 1/2 as deep as eye-lobes; a narrow and shallow groove running from frons to vertex; antennal tubercles distinctly separate and moderately raised. Antennae as long as body; segment 1 slightly arched at basal, finely punctured, external apical obliquely truncated with minutely punctured; segment 3 longer than segment 1; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, gradually extend from humeral angles to middle and then gradually narrow to apex; discs very strongly raised, furnished with a

transverse zigzag and deep groove on basal portion and shallower on apical portion; apical collar furnished with tubercles throughout, basal collar unevenly smooth; lateral side sinuate with strongly and acutely toothed. Scutellum hemicircular. *Elytra* about two times as long as broad, smoothly rounded apically, rather small granulate at each side of scutellum and getting bigger toward to humeral angles; humeral angles slightly raised forward; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, stout; fore tibiae slightly knotted on inner side near apex; meso tibiae slightly knotted on outer side near apex; hind tibiae slightly knotted on outer side near apex.

Distribution: Java, Indonesia, Sumatra, Borneo and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Doi Inthanon, 15.08.2006(1♀).

Remark: This species is very distinct characters of elytra are black, covered with brown pubescence; a pair of large suboval blackish pubescence bands are present above middle of elytra and a large subhemicircular band on each lateral side which is widest at 3/4 of elytra length; pronotum is furnished with a transverse zigzag and deep groove on basal portion and shallower on apical portion; lateral sides are sinuated with a strong and acuted dentation. The only one specimen was collected in mid rainy season.

Eucomatocera vittata White, 1846

Figures 59F, 133C-D

Eucomatocera vittata White, 1846, *Ann. Mag. Nat. Hist.* ser 1, 18: 49, pl. 1, fig. 4.-Lacordaire, 1872, *Gen. Col.* 9: 707.-Gahan, 1894, *Ann. Mus. Civ. Gen.* 34: 82.-Breuning, 1966, l. c., 132.

Description: *Body* length 13 mm and breadth 1.5 mm, elongate, slightly flatten, dark reddish brown; head covered with dark reddish brownish pubescence,

furnished with two longitudinal yellowish brown pubescence stripes on vertex, and running continued to pronotum; a broader longitudinal stripe at each lateral side, and running continued to each lateral side of prothorax; antennal segment 1 covered with brownish pubescence, scattered with long reddish brown hairs throughout; antennal segments 2-6 covered with brownish pubescence, scattered with long dark reddish brown hairs throughout; antennal segments 7-9 each segment covered with long blackish tuft; segment 10-11 covered with blackish pubescence; prothorax covered with dark reddish brown pubescence, furnished with two longitudinal yellowish brown stripes together at middle of basal margin of pronotum, and running continued to scutellum, and then running continued to elytra; a broader longitudinal stripe at each lateral side; scutellum covered with yellowish brown pubescence; elytra covered with reddish brown pubescence, furnished with narrow longitudinal yellowish brown pubescence stripes with following: A longitudinal broad band at middle, starting from behind scutellum to apex; a very narrow stripe starting from 1/3 of each elytron, and running to apex; two narrow longitudinal stripes at each lateral side; ventral surfaces and legs covered with brownish to reddish brown pubescence.

Head as broad as prothorax, longer than broad, flatten, closely and deeply punctured; frons longer than broad, anterior portion more broader than posterior portion, anterior margin strongly concave; genae as deep as eye-lobes; antennal tubercles nearly separated; antennal supports strongly raised; eye separated to two portions, upper small suboval eyes, lower small oval eyes. Antennae as long as body; segment 1 longest, biggest, closely and roughly punctured, cylindrical; segment 3 about 1/2 as long as segment 1, slightly swollen at tip; segment 4 longer than segment 3, about 0.6 as long as segment 1; segment 5 shorter than segment 4; segments 5-10 decreasing in length; segment 11 as long as segment 10. *Pronotum* slightly narrower than elytra, longer than broad, anterior margin slightly narrower than posterior margin; disc slightly depressed, covered with closely and roughly punctured throughout; apical margin substraight; basal margin distinctly sinuated; lateral sides substraight without toothed. Scutellum subcircular, longer than broad, basal portion narrower than anterior portion. *Elytra* slightly extend at middle, and then gradually narrow to apex, strongly depressed at apex, strongly and obliquely

truncated inner apice without toothed; disc covered with closely, deeply and roughly punctured throughout; outer apical angles with slightly toothed; sutural end angles without toothed. *Ventral surfaces* punctured. *Legs* short, weak, deeply punctured; hind tarsal segment 1 shorter than segment 2 and segment 3 united, last longest.

Distribution: India, Srilanka, Myanmar, Vietnam, Thailand, Laos.

Material examined: Thailand: Chiang Mai Prov.: Doi Saket, 1.12.2005(1♂, 3♀), 16.07.2004(2♂, 3♀), Mae Chaem, 7.04.2005(1♀), Chiang Rai Prov.: Doi Luang, 9.11.2002(1♂), 16.12.2004(1♂, 2♀), 6.03.2005(1♂, 1♀), Mae Hong Son Prov.: Khun Yuam, 11.02.2003(1♂, 1♀), 20.06.2004(1♀), Phitsanulok Prov.: Nakhon Thai, 1.03.2003(1♂, 1♀), 20.12.2004(1♂, 1♀).

Remark: The species differs from *Tetraglenes hirticornis* in having 7th-9th antennal segments are covered with long blackish tuft. Specimens were collected from summer, early and continued to mid rainy, early and continued to mid winter seasons.

Eunidia lateralis Gahan, 1893

Figure 67I

Eunidia lateralis Gahan, 1893, *Ann. Mag. Nat. Hist.* ser. 6, 11: 387.-

Gressitt, 1940, *Phil. J. Sci.* 72: 167, pl. V, fig. 2.-Breuning, 1949, *Bull. Inst. R. Sci. Nat. Belg.* 25(38): 15; 1957, l.c., 116.

Aserixia cincta Pic, 1926, *Bull. Soc. Ent. Fr.*, 51: 237; 1928, *Mel. Exot. Ent.* 18: 21.

Description: *Body* length 7 mm and breadth 1.5 mm, subcylindrical, dark reddish brown; frons covered with pale yellowish brown pubescence; vertex covered with yellowish brown pubescence; lateral side of each eye-lobe furnished with a broad longitudinal reddish brown pubescence band, and then running continued to along

lateral sides of prothorax, and continued to along lateral sides of elytra; antennae covered with dark reddish brown pubescence; prothorax covered with yellowish brown pubescence, furnished with longitudinal reddish brown pubescence broad band, running continued from lateral sides of eye-lobes; scutellum covered with yellowish brown pubescence; elytra covered with yellowish pubescence, furnished with broad longitudinal reddish brown pubescence band, starting continued from lateral sides of prothorax, and running to along each side to apex; ventral surfaces covered with silvery pubescence; legs covered with silvery pubescence except fore-tibae and tarsal segments which are covered with reddish brown pubescence.

Head broader than prothorax, finely punctured; frons broader than long; anterior margin straight; genae about 1/7 as deep as eye-lobes; antennal tubercles moderately separated; antennal supports strongly raised; a narrow and shallow groove running from frons to vertex. Antennae about 1.3 times as long as body; segment 1 finely punctured, gradually thicken to tip; segment 3 very short, about 1/4 as long as segment 1, slightly ectoapical tooth; segment 4 as long as segment 1; segment 5 shorter than segment 4; segment 5-10 decreasing in length; segment 11 slightly longer than segment 10. *Pronotum* narrower than elytra, anterior margin slightly broader than posterior margin; apical margin straight; basal margin slightly sinuated; lateral sides slightly sinuated without toothed. Scutellum hemicircular, longer than broad. *Elytra* parallel sides at basal 5/6 and slightly subtruncated without toothed, punctured throughout most hidden by pubescence; lateral sides very strongly depressed; basal margin straight; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* short, stout; femora slightly swollen; hind tarsal segment 1 as long as segment 2 and segment 3 united, and last.

Distribution: Vietnam, India, Indonesia, China, Cambodia, Bangladesh, Laos and Thailand.

Material examined: Thailand: Phitsanulok Prov.: Wang Thong, 5.01.2002(1♀), 16.05.2003(1♂).

Remark: The species differs from *E. rondoni* in having elytra are covered with yellowish pubescence, furnished with a broad longitudinal reddish brown pubescence band along each lateral side. Specimens were collected in late winter and early rainy seasons.

Eunidia rondoni Breuning, 1962

Figure 67J

Eunidia rondoni Breuning, 1962, *Bull. Soc. R. Sci. Nat. Laos* 2: 68.

Description: *Body* length 5-6 mm and breadth 2-2.5 mm, reddish brown; frons and around eye-lobes covered with pale yellowish brown pubescence; vertex covered with yellowish brown pubescence; antennae covered with dark reddish brown pubescence; pronotum covered with yellowish brown pubescence; elytra covered with pale yellowish brown pubescence, furnished with dark reddish brown pubescence band on apex; ventral surfaces covered with silvery reddish brown pubescence; femora reddish brown, covered with silvery reddish brown pubescence except knees which is dark reddish brown and covered with dark reddish brown pubescence; tibiae and tarsal segments dark reddish brown, covered with dark reddish brown pubescence.

Head broader than prothorax, finely punctured; frons broader than long; anterior margin slightly concave; genae about 1/7 as deep as eye-lobes; antennal tubercles moderately separated; antennal supports strongly raised; a narrow and shallow groove running from frons to vertex. Antennae about 1.3 times as long as body; segment 1 finely punctured, gradually thicken to tip; segment 3 very short, about 1/4 as long as segment 1, slightly ectoapical tooth; segment 4 as long as segment 1; segment 5 shorter than segment 4; segment 5-10 decreasing in length; segment 11 slightly longer than segment 10. *Pronotum* narrower than elytra, anterior margin slightly broader than posterior margin, broader than long; apical margin straight; basal margin slightly sinuated; lateral sides slightly sinuated without toothed. Scutellum hemicircular, longer than broad. *Elytra* parallel sides at basal 5/6, rounded

apically, punctured throughout; lateral sides very strongly depressed; basal margin straight; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* short, stout; femora slightly swollen; hind tarsal segment 1 as long as segment 2 and segment 3 united, and last.

Distribution: Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 5.09.2003(1♀), Chiang Rai Prov.: Wiang Pa Pao, 17.03.2005(1♂), Mae Hong Son Prov.: Mae Sariang, 2.12.2005(1♀), 26.08.2007(1♀).

Remark: The species differs from *E. lateralis* in having elytra are covered with pale yellowish brown pubescence and furnished with a dark reddish brown pubescence band on apex; ventral surfaces are covered with silvery reddish brown pubescence. Specimens were collected from mid summer, rainy and continued to winter seasons.

Eutaenia albomaculata Breuning, 1964

Figures 55J, 123A-B

Eutaenia alboampliata Breuning, 1964, *Bull. Soc. R. Sci. Nat. Laos* 14: 18.

Description: *Body* length 18 mm and breadth 6 mm, black; frons sparsely whitish hairs and dark reddish brown hairs; genae covered with whitish pubescence; vertex sparsely dark reddish brown hairs in the bottom of punctures, furnished with two densely whitish pubescence stripes, each starting from between upper eye-lobes, and then running separated to occiput; antennal segments 1-3 covered with dark reddish brown pubescence; antennal segments 4-9 each covered with whitish pubescence alternated with dark reddish brown pubescence; antennal segments 10-11 covered with dark reddish brown pubescence; pronotum furnished with whitish hairs on lateral sides; scutellum glabrous; elytra covered with dark reddish brown hairs in the bottom of punctures, furnished with small whitish pubescence spots throughout,

somewhat united; ventral surfaces covered with whitish pubescence; femora covered with whitish pubescence; tibiae covered with dark reddish brown pubescence, furnished with whitish hairs on apical margin; tarsal segments 1-2 each covered with whitish pubescence; segment 3 covered with whitish hairs alternated with dark reddish hairs; segment 5 sparsely dark reddish hairs.

Head as broad as anterior margin of prothorax; frons broader than long, scattered moderately punctured with hairs in the bottom; anterior margin substraight, slightly raised edge; genae about 1/2 as deep as eye-lobes; vertex scattered moderately punctured with hairs in the bottom; antennal tubercles moderately separated; a narrow and shallow groove running from frons to vertex. Antennae slightly longer than body; segment 1 short, finely punctured, obliquely truncated at tip with minutely closely and roughly punctured, gradually thicken to tip; segment 3 about 2 times as long as segment 1, subcylindrical; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, convex and depressed at middle, moderately punctured with hairs in the bottom; anterior margin as broad as posterior margin; anterior portion covered with minute and shallow rugose; a deep groove running above posterior margin; lateral sides slightly swollen with moderately and obtusely toothed at middle; apical and basal margin substraight. Scutellum hemicircular. *Elytra* subparallel, smoothly rounded apically, moderately punctured throughout, with hairs in the bottom; basal margin substraight; humeral angles slightly raised; sutural end angles without toothed. *Ventral surfaces* finely punctured; apical margin of 5th abdominal slightly concave in female. *Legs* short, stout; femora slightly swollen; hind tarsal segment 1 slightly shorter than segment 2 and segment 3 united, last longest.

Distribution: Myanmar, India, Vietnam, Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 1.10.2005(1♀), Mae Chaem, 1.03.2006(1♂).

Remark: The species differs from *E. corbetti* and *E. trifasciella* in having elytra are black covered with dark reddish brown hairs in the bottom of punctures and furnished with small whitish pubescence spots throughout. Specimens were collected in mid summer and late rainy seasons.

Eutaenia corbetti Gahan, 1893

Figures 55A-D, 123E-F

Eutaenia corbetti Gahan, 1893, *Ann. Mag. Nat. Hist. ser. 6*, 11: 381.-

Breuning, 1943, l.c., 302, fig. 193.

Description: *Body* length 18-31 mm and breadth 5-9 mm, reddish brown to black; head black, covered with yellowish brown pubescence except vertex which is covered with dark reddish brown pubescence; antennal segments 1-2 dark brown, covered with dark brown pubescence; antennal segments 3-11 reddish brown, covered with reddish brown pubescence; pronotum black, covered with yellowish brown pubescence, furnished with transverse blackish pubescence broad stripe at 2/3 of prothorax, and then reaching from middle stripe to anterior margin and touching, and reaching from middle of stripe to basal margin and touching; scutellum dark reddish brown, covered with yellowish brown pubescence; elytra dark reddish brown, covered with yellowish brown pubescence, furnished with densely dark reddish brown to blackish pubescence stripes with following: 1st a broad transverse stripe about 1/6 as broad as long of elytra, starting from behind scutellum, and running along lateral sides of scutellum to basal margin, and then continued to humeral angles and toward at 1/3 of elytra; 2nd a very broad transverse stripe about 1/5 as broad as long of elytra, on above middle line, starting from inner suture, running to 2/3 as broad as elytra, and then stripe extremely narrow and running to external suture, touching; 3rd a broad transverse stripe starting from internal suture at 2/3 of elytra, running to 1/2 as broad as elytra, and then extreme forward and reaching to external suture, not touching, and reaching backward at middle stripe to apice, not touching; 1st and 2nd together at sides and broad band touching at middle, somewhat narrow; 2nd and 3rd together at sides, some what not together, narrow band running at middle and together, and then

running continue to apex; ventral surfaces dark brown, covered with brownish pubescence; legs dark reddish brown; outer sides of femora of mid- and hind legs covered with yellowish brown pubescence, inner sides glabrous; fore femur covered with yellowish brown pubescence for most parts; tibiae covered with yellowish brown pubescence; tarsal segments covered with dark reddish brown pubescence.

Head as broad as anterior margin of prothorax; frons broader than long, finely punctured; anterior margin substraight, slightly depressed, slightly raised edge; genae about $\frac{2}{5}$ as deep as eye-lobes; vertex finely punctured, slightly depressed above upper eye-lobes, furnished with minutely granulate above upper eye-lobes; a shallow groove running from frons to vertex; antennal tubercles moderately separated. Antennae about 1.5 times as long as body in male, about as long as body in female; segment 1 short, finely punctured, gradually thicken toward tip, slightly oblique truncation with minute closely and roughly punctured; segment 3 about 1.6 times as long as segment 1, finely punctured, cylindrical; segments 4-5 each as long as segment 3 in male, segment 4 shorter than segment 3 and segment 5 shorter than segment 4 in female; segment 6 shorter than segment 5; segments 6-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, broader than long; disc slightly convex, finely punctured, furnished with moderately punctured; a short and shallow groove at middle; distinctly constrict at posterior margin; basal margin slightly narrower than apical margin; apical collar broader than basal collar, slightly depressed along middle; apical margin slightly swollen; basal margin slightly sinuated; lateral sides fairly swollen with moderately and obtusely toothed at middle. Scutellum hemicircular. *Elytra* subparallel, smoothly rounded apically, rather punctured at each side of scutellum and punctures getting finer toward each sides and apices; basal margin substraight; humeral angles slightly raised; sutural end angles without toothed. *Ventral surfaces* finely punctured; apical margin of 5th abdominal sternite widely and slightly concave in male, narrowly and strongly concave in female. *Legs* fairly long, stout; hind tarsal segment 1 as long as segment 2 and segment 3 united, last longest.

Distribution: India, Myanmar, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Saket, 1.12.2005(1♂, 3♀), 16.07.2004(2♂, 3♀), Mae Chaem, 7.04.2005(1♀): Chiang Rai Prov.: Doi Luang, 9.11.2002(1♂), 16.12.2004(1♂, 2♀), 6.03.2005(1♂, 1♀), Lamphun Prov.: Mae Tha, 19.11.2004(1♂), Mae Hong Son Prov.: Khun Yuam, 11.02.2003(1♂, 1♀), 20.06.2004(1♀), Nakhonsawan Prov.: Tak Fa, 13.03.2005(1♀), Phitsanulok Prov.: Nakhon Thai, 1.03.2003(1♂, 1♀), 20.12.2004(1♂, 1♀), Sukhothai Prov.: Si Satchanalai, 5.09.2005(1♂).

Remark: The species differs from *E. trifasciella* in having pronotum is furnished with a broad and transverse blackish pubescence stripe at 2/3 of prothorax, and then extend to anterior margin and basal margin. Specimens were collected from summer, mid and continued to late rainy, early and continued to mid winter seasons.

Eutaenia trifasciella (White, 1850)

Figures 55E-I, 123C-D

Lamia (Cerasterna) trifasciella White, 1850, *Proc. Zool. Soc. Lond.* 18: 13, pl. 13, fig. 1.

Ceropalesis javeti Thomson, 1857, *Arch. Ent.* 1: 125.

Eutaeniopsis trifasciella: Gahan, 1888, *Ann. Mag. Nat. Hist.* ser. 6, 1: 278.

Eutaenia trifasciella: Breuning, 1943, l.c., 301, fig. 191.-Gressitt, 1951, l.c., 374.

Description: *Body* length 18-28 mm and breadth 5-9 mm, pitchy black; head covered with yellowish brown pubescence; antennal segment 1 covered with blackish pubescence, furnished with yellowish brown pubescence on outer sides; segment 2 covered with blackish pubescence; segments 3-7 covered with yellowish brown pubescence alternated with blackish pubescence; segments 8-11 covered with dark reddish brown pubescence; pronotum covered with yellowish brown pubescence,

furnished with a broad and transverse blackish pubescence stripe at middle; scutellum covered with blackish pubescence, furnished with blackish hairs on basal angles; elytra covered with yellowish brown pubescence, furnished with stripes and spots with following: A transverse stripe starting from each side of scutellum running to basal margin, and continued to humeral angles; a broad and transverse stripe at 1/3 of elytra, reaching to external suture and touching, somewhat not touching; a transverse and moderate stripe at 2/3 of elytra, reaching to external suture but not touching; a small spot on each apice; ventral surfaces yellowish brown pubescence; legs covered with yellowish brown pubescence for most parts; tarsal segments covered with blackish pubescence.

Head as broad as anterior margin of prothorax, finely punctured; frons slightly broader than long, anterior edge straight; genae about 1/2 as deep as eye-lobes; antennal tubercles moderately separated; a shallow groove running frons to vertex. Antennae longer than body in male, shorter than body in female; segment 1 finely punctured, gradually thicken toward the tip, slightly oblique truncation with punctured; segment 3 longer than segment 1, subcylindrical; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, anterior margin as broad as posterior margin; disc unevenly convex, sparsely granulate; distinctly constrict at basal portion more than on apical portion; anterior margin and posterior margin slightly swollen; lateral sides swollen with moderately and obtusely toothed. Scutellum hemicircular. *Elytra* distinctly narrow at tip in male, subparallel in female, smoothly rounded apically, rather punctured at each side of scutellum and getting finer towards each sides and apices; basal margin slightly sinuated; sutural end angles without toothed. *Ventral surfaces* finely punctured; apical margin of 5th abdominal sternite widely and slightly concave in male, narrower and strongly concave in female. *Legs* fairly long, stout; hind tarsal segment 1 shorter than segment 2 and segment 3 united, last longest.

Distribution: Malaysia, China, Vietnam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Saket, 16.07.2004(1♀), 1.12.2005(1♀), Kamphaeng Phet Prov.: Pang Si La Thong, 4.06.2002(1♂), Nakhonsawan Prov.: Tak Fa, 13.03.2005(1♂, 3♀), Phitsanulok Prov.: Nakhon Thai, 1.03.2003(1♀), 20.12.2004(1♂, 1♀), Sukhothai Prov.: Si Satchanalai, 5.09.2005(1♂, 1♀).

Remark: The species differs from *E. corbeti* in having pronotum is furnished with a broad transverse blackish pubescence stripe at middle; elytra are furnished with two stripes. Specimens were collected from mid summer, winter, early and continued to mid rainy seasons.

Exocentrus pelidnus Holzschuh, 1995

Figure 67E

Exocentrus pelidnus Holzschuh, 1995, *FBVA Berichte, Schriftenreihe der Forstlichen Bundesversuchsanstalt*. Vol. 84, Wien, Austria. 63 pp., 72 ill.

Description: *Body* length 5 mm and breadth 2 mm, dark reddish brown, short, flatten; head covered with dark reddish brown pubescence, scattered with long dark reddish brown hairs throughout; antennae covered with reddish brown pubescence, scattered with long dark reddish brown hairs throughout; pronotum covered with dark reddish brown pubescence, sparse long dark reddish brown hairs on apical angles and lateral sides, in male, scattered with long dark reddish brown hairs throughout in female; scutellum covered with pale reddish brown pubescence; elytra covered with dark reddish brown pubescence, each elytron furnished with four uncontinued longitudinal pale reddish brown pubescence stripes, somewhat lateral sides furnished with two uncontinued longitudinal pale reddish brown pubescence stripes or sparse spots; disc scattered with long dark reddish brown hairs throughout; ventral surfaces covered with dark reddish pubescence in male, reddish brown pubescence tinge with silvery bronze in female, sparse long reddish brown hairs; legs covered with reddish brown pubescence, tinge with silvery bronze.

Head slightly broader than prothorax, finely and closely punctured; frons broader than long, anterior edge slightly concave; genae about 1/6 as deep as eye-lobe in female, about 1/7 in male; antennal tubercles widely separated; antennal supports strongly raised; a shallow groove running frons to vertex; fairly depressed between antennal tubercles. Antennae longer than body in both sexes; segment 1 finely punctured, long, gradually thicken toward the middle, and then gradually narrow to tip; segment 3 slightly shorter than segment 1, subcylindrical, slightly swollen at tip; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 slightly longer than segment 10. *Pronotum* narrower than elytra, anterior margin slightly broader than posterior margin, finely and closely punctured; distinctly constrict at basal portion more than on apical portion; anterior margin and posterior margin substraight in male, anterior margin slightly swollen at middle and basal margin substraight in female; lateral sides swollen, minutely granulate; a moderately, subacutely and strongly bent backward toothed at 2/3 of each lateral side. Scutellum subtriangular, rounded at tip, broader than long. *Elytra* subparallel, slightly concave behind each humeral angle, smoothly rounded apically, rather closely and deeply punctured at each side of scutellum and getting finer towards each sides and apices; disc slightly depressed above middle line; humeral angles slightly bent backward; basal margin slightly concave at middle; sutural end angles without toothed. *Ventral surfaces* finely punctured; 5th abdominal sternite furnished with longitudinal shallow groove at middle in female, disappearing in male. *Legs* short, weaken; hind tarsal segment 1 longer than segment 2 and segment 3 united, last longest.

Distribution: Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 7.04.2005(1♂), Chiang Rai Prov.: Doi Lung, 6.03.2005(1♀), Wiang Pa Pao, 23.08.2003(1♂), Phitsanulok Prov.: Wang Thong, 16.05.2003(1♂), Tak Prov.: Tha Song Yang, 2.02.2006(1♂).

Remark: The species differs from *E. respersus* in having pronotum is covered with dark reddish brown pubescence; elytra are covered with dark reddish brown

pubescence, each furnished with four uncontinued longitudinal pale reddish brown pubescence stripes. Specimens were collected from summer, early and continued to mid rainy seasons.

Exocentrus respersus Holzschuh, 1995

Figure 67D

Exocentrus respersus Holzschuh, 1995, *FBVA Berichte, Schriftenreihe der Forstlichen Bundesversuchsanstalt*. Vol. 84, Wien, Austria. 63 pp., 72 ill.

Description: *Body* length 5 mm and breadth 2 mm, dark reddish brown, short, flatten; head covered with silvery pubescence, tinge with bronze, scattered with long dark reddish brown hairs; antennae covered with dark reddish brown pubescence, furnished with silvery hairs on segment 1 throughout, and on basal margin of segment 3 and 4, scattered with long dark reddish brown hairs throughout; pronotum covered with dark reddish brown pubescence, furnished with a irregular and broad longitudinal silvery pubescence band at each side, sparse long dark reddish brown hairs on apical angles and lateral sides; scutellum covered with silvery pubescence; elytra covered with dark reddish brown pubescence, furnished with silvery pubescence spots throughout, somewhat spots united, sparse spots at middle, scattered with long dark reddish brown hairs throughout; ventral surfaces covered with silvery pubescence in male, reddish brown pubescence tinge with silvery bronze in female, sparse long reddish brown hairs; legs covered with reddish brown pubescence, tinge with silvery bronze, scattered with long reddish brown hairs throughout.

Head slightly broader than anterior of prothorax, finely and closely punctured; frons broader than long, anterior edge substraight; genae about 1/4 as deep as eye-lobes in female, about 1/5 in male; antennal tubercles widely separated; antennal supports strongly raised; a shallow groove running frons to vertex; fairly depressed between antennal tubercles. Antennae longer than body in both sexes; segment 1 finely punctured, long, gradually thicken toward the middle, and then gradually narrow to tip; segment 3 longer than segment 1, subcylindrical, slightly swollen at tip;

segment 4 shorter than segment 3; segments 4-11 decreasing in length. *Pronotum* narrower than elytra, anterior margin slightly broader than posterior margin, finely and closely punctured; distinctly constrict at basal portion more than on apical portion; anterior margin and posterior margin substraight in male, anterior margin slightly swollen at middle and basal margin substraight in female; lateral sides strongly swollen and flatten, with minute small toothed; a subacutely and strongly bent backward toothed at 2/3 of each lateral side. Scutellum subtriangular, rounded at tip, broader than long. *Elytra* subparallel, slightly concave behind each humeral angle, smoothly rounded apically, rather closely and deeply punctured at each side of scutellum and getting finer towards each sides and apices; disc slightly depressed above middle line; humeral angles slightly bent backward; basal margin slightly concave at middle; sutural end angles without toothed. *Ventral surfaces* finely punctured; 5th abdominal sternite furnished with longitudinal and shallow groove at middle in female, disappearing in male. *Legs* short, weaken; hind tarsal segment 1 longer than segment 2 and segment 3 united, last longest.

Distribution: Thailand.

Material examined: Thailand: Kamphaeng Phet Prov.: Khlong Lan, 10.01.2002(1♂, 1♀), Tak Prov.: Phop Pha, 5.09.2005(1♀).

Remark: The species differs from *E. pelidnus* in having pronotum is covered with dark reddish brown pubescence and a broad longitudinal silvery pubescence band is present on each side; elytra are covered with dark reddish brown pubescence and furnished with silvery pubescence spots throughout. Specimens were collected from late rainy and continued to winter seasons.

Gerania bosci bosci (Fabricius, 1801)

Figures 59E, 135E-F

Saperda bosci Fabricius, 1801, *Syst. El.* 2: 323.

Gerania bosci: Castelnau, 1804, l.c., 488.-Pascoe, 1866, l.c., 321, pl. 14, fig. 7.
 -Heyne-Taschenberg, 1906, *Exot. Kaf.*, 243, pl. 37, fig. 21.-Kemp, 1909,
Tijds. Ent. 52: 237, pl. 42, fig. 4.-Breuning, 1943, l.c., 271, fig. 149, 150.

Padia bosci: Gistel, 1848, l.c.

Description: *Body* length 10-19 mm and breadth 4-6 mm, reddish brown to black; head black, covered with densely whitish pubescence, furnished with two densely blackish pubescence spots on between antennal tubercles; a black band between eyes; clypeus black, scattered with short reddish brown hairs; labrum black, basal portion covered with short reddish brown, apical portion covered with long golden brown hairs; antennae black, covered short reddish brown pubescence, furnished with long and erect black hairs along underside of segment 1-4; pronotum black, covered with densely whitish pubescence, furnished with black spots with following: Two moderate spots on middle line; a transverse suboblong band behind two moderate spots; two smaller spots on each lateral side; scutellum black, covered pale brown pubescence; a small spot on each side of apical margin; elytra reddish brown, darker on basal margin, covered with densely whitish pubescence, furnished with irregularly reddish brown spots or bands, scattered on disc with following: A narrow and transverse band on anterior margin; a pair of short subrectangular band behind scutellum; three irregular spots on above middle line, somewhat a few of small spots scattered on lateral side; a pair of irregularly oblique band behind middle line; a short transverse and narrow band behind a pair of irregularly oblique band; each a small or a large irregular spot at lateral side of short transverse and narrow band; a moderate spot on each side near apex; ventral surfaces black, covered with whitish hairs, densely whitish hairs on basal margin of abdominal sternite; legs black, covered with whitish pubescence.

Head slightly narrower than prothorax, finely punctured most hidden by pubescence; frons broader than long, anterior margin slightly concave, anterior margin slightly narrower than posterior margin; genae about 1/4 as deep as eye-lobes; a narrow and shallow groove running from forus to vertex; antennal tubercles wide

separate. Antennae about 2.5 times as long as body in male, about 1.7 as long as body in female; segment 1 finely punctured; segment 3 about 4 times as long as segment 1, finely punctured; segment 4 shorter than segment 3; segment 5 shorter than segment 4; segments 5-10 decreasing in length; segment 11 longer segment 4. *Pronotum* narrower than elytra, finely punctured most hidden by pubescence; disc unevenly and slightly convex; lateral sides sinuate; distinctly constrict near basal margin; basal margin sinuate. Scutellum subrectangular. *Elytra* about 2.1 times as long as broad, finely punctured most hidden by pubescence, gradually narrow from humeral angles to apex; subtruncate apex; a moderately toothed on each outer apical angle; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* long and slender in male, fairly long in female; fore leg distinctly longest and mid-legs shortest in male, fore legs as long as hind leg and mid legs shortest in female; fore tibia distinctly arched at apical portions; hind tibia slightly arched.

Distribution: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 5.09.2004(1♂), 8.04.2005(1♀), Doi Sutep, 1.04.2003(1♀), Chiang Dao, 5.09.2002(1♂), Fang, 22.09.2006(1♂, 1♀), Lamphun Prov.: Li, 12.04.2005(1♀), Nakhonsawan Prov.: Tak Fa, 13.03.2005(1♂, 1♀), Phichit Prov.: Ta Phan Hin, 10.10.2004(1♀): Tak Prov.: Phop Phra, 29.01.2002(1♂).

Remark: This species is very distinct characters of body is covered with whitish pubescence and blackish pubescence spots are present on pronotum and elytra; fore legs are distinctly longest and mid legs shortest in male. Specimens were collected from mid, late summer and continued to rainy, and late winter seasons.

Glenea cantor (Fabricius, 1782)

Figures 61C, 119A-B

Lamia cantor Fabricius, 1782, *Mant. Ins.* 1: 142; 1801, *Syst. El.* 2: 304.

Glenea cantor: Gahan, 1894, *Trans. Ent. Soc. Lond.*, 488.

Glenea (Stirolene) cantor: Gressitt, 1939, *Lingn. Sci. J.* 18: 94, 96;
1940, *Philip. J. Sci.* 72: 209, pl. 6, fig. 5; 1951, *Longicornia* 2: 570.-
Breuning, 1958, l.c., 878.

Description: *Body* length 9-14 mm and breadth 3.5-5.5 mm, elongate; head blackish, covered with yellowish brown pubescence, furnished with densely blackish pubescence bands with following: A broad longitudinal band, starting from middle of frons and running to vertex; a very broad band behind of each upper eye-lobe; antennae dark reddish brown, covered with dark reddish brown pubescence; pronotum dark reddish brown to black, covered with yellowish brown pubescence, furnished with dark reddish brown pubescence bands with following: Two broad longitudinal bands; a pair of large suboval bands on each lateral side; scutellum dark reddish brown, covered with dark reddish brown pubescence; elytra reddish brown, darker on bottom of punctures, covered with reddish brown pubescence, furnished with a broad transverse blackish pubescence band at apex, a whitish yellow pubescence stripe furnished on a blackish band of each elytron, starting from lateral side cross to internal suture, and then running backward along internal sutures, and running continued along apex margin; ventral surfaces reddish brown, darker on metathoracic sternite, covered with silvery pubescence, in male; prothoracic and mesothoracic sternite reddish brown, and mesothoracic sternite and abdominal sternite dark reddish brown, covered with silvery pubescence in female; legs reddish brown, covered with reddish brown pubescence.

Head slightly broader than prothorax, deeply but sparsely punctured; frons longer than broad, anterior portion as broad as posterior portion; anterior margin concave; genae about 1/5 as deep as eye-lobes; antennal tubercles widely separated; antennal supports slightly raised. Antennae slightly longer than body in male, as long as body in female; segment 1 gradually thicken to tip, finely punctured; segment 3 as long as segment 1, subcylindrical, slightly swollen at tip; segment 4 slightly shorter than segment 3; segments 4-11 decreasing in length in male; segment 11 longer than

segment 10 in female. *Pronotum* narrower than elytra, as broad as long, anterior margin slightly broader than posterior margin, deeply but sparsely punctured, fairly depressed at each side of basal margin, distinctly constrict at lateral sides near basal angles; a longitudinal and fairly raised ridge at middle; apical margin straight; basal margin sinuated; lateral sides unevenly sinuated without toothed. Scutellum hemicircular, longer than broad. *Elytra* distinctly narrow at apex, gradually narrow from humeral angles to apex, truncated apically without toothed, rather punctured at each side of scutellum and punctures getting finer and shallower toward sides and apex; two deep punctures behind basal margin of each elytron; each elytron furnished with five longitudinal rows of deep punctures at external side; two longitudinal and strongly raised ridges at each side, furnished with deeply punctured on interspace between ridges; humeral angles fairly raised, slightly bent backward; basal margin sinuated; outer apical angles with very strongly and acutely toothed; sutural end angles with slightly toothed. *Ventral surfaces* finely punctured; 5th abdominal segment furnished with a longitudinal and shallow groove at middle in female, male disappearing. *Legs* fairly long, stout; hind tarsal segment 1 shorter than segment 2 and segment 3 united, as long as last.

Distribution: The Philippines, China, Vietnam, Laos and Thailand.

Material examined: Thailand: Chiang Rai Prov.: Wiang Pa Pao, 23.08.2003(1♀), Phayao Prov.: Chiang Muan, 1.12.2005(1♀), Sukhothai Prov.: Si Satchanalai, 15.09.2005(1♂), Khiri Mat, 25.10.2004(1♂), Tak Prov.: Phop Phra, 5.09.2005(1♀), Uttaradit Prov.: Ban Khok, 15.05.2005(1♀).

Remark: This species is very distinct characters of body is elongated; pronotum is dark reddish brown to black; two broad longitudinal dark reddish brown pubescence bands and a pair of large suboval bands are present on each lateral side of pronotum; elytra are covered with reddish brown pubescence and a broad transverse blackish pubescence band is placed on apex; five longitudinal rows of deep punctures are present on external side of each elytron. Specimens were collected from rainy and continued to early winter seasons.

Glenea elegans (Olivier, 1795)

Figures 61K-L, 120A-B

Saperda elegans Olivier, 1795, *Entomologist* 4(68): 15, pl. 4, fig. 40.*Saperda chalybaea* Illiger, 1800, *Wiedem. Arch.* 1(2): 138, pl. 1.*Stenocorus pictus* Weber, 1801, *Observ. Ent.*, 89.-Fabricius, 1801, *Syst. El.* 2: 306.-Illiger, 1805, *Magaz. Ins.* 4.*Colobothea picta*: Castelnau, 1840, *Hist. Nat. Col.* 2: 491.*Glenea elegans*: Pascoe, 1866, *Proc. Zool. Soc. Lond.*, 258.*Glenea chalybaea*: Ritsema, 1892, *Not. Leyd. Mus.* 15: 2.*Sphenura elegans*: Heyne-Taschenberg (nec Olivier), 1906, *Exot. Kafer*, pl. 37, fig. 14.*Glenea* (*Macroglenea*) *elegans*: Breuning, 1956, l.c., 110.

Description: *Body* length 22.5-29.5 mm and breadth 5-9 mm, elongate; head black, covered with velvet black pubescence, furnished with densely whitish pubescence bands and stripes with following: Two longitudinal and narrow stripes each stripe starting from each anterior angle of frons, running to frons, and continued to vertex; a broad longitudinal band under each lower eye-lobe, and then running continued to lateral side of prothorax; a longitudinal narrow band above each upper eye-lobes, and then running continued to pronotum; labrum black, covered with whitish pubescence on apical portion, posterior portion covered with blackish pubescence; antennal segments 1-3 black, covered with silvery pubescence; antennal segments 4-11 dark reddish brown, covered with dark reddish brown pubescence; pronotum black, covered with velvet black pubescence, furnished with longitudinal

whitish pubescence stripes with following: A narrow stripe at middle, starting from apical margin to basal margin, and then continued to scutellum; a broad band at each side, gradually extend from apical margin to basal margin; ventral side covered with whitish pubescence; scutellum covered with whitish pubescence at middle, lateral sides covered with metallic deep blue pubescence; elytra metallic deep blue, covered with metallic deep blue pubescence, furnished with whitish pubescence bands and spots with following: A short longitudinal band on middle of each basal margin of each elytron; a pair of small spots at $1/4$ of each elytron in male, a large spot in female; a short transverse band at middle of each elytron in male, a large spot in female; a oblong band at $4/6$ of each elytron; a small spot at $4/5$ of each elytron near internal suture in male, oblong band in female; a broad transverse band at each apice; ventral surfaces metallic deep blue, covered with metallic blue pubescence, furnished with densely whitish pubescence along lateral sides; legs metallic deep blue, covered with metallic deep blue pubescence.

Head as broad as anterior margin of prothorax, deeply punctured; frons narrow in male, wider in female, more longer than broad; anterior margin concave; genae about $1/3$ as deep as eye-lobes in female, about $1/2$ as deep as in male; antennal tubercles nearly separated; antennal supports slightly raised; a narrow and shallow groove running from frons to vertex. Antennae longer than a half of body in male, as long as a half of body in female; segment 1 finely punctured, gradually thicken to tip; segment 3 about 1.3 as long as segment 1, subcylindrical, slightly swollen at tip; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* slightly narrower than elytra, longer than broad, slightly convex, anterior margin narrower than posterior margin, deeply but sparsely punctured; a longitudinal and shallow groove at middle; fairly depressed at each side of basal margin; apical margin straight; basal margin sinuated; lateral sides slightly sinuated, without toothed. *Scutellum* triangular. *Elytra* narrow at tip, gradually narrow from humeral angles to apex, slightly oblique truncation apically without toothed, rather deeply punctured at each side of scutellum, and punctures getting finer and shallower toward each sides and apices; each elytron furnished with two longitudinal and strongly raised ridges at lateral sides, interspace furnished with

deeply punctured, subtruncated apically without toothed; lateral sides strongly depressed; basal margin strongly concave at middle above scutellum; outer apical angles with strongly and acutely toothed; sutural end angles with strongly and acutely toothed. *Ventral surfaces* finely punctured; 5th abdominal sternite furnished with a longitudinal and shallow groove at middle in female, disappearing in male. *Legs* fairly long, stout; hind tarsal segment 1 longer than segment 2 and segment 3 united, and last shortest.

Distribution: Indonesia, Malaysia, Laos and Thailand.

Material examined: Thailand: Tak Prov.: Umphang, 30.06.2007(1♂, 1♀).

Remark: The species differs from *G. proserpina* in being femora are metallic deep blue and covered with metallic deep blue pubescence. Specimens were collected in early rainy season.

Glenea laevis Breuning, 1956

Figures 61D-E, 119E-F

Glenea (s.s.) *laevis* Breuning, 1956, *Ent. Arb. Mus. Frey* 7: 164,
Laos (Luang-Prabang).

Description: *Body* length 12-15.5 mm and breadth 3-4 mm, elongate; head blackish; frons covered with U shape yellowish brown pubescence band; anterior portion of frons, antennal tubercles and vertex covered with blackish pubescence; genae covered with yellowish brown pubescence; antennal segments 1-3 dark reddish brown, covered with dark reddish brown pubescence; antennal segments 4-11 reddish brown, covered with reddish brown pubescence; pronotum black, covered with yellowish brown pubescence, furnished with a large oval blackish pubescence band at middle; a subcircular blackish pubescence band behind each lateral side near basal lateral margin; scutellum black, covered with yellowish brown pubescence; elytra reddish brown in male, black in female; disc covered with reddish brown pubescence,

darker on anterior portion in male, covered with yellowish brown pubescence, blackish pubescence on anterior margin and humeral angles in female; elytra furnished with a broad transverse band near apex; ventral surfaces black, covered with silvery reddish brown pubescence, furnished with densely whitish pubescence along lateral sides of metathoracic and 1st-4th abdominal sternites; 5th abdominal sternite covered with dark reddish brown, furnished with broad whitish pubescence band on basal margin; legs dark reddish brown, covered with dark reddish brown pubescence.

Head slightly broader than prothorax, deeply punctured; frons broader than longer in male, as broad as long in female, anterior margin as broad as posterior margin; anterior margin concave; genae about 1/4 as deep as eye-lobes in male, about 1/3 as deep as eye-lobes in female; antennal tubercles widely separated; antennal supports slightly raised. Antennae slightly longer than body in both sexes; segment 1 gradually thicken to tip, finely punctured; segment 3 as long as segment 1, subcylindrical, slightly swollen at tip; segment 4 slightly shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, as broad as long, anterior margin slightly broader than posterior margin, deeply and closely punctured, fairly depressed at each side of basal margin, distinctly constrict at lateral sides near basal angles; a shallow groove running from middle to basal margin; apical margin straight; basal margin sinuated; lateral sides swollen without toothed. Scutellum hemicircular, longer than broad. *Elytra* distinctly narrow at apex, gradually narrow from humeral angles to apex, truncated apically without toothed, rather punctured at each side of scutellum and punctures getting finer and shallower toward sides and apex; two longitudinal and strongly raised ridges at each side, furnished with a row of deep punctures on interspace between ridges; humeral angles slightly raised and bent backward; basal margin sinuated; outer apical angles with very strongly and acutely toothed; sutural end angles with fairly toothed about 1/2 as long as outer apical angles toothed. *Ventral surfaces* finely punctured; 5th abdominal segment furnished with a longitudinal and shallow groove at middle in female, male disappearing. *Legs* fairly long, stout; hind tarsal segment 1 distinctly longer than segment 2 and segment 3 united, and last shortest in male, as long as segment 2 and segment 3 united in female.

Distribution: Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Inthanon, 15.08.2006(1♂, 1♀), Fang, 22.09.2006(1♂, 2♀).

Remark: This species is very distinct characters of frons is furnished with U shape yellowish brown pubescence band; pronotum is covered with yellowish brown pubescence and a large oval blackish pubescence band is present on middle; elytra are furnished with broad whitish pubescence band on basal margin. Specimens were collected in mid rainy season.

Glenea mathematica (Thomson, 1857)

Figure 61J

Stibara mathematica Thomson, 1857, *Arch. Ent.* 1: 144.

Glenea mathematica: Pascoe, 1867, *Trans. Ent. Soc. Lond. Ser. 3*, 3: 398.

Glenea (s.s.) *mathematica*: Breuning, 1956, l.c., 845.

Description: *Body* length 11 mm and breadth 2.5 mm, elongate; head black, covered with blackish pubescence, furnished with a longitudinal whitish pubescence stripe, starting from anterior angles of frons, running along lateral side of frons to vertex; genae and behind eye-lobes covered with whitish pubescence; antennal segments 1-7 dark reddish brown, covered with dark reddish brown pubescence; antennal segments 8-11 covered with whitish pubescence; pronotum black, covered with blackish pubescence, furnished with longitudinal whitish pubescence bands with following: A broad band at middle, and then running continued to scutellum; a broad band at each lateral side; scutellum black, covered with whitish pubescence; elytra reddish brown, darker on the bottom of punctures, covered with reddish brown pubescence, darker on anterior margin, furnished with yellowish brown pubescence stripes and spots with following: A broad stripe running from behind scutellum to

apex; a narrow stripe starting behind each humeral angle, running to 6/7 as long as of each elytron; a moderate spot at each apice; ventral surfaces dark reddish brown, covered with silvery reddish brown pubescence, furnished with whitish pubescence along lateral sides; legs pale orangey brown, covered with pale orangey brown pubescence.

Head slightly broader than anterior margin of prothorax, deeply and closely punctured; frons longer than broad; anterior margin slightly concave; genae about 1/4 as deep as eye-lobes; antennal tubercles widely separated; antennal supports slightly raised; a narrow and shallow groove running from frons to between antennal tubercles, and then groove getting deeper to vertex. Antennae slightly longer than body; segment 1 finely punctured, subcylindrical; segment 3 about 1.2 as long as segment 1, subcylindrical, slightly swollen at tip; segment 4 shorter than segment 3; segments 4-11 decreasing in length. *Pronotum* narrower than elytra, longer than broad, slightly convex, anterior margin slightly broader than posterior margin, closely and deeply punctured, slightly convex; slightly constrict at basal margin; apical margin swollen at middle; basal margin slightly sinuated, slightly emerge at middle above scutellum; lateral sides substraight, without toothed. Scutellum hemicircular, rounded tip, slightly longer than broad. *Elytra* narrow at tip, gradually narrow from humeral angles to apex, slightly oblique truncation apically without toothed; each elytron furnished with eight longitudinal rows of deep punctures, two longitudinal and strongly raised ridges at lateral sides, interspace furnished with deeply punctured; lateral sides strongly depressed; humeral angles slightly raised forward; basal margin concave at middle; outer apical angles with fairly and acutely toothed; sutural end angles with fairly and acutely toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, weaken; hind tarsal segment 1 distinctly longer than segment 2 and segment 3 united, and last as long as segment 2 and segment 3 united.

Distribution: Malaysia, Indonesia, Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Fang, 5.09.2003(1♀).

Remark: This species is very distinct characters of head is covered with blackish pubescence and furnished with a longitudinal whitish pubescence stripe; pronotum is covered with blackish pubescence and furnished with longitudinal whitish pubescence bands; elytra are covered with reddish brown pubescence; yellowish brown pubescence stripes, spots and eight longitudinal rows of deep punctures are present on disc; legs are pale orangey; The only one specimen was collected in late rainy season.

Glenea mouhoti Thomson, 1865

Figures 61A-B, 119C-D

Glenea mouhoti Thomson, 1865: 567 (Laos). [MNHN]

Glenea mouhoti v. *albodiversa* Pic, 1946: 10 (Cambodge et Annam).

Glenea (Glenea) indiana m. *mouhoti*: Breuning, 1956: 174.-Breuning 1966: 683.

Glenea (Glenea) indiana m. *albodiversa*: Breuning 1956: 174.-Breuning 1966: 683.

Glenea (Glenea) indiana m. *cochinchinensis* Breuning 1956: 174 (Cochinchina: Reu-hai). [NMB]-Breuning 1966: 683.

Description: *Body* length 15-19.5 mm and breadth 4-5.5 mm, elongate, black, covered with blackish pubescence for most parts; frons covered with U shape whitish pubescence band; genae covered with whitish pubescence; antennal segments 1-3 dark reddish brown, covered with dark reddish brown pubescence; antennal segments 4-11 reddish brown, covered with reddish brown pubescence; pronotum black, covered with whitish pubescence, furnished with a large blackish pubescence band starting from middle of apical margin, running to middle of pronotum, and then the band extend to each side, and rounded at tip; ventral side black, covered with blackish pubescence; scutellum black, covered with whitish pubescence; elytra furnished with a broad transverse whitish pubescence band about 1/3 as broad as long of elytra

behind middle, a narrow transverse grayish pubescence band on apical margin; metathoracic sternite covered with whitish pubescence in both sexes, furnished with reddish brown on middle in male; 3rd and 4th abdominal sternites covered with whitish pubescence in both sexes, furnished with reddish brown pubescence at middle of each segment in male; 5th abdominal sternite longer than broad in male, broader than long in female; legs covered with silvery bronze pubescence.

Head slightly broader than prothorax, deeply punctured; frons broader than longer in both sexes, anterior portion as broad as posterior portion; anterior margin slightly triangular concave at middle; genae about 1/4 as deep as eye-lobes in male, about 1/3 as deep as eye-lobes in female; antennal tubercles widely separated; antennal supports slightly raised. Antennae longer than body in male, as long as body in female; segment 1 gradually thicken to tip, finely and closely punctured; segment 3 as long as segment 1, subcylindrical, slightly swollen at tip; segment 4 slightly shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, as broad as long in male, broader than long in female, slightly convex, anterior margin slightly narrower than posterior margin, deeply and closely punctured, fairly depressed at each side of basal margin, slightly constrict at lateral sides near basal angles, a shallow groove running from middle to basal margin; apical margin substraight; basal margin sinuated, slightly emerge at middle above scutellum in female; lateral sides swollen without toothed. Scutellum hemicircular, broader than long. *Elytra* distinctly narrow at apex, gradually narrow from humeral angles to apex, fairly concave truncated apically without toothed, rather deeply and roughly punctured behind scutellum, and punctures getting finer and shallower toward sides and apex; two longitudinal and strongly raised ridges at each side, furnished with a row of deep punctures on interspace between ridges; humeral angles slightly raised and bent backward; basal margin sinuated; outer apical angles with very strongly and acutely toothed in male, slightly toothed in female; sutural end angles with fairly toothed about 2/3 as long as outer apical angles toothed in male, slightly toothed in female. *Ventral surfaces* finely punctured. *Legs* fairly long, stout; hind tarsal segment 1 as long as segment 2 and segment 3 united, and last.

Distribution: China, India, Myanmar, Vietnam, Laos, Cambodia and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 1.08.2005(1♂), Chiang Rai Prov.: Khun Chae, 15.07.2003(1♀), Lampang Prov.: Wiang Nua, 15.04.2003(1♀), Nan Prov.: Mae Charim, 11.06.2002(1♀), Phayao Prov.: Chiang Khum, 9.01.2004(1♂, 1♀).

Remark: External morphology of this species very similar with *G. indiana* but can separated by compared with parameres; *G. mouhoti* is distinctly shorter than *G. indiana*. Specimens were collected from late summer, winter, early and continued to mid rainy seasons.

Glenea proserpina Thomson, 1865

Figures 61H, 120C-D

Glenea proserpina Thomson, 1865, *Syst. Cer.*, 561.

Glenea nympha Kuntzen (nec Thomson), 1914, *Ent. Rundsch.* 31: 29.

Glenea (s.s.) *proserpina*: Breuning, 1956, l.c., 132.

Description: *Body* length 19.5-28 mm and breadth 5.5-9 mm, elongate, metallic deep blue tinge with purple; head covered with metallic deep blue pubescence, furnished with densely whitish pubescence along lateral margins and anterior of frons; genae covered with whitish pubescence; a short longitudinal whitish pubescence band behind each upper eye-lobe, somewhat running continued to each middle of lateral side of pronotum or disappearing in male, running continued to each side of basal margin of pronotum in female; antennal segments 1-3 metallic deep blue, covered with silvery pubescence; antennal segments 4-11 reddish brown, covered with reddish brown pubescence; pronotum metallic deep blue, covered with metallic deep blue pubescence, furnished with longitudinal whitish pubescence stripes and spots with following: A narrow stripe at middle, starting from apical margin to basal

margin in female, somewhat uncontinued stripe in male, and then continued to scutellum; a short band at each side of apical margin, starting from apical margin to behind middle or disappearing in male, starting from apical margin to basal margin in female; under side each lateral side furnished with a broad longitudinal whitish pubescence band; scutellum covered with whitish pubescence on anterior portion, basal portion covered with metallic deep blue pubescence; elytra metallic deep blue, covered with metallic deep blue pubescence, furnished with whitish pubescence bands and spots with following: 1st a moderate spot at each lateral side of scutellum; 2nd a moderate spot behind each 1st spot; 3rd a pair of moderate spots behind middle line; 4th a irregular spot at side of each 2nd spot in female, disappearing in male; 5th a moderate spot behind each 3rd spot; 6th a broad transverse band at apex in male, a narrow transverse and oblique band at near each apice in female; ventral surfaces metallic deep blue tinge with purple, covered with metallic blue pubescence tinge with bronze, furnished with densely whitish pubescence along lateral sides; femora orangey, covered with orangey pubescence; tibiae orangey, darker at apical margin, somewhat tibiae metallic deep blue except apical margin and knees which are orangey in female; fore and meso tarsal segments dark blue, covered with silvery brown pubescence; hind tarsal segments reddish brown, covered with pale silvery brown pubescence.

Head as broad as anterior margin of prothorax, deeply punctured; frons narrow in male, wider in female, more longer than broad; anterior margin concave; genae about 1/4 as deep as eye-lobes in female, about 1/3 as deep as in male; antennal tubercles widely separated; antennal supports slightly raised; a narrow and shallow groove running from frons to vertex; slightly depressed between antennal tubercles. Antennae longer than body in male, slightly longer than a half of body in female; segment 1 finely punctured, gradually thicken to tip; segment 3 about 1.3 as long as segment 1, subcylindrical, slightly swollen at tip; segment 4 shorter than segment 3; segment 5 longer than segment 4; segment 6 shorter than segment 5; segments 6-10 decreasing in length; segment 11 longer than segment 10 in male, as long as segment 10 in female. *Pronotum* narrower than elytra, longer than broad, slightly convex, anterior margin narrower than posterior margin, closely and deeply punctured; a

longitudinal and slightly raised ridge at middle, fairly raised at middle; slightly depressed at basal margin; apical margin straight; basal margin sinuated; lateral sides slightly sinuated, without toothed. Scutellum triangular. *Elytra* narrow at tip, gradually narrow from humeral angles to apex, truncated apically without toothed, rather deeply punctured at each side of scutellum, and punctures getting finer and shallower toward each sides and apices; each elytron furnished with two longitudinal and strongly raised ridges at lateral sides, interspace furnished with deeply punctured, subtruncated apically without toothed; lateral sides strongly depressed; basal margin sinuated; outer apical angles with slightly toothed; sutural end angles with slightly toothed. *Ventral surfaces* finely punctured; 5th abdominal sternite furnished with a longitudinal and shallow groove at middle in female, disappearing in male. *Legs* fairly long, stout; hind tarsal segment 1 longer than segment 2 and segment 3 united, and last shortest.

Distribution: Indonesia, Malaysia, Laos and Thailand.

Material examined: Thailand: Chiang Rai Prov.: Doi Luang, 16.12.2004(1♂), Mae Hong Son Prov.: Mae Sariang, 22.07.2004(1♂), Tak Prov.: Tha Song Yang, 2.02.2006(1♀).

Remark: The species differs from *G. elegans* in having femora are orangey and covered with orangey pubescence. Specimens were collected from mid rainy, winter and continued to early summer seasons.

Glenea pulchra Aurivillius, 1926

Figures 61G, 120E-F

Glenea pulchra Aurivillius, 1926, *Philip. J. Sci.* 30: 111.

Glenea pulchella Thomson (nec Pascoe), 1860, *Ess. Class. Cer.*, 58.-Gressitt (nec Pascoe), 1951, *Longicornia* 2: 571.

Glenea (s.s.) *pulchra*: Breuning, 1956, l.c., 147.

Description: *Body* length 13-20 mm and breadth 3.5-6 mm; head metallic deep blue tinge with purple and green; frons, genae and along ridge of eye-lobes covered with whitish pubescence; between antennal tubercles and vertex covered with blackish pubescence; antennae dark reddish brown, covered with reddish brown pubescence; pronotum metallic deep blue tinge with purple and green on middle, covered with deep blue pubescence; metallic green tinge with purple and bronze on anterior and posterior margin, and along lateral sides of prothorax, covered with greenish brown pubescence; disc furnished with densely whitish pubescence spots with following: A large spot at middle behind middle line; two oval spots at each lateral side; scutellum metallic deep blue, covered with whitish pubescence, furnished with deep blue pubescence on each side of basal margin; elytra metallic deep blue, tinge with purple and green, distinctly tinge with purple from behind scutellum to near apex, covered with metallic dark reddish brown, darker at each side and behind scutellum, and apical portion, tinge with purple and bronze; disc furnished with densely whitish pubescence spots with following: 1st a small curved spot at middle of basal margin of each elytron; 2nd a small spot at 1/6 of each elytron behind scutellum; 3rd a very small spot behind each 2nd spot; 4th a very small spot behind each 3rd spot, or more than one, somewhat spots united; 5th a small spot behind middle line of each elytron; 6th a curved spot behind each 5th spot; ventral surfaces metallic green, darker on prothoracic, mesothoracic sternite, and along lateral sides in female, dark reddish brown in male; prothoracic and mesothoracic sternite covered with metallic dark green pubescence in female, dark reddish brown pubescence in male, furnished with densely whitish pubescence along lateral sides; metathoracic sternite covered with silvery green pubescence, furnished with a large whitish pubescence spot on each lateral side in female; metathoracic sternite covered with dark reddish brown pubescence, furnished with a whitish pubescence at each lateral side, and whitish pubescence along basal margin in male; 1st-4th abdominal sternites covered with silvery green pubescence in female, dark reddish brown in male, furnished with a whitish pubescence along lateral side of each segment; 5th abdominal segment covered with dark reddish brown, furnished with whitish pubescence at each side in

male, disappearing in female; 5th abdominal sternite furnished with longitudinal and shallow groove at middle in female, disappearing in male; femora orangey, darker on upper side of fore femora and meso femora; fore femora and meso femora covered with silvery pubescence, and covered with dark reddish brown on darker parts; hind femora covered with orangey pubescence; tibiae dark reddish brown, covered with silvery reddish brown pubescence; fore tarsal segments and meso tarsal segments dark reddish brown, covered with dark reddish brown pubescence; hind tarsal segments orangey, covered with golden brown pubescence.

Head slightly broader than anterior margin of prothorax, deeply punctured; frons longer than broad; anterior margin slightly concave; genae about 1/4 as deep as eye-lobes in female, about 1/5 as deep as in male; antennal tubercles widely separated; antennal supports slightly raised; a narrow and shallow groove running from frons to vertex; slightly depressed between antennal tubercles in male, strongly depressed in female. Antennae slightly longer than body in male, slightly shorter than body in female; segment 1 finely punctured, gradually thicken to tip; segment 3 about 1.3 as long as segment 1, subcylindrical, slightly swollen at tip; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, broader than long, slightly convex, anterior margin as broad as posterior margin, closely and deeply punctured; a short and slightly raised tubercle above middle of basal margin, covered with whitish pubescence; fairly depressed at basal margin; apical margin substraight; basal margin slightly sinuated in male, slightly emerge at middle above scutellum in female; lateral sides slightly swollen, without toothed. Scutellum hemicircular, rounded tip, longer than broad. *Elytra* narrow at tip, gradually narrow from humeral angles to apex, truncated apically without toothed, rather deeply punctured at each side of scutellum, and punctures getting finer and shallower toward each sides and apices; each elytron furnished with two longitudinal and strongly raised ridges at lateral sides, interspace furnished with deeply punctured; lateral sides strongly depressed; humeral angles slightly raised, slightly bent backward; basal margin sinuated; outer apical angles with fairly toothed; sutural end angles with slightly toothed. *Ventral surfaces* finely punctured; 5th abdominal sternite furnished with a longitudinal and shallow groove at

middle in female, disappearing in male. *Legs* fairly long, stout; hind tarsal segment 1 distinctly longer than segment 2 and segment 3 united, and last shortest.

Distribution: India, Malaysia, Myanmar, Vietnam, China, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 1.03.2006(1♂), Mae Taeng, 6.07.2003(1♀), 1.10.2005(1♂), Samoeng, 20.01.2002(1♀), Lampang Prov.:Wiang Nua, 18.04.2005(1♂), Mae Hong Son Prov.: Mae Sariang, 2.12.2005(1♂), Nan Prov.: Mae Charim, 5.08.2004(1♀), Phayao Prov.: Chiang Kham, 1.12.2005(1♀), Tak Prov.: Tha Song Yang, 2.02.2006(1♂).

Remark: The species differs from *G. proserpina* in having only hind tarsal segments are orangey and covered with golden brown pubescence; elytra are metallic deep blue, tinge with purple and green, distinctly tinge with purple from behind scutellum to near apex; surface is scattered with very small whitish pubescence spots. Specimens were collected from summer, mid rainy, mid continued to late winter seasons.

Glenea quadrinotata Guérin-Ménéville, 1843

Figure 60I

Cerambyx quadrinotata Guérin-Ménéville, 1843, in Ad. *Delesserts Souvenirs d'un Voyage dans l'Inde*. 33-98. Pl. 11-27.

Description: *Body* length 15.5 mm and breadth 3.5 mm; head dark reddish brown, covered with yellowish brown pubescence; antennae black, covered with dark reddish brown to blackish pubescence; pronotum dark reddish brown, covered with yellowish pubescence, furnished with four longitudinal reddish brown pubescence stripes; a longitudinal pale stripe at each lateral side; scutellum dark reddish brown, covered with yellowish brown pubescence; elytra reddish brown, darker on posterior portion and humeral angles, covered with yellowish brown pubescence, furnished with four longitudinal dark reddish brown pubescence stripes on apical portion; a dark

reddish brown pubescence spot at each apice; a blackish glabrous mark on each humeral angle; ventral surfaces reddish brown, covered with yellowish brown pubescence; legs dark reddish brown, darker on tarsal segments, covered with yellowish brown pubescence.

Head slightly broader than anterior margin of prothorax, scattered with deeply punctured; frons longer than broad, anterior portion as broad as posterior portion; anterior margin concave; genae about $1/6$ as deep as eye-lobes; antennal tubercles nearly separated; antennal supports slightly raised; a narrow and shallow groove running from frons to vertex. Antennae about as long as body; segment 1 finely punctured, subcylindrical, distinctly constricted at basal margin; segment 3 as long as segment 1, slightly curved; segment 4 about $2/3$ as long as segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, slightly convex, deeply and closely but sparsely punctured, as broad as long, apical margin as broad as basal margin, a longitudinal and slightly raised ridge running from apical margin to basal margin on middle; strongly depressed at each side of basal margin; apical margin substraight; basal margin sinuated, slightly emerge at middle above scutellum; lateral sides slightly swollen without toothed. Scutellum subtriangular, rounded tip. *Elytra* distinctly narrow at apex, gradually narrow from humeral angles to apex, rather punctured at each side of scutellum, and punctures toward sides behind middle line, and then punctures getting deeper and bigger toward sides and apices; each elytron furnished with two longitudinal and strongly raised ridges at external side; humeral angles fairly raised, and slightly bent backward; strongly depressed at each lateral side; basal margin slightly sinuated; apex strongly concave-truncated without toothed, outer apical angles with very strongly and acutely toothed; sutural end angles with strongly and acutely toothed. *Ventral surfaces* finely punctured. *Legs* fairly long; hind tarsal segment 1 longer than segment 2 and segment 3 united, and last.

Distribution: India, Malaysia, Indonesia and Thailand (new record).

Material examined: Thailand: Mae Hong Son Prov.: Mae Sariang, 22.07.2004(1♀).

Remark: This species is very distinct characters of pronotum is dark reddish brown and covered with yellowish pubescence; four longitudinal reddish brown pubescence stripes are present on disc; elytra are reddish brown, covered with yellowish brown pubescence and four longitudinal dark reddish brown pubescence stripes are present on apical portion; each apice is furnished with a dark reddish brown pubescence spot. The only one specimen was collected in mid rainy season.

Glenea subviridescens Breuning, 1963

Figures 61F, 121A-B

Glenea (s.s.) *subviridescens* Breuning, 1963, *Bull. Soc. R. Sci. Nat.*

Laos 9: 2 (Laos).

Description: *Body* length 17-22 mm and breadth 3.5-5 mm, elongate, brilliant metallic green, tinge with purple and bronze, covered with metallic dark green pubescence, tinge with purple and bronze; head furnished with pale greenish white pubescence along eye-lobes ridges; genae covered with pale greenish white pubescence; antennae metallic deep blue, tinge with purple, covered with dark blue pubescence; ventral surfaces covered with silvery green pubescence; legs metallic deep blue, covered with dark brownish blue pubescence.

Head slightly broader than prothorax, closely and deeply punctured; frons longer than broad, slightly convex; anterior margin slightly concave; genae about 1/2 as deep as eye-lobes in female, about 1/3 as deep as in male; antennal tubercles widely separated; antennal supports slightly raised; a narrow and shallow groove running from frons to vertex; fairly depressed between antennal tubercles in male, strongly depressed in female. Antennae slightly longer than body in male, slightly shorter than body in female; segment 1 finely and closely punctured, gradually thicken to tip; segment 3 about 1.3 as long as segment 1, subcylindrical, slightly

swollen at tip; segment 4 slightly shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, broader than long in female, longer than broad in male, slightly convex, anterior margin as broad as posterior margin, closely and deeply punctured; a longitudinal and slightly raised ridge, running from middle to near basal margin; fairly depressed at basal margin; apical margin substraight; basal margin slightly sinuated; lateral sides slightly sinuated, without toothed. Scutellum hemicircular, rounded tip, longer than broad. *Elytra* narrow at tip, gradually narrow from humeral angles to apex, slightly oblique truncated apically without toothed; disc covered with deeply, closely and roughly punctured throughout; each elytron furnished with two longitudinal and strongly raised ridges at lateral sides, interspace furnished with deeply punctured; lateral sides strongly depressed; humeral angles slightly raised, slightly bent backward; basal margin sinuated; outer apical angles with slightly toothed; sutural end angles without toothed. *Ventral surfaces* finely punctured; 5th abdominal sternite furnished with a longitudinal and shallow groove at middle in female, disappearing in male. *Legs* fairly long, stout; hind tarsal segment 1 distinctly longer than segment 2 and segment 3 united, and last as long as segment 2 and segment 3 united.

Distribution: Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 7.04.2005(1♂), Chiang Dao, 4.02.2003(1♀), Chiang Rai Prov.: Wiang Pa Pao, 17.03.2005(1♂), Phayao Prov.: Chiang Kham, 5.09.2004(1♀).

Remark: This species is very distinct characters of body is elongated, brilliant metallic green, tinge with purple and bronze and covered with metallic dark green pubescence; elytra are covered with deeply and closely and roughly punctured are scattered throughout; each elytron is furnished with two longitudinal and strongly raised ridges at lateral sides; interspaces are furnished with deeply punctured. Specimens were collected in summer and late rainy seasons.

Glenea vaga Thomson, 1865

Figure 61I

Glenea vaga Thomson, 1865, *Syst. Cer.*, 565.

Glenea (Aridoglenea) vaga: Breuning, 1958, l.c., 872.

Description: *Body* length 10 mm and breadth 2.5 mm, reddish brown; head covered with whitish brown pubescence for most parts except vertex which is covered with reddish brown pubescence; antennae covered with dark reddish brown pubescence; pronotum covered with reddish brown pubescence, furnished with longitudinal yellowish brown pubescence stripes and bands following: A broad band on middle, and then running continued to scutellum; a narrow stripe on each side; a broad band on each lateral side; scutellum covered with yellowish brown pubescence; elytra covered with reddish brown pubescence, furnished with yellowish brown pubescence stripes and bands with following: 1st a broad longitudinal band at middle, starting from behind scutellum to apex; 2nd a narrow longitudinal stripe starting from middle of basal margin of each elytron running to 1/4 of each elytron, and then running cross elytron to lateral side but not touching; 3rd a narrow longitudinal stripe starting near humeral angles, running to middle line of each elytron, and then running cross elytron to internal sutures, and then together with 1st stripe, at 1/4 of elytron together with 2nd stripe; 4th two longitudinal stripes on each lateral side of elytra; 5th a suboval band at 4/5 of each elytron; 6th a large band about 1/8 as broad as long of elytra at apex; ventral surfaces covered with yellowish brown pubescence; legs covered with reddish brown pubescence.

Head broader than prothorax, closely and deeply punctured on vertex; frons broader than long, finely punctured, deeply but sparsely punctured, anterior portion narrower than posterior portion; anterior margin slightly concave; genae about 1/2 as deep as eye-lobes; antennal tubercles widely separated; antennae supports slightly raised; a narrow and shallow groove running from frons to vertex. Antennae about

as long as body; segment 1 finely punctured, subcylindrical; segment 3 as long as segment 1, slightly curved; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, deeply and closely punctured, as broad as long, apical margin slightly broader than basal margin, a longitudinal and strongly raised ridge running from apical margin to basal margin on middle; strongly depressed at each side of basal margin; apical margin slightly swollen; basal margin sinuated, strongly emerge at middle above scutellum; lateral sides slightly swollen without toothed. Scutellum hemicircular, longer than broad, strongly raised. *Elytra* distinctly narrow at apex, gradually narrow from humeral angles to apex, strongly concave-truncated without toothed, rather punctured at each side of scutellum, and punctures getting finer and shallower toward sides and apices; each elytron furnished with two longitudinal and strongly raised ridges at external side; humeral angles fairly raised, and slightly bent backward; strongly depressed at each lateral side; basal margin slightly sinuated; outer apical angles with very strongly and acutely toothed; sutural end angles with strongly and acutely toothed. *Ventral surfaces* finely punctured. *Legs* fairly long; hind tarsal segment 1 as long as segment 2 and segment 3 united, and last.

Distribution: Malaysia, Myanmar, Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 6.07.2003(1♀).

Remark: This species is very distinct characters of pronotum is covered with reddish brown pubescence; a longitudinal broad yellowish brown pubescence stripes is present on middle and a longitudinal broad yellowish brown band is present on each lateral side of pronotum; elytra are covered with reddish brown pubescence and yellowish brown pubescence stripes and bands are present on disc; outer apical angles are furnishes with a very strong and acuted dentation; sutural end angles are furnished with a strong and acuted dentation. The only one specimen was collected in mid rainy season.

Gnoma gilmouri Dillon and Dillon, 1951

Figure 58I

Gnoma gilmouri Dillon et Dillon, 1951, *Philippine Journal of Science*.

79(1): 11-57. 3 pl.

Description: *Body* length 21-24.5 mm and breadth 5.5-7 mm, reddish brown; head covered with brownish yellow pubescence; antennae and prothorax covered with reddish brown pubescence; scutellum covered with brownish yellow pubescence; elytra covered with reddish brown pubescence, unevenly scattered with dark brownish yellow hairs; ventral surfaces covered with dark reddish brown pubescence; legs covered with dark reddish brown pubescence.

Head slightly broader than anterior margin of prothorax; scattered with deeply punctured on frons and between upper eye-lobes; frons as broad as long, lateral sides straight; anterior margin fairly swollen; genae about 1/3 as deep as eye-lobes; antennal tubercles moderately separated; antennal supports strongly raised; a fairly deep groove running from frons to vertex. Antennae about 2 times as long as body in male, slightly longer than body in female; segment 1 short, gradually thicken to tip, slightly asperate, slightly oblique truncation at tip with minutely closely punctured; segment 3 about 4 times as long as segment 1, cylindrical; segment 4 shorter than segment 3; segments 5-7 each segment as long as segment 4; segment 8 about 1/2 as long as segment 7; segments 8-10 decreasing in length; segment 11 distinctly longer than segment 10. *Pronotum* elongate, subcylindrical, about 2 times as long as broad, anterior margin narrower than basal margin, strongly concave above middle line, transversely rugose; anterior margin substraight; basal margin slightly sinuated; lateral sides strongly concave above middle, without toothed. Scutellum hemicircular, longer than broad. *Elytra* about 1.7 times as long as prothorax, gradually narrow at sides from humeral angles to apex, smoothly rounded apically, rather punctured at each side of scutellum and punctures slightly getting finer and toward each sides and apices; sutural end angles without toothed. *Ventral surfaces*

finely punctured. *Legs* fairly long, slender; femora slightly swollen; hind tarsal segment 1 as long as segment 2 and segment 3 united, last longest.

Distribution: Malaysia and Thailand (new record).

Material examined: Thailand: Mae Hong Son Prov.: Mae Sariang, 2.12.2005(1♂, 1♀).

Remark: This species is very distinct characters of body is reddish brown; pronotum is elongated, subcylindrical and about 2 times as long as broad; lateral sides are strongly concave above middle without a dentation. Specimens were collected in mid winter season.

Golsinda basicornis Gahan, 1894

Figures 55K-L

Golsinda basicornis Gahan, 1894, l.c.-Breuning, 1938, l.c., 388.

Description: *Body* length 17-19 mm and breadth 5-7 mm, reddish brown to dark reddish brown; frons covered with brownish pubescence, furnished with a transverse dark reddish brown pubescence stripe at middle, a transverse and sinuated dark brown pubescence stripe behind antennal tubercles; genae covered with brownish pubescence; vertex covered with dark reddish brown, furnished with two densely brownish pubescence spots; a densely brownish pubescence band on each antennal tubercle; a brownish spot behind each eye; antennal segments 1-2 dark brown, covered with dark brown pubescence, sparsely brownish hairs; antennal segments 3-10 each covered with pale pinkish pubescence band alternated with dark reddish brown pubescence band; antennal segment 11 dark reddish brown, covered with dark brown pubescence; pronotum dark reddish brown, covered with dark reddish brown pubescence, furnished with brownish spots or bands with following: Four moderate spots along apical margin; three spots on middle line; a moderate spot on each side near basal margin; a oblong band at middle of basal margin; a large spot

on each lateral side; scutellum dark reddish brown, covered with brownish pubescence; elytra reddish brown, darker on anterior portion, covered with reddish brown pubescence; disc furnished with brownish spots throughout, densely continued spots on anterior margin, middle and posterior margin, somewhat separated; ventral surfaces dark reddish brown, covered brownish pubescence; legs dark reddish brown, covered with pale pinkish pubescence bands alternated with dark reddish brown pubescence; tarsal segments 1-3 dark brown, covered with pale pinkish pubescence; tarsal segment 5 covered with pale pinkish pubescence alternated with dark reddish brown pubescence band.

Head as broad as anterior margin of prothorax, finely punctured, flatten; frons as long as broad, widest at basal margin, basal margin slightly raised, sinuate, anterior portion broader than posterior portion; genae about $\frac{3}{4}$ as deep as eye-lobes; a narrow and shallow groove running from frons to vertex; genae as broad as eye; antennal tubercles widely separated; antennal supports slightly raised. Antennae about as long as body; segment 1 finely punctured, gradually extend from basal margin to apical margin, subtruncated at tip with sparsely punctured; segment 3 as long as segment 1, cylindrical; segment 4 slightly shorter than segment 3; segments 4-11 decreasing in length. *Pronotum* distinctly narrower than elytra, slightly raised rugose; disc slightly depressed at anterior portion with shallowly rugulose; lateral sides slightly and unevenly swollen without toothed; apical margin substraigh; posterior margin sinuated. Scutellum subhemicircular, slightly longer than broad. *Elytra* about 1.7 times as long as broad, subparallel, smoothly rounded apically, rather punctured at each side of scutellum and getting finer towards each sides and apices; humeral angles slightly raised; basal margin substraigh; apical margin depressed with minutely punctured; sutural end angles without toothed. *Ventral surfaces* finely punctured; abdominal segment 5 with a transverse and shallow groove running on middle. *Legs* shorter, stout; femora swollen at middle.

Distribution: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 1.10.2005(1♂), Fang, 5.09.2003(1♀).

Remark: This species is very distinct characters of antennal segments 3-10 are covered with pale pinkish pubescence band alternated with dark reddish brown pubescence band; elytra are covered with reddish brown pubescence and furnished with brownish spots throughout; legs are covered with pale pinkish pubescence bands alternated with dark reddish brown pubescence. Specimens were collected in late rainy season.

Hirtaeschopalea fasciculata Breuning, 1938

Figure 67H

Hirtaeschopalea fasciculata Breuning, 1938, *Festschr. E. Strand* 4: 226; 1950, l.c., 276.

Description: *Body* length 8 mm and breadth 2 mm, black; head covered with reddish brown pubescence, furnished with densely whitish hairs at middle of frons and along edge of genae; vertex furnished with three longitudinal whitish pubescence stripes with following: A narrow stripe at middle, running from between antennal tubercles to occiput, and then continued to pronotum; a narrow stripe at each side, starting from each antennal tubercle, gradually oblique running to occiput, and then running continued to pronotum; antennae covered with whitish pubescence, furnished with reddish brown hairs on apical margin of segment 1; pronotum covered with whitish pubescence on lateral sides, furnished with longitudinal whitish pubescence stripes running continued from vertex with following: 1st a short and narrow stripe at middle, starting from apical margin to 1/4 of pronotum, and then separated to two stripes, each stripe gradually oblique running to basal angle; 2nd a narrow stripe on each side of apical margin, running gradually oblique to basal margin, and together with each separated stripe of 2nd stripe; 3rd a short and narrow stripe starting at 3/4 of pronotum, running to basal margin, and slightly continued to scutellum; scutellum covered with reddish brown, furnished with whitish hairs at middle of basal margin;

elytra covered with unevenly whitish pubescence for most parts; anterior portion covered with unevenly reddish brown pubescence, and running continued along internal sutures to apex; disc unevenly scattered with densely blackish pubescence spots, and spots united mostly on apex and middle line; disc furnished with clusters of long whitish hairs with following: 1st a small cluster of long hairs on each side of scutellum; 2nd a small cluster of long hairs at 4/6 of each elytron; 3rd a bigger cluster than 1st and 2nd cluster at 5/6 of each elytron; long whitish hairs scattered along external sutures; fore and meso thoracic sternites covered with dark reddish brown pubescence; meta thoracic sternite and abdominal sternite covered with whitish pubescence; femora covered with whitish pubescence, scattered with dark reddish brown hairs; tibiae covered with whitish pubescence, furnished with dark reddish brown to blackish pubescence on each apical portion of tibiae; tarsal segment covered with reddish brown pubescence; Legs scattered with long whitish hairs throughout.

Head as broad as anterior margin of prothorax, deeply punctured; frons longer than broad, anterior portion broader than posterior portion; anterior margin concave; genae about 2/3 as deep as eye-lobes; antenaral tubercles nearly separated; antennal supports very strongly raised. Antennae about 2.5 times as long as body; segment 1 gradually thicken to tip, asperate at external of tip; segment 3 about 1.5 as long as segment 1, subcylindrical; segment 4 slightly shorter than segment 3; segment 5 slightly shorter than segment 4; segment 6 slightly longer than segment 5; segments 6-10 increasing in length; segment 11 longer than segment 10. *Pronotum* narrow than elytra, slightly broader than long, scattered with deeply punctured throughout, anterior margin slightly narrower than posterior margin, constrict at basal portion, slightly raised area at middle with closely and deeply unctured, a moderate tubercle at middle line on each side of raised area at middle; apical margin straight; basal margin slightly sinuated; lateral sides swollen with strongly and acutely toothed at middle. Scutellum subtrapezoidal. *Elytra* subparallel, smoothly rounded apically, furnished with very strongly raised rigde, starting from middle of basal margin of each elytron, running gradually curved to behind scutellum, very strongly rugose-punctate at each side of scutellum and toward each side behind basal margin, rather deeply punctured behind scutellum and punctures getting finer and shallower toward each sides and apices;

humeral angles strongly raised and granulate; basal margin strongly depressed at middle; basal margin sinuated; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* short, stout; hind tarsal segment 1 as long as segment 2 and segment 3 united, and last.

Distribution: India, China, Laos and Thailand (new record).

Material examined: Thailand: Kamphaeng Phet Prov.: Khlong Lan, 5.12.2005(1♂).

Remark: This species is very distinct characters of a longitudinal whitish pubescence stripes like V shape symbol on vertex and pronotum area; pronotum is scattered with deep punctures; elytra are covered with very strongly rugose-punctate at each side of scutellum and six clusters of long whitish hairs are present on disc. The only one was collected in mid winter season.

Hoplothrix rivulosus (Gahan, 1888)

Figures 68F, 115E-F

Monochamus rivulosus Gahan, 1888, *Ann. Mag. Nat. Hist.* ser. 6, 1: 273.

Blepephaeus vitalisi Pic, 1925, *Mel. Exot. Ent.* 43: 24.

Hoplothrix rivulosus: Breuning, 1943, l.c., 367.

Description: *Body* length 17 mm and breadth 5 mm, reddish brown to dark brown; head dark brown, covered with brown pubescence; antennal segment 1-2 and segment 6-11 dark brown, covered with reddish brown pubescence; antennae segment 3-5 reddish brown, each segment anterior portion covered with whitish hairs and posterior portion covered with reddish brown hairs; pronotum dark brown, covered with brown pubescence; scutellum reddish brown, covered with brown pubescence; elytra reddish brown, covered with brown pubescence, furnished with broad whitish

pubescence bands with following: A broad band on each elytron, running from humeral angles and gradually narrow to near apex; a short broad band, running from behind middle line to apex, somewhat pale band to apex; scattered with small and large punctures on disc, with darker in the bottom of punctures; ventral surfaces reddish brown, covered with brown pubescence; legs dark brown, covered with brown pubescence.

Head about as broad as anterior margin of prothorax; frons as broad as long, slightly convex; genae about 1/4 as deep as eye-lobes; antennal tubercles distinctly separate; anterior margin of frons slightly concave. Antennae longer than body; segment 1 finely punctured, subcylindrical; slightly oblique truncation at tip with finely punctured; segment 3 longer than segment 1 and segment 2 united; segment 4 shorter than segment 3; segment 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* distinctly narrower than elytra, covered with finely punctured; minutely moderate punctures on posterior portion, dark in the bottom of punctures; disc with two slightly raised and irregular knobs above middle of each side, furnished with two pubescence areas on middle; lateral sides slightly swollen with moderately toothed at middle. Scutellum hemicircular, slightly longer than broad. *Elytra* about 2.2 times as long as broad, subparallel to near apex; rounded apex; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long; femora slightly swollen; hind tarsal segment 1 as long as segment 2 and segment 3 united and last.

Distribution: Myanmar, Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Chiang Dao, 30.04.2006(1♂).

Remark: This species is very distinct characters of elytra are reddish brown, covered with brown pubescence and furnished with broad whitish pubescence bands; two slightly raised and irregular knobs are placed above middle of each side and two pubescence areas are present on middle of pronotum; lateral sides are slightly swollen

with a moderate dentation at middle. The only one specimen was collected in late summer season.

Imantocera penicillata (Hope, 1831)

Figures 58G, 121E-F

Lamia penicillata Hope, 1831, *In Gray, Zool. Misc.* 1: 17.

Imantocera plumose Thomson (nec Oliv.), 1860, *Ess. Class. Cer.*, 102.

Imantocera penicillata: Pascoe, 1862, *J. Ent.* 1: 345.-Breuning, 1945, l.c., 527.-Gressitt, 1951, l.c., 410.

Himantocera penicillata: Gahan, 1895, *Ann. Mus. Civ. Genova* 34: 48.

Description: *Body* length 14-20 mm and breadth 5-6 mm, reddish brown to dark brown; head dark brown, covered with reddish brown pubescence, scattered with densely brown pubescence spots throughout; clypeus reddish, covered with reddish hairs; labrum reddish, covered with reddish hairs, furnished with reddish brown long hairs on lateral sides; antennal segments 1-4 dark brown, covered with reddish brown pubescence; segment 4 furnished with black tuft on under sides of apical margin; segments 5-11 reddish brown, covered with paler brown pubescence; pronotum dark brown, covered with reddish brown pubescence, furnished with densely brown pubescence spots; lateral sides and under side of lateral sides covered with brown pubescence; scutellum dark brown, covered with brown pubescence; elytra dark brown, covered with reddish brown pubescence, furnished with small brown pubescence spots throughout; humeral angles covered with brown pubescence; apical portion furnished with a pair of large brown pubescence spot near apex; ventral surfaces dark brown; prosternum and mesosternum covered with brown hairs; metasternum covered with reddish brown pubescence, furnished with a densely brown pubescence spot on each side near basal margin; abdominal sterna covered with reddish brown pubescence, furnished with a densely brown pubescence spot on each

side of segment 1, a pair of densely brown pubescence spot on each side of segments 2-4; legs dark brown, covered with brown pubescence.

Head about as broad as anterior margin of prothorax, finely punctured; frons broader than long, unevenly; genae about 1/2 as deep as eye-lobes; a narrow and shallow groove running from frons to vertex; antennal tubercles distinctly separate. Antennae longer than body in male, slightly shorter than body in female; segment 1 closely and roughly punctured, gradually extend to apex; subtruncate at external apices with minutely punctured; segment 3 distinctly longer than segment 1 and segment 2 united; segment 4 shorter than segment 3, distinctly swollen at apex; apical margin sinuate; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, longer than broad; disc unevenly furnished with a irregular callosity on middle which is covered with rugulose; a pair of tubercle above middle; lateral sides slightly sinuate which is furnished with moderately toothed at middle. Scutellum hemicircular, longer than broad. *Elytra* furnished with a longitudinal row of largely granulate running from middle of basal margin to behind middle; rather moderately granulate at each side of scutellum and humeral angles; finely punctured throughout and moderately but sparsely punctured; humeral angles slightly raised forward; subtruncated apex; outer angles without toothed; sutral end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, stout; fore legs longest in male, normal in female.

Distribution: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, Laos and Thailand.

Material examined: Thailand: Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♂, 2♀), Phitsanulok Prov.: Nakhon Thai, 1.03.2003(1♀).

Remark: This species is very distinct characters of antennal segment 4 is furnished with black tuft on under sides of apical margin; elytra are dark brown, covered with reddish brown pubescence and furnished with small brown pubescence spots throughout; humeral angles are covered with brown pubescence; apical portion

is furnished with a pair of large brown pubescence spot near apex. Specimens were collected in early summer and rainy seasons.

Ioesse sanguinolenta Thomson, 1864

Figures 57C-D, 121C-D

Ioesse sanguinolenta Thomson, 1864, *Syst. Cer.*, 68.-Lacordaire, 1872, l.c., 450.-Gahan, 1895, l.c.-Breuning, 1956, l.c., fig. 2.

Macrocelosterna rubra Pic, 1924, l.c., 4.

Description: *Body* length 41-45 mm and breadth 15-16 mm, black; head covered with orangey red pubescence; clypeus reddish brown, glabrous; labrum reddish brown, covered with orangey red pubescence; antennal segment 1 covered with orangey red pubescence, furnished blackish hairs on apical margin and inner basal margin; antennal segments 2-11 covered with blackish pubescence; pronotum covered with orangey red pubescence, furnished with blackish hairs along apical margin, basal margin and behind lateral toothed; scutellum covered with orangey red pubescence; elytra covered with orangey red pubescence, furnished with blackish pubescence basal margin at each side of scutellum, and then running to humeral angle; external sutures covered with blackish hairs, somewhat disappearing from middle to apex; ventral surfaces covered with orangey red pubescence; femora covered with orangey red pubescence, furnished with blackish hairs on knee, somewhat inner side hind femur covered with brownish pubescence; tibiae covered with greyish pubescence, furnished with orangey red hairs on apical margin; tarsal segments 1-3 covered with orangey red pubescence; tarsal segment 5 covered with blackish pubescence.

Head as broad as anterior margin of prothorax, finely punctured; frons as broad as long, a deep and curved groove running along anterior margin, anterior margin concave; genae about 1/3 as deep as eye-lobes; antennal tubercles widely separated; a narrow and shallow groove running from frons to vertex, and then

continued to basal margin of prothorax. Antennae shorter than body in both sexes; segment 1 short, gradually extend to tip, finely punctured; segment 3 slightly longer than segment 1, subcylindrical, slightly swollen at tip; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 slightly longer than segment 10. *Pronotum* narrower than elytra, broader than long; disc furnished with a callosity on each side, shallowly but sparsely punctured which are furnished with a blackish hair in the bottom; apical margin straight; basal margin swollen at middle; apical margin as broad as basal margin; lateral sides slightly swollen with strongly and acutely toothed. Scutellum hemicircular. *Elytra* subparallel, slightly concave behind humeral angles, smoothly rounded apically, finely punctured most hidden by pubescence; basal margin sinuated; humeral angles slightly raised; sutural end angles without toothed. *Ventral surfaces* finely punctured; 5th abdominal sternite concave at tip in male, triangular in female. *Legs* short, stout; hind tarsal segment 1 as long as segment 2 and segment 3 united, last longest.

Distribution: Malaysia, Myanmar, Vietnam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Inthanon, 15.08.2006(1♂, 1♀).

Remark: This species is very distinct characters of body is black and covered with orangey red pubescence for the most parts; lateral sides of pronotum are slightly swollen with a strong and acuted dentation. Specimens were collected in mid rainy season.

Leptomesosa cephalotes (Pic, 1903)

Figures 51E-F, 103E-F

Mesosa cephalotes Pic, 1903, *Echange* 19: 121; *Mat. Longic.* 4(2): 23.

Mesosa nodosipennis Pic, 1917, *Mat. Longic.* 10(2): 12.

Leptomesosa cephalotes: Breuning, 1938, l.c.-Gressitt, 1951, l.c., 412.

Description: *Body* length 16-24 mm and breadth 7-8 mm, reddish brown to dark brown; head dark brown, covered with whitish pale brown pubescence; antennal segments 1-2 dark brown, covered with brownish pubescence; antennal segments 3-11 reddish brown; anterior portion of each antennal segment covered with brownish pubescence, and posterior portion covered with reddish brownish pubescence; pronotum reddish brown, darker on middle, covered with brownish pubescence, furnished with a transverse blackish pubescence stripe on each side, running from apical margin to basal margin; scutellum reddish brown, darker on edge; elytra reddish brown, covered with brownish pubescence, furnished with broad densely whitish pubescence band which is about 1/3 as broad as elytra at middle, concave at middle of posterior margin of band; scattered of densely whitish spots and irregular short bands on apical portion, somewhat combined; sparsely black spots; a subrectangular blackish band on each lateral side behind humeral angle; ventral surfaces reddish brown, covered with whitish brown pubescence; legs reddish brown, covered with brownish pubescence, furnished with dark brown and blackish hairs.

Head as broad as prothorax, finely punctured, moderately but sparsely punctured on vertex; frons broader than long, anterior edge slightly raised, anterior margin slightly sinuate; genae about 1/2 as deep as eye-lobes; antennal tubercles widely separated, slightly raised. Antennae about 1.5 times as long as body in male, about as long as body in female; segment 1 finely punctured, strong depressed at basal portion in male, slightly depressed in female; disc gradually swollen to 2/3 of segment and then gradually narrow to apical margin; segment 3 longer than segment 1; segments 4-11 decreasing in length. *Pronotum* narrower than elytra, longer than broad in male, as long as broad in female; disc rugulose, furnished a pair of small tubercles at middle near basal margin; anterior margin as broad as basal margin; basal margin distinctly more constrict than anterior margin; lateral sides unevenly swollen without toothed. Scutellum triangular. *Elytra* about 2 times as long as broad, furnished with a moderate tubercle with largely granulated at each side of scutellum, minutely granulated at each side of scutellum, and on humeral angles; each elytron

furnished with distinct costae, and slightly depressed along lateral sides, smoothly rounded apically; strongly depressed apex; sutural end angles without toothed.

Ventral surfaces finely punctured. *Legs* short, stout; femora flatten, slightly swollen at middle.

Distribution: China, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 6.07.2003((1♂), Doi Sutep, 2.05.2005(1♂), Doi Inthanon, 15.08.2006(1♀), Kamphaeng Phet Prov.: Khlong Lan, 5.12.2005(1♂), Nan Prov.: Mae Charim, 5.08.2004(1♂, 1♀), Phayao Prov.: Chiang Kham, 9.01.2004(1♀).

Remark: This species is very distinct characters of pronotum is reddish brown, covered with brownish pubescence and furnished with a transverse blackish pubescence stripe on each side; elytra are furnished with a broad densely whitish pubescence band which is about 1/3 as broad as elytra length on middle; a moderate tubercle is covered with largely granulated at each side of scutellum. Specimens were collected from mid and continued to late winter, early and continued to mid rainy seasons.

Macrochenus isabellinus Aurivillius, 1920

Figures 54D-E, 118C-D

Macrochenus isabellinus Aurivillius, 1920, *Arkiv Zool.* 13(9): 12.-Breuning, 1943, l.c., 238, fig. 74.-Gressitt, 1951, l.c., 360.

Description: *Body* length 25-31 mm and breadth 7-8 mm, reddish brown to black; head black, covered with whitish pubescence for most part except middle of frons, lateral sides of eyes and vertex which are black; disc furnished with densely whitish pubescence stripes with following: A broad longitudinal stripe on middle of vertex, running from frons to vertex; a narrower longitudinal stripe running from

lateral side of each side to lateral side of occiput; antennae black, covered with dark brown pubescence, furnished with sparsely long dark hairs; pronotum black, covered with short dark brown pubescence, furnished with densely longitudinal pale yellowish pubescence stripes with following: A longitudinal stripe on middle running from anterior margin to posterior margin; a narrower longitudinal stripe on each lateral side, running from anterior margin to posterior margin; a broader longitudinal stripe on each lateral side; two pale stripes on middle; scutellum black, covered with pale brown pubescence; elytra reddish brown, covered with pale brown pubescence, furnished with moderate and irregularly subsquare black or suboval bands scattered throughout; ventral surfaces black, covered with grayish pubescence; legs black, covered with grayish pubescence.

Head about as broad as prothorax, finely rugose throughout; a narrow and shallow groove running from anteriorly frons margin to vertex; genae about 1/2 as deep as eye-lobes; deeply depressed between antennal tubercles and antennal supports strongly raised. Antennae more longer than body in male, in female, shorter than male but longer than body; segment 1 sparsely punctured; segment 3 about 2 times as long as segment 1 and segment 2 united; segment 4 shorter than segment 3; segment 5 shorter than segment 4; segments 5-11 decreasing in length. *Pronotum* distinctly longer than broad, subcylindrical, narrower than elytra, about 2 times as long as broad in male, about as long as broad in female, covered with transversely rugulose; lateral sides slightly concave near middle and then gradually extend to basal angles. Scutellum hemi-circular, slightly longer than broad. *Elytra* about 2 times as long as broad, very fine punctures most hidden by pubescence; subparallel to middle and gradually narrow to apex; subtruncate apex with small tooth; outer angles with moderately toothed; sutural end angles with moderately toothed. *Ventral surfaces* very fine punctures most hidden by pubescence. *Legs* long, slender; fore legs more longer than mid- and hind-leg in male, normal in female.

Distribution: China, Myanmar, Vietnam, Laos and Thailand.

Material examined: Chiang Mai, Samoeng, 20.01.2002(♂), 2.09.2003(♂),

Mae Chaem, 7.04.2005(♀).

Remark: This species is very distinct characters of pronotum is black and covered with short dark brown pubescence and transversely rugulose; disc is furnished with densely longitudinal pale yellowish pubescence stripes; elytra are covered with pale brown pubescence and as scattered with moderate subsquare black or suboval bands throughout. Specimens were collected from late winter, summer and continued to rainy seasons.

Mesocacia multimaculata Pic, 1925

Figures 58H, 133E-F

Mesocacia multimaculata Pic, 1925, *Mel. Exot. Ent.* 44: 24.-Breuning, 1939, l.c.

Description: *Body* length 12-15 mm and breadth 4-5 mm, reddish brown to black; head black, covered with blackish pubescence, furnished with a longitudinal whitish pubescence stripe running from frons to vertex; a cluster of whitish pubescence on each gena and lateral sides of frons; clypeus reddish brown, glabrous; labrum dark reddish brown, covered with reddish brown pubescence; antennal segments 1-2 dark brown, covered with dark brown pubescence; antennal segments 3-11 dark brown, each covered with dark reddish brown pubescence for most parts except basal margin which is covered with whitish pubescence; pronotum reddish brown, darker on lateral sides, covered with reddish brown pubescence, furnished with densely pale yellowish spots and bands with following: A broad longitudinal band at middle running from apical margin to basal margin; a pair of spots on middle line; scutellum dark reddish brown, covered with pale yellowish pubescence; elytra dark reddish brown, unevenly covered with pale yellowish pubescence, furnished with densely blackish pubescence bands and spots with following: A oval spot on each humeral angle; a irregular band running from each lateral side of scutellum backward behind scutellum; a pair of irregular and zigzag bands above middle line; spots scattered on disc, somewhat united or disappearing; ventral surfaces dark reddish brown, covered with pale yellowish pubescence; legs dark reddish brown to black;

femora covered with pale yellowish pubescence for most parts except apical margin which is covered with reddish brown pubescence; tibiae covered with whitish pubescence alternated with reddish brown pubescence; tarsal segment 1 black, covered with whitish pubescence; tarsal segments 2-5 black, covered with blackish pubescence.

Head about as broad as anterior margin of prothorax, finely punctured; frons longer than broad, slightly convex, anterior margin slightly concave at middle; a narrow and shallow groove running from frons to vertex; genae as deep as eye-lobes; antennal tubercles separate, slightly raised. Antennae about 2 times as long as body; segment 1 finely punctured, gradually swollen to apex, subtruncated apex with finely sub-reticulate; segment 3 longer than segment 1, cylindrical; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 slightly longer than segment 10. *Pronotum* narrower than elytra, as broad as long, finely punctured, moderately but sparsely punctured; lateral sides slightly swollen without toothed. Scutellum subtriangular, rounded tip. *Elytra* about 1.7 times as long as broad, scattered moderately punctured; slightly depressed at apex; smoothly rounded apically; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long; hind tarsal segment 1 longer than segment 2 and segment 3 combined, and last.

Distribution: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, Laos, Vietnam and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 13.10.2007(1♂), Kamphaeng Phet Prov.: Khosam Pi Nakhon, 11.04.2003(1♀), Phitsanulok Prov.: Nakhon Thai, 1.03.2003(1♂).

Remark: This species is very distinct characters of each genus and lateral sides of frons furnished with a cluster of whitish pubescence; a broad longitudinal yellowish band is present on middle and a pair of yellowish spots are placed on middle line of pronotum; elytra are furnished with a oval blackish pubescence spot on

each humeral angle, a irregular blackish band running from each lateral side of scutellum and a pair of irregular and zigzag bands above middle line. Specimens were collected from mid and continued to late summer, and late rainy seasons.

Microlenecamptus signatus (Aurivillius, 1914)

Figures 59C-D, 105E-F

Cylindrepomus signatus Aurivillius, 1914, *Arkiv Zool.* 8(29): 25.

Microlenecamptus signatus: Breuning, 1940, l.c., 560, fig. 580.

Description: *Body* length 13-16 mm and breadth 3-4 mm, dark reddish brown to black; head covered with whitish brown pubescence; antennal segments 1-4 whitish brown pubescence; antennal segments 5-11 reddish brown pubescence; pronotum covered with white reddish brown pubescence; scutellum covered with whitish pubescence; elytra covered with dark reddish brown pubescence, furnished with whitish pubescence bands and spots with following: 1st a small spot on each side of scutellum; 2nd a uncontinued curved band behind each 1st band, starting from 1/5 of each elytron, gradually curved to near internal suture at middle line; 3rd a transverse slightly curved band behind middle line on each elytron, and then running continued backward along internal suture to apex, and running forward along lateral suture to behind middle line; 4th a small spot on each humeral angle; 5th a very narrow and short band at middle line on each lateral side; ventral surfaces covered with silvery white pubescence; legs covered with silvery white pubescence.

Head slightly broader than prothorax, finely granulate; frons broader than long; genae about 1/5 as deep as eye-lobes; antennal tubercles moderately separated; antennal supports strongly raised; anterior margin concave; a narrow and shallow groove running from frons to vertex. Antennae about 2.8 times as long as body in male, slightly longer than body in female; segment 1 short, asperated on external side, gradually thicken to 2/3 of segment and gradually narrow to tip; segment 3 about 2.3 as long as segment 1, subcylindrical, slightly swollen at tip; segment 4 shorter than

segment 3; segment 5 slightly longer than segment 4; segments 5-10 increasing in length; segment 11 as long as segment 3. *Pronotum* narrower than elytra, longer than broad, finely granulate, anterior margin as broad as posterior margin, distinctly constrict at basal portion; disc unevenly and slightly convex, longitudinal and slightly raised groove on middle, running from apical margin to basal margin; apical margin straight; basal margin sinuated; lateral sides slightly sinuated, without toothed. Scutellum hemicircular. *Elytra* gradually narrow at sides, starting from humeral angles to apex, slightly subtruncated at tip without toothed, rather punctured at each side of scutellum and punctures getting finer toward each sides and apices; basal margin substraight; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, stout; femora swollen; hind tarsal segment 1 slightly shorter than segment 2 and segment 3 united, longer than last.

Distribution: Myanmar, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 8.03.2002(1♀), Lampang Prov.: Chae Son, 8.07.2004(1♂), Lamphun Prov.: Thoen, 2.03.2004(1♂), Phayao Prov.: Chiang Kham, 9.01.2004(1♀).

Remark: This species is very distinct characters of antennae are very long; 1st - 4th antennal segments are covered whitish brown pubescence; 5th - 11th antennal segments are covered with reddish brown pubescence; elytra are covered with dark reddish brown pubescence; a small spot is placed on each side of scutellum; a transverse slightly curved band is placed behind middle line on each elytron; a small spot is placed on each humeral angle. Specimens were collected from mid summer rainy and continued to late winter seasons.

Mispila curvilinear Pascoe, 1869

Figure 58J

Mispila curvilinear Pascoe, 1869, *Ann. Mag. Nat. Hist.* ser. 4, 4: 206.-
Breuning, 1965, l.c., 474.

Alidus multilineatus Pic, 1925, *Mel. Exot. Ent.* 43: 24.

Description: *Body* length 18.5 mm and breadth 7 mm, dark reddish brown; head covered with unevenly and densely reddish brown pubescence; antennal segments 1-3 dark reddish brown, covered with dark reddish brown pubescence; antennal segments 4-11 reddish brown, covered with reddish brown pubescence; pronotum furnished with longitudinal pubescence bands with following: 1st a narrow golden reddish brown pubescence band at middle, running from apical margin to basal margin; 2nd a broad reddish brown pubescence band on each side 1st band; 3rd a broad dark reddish brown pubescence band on each external side of each 2nd band; 4th a very broad golden reddish brown pubescence band on each lateral side; basal margin furnished with golden reddish brown throughout; scutellum covered with reddish brown pubescence; elytra covered with golden brown pubescence, furnished with densely brownish pubescence bands with following: A broad curved band, starting from each humeral angle, gradually curved to middle, and touching inner suture, and then together with each a curve band, interspace between curved bands and basal margin covered with longitudinal brownish pubescence bands alternated with dark reddish brown pubescence bands; a narrow and transverse brownish pubescence stripe at 3/4 of elytra; scattered with densely dark reddish brown spots throughout, somewhat spots united; ventral surfaces covered with golden brown pubescence; legs covered with golden brown pubescence, scattered with densely dark reddish brown pubescence spots throughout.

Head slightly narrower than prothorax, closely and fairly deep punctures throughout; frons slightly broader than long; anterior margin slightly concave at middle; genae about 1/4 as deep as eye-lobes; antennal tubercles widely separated; a fairly deep groove running from frons to vertex. Antennae slightly longer than body; segment 1 scattered with moderately punctured, gradually thicken to tip; segment 3 slightly shorter than segment 1, slightly swollen at tip; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, as broad as long, slightly convex, scattered with fairly deep punctures; anterior margin as broad as posterior margin; apical margin swollen

at middle; basal margin sinuated; lateral sides slightly swollen without toothed. Scutellum hemicircular. *Elytra* subparallel, smoothly rounded apically; interspace between basal margin and curved band furnished with five longitudinal rows of granules, somewhat granulated alternated with punctured; disc scattered with moderately deep punctures throughout; basal margin slightly sinuated; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, stout; hind tarsal segment 1 shorter than segment 2 and segment 3 united, last longest.

Distribution: India, Cambodia, Vietnam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Sutep, 9.10.2002(1♂, 1♀).

Remark: This species is very distinct a character of elytra are distinctly furnished with a broad curved band on anterior portion. Specimens were collected in late rainy season.

Mispila kamvengal Breuning, 1962

Figures 58K-L

Mispila (s. str.) *khamvengae* Breuning, 1962, *Bull. Soc. R. Sci. Nat.*

Laos 5: 57 (Laos).

Description: *Body* length 16-18 mm and breadth 5-7 mm, dark reddish brown to black; head black, covered with brown hairs; clypeus dark reddish brown, glabrous; labrum dark reddish brown, covered with reddish brown hairs; antennal segments 1-4 black, covered with short brownish pubescence, ventral sides furnished with long brown hairs; antennal segments 5-11 brown, covered with short brownish pubescence, ventral sides furnished with long brown hairs; pronotum black, covered with brownish pubescence, furnished with a longitudinal blackish pubescence band at each side, running from above middle line to basal margin and touching; scutellum black, covered with brownish pubescence; elytra black, pale at apical portion, covered with

unevenly whitish brown pubescence, darker on apical portion behind middle, furnished with transversely zigzag whitish pubescence line at 3/4 of elytra; a pair of densely whitish spots on apical portion; ventral surfaces black, covered with pale brownish pubescence; legs black, covered with pale brownish pubescence.

Head: Frons finely punctured, furnished with closely and roughly punctured, broader than long, anterior margin substraight; vertex finely punctured; a narrow and shallow groove running from frons to vertex; genae about 1/2 as deep as eye-lobes; antennal tubercles widely separated and slightly raised, asperate. Antennae slightly longer than body; segment 1 asperate, gradually swollen to apex; segment 3 finely punctured, as long as segment 1; segment 4 longer than segment 3; segment 5 shorter than segment 4; segments 5-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, unevenly furnished with a pair of tubercles on middle line; a irregular fovea behind middle line; slightly depressed along above of a pair of tubercles; anterior margin swollen at middle, slightly raised; basal margin substraight; lateral sides slightly sinuate without toothed. Scutellum hemicircular. *Elytra* about 1.7 times as long as broad, subparallel to near apex, smoothly rounded apically, rather granulate at each side of scutellum and toward to humeral angles; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long; hind tarsal segment 1 shorter than segment 2 and segment 3 combined, last longest.

Distribution: Laos and Thailand (new record).

Material examined: Thailand: Lampang Prov.: Thoen, 2.03.2004(1♀), Phrae Prov.: Wang Chin, 6.08.2004(1♀).

Remark: This species is very distinct a character of pronotum is unevenly furnished with a pair of tubercles on middle line and a irregular fovea is placed behind middle line. Specimens were collected in mid rainy and summer seasons.

Moechotypa coomani Pic, 1934

Figures 58D, 124A-B

Moechotypa coomani Pic, 1934, Mel. Exot. Ent. 63: 14.-Breuning, 1942, l. c., 94.

Description: *Body* length 23-25 mm and breadth 9-10 mm, black; frons covered with transverse dark brown pubescence band alternated with transverse brownish pubescence band; vertex covered with brownish pubescence, furnished with densely dark brown pubescence band above occiput; genae covered with dark brown pubescence, paler on anterior and posterior margins; antennal segments 1-10 each covered with brownish pubescence band alternated with dark reddish brown pubescence band; antennal segment 11 covered with dark reddish brown pubescence; pronotum covered with brownish pubescence, furnished with a largely and irregularly hemicircular dark brown pubescence band at middle; scutellum covered with dark brown pubescence, furnished with brownish pubescence at lateral sides; elytra covered with brownish pubescence, darker on lateral sides and margins; disc furnished with a irregularly subrectangular dark brown pubescence band on middle of each side; a row of cluster of long dark brown hairs at each side behind scutellum; densely dark brown pubescence spots throughout; ventral surfaces covered with brownish pubescence, furnished with dark brown pubescence along lateral sides and middle of abdominal sternite; femora and tibiae covered with densely brownish pubescence band alternated with densely dark brown band; tarsal segments 1-2 covered with brownish pubescence; tarsal segments 4-5 covered with dark reddish brown pubescence.

Head slightly narrower than anterior margin of prothorax; frons longer than broad, shallowly but sparsely punctured; genae about 1/2 as deep as eye-lobes, shallowly but sparsely punctured; a narrow and shallow groove running from frons to vertex; a row of shallowly punctured above each eye; antennal tubercles moderately separated and slightly raised. Antennae shorter than body; segment 1 shorter, oval shape; segment 3 about 2.3 times as long as segment 1; segment 4 shorter than segment 3; segments 4-11 decreasing in length. *Pronotum* narrower than elytra,

unevenly convex with three slightly raised tubercles at middle line; anterior margin slightly narrower than posterior margin; anterior margin slightly concave at middle and posterior margin sinuate; shallowly and sparsely punctured at sides; distinctly constrict at basal margin; lateral sides uneven with two small tubercles at each side. Scutellum hemicircular. *Elytra* about 2 times as long as broad, unevenly rounded at apex; disc uneven with irregular and small foveae throughout, scattered moderately punctured; humeral angles slightly depressed and moderately raised forward; lateral sides uneven, slightly depressed behind humeral angles; each elytron furnished with longitudinal ridges; sutural end angles without toothed. *Ventral surfaces* finely punctured, moderately but sparsely punctured. *Legs* fairly long and stout.

Distribution: Vietnam, Laos and Thailand.

Methrial examined: Thailand: Chiang Mai Prov.: Samoeng, 20.01.2002(1♂, 1♀), Lampang Prov.: Thoen, 2.03.2004(1♂).

Remark: This species differs from *M. suffusa* in having pronotum is furnished with a largely and irregularly hemicircular dark brown pubescence band at middle. Specimens were collected in late winter and mid summer seasons.

Moechotypa suffusa (Pascoe, 1862)

Figures 58E-F, 124C-D

Niohona suffuse Pascoe, 1862, *J. Ent.* 1: 336.-Breuning, 1942, l. c., 91.-Gressitt, 1951. l. c., 451.

Moechotypa arida Thomson, 1864, *Syst. Cer.*, 55.-Lacordaire, 1872, *Gen. Col.* 9: 519, pl. 102. fig. 2.

Description: *Body* length 16-28 mm and breadth 7-10 mm, reddish brown; head covered with brownish pubescence; frons furnish with a broad transverse dark reddish brown pubescence band at middle; vertex furnished with a transversely zigzag

dark reddish brown pubescence band near occiput; antennal segment 1 covered with brownish pubescence, furnished with densely dark reddish brown pubescence at middle; antennal segment 2 covered with dark reddish brown pubescence; antennal segments 3-11 each segment covered with brownish pubescence on basal portion and dark reddish brown pubescence on apical portion; pronotum covered with brownish pubescence, furnished with irregular and longitudinal dark reddish brown pubescence stripes with following: 1st a irregularly narrow stripe at middle; 2nd a irregular and broader band than 1st stripe on each side; scutellum covered with blackish pubescence, furnished with whitish brown to brownish pubescence at lateral sides; elytra covered with brownish pubescence for most parts except anterior portion about 1/6 of elytra which is covered with unevenly dark reddish brown pubescence; disc furnished with a transverse row of small spots at middle and scattered throughout, somewhat spots united; each elytron furnished with longitudinal pinkish red pubescence and narrow stripes with following: 1st a narrow stripe running along internal sutures; 2nd four longitudinal pinkish pubescence stripes on each elytron; a irregularly large mark on each side at apice; ventral surfaces brownish pink pubescence, furnished with a blackish spot on middle of meta thoracic sternite and 2nd-5th abdominal sternites; legs covered with brownish pink pubescence alternated with blackish pubescence.

Head slightly narrower than anterior margin of prothorax; frons strongly depressed at anterior margin, longer than broad, scattered deeply punctured on anterior and posterior margin; genae about 1/2 as deep as eye-lobes; anterior margin swollen; antennal tubercles widely separated, strongly depressed between antennal tubercles; antennal supports strongly raised; a deep groove running from frons to vertex. Antennae longer than body in male, shorter than body in female; segment 1 short, oval shape; segment 3 about 2.3 times as long as segment 1, cylindrical; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10 in male, short and as long as segment 10 in female. *Pronotum* narrower than elytra, unevenly convex with three slightly raised tubercles at middle line; anterior margin narrower than posterior margin; anterior margin slightly concave at middle; posterior margin sinuate; minutely and shallowly punctured at sides;

distinctly constricted at basal margin; a transversely zigzag groove running on anterior portion; a transversely substraight groove running on posterior portion; lateral sides uneven with two small tubercles at each side. Scutellum hemicircular. *Elytra* about 2 times as long as broad, gradually narrow at sides from humeral angles to apex, smoothly rounded apically, rather punctured at each side of scutellum; disc furnished with two tubercles at each side of scutellum, covered with blackish pubescence; basal margin sinuated; sutural end angles without toothed. *Ventral surfaces* finely punctured, moderately but sparsely punctured; basal angles of meta thoracic sternite strongly raised. *Legs* fairly long, stout; hind tarsal segment 1 shorter than segment 2 and segment 3 united, last longest.

Distribution: Thailand, China, Indonesia and Laos.

Material examined: Thailand: Chiang Mai Prov.: Doi Saket, 24.08.2007(1♀), Kamphaeng Phet Prov.: Khlong Lan, 10.05.2004(1♂), Mae Hong Son Prov.: Mae Sariang, 26.08.2007(2♂, 1♀), Phetchabun Prov.: Nam Nao, 15.06.2007(1♂), Tak Prov.: Umphang, 30.06.2007(1♂, 3♀), Phop Phra, 5.09.2005(1♀).

Remark: This species differs from *M. coomani* in having pronotum is furnished with a irregularly brown narrow stripe at middle, a irregular and broader brown band on each side. Specimens were collected in rainy season.

Monochamus bimaculatus Gahan, 1888

Figure 63C

Monochamus bimaculatus Gahan, 1888, *Ann. Mag. Nat. Hist.* ser. 6, 2: 260.-Schwarzer, 1925, *Ent. Blatt.* 2: 20.-Breuning, 1943, l.c., 435.-Gressitt, 1951, l.c., 393.

Description: *Body* length 15-17 mm and breadth 5-6 mm, dark reddish brown, covered with dark reddish brown pubescence; scutellum covered with pale reddish brown pubescence; elytra furnished with a pair of largely oval blackish pubescence

bands behind middle line; tibiae and tarsal segments covered with pale reddish brown pubescence.

Head slightly narrower than prothorax, moderately and deeply punctured; frons slightly convex, broader than long; anterior margin substraight; genae about 1/3 as deep as eye-lobes; antennal tubercles moderately separated; antennae supports strongly raised; a narrow and shallow groove running from frons to vertex. Antennae about 2 times as long as body; segment 1 unevenly punctured, strongly arched at inner side of basal margin, gradually thicken to tip, slightly oblique truncation with closely and roughly punctured; segment 3 about 1.7 times as long as segment 1, subcylindrical; segment 4 shorter than segment 3; segment 5 shorter than segment 4; segments 5-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, broader than long, unevenly convex with fairly deep punctured throughout, distinctly constrict at basal portion; a transverse and fairly deep groove running on apical portion; a pair of small tubercles on middle above basal margin; apical and basal margin substraight; lateral sides swollen, with moderately and obtusely toothed. Scutellum hemicircular. *Elytra* parallel sides at basal 3/4, smoothly rounded apically, rather deeply punctured at each side of scutellum and punctures getting finer toward each sides and apices; minutely granulate behind basal margin and humeral angles; slightly depressed behind scutellum and above middle line areas; slightly depressed at middle of basal margin of each elytron; basal margin substraight; slightly depressed at apex; sutural end angles without toothed. *Ventral surfaces* scattered with moderately and deeply punctured, sparsely on abdominal sternites. *Legs* fairly long, stout; femora slightly swollen; fore tibiae strongly swollen at apical margin; hind tarsal segment 1 as long as segment 2 and segment 3 united, and last.

Distribution: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, Laos, Vietnam and Thailand.

Material examined: Thailand: Chiang Rai Prov.: Wiang Pa Pao, 23.08.2003(1♂), Lamphun Prov.: Mae Tha, 7.04.2002(1♀).

Remark: This species differs from *M. guerryi* in having body is dark reddish brown and covered with dark reddish brown pubescence; elytra are furnished with a pair of largely oval blackish pubescence bands are placed behind middle line. Specimens were collected in late summer and mid rainy seasons.

Monochamus dubius Gahan, 1895

Figures 63B, 124E-F

Monochamus dubinus Gahan, 1895, *Ann. Mus. Civ. Genova* 35: 35.

-Breuning, 1943, l.c., 453.-Gressitt, 1951, l.c., 394.

Monochamus sintikensis Matsushita, 1939, *Ins. Matsumur.* 13: 58.

Description: *Body* length 16 mm and breadth 5 mm, reddish brown to black; head black, covered with brownish pubescence; furnished with two longitudinal brown pubescence bands on above each eye; antennae black, covered with reddish brown pubescence, furnished with densely whitish pubescence on basal of each antennal segment except segment 1 and segments 10-11; pronotum black except basal portion which is reddish brown, covered with reddish brown pubescence; disc furnished with a longitudinal brownish pubescence band on each upper sides of lateral side, under side furnished with densely longitudinal brownish pubescence band on each lateral side; scutellum black, covered with reddish brown pubescence; elytra dark reddish brown, covered with reddish brown pubescence, furnished with irregular brown spots scattered on disc; ventral surfaces dark brown, covered with brown pubescence; legs reddish brown and black on apical portion, covered with brown pubescence for most parts except apical portion of tibiae which is black pubescence.

Head slightly narrower than prothorax, granulate; frons slightly convex; a narrow and shallow groove running from frons to vertex; eyes small, oval shape; genae about 1/2 as deep as eye-lobes. Antennae about 2.5 times as long as body; segment 1 punctured, subtruncate at tip; segment 3 about two times as long as segment 1; segment 4 shorter than segment 3; segment 5 as long as segment 4;

segments 5-10 decreasing in length; segment 11 longest. *Pronotum* narrower than elytra, very finely and closely rugose, with a irregular tubercle at near basal margin; lateral sides with a moderately subacute tubercle at middle; basal collar about as broad as apical collar. Scutellum hemi-circular. *Elytra* about two times as long as broad, rather roughly punctured at each side of scutellum and punctures getting smaller towards each sides and apices; rounded apex; sutural end angles without toothed. *Ventral surfaces* finely granulate, furnished with very finely rugose on prosternum, metasternum and 1st abdominal sternum. *Legs* fairly long; femora moderately swollen; tibiae gradually extend from middle to apex; mid-tibia finished with a small tubercle.

Distribution: Myanmar, China, Vietnam, India, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Pahom Pok, 18.10.2006(1♂), Samoeng, 13.10.2007(1♂).

Remark: This species differs from *M. guerrii* in having body is reddish brown to black; elytra are covered with reddish brown pubescence and furnished with irregular brown spots are scattered throughout. Specimens were collected in late rainy season.

Monochamus guerrii Pic, 1903

Figures 63D-E, 118E-F

Monochamus guerrii Pic, M. 1903. *L'Échange, Revue Linnéenne*.19(221):121.

Melanauster granulipennis Breuning, 1938, *Novit. entomol.*, 8, 4-8 : 52 (nov, loc, div)

Anoplophora (Anoplophora) granulipennis ; Breuning, 1944, *Novit. entomol.*, 13, 107-137 : 289 (mod)

Monochamus beryllinus = *granulipennis* Breuning, 1938 ; Lingafelter & Hoebeke,

2002, *Entomol. Soc. Wash.* : 43

Monochamus guerriyi ; Lingafelter & Hoebeke, 2002, *Entomol. Soc. Wash.* : 100 (ill)

Monochamus guerriyi = *granulipennis* Breuning, 1938 ; Hudepohl & Heffern, 2002, *Insecta Mundi*, 16, 4 : 248

Monochamus guerriyi ; Hudepohl & Heffern, 2002, *Insecta Mundi*, 16, 4 : 248
(syn, div)

Description: *Body* length 18-28 mm and breadth 6-8 mm, black, covered with shiny green pubescence tinged with of purple bronze; antennal segments 1-2 covered with shiny blue green pubescence tinged with of purple bronze; antennal segments 3-9 each covered shiny blue hairs alternated with reddish brown hairs; antennal segments 10-11 each covered with reddish brown pubescence; antennal segments 2-11 each covered with shiny blue hairs, furnished with reddish brown hairs at apical margin; ventral surfaces covered with pale shiny green pubescence tinged with bronze; tarsal segments covered with shiny blue hairs tinged with of purple bronze.

Head as broad as prothorax, finely punctured; frons as broad as long, anterior margin slightly concave; genae about 1/2 as deep as eye-lobes in male, 2/3 in female; vertex minutely and moderately punctured above upper eye-lobes, furnished with dark hair in each the bottom; antennal tubercles fairly separated; antennal supports strongly raised; a shallow groove running from frons to vertex. Antennae about 2 times as long as body in male, slightly longer than body in female; segment 1 short, finely punctured, gradually thicken to tip, slightly oblique truncation at apex with closely and roughly punctured; segment 3 about 1.8 times, cylindrical; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longest in male, shorter than segment 3 in female. *Pronotum* narrower than elytra, broader than long, slightly convex; disc covered with moderately punctured, furnished with hair in each the bottom; posterior margin slightly narrower than anterior margin; a short longitudinal groove at middle; apical margin straight; basal margin slightly sinuated;

lateral sides slightly swollen with moderately and acutely toothed. Scutellum subtriangular. *Elytra* subparallel, smoothly rounded apically, strongly corrugate-vermiculate throughout; basal margin substraight; humeral angles slightly raised; sutural end angles without toothed. *Ventral surfaces* finely punctured; apical margin of 5th abdominal sternite wide and slightly concave in male, narrower and strongly concave in female. *Legs* fairly long, stout; hind tarsal segment 1 as long as segment 2 and segment 3 united, and last.

Distribution: Myanmar, China and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Fang, 2.03.2002(1♂, 1♀), 6.07.2005(1♂, 2♀), Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♂, 1♀), 23.08.2003(1♀).

Remark: This species is very distinct a character of body is black and covered with shiny green pubescence tinged with of purple bronze. Specimens were collected from mid summer, early and continued to mid rainy seasons.

Nipholophia chujoi Gressitt, 1951

Figure 62H

Nipholophia chujoi Gressitt, 1951, *Longicornia*, Paris, 2:1-667. 22 pl.

Description: *Body* length 11 mm and breadth 3 mm, reddish; frons covered with brownish pubescence; genae and vertex covered with brownish hairs alternated with whitish hairs throughout; antennae covered with brownish pubescence, furnished with densely whitish pubescence spots throughout, somewhat united; pronotum covered with brownish pubescence, furnished with densely whitish hairs on apical portion and middle; anterior margin furnished with densely dark brown pubescence spots; scutellum covered with reddish brown pubescence; elytra covered with brownish pubescence, furnished with densely whitish pubescence alternated with pale brownish pubescence bands on anterior portion behind scutellum, and behind middle

but not distinct; thoracic sternites and legs covered with whitish pubescence; abdominal sternites covered with brownish pubescence; femora furnished with densely brownish pubescence spots, somewhat united on inner sides.

Head narrower than prothorax, finely punctured, sparsely large punctures; frons as broad as long; anterior margin slightly raised, substraight, and slightly narrower than posterior margin, lateral sides slightly oblique; genae about 1/5 as deep as eye-lobes; a narrow and shallow groove running from frons to vertex; antennal tubercles widely separated. Antennae shorter than body; antennal segment 1 finely punctured, subcylindrical; segment 3 about 1.1 as long as segment 1, slightly bend; segment 4 slightly longer than segment 3, slightly bend; segment 5 shorter than segment 4; segments 5-11 decreasing in length. *Pronotum* distinctly narrower than elytra; disc unevenly and moderately convex, with a longitudinal groove along middle separated to two areas, corrugate-vermiculate at lateral sides; anterior margin straight; posterior margin slightly sinuated; lateral sides unevenly and slightly swollen, each furnished with moderately toothed near apical margin; apical margin slightly narrower than basal margin. Scutellum subtrapezoidal, rounded at angles. *Elytra* distinctly concave from middle to 5/6 of eltra, and then swollen, and gradually narrow to apex; apex strongly depressed, truncated without toothed; minutely granulate at each side of scutellum; disc rather punctured at each side of scutellum and towards each sides and apices; basal margin sinuated; outer apical angles with slightly toothed; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* short: fore legs longest; hind tarsal segment 1 shorter than segment 2 and segment 3 united, last longest.

Distribution: Taiwan and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 5.09.2004(1♀).

Remark: This species differs from Genus *Niphona* in having lateral sides of pronotum are unevenly and slightly swollen, each furnished with a moderate dentation near apical margin. The only one specimen was collected in late rainy season.

Niphona falaizei Breuning, 1962

Figures 62A, 125A-B

Niphona falaizei Breuning, 1962, *Bull. Soc. R. Sci. Nat. Laos* 2: 67 (Laos).

Description: *Body* length 20-25 mm and breadth 6-7 mm, black; head covered with unevenly whitish hairs alternated with yellowish brown hairs throughout; antennae dark reddish brown; segment 1-3 covered with whitish hairs alternated with yellowish brown hairs throughout; segments 4-11 each covered with whitish pubescence band alternated with reddish brown pubescence band; pronotum covered with unevenly whitish hairs alternated with yellowish brown hairs throughout; scutellum covered with reddish brown hairs at middle, pale brown hairs along margin; elytra covered with unevenly whitish hairs alternated with yellowish brown hairs throughout, furnished with a large whitish pubescence spot on each side, reaching to external sutures and touching, somewhat reaching to sutures but not touching; thoracic sternites dark brown, covered with brownish pubescence; abdominal sternites reddish brown, covered with brownish pubescence; legs dark brown, covered with brownish pubescence.

Head narrower than prothorax, punctured; frons as broad as long, lateral margins and anterior margin straight; genae about 1/4 as deep as eye-lobes; a moderately deep groove running from frons to vertex; antennal tubercles widely separated; antennal supports slightly raised. Antennae slightly longer than body in male, slightly shorter than body in female; segment 1 short, oval shape, finely punctured; segment 3 about 1.5 times as long as segment 1, cylindrical, slightly swollen at tip; segment 4 about as long as segment 3; segment 5 shorter than segment 4; segments 5-10 decreasing in length; segment 11 about as long as segment 10 in male, shorter segment 10 in female, arched at tip. *Pronotum* slightly narrower than elytra, shallowly corrugate-vermiculate; a pair of irregularly oval feveae at middle near apical margin; a pair of irregular feveae at middle near basal margin; minutely granulated on posterior portion and lateral sides; apical margin narrower than basal margin; distinctly constrict at basal margin more than apical margin; apical margin

substraight; basal margin sinuated; lateral sides slightly unevenly swollen without toothed. Scutellum hemicircular. *Elytra* parallel, slightly obliquely apical truncation without toothed, rather punctured at each side of scutellum and towards each sides and apices; basal margin sinuated; outer apical angles without toothed; sutural end angles with slightly toothed. *Ventral surfaces* finely punctured. *Legs* short, stout; inner side of mesotibiae strongly arched at tip in male, slightly arched in female; tarsal segment 1 shorter than segment 2 and segment 3 united, last longest.

Distribution: Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 20.01.2002(1♂), Mae Chaem, 1.03.2006(1♀), Doi Inthanon, 15.08.2006(1♂), Doi Saket, 24.08.2007(1♂), Tak Prov.: Umphang, 30.06.2007(1♀).

Remark: This species is very distinct characters of elytra are covered with unevenly whitish hairs alternated with yellowish brown hairs throughout and a large whitish pubescence spot is present on each side. Specimens were collected from late winter, mid summer, early and continued to mid rainy seasons.

Niphona hookeri Gahan, 1900

Figure 62E

Niphona hookeri Gahan, 1900, *Ann. Mag. Nat. Hist.* ser. 7, 5: 351.-Gressitt, 1951, l.c., 456.-Breuning, 1962, l.c., 402.

Description: *Body* length 23 mm and breadth 8 mm, reddish brown to dark reddish brown; head dark reddish brown covered with yellowish brown hairs alternated with whitish hairs throughout, furnished with short whitish pubescence stripes on vertex; antennae dark reddish brown; segments 1-4 covered with brownish pubescence, furnished with whitish pubescence spots throughout, somewhat united, under sides furnished with slivery brown hairs; segments 5-11 covered with slivery brown pubescence, ventral furnished with long reddish brown hairs; pronotum dark

reddish brown, covered with yellowish brown hairs alternated with whitish hairs throughout, furnished with whitish pubescence spots in each the bottom of punctured; scutellum covered with whitish pubescence, furnished with yellowish brown hairs on middle; elytra reddish brown to dark brown, a largely dark reddish brown pubescence area at middle, furnished with a pair of densely whitish bands alternated with narrow and oblique yellowish brown pubescence stripes at middle; behind a largely dark reddish brown pubescence area to apex covered with dark brown pubescence, furnished with whitish hairs throughout; lateral sides and behind scutellum areas covered with whitish pubescence and then covered with dark brown hairs reaching to humeral angles and behind areas; lateral sides beginning at 1/4 of elytra to apex covered with whitish pubescence, furnished with brownish pubescence spots, somewhat united especially at apical portion; a pair of clusters of blackish hairs at 1/4 of elytra behind scutellum; prothoracic sternite covered with brownish pubescence; meso- and meta sternites covered with yellowish brown pubescence for most parts except at middle which is covered with whitish pubescence; abdominal sternites covered whitish pubescence, scattered with yellowish brown spots; legs covered with whitish pubescence except mesotibiae which is covered with dark brown pubescence, furnished with yellowish brown pubescence spots, somewhat united.

Head as broad as anterior margin of prothorax, finely punctured, moderately but sparsely punctured; frons slightly broader than long, anterior margin as broader as posterior margin; anterior edge of frons broad and substraight, furnished with long pale brown hairs; genae about as deep as eye-lobes; antennal tubercles widely separated; antennal supports slightly raised. Antennae longer than a half of body; segment 1 short, swollen at middle, finely punctured; segment 3 about 1.3 times as long as segment 1; segment 4 as long as segment 3, slightly curved; segment 5 shorter than segment 4; segments 5-10 decreasing in length; segment 11 slightly longer than segment 10. *Pronotum* narrower than elytra, broader than long; anterior margin slightly narrower than posterior margin; disc covered with strongly rugose-punctate throughout; apical margin substraight, slightly concave at middle; basal margin sinuated; lateral sides unevenly swollen without toothed. Scutellum hemicircular. *Elytra* distinctly narrow at apex, obliquely truncated without toothed,

rather roughly punctured at each side of scutellum and punctures getting finer towards each sides and apices; a pair of irregularly and strongly raised tubercles at 1/5 of elytra behind scutellum; humeral angles slightly raised; outer apical angles with slightly toothed; sutural end angles with moderately toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, stout; tarsal segment 1 shorter than segment 2 and segment 3 united and last.

Distribution: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, Laos, Vietnam and Thailand.

Material examined: Thailand: Chiang Mai, Prov.: Doi Inthanon, 15.08.2006(1♀).

Remark: The species differs from *N. longesignata* in having elytra are furnished with a largely dark reddish brown pubescence area at middle. The only one specimen was collected in mid rainy season.

Niphona longesignata Pic, 1936

Figure 62D

Niphona longesignata Pic, 1936, *Echange* 52 (466): 31.-Breuning, 1962, l.c., 403.

Description: *Body* length 26-28 mm and breadth 6-8 mm, reddish brown; head covered with yellowish brown pubescence; antennal segments 1-4 covered with yellowish brown pubescence, furnished with densely whitish spots throughout; antennal segments 5-11 covered with silvery brown pubescence; ventral of antennae furnished with long silvery pubescence; pronotum covered with brownish pubescence, furnished with whitish pubescence spots in each the bottom of punctured; scutellum covered with yellowish brown pubescence; elytra covered with yellowish brown pubescence for most parts except along middle from behind scutellum to apex which is covered with dark brown pubescence about 1/4 as broad as elytra; disc furnished with dense pubescence spots and bands with following: Two clusters of long dark

brown hairs behind scutellum; a irregularly and densely whitish broad band at middle, somewhat reaching to each side behind humeral angle; whitish pubescence spots in each the bottom of punctured; prothoracic sternite covered with brownish pubescence; meso- and meta sternites covered with yellowish brown pubescence for most parts except at middle which is covered with whitish pubescence; abdominal sternites covered whitish pubescence, furnished with yellowish brown pubescence along lateral sides, scattered with yellowish brown spots; legs covered with yellowish brown pubescence, furnished with whitish pubescence spots, somewhat united.

Head as broad as anterior margin of prothorax, finely punctured; frons as broad as long, anterior margin slightly broader than posterior margin; anterior edge of frons broad and slightly concave at middle, furnished with long pale brown hairs; genae about 1/3 as deep as eye-lobes; antennal tubercles widely separated; antennal supports slightly raised. Antennae slightly shorter than body; segment 1 short, gradually swollen to tip, finely punctured; segment 3 about 1.3 times as long as segment 1; segment 4 as long as segment 3, slightly curved; segment 5 shorter than segment 4; segments 5-11 decreasing in length; segment 11 slightly arched at tip. *Pronotum* narrower than elytra, broader than long; anterior margin as broad as posterior margin; disc covered with rugose-punctate throughout; apical margin substraight, slightly concave at middle; basal margin sinuated; lateral sides unevenly swollen without toothed. Scutellum hemicircular. *Elytra* distinctly narrow at apex, obliquely truncated without toothed, rather roughly punctured at each side of scutellum and punctures getting finer towards each sides and apices; humeral angles slightly raised; outer apical angles with strongly and obtusely toothed; sutural end angles with slightly toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, stout; tarsal segment 1 shorter than segment 2 and segment 3 united and last.

Distribution: Vietnam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 1.03.2006(1♂), 5.09.2004(1♀).

Remark: The species differs from *N. hookeri* in having elytra are covered with yellowish brown pubescence for most parts except along middle from behind scutellum to apex which is covered with dark brown pubescence about 1/4 as broad as elytra. Specimens were collected in mid summer and late rainy seasons.

Niphona malaccensis Breuning, 1938

Figures 62B-C, 125C-D

Niphona malaccensis Breuning, 1938, *Festschr. E. Strand.* 4: 240; 1962, l.c. 398.

Description: *Body* length 16-20 mm and breadth 4-6 mm, dark brown; body covered with pale reddish brown pubescence for most parts; ventral surfaces covered with pale brownish pubescence except middle of metasternum and along middle of abdominal sternites 1st-3rd which are sparse hairs.

Head slightly narrower than prothorax; frons as broad as long, slightly unevenly convex, covered with finely punctured, and furnished with minutely and moderately punctured; lateral margins slightly raised, substraight; anterior margin slightly raised, slightly concave at middle; genae about 1/4 as deep as eye-lobes; vertex finely punctured, furnished with minutely and moderately punctured; antennal tubercles widely separated; a narrow and shallow groove running from frons to vertex. Antennae slightly longer than body in male, shorter than body in female; segment 1 finely punctured, slightly arched at middle of inner side, suboval shape; segment 3 about 1.5 times as long as segment 1, cylindrical; segment 4 longer than segment 3 in male, slightly shorter than segment 3 in female, slightly arched; segment 5 shorter than segment 4; segments 5-10 decreasing in length; segment 11 slightly longer than segment 10, slightly arched at tip. *Pronotum* slightly narrower than elytra, unevenly convex; disc covered with corrugate-vermiculate, furnished with strong and longitudinal tubercle at middle, and then depressed from middle to basal margin but not touching; a short and strong tubercle at each side of a longitudinal tubercle; lateral sides unevenly swollen with minute small tubercles; under lateral sides each furnished with a moderate tubercle near apical margin; apical margin

swollen at middle; basal margin sinuated. Scutellum sub hemicircular. *Elytra* subparallel, slightly oblique truncation apically with small toothed; disc rather roughly punctured at each side of scutellum and punctures getting fine towards each sides and apices; each elytron furnished with distinct costae; outer apical angles with moderately toothed; sutural end angles with strongly and acutely toothed, slightly bend at tip. *Ventral surfaces* finely punctured; lateral sides of 2nd andominal sternite each furnished with strongly depressed with dark brown hairs in each the bottom in male, normal in female. *Legs* short, stout; femora slightly swollen at middle.

Distribution: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 1.10.2005(1♂), 8.03.2002(1♀), 2.06.2004(1♀), Mae Chaem, 1.03.2006(1♂), Lamphun Prov.: Mae Tha, 19.11.2004(1♂), Nan Prov.: Mae Charim, 11.06.2002(1♀).

Remark: This species is very distinct characters of body is covered with pale reddish brown pubescence for most parts; pronotum is covered with corrugate-vermiculate and a strong and longitudinal tubercle is present on middle; outer apical angles are furnished with a moderate dentation; sutural end angles are furnished with a strong and acuted dentation; each lateral side of 2nd andominal sternite is furnished with a strongly depressed with dark brown hairs in each the bottom in male. Specimens were collected in mid summer, early winter season, and early and late rainy seasons.

Niphona rondoni Breuning, 1962

Figures 62F-G, 125E-F

Niphona rondoni Breuning, 1962, *Bull. Soc. R. Sci. Nat. Laos* 2: 66 (Laos).

Description: *Body* length 18-25 mm and breadth 5-8 mm, black; head covered with reddish brown hairs alternated with whitish hairs throughout, furnished a pairs of

densely reddish brown pubescence bands on vertex; antennae covered with reddish brown pubescence, furnished with whitish pubescence spots alternated with yellowish brown small spots throughout, somewhat united; pronotum covered with brown hairs alternated with whitish hairs throughout; scutellum covered with reddish brown pubescence, sparsely furnished with whitish hairs; elytra covered with reddish brown pubescence, furnished with a whitish hair in each the bottom of punctured; a cluster of long dark brown hairs at each side of scutellum; a short and oblique dark brown pubescence stripe behind each a cluster of long dark brown hairs; a densely whitish pubescence alternated with a transversely zigzag pale reddish brown pubescence broad band at $3/4$ of elytra, about $1/5$ as broad as long of elytra; ventral surfaces covered with long brownish hairs for most parts except along middle of meta sternite and abdominal sternites; legs covered with dark brown pubescence, furnished with whitish pubescence spots, somewhat united.

Head narrower than prothorax, finely punctured, moderately and sparsely punctured; frons as broad as long, anterior margin as broad as posterior margin; anterior edge of frons broad and slightly concave at middle, furnished with long pale brown hairs; lateral sides slightly swollen; genae about $1/4$ as deep as eye-lobes; antennal tubercles widely separated; antennal supports slightly raised; apical margin of labum strongly concave. Antennae as long as body in male, shorter than body in female; segment 1 short, subcylindrical, finely punctured; segment 3 slightly longer than segment 1, cylindrical; segment 4 as long as segment 3, slightly curved; segment 5 shorter than segment 4; segments 5-11 decreasing in length; segment 11 slightly arched at tip. *Pronotum* narrower than elytra, broader than long; anterior margin narrower than posterior margin; disc unevenly convex, furnished with a small tubercles on each side at middle line; a pairs of irregular feveae at middle; a transverse and moderately deep groove on basal portion; apical margin substraight, concave at middle; basal margin sinuated; lateral sides unevenly swollen with toothed behind apical margin. Scutellum hemicircular. *Elytra* distinctly narrow at apex, subtruncated apically without toothed, rather roughly punctured at each side of scutellum and towards each sides and apices; humeral angles slightly raised; outer apical angles without toothed; sutural end angles with slightly toothed. *Ventral*

surfaces finely punctured. *Legs* fairly long, stout; inner sides of meso tibiae normal at tip in male; tarsal segment 1 shorter than segment 2 and segment 3 united, last longest.

Distribution: Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 2.03.2002(1♂, 2♀), 6.07.2005(1♀), Mae Chaem, 5.09.2004(1♂), 1.03.2006(1♀), Doi Saket, 24.08.2007(1♂), Mae Hong Son Prov.: Mae Saring, 26.08.2007(1♂), Phetchabun Prov.: Nam Nao, 15.06.2007(1♂, 1♀). Tak Prov.: Umphang, 30.06.2007(1♀).

Remark: This species is very distinct characters of elytra are covered with reddish brown pubescence; a cluster of long dark brown hairs is present on each side of scutellum and a transversely zigzag pale reddish brown pubescence broad band is present on 3/4 of elytra which is about 1/5 as broad as elytra length. Specimens were collected in mid summer and rainy seasons.

Nupserha fricator (Dalman, 1817)

Figures 60A-B, 134E-F

Saperda fricator Dalman, 1817, *Schönherr, Syn. Ins.* 1(3): Append., 183.

Sphenura fricator: Castelnau, 1840, *Hist. Nat. Col.* 2: 489.

Nupserha fricator: Pascoe, 1867, *Trans. Ent. Soc. Lond.* Ser. 3, 3: 414.-Gressitt, 1942, *Lingn. Nat. Hist. Surv. Spec. Publ.* 8: 36; 1948, *Lingn. Sci. J.* 22: 53, 60, pl. II, fig. 3; *Longicornia* 2: 582.-Breuning, 1960, l.c., 20, fig. 1.

Description: *Body* length 9-10.5 mm and breadth 2-2.5 mm, head black, covered with blackish pubescence, tinge with silvery; antennae dark reddish brown, covered with dark reddish brown pubescence; pronotum yellowish brown, covered with yellowish brown pubescence; scutellum yellowish brown, covered with

yellowish brown pubescence; elytra pale yellowish brown, covered with pale yellowish brown pubescence, furnished with a transverse dark reddish brown band about $\frac{2}{5}$ as broad as long of elytra at apex; thoracic sternite pale yellowish brown, darker on meta thoracic sternite, covered with yellowish brown pubescence; 1st-4th abdominal sternite pale yellowish brown, covered with yellowish brown pubescence; 5th abdominal sternite dark reddish brown for most parts, covered with dark reddish brown pubescence, furnished with dark reddish brown pubescence on apical portion; femora yellowish brown, covered with yellowish brown pubescence; tibiae reddish brown, covered with yellowish brown pubescence, pale at basal margin; tarsal segment reddish brown, covered with dark reddish brown pubescence.

Head broader than prothorax, deeply punctured throughout; frons distinctly broader than long, fairly convex, anterior margin substraight; genae about $\frac{1}{3}$ as deep as eye-lobes; antennal tubercles widely separated; antennal supports slightly raised; a narrow and shallow groove running from frons to vertex. Antennae slightly longer than body; segment 1 finely and closely punctured, gradually thicken to tip; segment 3 as long as segment 1, gradually thicken to tip; segment 4 slightly longer than segment 3; segment 5 shorter than segment 4; segments 5-10 decreasing in length; segment 11 as long as than segment 10. *Pronotum* narrower than elytra, scattered with punctures, broader than long, anterior margin as broad as posterior margin, distinctly constrict at basal margin; apical margin straight; basal margin substraight; lateral sides slightly swollen without toothed. Scutellum subtrapezoidal. *Elytra* distinctly narrow at apex, gradually narrow sides from humeral angles to apex, strongly oblique truncation without toothed; each elytron furnished with seven longitudinal rows of deep punctures; strongly depressed at sides; outer apical angles with very strongly and acutely toothed; sutural end angles with fairly and acutely toothed. *Ventral surfaces* finely punctured. *Legs* short, weak; hind tarsal segment 1 as long as segment 2 and segment 3 united, last longest.

Distribution: India, Myanmar, Malaysia, Thailand, Indonesia, The Phillippine, China and Laos.

Material examined: Thailand: Chiang Mai Prov.: Doi Saket, 2.02.2003(1♀), Phetchabun Prov.: Nam Nao, 20.02.2005(1♀), Phitsanulok Prov.: Wang Thong, 5.01.2002(1♂), Phrae Prov.: Wang Chin, 10.12.2005(1♂).

Remark: The species differs from *N. spinifera* in having scutellum is subtrapezoidal; pronotum is about as long as broad. Specimens were collected from mid and continued to late winter, and early summer seasons.

Nupserha quadrioculata (Thunberg, 1787)

Figures 60D, 134C-D

Saperda quadrioculata Thunberg, 1787, *Mus. Nat. Upsala* 4: 57.

Saperda costata Wiedeman, 1823, *Zool. Magaz.* 2(1): 112.

Stibara carinata Thomson, 1857, *Arch. Ent.* 1: 146.

Nupserha quadrioculata: Breuning, 1960, l.c., 54.

Description: *Body* length 12-13 mm and breadth 2.5-3 mm, reddish brown, covered with reddish brown pubescence for most parts; antennae dark reddish brown, covered with dark reddish brown pubescence; pronotum furnished with four densely dark reddish brown pubescence spots; meso thoracic sternite, meta thoracic sternite and abdominal sternite dark brown, covered with dark brown pubescence; legs dark brown, covered with dark reddish brown pubescence.

Head as broad as prothorax, punctured; frons broader than long, anterior portion narrower than posterior portion, lateral margins oblique; anterior margin concave at middle; genae 1/2 as deep as eye-lobes; antennal tubercles widely separated; antennal supports slightly raised; a narrow and shallow groove running from frons to vertex. Antennae slightly longer than a half of body; segment 1 finely punctured, gradually thicken to tip; segment 3 as long as segment 1, gradually thicken

to tip; segment 4 slightly shorter than segment 3; segments 5-10 decreasing in length; segment 11 longer than segment 10; segments 4-11 slightly flatten. *Pronotum* narrower than elytra, broader than long, apical margin as broad as basal margin, basal margin constrict more than apical margin constrict; a pair of slightly raised tubercles at middle line; a large tubercle on each side; apical margin straight; basal margin sinuated; lateral side swollen at middle without toothed. Scutellum subtrapezoidal, rounded at apical angles. *Elytra* subparallel to near apex, and then gradually narrow to apex, truncated without toothed; each elytron furnished with three distinct costae, deeply punctured on interspaces between costae; lateral sides very strongly depressed; humeral angles slightly raised; basal margin slightly sinuated; outer apical angles with strongly and acutely toothed; sutural end angles with fairly toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, stout; hind tarsal segment 1 as long as segment 2 and segment 3 united, and last.

Distribution: Indonesia, Myanmar, Indochina, China, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Saket, 7.07.2003(1♀), Doi Inthanon, 15.08.2006(1♂), Doi Pahom Pok, 28.10.2006(1♂).

Remark: The species differs from *N. variabilis* in having pronotum is covered with reddish brown pubescence and furnished with four densely dark reddish brown pubescence spots. Specimens were collected from mid and continued to late rainy seasons.

Nupserha spinifera Gressitt, 1948

Figure 60C

Nupserha spinifera Gressitt, 1948, *Lingnan Science Journal*, 22(1-4): 55- 68.

Description: *Body* length 7-9 mm and breadth 1.5-2 mm; head black, covered with blackish pubescence, tinge with silvery; antennae dark reddish brown, covered with dark reddish brown pubescence; pronotum yellowish brown, covered with

yellowish brown pubescence; scutellum yellowish brown, covered with yellowish brown pubescence; elytra pale yellowish brown, covered with pale yellowish brown pubescence, furnished with a transverse dark reddish brown band about 1/4 as broad as long of elytra at apex; thoracic sternite yellowish brown, darker on meta thoracic sternite, covered with yellowish brown pubescence; 1st-4th abdominal sternites yellowish brown, covered with yellowish brown pubescence; 5th abdominal sternite black for most parts, covered with blackish pubescence; basal margin of 5th abdominal sternite yellowish brown, covered with yellowish brown pubescence; femora yellowish brown, covered with yellowish brown pubescence; fore tibiae yellowish brown, covered with yellowish brown pubescence, darker at middle; meso- and meta tibiae dark reddish brown, covered with dark reddish brown pubescence except apical margin which is covered yellowish brown pubescence; tarsal segment dark reddish brown, covered with dark reddish brown pubescence.

Head broader than prothorax, deeply punctured throughout; frons distinctly broader than long, fairly convex, anterior margin substraight; genae about 1/5 as deep as eye-lobes; antennal tubercles widely separated; antennal supports slightly raised; a narrow and shallow groove running from frons to vertex. Antennae slightly longer than body; segment 1 finely punctured, gradually thicken to tip; segment 3 as long as segment 1, gradually thicken to tip; segment 4 longer than segment 3; segment 5 shorter than segment 4; segments 5-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, scattered with punctures, broader than long, anterior margin as broad as posterior margin, distinctly constrict at basal margin; apical margin straight; basal margin substraight; lateral sides slightly swollen without toothed. Scutellum subtriangular, rounded at tip. *Elytra* narrow at apex, gradually narrow from humeral angles to apex, strongly oblique truncation without toothed; each elytron furnished with seven longitudinal rows of deeply punctured; strongly depressed at sides; outer apical angles with strongly and acutely toothed; sutural end angles with slightly and acutely toothed. *Ventral surfaces* finely punctured. *Legs* short, weak; hind tarsal segment 1 as long as segment 2 and segment 3 united, last longest.

Distribution: China and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 7.04.2005(1♀), Phetchabun Prov.: Nam Nao, 14.08.2004(1♂), Tak Prov.: Umphang, 30.06.2007(1♀).

Remark: The species differs from *N. fricator* in having scutellum is subtriangular and rounded at tip; pronotum is longer than broad. Specimens were collected from late summer, early and continued to mid rainy seasons.

Nupserha variabilis Gahan, 1894

Figures 60E-F, 134A-B

Nupserha variabilis Gahan, 1894, *Ann. Mus. Civ. Genova* 34: 92.-Breuning, 1960, l.c., 59.

Stibara apicalis Aurivillius, 1925, *Arkiv Zool.* 18(9): 21.-Pic, 1925, *Bull. Soc. Ent. Fr.*, 188.

Description: *Body* length 14-16 mm and breadth 3.5-4 mm; head reddish brown, covered with reddish brown pubescence; antennae dark reddish brown, darker on segments 1-3, covered with dark reddish brown pubescence; pronotum reddish brown, covered with reddish brown pubescence; scutellum reddish brown, covered with reddish brown pubescence; elytra pale yellowish brown for most parts except some parts on anterior portion and apex which are blackish; disc covered with yellowish brown pubescence, densely furnished with pubescence bands with following: A broad transverse grayish pubescence band on anterior portion, about 1/3 as broad as long of elytra, anterior margin of band starting behind scutellum to above middle line; a densely blackish pubescence band at apex; ventral surfaces yellowish brown, covered with yellowish brown pubescence, furnished with dark reddish brown to blackish hairs on anterior margin of 5th abdominal sternite; femora yellowish brown, covered with yellowish brown pubescence; fore- and meso tibiae reddish

brown in male, darker in female, covered with yellowish brown pubescence in male, covered with dark reddish brown in female, pale at basal margin; meta tibiae blackish brown pubescence on apical portion, reddish brown pubescence on basal portion; tarsal segments blackish brown, covered with blackish brown pubescence.

Head broader than prothorax, deeply punctured throughout; frons slightly longer than broad, fairly convex, anterior margin slightly sinuated; genae about 1/3 as deep as eye-lobes in female, 1/5 as deep as eye-lobe in male; antennal tubercles widely separated; antennal supports slightly raised; a narrow and shallow groove running from frons to vertex. Antennae about as long as body in male, slightly shorter than body in female; segment 1 finely and closely punctured, gradually thicken to tip, broader than other segments; segment 3 as long as segment 1, gradually thicken to tip; segment 4 slightly shorter than segment 3; segment 5 shorter than segment 4; segments 5-10 decreasing in length; segment 11 as long as than segment 10. *Pronotum* narrower than elytra, deeply and closely punctured, broader than long, anterior margin slightly narrower than posterior margin, distinctly constrict at basal margin; apical margin straight in male, slightly swollen at middle in female; basal margin straight in both sexes; lateral sides fairly swollen without toothed. Scutellum subtrapezoidal. *Elytra* distinctly narrow at apex, gradually narrow sides from humeral angles to apex, fairly oblique truncation without toothed; each elytron furnished with seven longitudinal rows of deeply punctured; strongly depressed at sides; basal margin slightly sinuated; outer apical angles with fairly and acutely toothed; sutural end angles with slightly toothed. *Ventral surfaces* finely punctured; 5th abdominal sternite furnished with strongly depressed at middle in male, longitudinal and shallow groove at middle in female. *Legs* short, stout; hind tarsal segment 1 as long as segment 2 and segment 3 united, and last.

Distribution: India, Myanmar, Thailand, Vietnam and Laos.

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 2.09.2003(1♂), Mae Taeng, 2.06.2004(1♀), Phitsanulok Prov.: Wang Thong, 5.01.2002(1♀).

Remark: The species differs from *N. fricator* and *N. spinifera* in having head is black; elytra are furnished with a broad transverse grayish pubescence band on anterior portion. Specimens were collected from late winter and continued to early and late rainy seasons.

Oberea ferruginea (Thunberg, 1787)

Figures 60G, 136A-B

Saperda ferruginea Thmberg, 1787, *Mus. Nat. Upsala* 4: 57.

Saperda tricornis Fabricius, 1792, *Ent. Syst.* 1(2): 308.

Saperda elongate Olivier, 1795, 1795, *Entomologist* 4(68): 19, pl. II, fig. 34.

Oberea maculiventris Pic, 1923, *Mel. Exot. Ent.* 38: 15.-Gressitt, 1942, *Lingn. Nat. Hist. Surv. Mus. Spec. Publ.* 8: 38.

Oberea notativentris Pic, 1924, *Echange* 418: 30.

Oberea semiargentata Gressitt, (nec Pic), 1938, *Lingn. Sci. J.* 18: 99, 106, pl. III, fig. 3.

Oberea maculiveniris atricornis Gressitt, 1951, *Longicornia* 2: 589, 591.

Oberea ferruginea: Breuning, 1960-1962, l.c., 158.

Description: *Body* length 21.5 mm and breadth 6 mm, cylindrical, elongate, reddish brown, covered with reddish brown pubescence; antennae reddish brown, darker on segments 1-3, covered with dark reddish brown pubescence; 1st-2nd abdominal sternite covered with densely golden reddish brown pubescence, furnished with a densely blackish pubescence spot on each side of basal margin of 2nd abdominal sternite.

Head slightly broader than prothorax, deeply punctured; frons broader than long, convex; anterior margin concave, lateral sides straight; a narrow and shallow groove running from frons to vertex; genae about 2/3 as deep as eye-lobes; antennal tubercles widely separated; antennal supports slightly raised; antennae about 1.4 as long as body; segment 1 finely punctured, distinctly constrict at basal portion, and then gradually thicken to near tip; segment 3 about 1.5 times as long as segment 1, subcylindrical, slightly swollen at tip; segment 4 slightly shorter than segment 3; segment 5 slightly longer than segment 4; segments 5-11 decreasing in length. *Pronotum* slightly narrower than elytra, slightly longer than broad, slightly convex, anterior margin as broad as posterior margin, closely and deeply punctured; apical margin slightly concave at middle; basal margin sinuated; lateral sides slightly sinuated without toothed. Scutellum hemicircular, longer than broad. *Elytra* narrow from behind humeral angles to 4/5 of elytra and then gradually extend, and gradually narrow to apex, rather deeply punctured at each side of scutellum, punctures getting small and shallower toward each sides and apices, apex asperated, obliquely truncated without toothed; basal margin sinuated; outer apical angles with fairly toothed; sutural end angles with fairly toothed. *Ventral surfaces* finely punctured; meta thoracic sternite strongly convex. *Legs* short, stout; femora slightly swollen; hind tarsal segment 1 as long as segment 2 and segment 3 united, and last longest.

Distribution: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Inthanon, 15.08.2006(1♂).

Remark: This species is very distinct characters of body is elongated, reddish brown and covered with reddish brown pubescence; abdominal sternite 1st-2nd are covered with densely golden reddish brown pubescence and furnished with a densely blackish pubescence spot on each side of basal margin of 2nd abdominal sternite. The only one specimen was collected in mid rainy season.

Olenecamptus bilobus (Fabricius, 1801)

Figures 65D-E, 126A-B

Saperda biloba Fabricius, 1801, *Syst. El.* 2: 324.-Erichson, 1834,
Nov. Act. Nat. Cur. 16, Suppl. 1: 269, pl. 39, fig. 9.-Boisduval, 1835,
Voy. Astrol. Ins. 2: 527.

Olenecamptus bilobus: Pascoe, 1866, *Trans. Ent. Soc. Lond.* Ser. 3, 3: 316.-
 Heller, 1923, *Tijds. Ent.* 46: 39.-Schwarzer, 1925, *Ent. Bl.* 21: 64.-Breuning,
 1940, l.c., 554, fig. 564.-Gressitt, 1951, 443.

Olenecamptus lacteoguttatus Fairmaire, 1881, *Le Natural.* 3: 351.

Description: *Body* length 12l-18 mm and breadth 3-4 mm, reddish brown ; vertex covered with densely brown pubescence, remainder covered with whitish pubescence; antennae covered with pale brown pubescence; pronotum covered with brown pubescence, furnished with a pair of densely whitish pubescence spot on basal margin near basal angle; scutellum covered with whitish pubescence; elytra covered with brown pubescence, furnished with densely pale yellowish pubescence bands with following: A pairs of largely elliptical band behind scutellum; a small irregularly oval band behind each a large band; each a small irregularly oval band at 2/3 of each elytron; ventral surfaces and legs covered with grayish brown pubescence.

Head finely punctured most hidden by pubescence, furnished with minutely granulate above eyes; genae about 1/3 as deep as eye-lobes; a narrow and shallow groove from frons margin to vertex; antennal supports moderately and obtusely raised at inner apical. Antennae more longer than body in male, slightly longer than body in female; segment 1 short, dorsal granulately and ventral smoothly; segment 3 longest, about 3 times as long as segment 1, granulate; segment 4 slightly longer than segment 5; segments 4-11 smooth; segment 5 shorter than segment 6; segments 6-10 decreasing in length; segment 11 about as long as segment 3. *Pronotum* narrower than elytra, cylindrical; disc covered with minutely and transversely rugose; distinctly

wide collar at basal; unevenly sinuate lateral sides. *Elytra* punctured, gradually extend to 2/3 elytra and then gradually narrow to apex; oblique-truncate apex with moderately toothed at outer angles; sutural end angles without toothed; fairly dehiscent. *Ventral surfaces* finely punctured mostly hidden by pubescence. *Legs* fairly long.

Distribution: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 1.03.2006(1♂), Samoeng, 20.01.2002(1♀), Phayao Prov.: Chiang Kham, 4.08.2003(1♀), Phichit Prov.: Taphan Hin, 10.10.2004(1♂).

Remark: This species differs from *O. siamensis* in having elytra are furnished with four pairs of moderately pale yellowish pubescence bands. Specimens were collected in mid summer, mid and late rainy and late winter seasons.

Olenecamptus dominus Thomson, 1860

Figures 65F-G, 126C-D

Olenecamptus dominus Thomson, 1860, *Ess. Class. Cer.* 362.-Breuning, 1940, l.c., 547, fig. 543.

Description: *Body* length 14-26 mm and breadth 3-6 mm, reddish brown to dark brown; head reddish brown; frons covered with grayish pubescence; frons margin, genae, behind eye-lobes and around eyes areas covered with densely whitish hairs; vertex glabrous, somewhat furnished with two densely whitish pubescence bands; antennae reddish brown, covered with reddish brown hairs; pronotum reddish brown, covered with brown hairs, furnished with four densely whitish pubescence bands with following: Two densely whitish pubescence bands behind anterior margin; two densely whitish pubescence bands above posterior margin; scutellum reddish brown, covered with yellowish pubescence; elytra reddish brown, covered with brown

pubescence, furnished with densely whitish pubescence stripes with following: A short longitudinal stripe on each humeral angle and somewhat a few isolated dots behind this band; two longer longitudinal stripes behind scutellum, each closer to suture and uncontinue stripes reaching to near apex, somewhat extend at apical portions; a moderate whitish pubescence stripe on middle of each side; a shorter whitish pubescence stripe behind each a middle stripe; a few isolated dots between sutural stripe and a middle stripe, and on apical portions; very variation of patterns of stripes and dots; ventral surfaces dark brown, covered with brown pubescence, furnished with pale yellowish pubescence stripes along lateral sides; legs reddish brown, covered with brown pubescence.

Head as broad as prothorax, finely granulate, furnished with bigger granulate on frons, above eye-lobe and antennal tubercles; a narrow and shallow groove running from frons margin to vertex; antennal tubercles strong raised and widely separate; genae about 1/3 as deep as eye-lobes. Antennae more longer than body in male, slightly longer than body in female; segment 1 short, dorsal asperate and ventral smooth; segment 3 about 2.5 times as long as segment 1, sparsely granulate; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 slightly shorter than segment 3. *Pronotum* narrower than elytra, subcylindrical, covered with transversely rugose; distinctly constrict near basal margin; unevenly lateral sides swollen. Scutellum hemi-circular, subtriangular at tip. *Elytra* punctured, subparallel, slightly extend behind middle to near apex; truncated apex without toothed; outer angles without toothed; sutural end angles without toothed. *Ventral surfaces* finely granulate most hidden by pubescence. *Legs* fairly long.

Distribution: India, Cambodia, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 6.07.2003(1♀), Samoeng, 2.02.2006(1♂), Mae Chaem, 1.03.2006(1♀), Chiang Rai Prov.: Doi Luang, 6.03.2005(1♂, 1♀), Lampang Prov.: Wiang Nua, 18.04.2003(1♂, 1♀), Lamphun Prov.: Mae Tha, 19.11.2004(1♂); Thoen, 2.03.2004(1♂), Phayao Prov.: Chiang

Kham, 1.12.2005(1♀), Phitsanulok Prov.: Wang Thong, 5.01.2002(1♂), Tak Prov.: Tha Song Yang, 2.02.2006(1♂).

Remark: This species differs from other species in same genus in having elytra are furnished with densely whitish pubescence stripes and outer angles are smooth without toothed. Specimens were collected in summer and winter, and mid rainy seasons.

Olenecamptus fouqueti Pic, 1932

Figure 65A

Olenecamptus fouqueti Pic, 1932. *Mélanges Exotico-Entomologiques*. Moulins. 59: 10-36.

Description: *Body* length 13-17 mm and breadth 3.5-4 mm, reddish brown to dark brown; head reddish brown, covered with grayish pubescence, furnished with two elliptical pale yellowish pubescence bands on vertex; antennae reddish brown, covered with grayish pubescence, sparsely furnished with long reddish hairs; pronotum dark brown, covered with grayish pubescence, furnished with a elliptical pale yellowish pubescence band on each side; scutellum reddish brown, covered with grayish pubescence; elytra reddish brown, furnished with pale yellowish pubescence bands with following: A moderately and irregularly elliptical band on middle of base of each side; a biggest irregularly elliptical band on middle of each elytron; a small pale yellowish spot on 2/3 of each elytron; a elliptical pale yellowish pubescence band behind each a small pale yellowish spot; a narrow longitudinal pale yellowish pubescence band behind each a elliptical pale yellowish pubescence band and reaching to near apex; ventral surfaces reddish brown, covered with densely whitish pubescence along lateral sides, scattered grayish and pale brown hairs along middle; legs reddish brown, darker on femora, covered with grayish pubescence.

Head about as broad as prothorax, scattered granulate on frons and eye margins; a narrow and slightly raised ridge running from frons to vertex; genae about

1/3 as deep as eye-lobes; antennal tubercles wide and antennal supports moderately raised. Antennae more longer than body in male, than slightly longer than body in female; segment 1 shorter, granulate; segment 3 longest, about 3 times as long as segment 1, granulate; segment 4 slightly shorter than segment 5; segments 4-11 smooth and slightly decreasing in length. *Pronotum* narrower than elytra, cylindrical, covered with transverse rugose, distinctly constrict 3/4 near basal, unevenly lateral sides. Scutellum hemi-circular. *Elytra* rather rugulose-puncture at each side of scutellum and punctured towards each sides and apices, gradually extend to near apex and then gradually narrow to apex; subtruncated apex with very strongly toothed at outer angles; sutural end rounded; slightly dehiscent. *Ventral surfaces* finely punctured. *Legs* fairly long.

Distribution: Cambodia, Laos, Vietnam and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Fang, 2.03.2002(1♀), Kamphaeng Phet Prov.: Khosam Pi Nakhon, 1.12.2005(1♀), Khlong Lan, 25.08.2003(1♂), Tak Prov.: Umphang, 30.06.2007(1♂).

Remark: This species differs from *O. siamensis* in having pronotum is furnished with a pair of elliptical pale yellowish pubescence bands; elytra are furnished with five pairs of pale yellowish pubescence bands. Specimens were collected from mid summer, rainy and continued to winter seasons.

Olenecamptus siamensis Breuning, 1936

Figures 65B-C, 126E-F

Olenecamptus siamensis Breuning, 1936, *Festschr. E. Strand.* 1: 319; 1940, l.c., 549, fig. 552.

Description: *Body* length 13-23 mm and breadth 4-6 mm, reddish brown to dark brown; head reddish brown, somewhat darker brown on lateral sides, covered with grayish pubescence, furnished with two subtriangular pale yellowish pubescence

bands on vertex; antennae reddish brown, covered with grayish pubescence; pronotum reddish brown, somewhat dark brown, covered with grayish brown pubescence, furnished with six pale yellowish pubescence bands with following: A pair of irregularly elliptical bands behind anterior margin; a pair of larger and irregularly elliptical bands above basal margin; a small pale yellowish pubescence spot behind each a irregularly elliptical band behind anterior margin; scutellum reddish brown, covered with whitish pubescence; elytra reddish brown, covered with pale brown pubescen, furnishd with elliptical pale yellowish pubescence bands with following: A largely elliptical band on each side of scutellum; a moderately elliptical band on middle of elytron; a moderately elliptical band on $\frac{3}{4}$ of elytron; a smallest elliptical band on near apex of elytron; ventral surfaces dark brown, covered with densely whitish on meta sternite and abdominal sternites; legs reddish brown, covered with plae brown pubescence.

Head about as broad as prothorax, finely punctured and scattered with granulate on vertex and eye margins; genae about $\frac{1}{4}$ as deep as eye-lobes; a narrow and shallow groove running from frons margin to vertex; antennae supports strongly raised and subacute at inner apical. Antennae longer than body in both sexes; segment 1 short, granulated upper sides and under sides smooth; segment 3 longest, aspirate, about three times as long as segment 1; segment 4 as long as segment 5; segments 5- 10 decreasing in length; segment 11 slightly longer than segment 10; segments 3-9 scattered with moderate reddish brown setae; segments 10-11 somewhat smoothed. *Pronotum* narrower than elytra, finely punctured, minutely furnished with transverse rugulose; lateral sides sinuate; anterior margin sinuate. Scutellum hemi-circular. *Elytra* subparallel to near apex and then gradually narrow to apex, rather rugulose-puncture at each side of scutellum and punctured towards each sides and apices; oblique-truncate apex; outer angles with moderately toothed; sutural end angles without toothed; slightly dehiscent. *Ventral surfaces* finely punctured. *Legs* fairly long.

Distribution: Indonesia, Malaysia, Thailand, Myanmar, Vietnam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 2.03.2002(1♂), Lamphang Prov.: Chae Son, 3.09.2003(1♂), Phayao Prov.: Chiang Muan, 6.10.2004(1♀), Phitsanulok Prov.: Nakhon Thai, 20.12.2004(1♀), Tak Prov.: Phop Phra, 5.09.2005(1♀).

Remark: This species differs from *O. fouqueti* in having pronotum is furnished with six pale yellowish pubescence bands; elytra are furnished with four pairs of elliptical pale yellowish pubescence bands. Specimens were collected in mid summer and winter, and late rainy seasons.

Palimna annulata (Olivier, 1792)

Figures 63A-B, 122A-B

Cerambyx annulatus Olivier, 1792, *Enc. Meth. Ins.* 7: 465; 1795, *Ent.* 4(67): 95, pl. 20, fig. 151.

Lamia nodulosa Schoenh., 1817, *Syn. Ins.* 1(3): 395.

Golsinda tessellata Pascoe, 1857, *Trans. Ent. Soc. Lond.* Ser. 2, 4: 49.

Palimna tessellata: Pascoe, *Trans. Ent. Soc. Lond.* Ser. 3, 3: 135, pl. 6, fig. 2.-Kemp., 1909, *Tijds. Ent.* 3: 278, pl. 17, fig. 8.

Palimna annulata: Breuning, 1938, l.c., 326, fig. 500.-Gressitt, 1952, l.c., 434.

Description: *Body* length 17-27 mm and breadth 6-9 mm, dark brown to black; head black, covered with whitish pubescence for most parts, furnished with densely darkish brown pubescence bands; a longitudinal band on each lateral sides of eyes; vertex covered with blackish pubescence, furnished with a pair of densely whitish spots; a pair of curved densely whitish bands between above eyes area; a transverse band on between eyes; clypeus dark reddish brown; labum dark reddish brown, covered with whitish pubescence; antennal segments 1-10 black, each covered with

densely reddish brown pubescence band alternated with densely whitish pubescence band; segment 11 black, covered with reddish brown pubescence; pronotum black, covered with whitish pubescence, furnished with a broad longitudinal blackish band on middle with a pair of whitish spot behind middle; scutellum black, covered with black, furnished with a longitudinal whitish pubescence band on middle; elytra dark reddish brown, darker anterior portion, covered with dark reddish brown pubescence; disc furnished with irregularly small and large foveae with densely whitish pubescence in the bottom, somewhat irregular foveae united or disappearing; ventral surfaces dark reddish brown, covered with whitish pubescence; legs dark reddish brown, furnished with densely blackish pubescence bands alternated with densely whitish pubescence bands; tarsal segment 1 and 2 black, covered with whitish pubescence; tarsal segments 3-5 black, covered with dark reddish brown pubescence.

Head as broad as anterior margin of prothorax, minutely and moderately granulate on lateral side of frons and antennal tubercles; genae about 4/5 as deep as eye-lobes; antennal tubercles separately and slightly raised; frons as long as broad, finely punctured, anterior margin slightly concave. Antennae about 1.5 times as long as body in male, slightly longer than body in female; segment 1 finely punctured, obliquely truncated apically, covered with minutely and closely punctured; segment 3 about 2 times as long as segment 1; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10; segment 7 with internal apical toothed in male, disappearing in female. *Pronotum* narrower than elytra, as long as broad; disc uneven with two pairs of broad and slightly raised tubercles on middle; densely and moderately granulate on middle lateral sides of tubercles and scattered on disc; lateral sides sinuate with slightly toothed on middle. Scutellum linguiform. *Elytra* gradually narrow from humeral angles to apex; subtruncated apex without toothed; disc depressed above middle line; humeral angles slightly raised forward, covered with largely granulate; rather moderately punctured on each sides of scutellum and behind humeral angles, punctured getting finer and smaller toward each and apices; a pair of strongly raised tubercle above middle line of each elytron; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, stout.

Distribution: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 8.03.2002(1♀), Samoeng, 20.01.2002(1♂), 3.08.2005(1♂), 2.02.2006(1♂), Doi Inthanon, 15.08.2006(1♀), Doi Suteh, 9.10.2002(1♂), Phitsanulok Prov.: Chat Trakan, 5.10.2004(1♀), Phrae Prov.: Wiang Nua, 11.09.2005(1♀): Wang Chin, 15.01.2002(1♀), Tak Prov.: Phob Phra, 5.09.2005(1♂).

Remark: This species is very distinct characters of elytra are covered with dark reddish brown pubescence and furnished with irregularly small and large foveae with densely whitish pubescence in the bottom; legs are dark reddish brown and furnished with densely blackish pubescence bands alternated with densely whitish pubescence bands; 7th antennal segment is furnished with internal apical toothed in male, disappearing in female. Specimens were collected from late winter, early and continued to mid summer, mid and continued to late rainy seasons.

Parachydaeopsis laosica Breuning, 1968

Figure 67G

Parachydaeopsis laosica Breuning, 1968, *Bull. Soc. R. Sci. Nat.*

Laos 16: 28 (Laos).

Description: Body length 29-25 mm and breadth 8.5-9 mm, reddish brown, covered with reddish brown pubescence for most parts; pronotum covered with reddish brown pubescence, darker at middle and lateral sides; elytra covered with golden brown pubescence, furnished with a unevenly dark reddish brown pubescence stripe at middle of each lateral side of elytron, and then running backward along lateral margins to apex, and together at apex, anterior portion covered with dark reddish brown pubescence, a pair of tubercles covered with blackish pubescence; tibiae furnished with blackish pubescence on apical margin.

Head as broad as prothorax, finely punctured; frons broader than long; anterior margin slightly concave at middle; genae about 1/2 as deep as eye-lobes; antennal tubercles fairly separated; antennal supports strongly raised; a narrow and shallow groove running from frons to vertex. Antennae as long as body; segment 1 suboval, swollen at middle, closely and finely punctured; segment 3 longer than segment 1, slightly swollen at tip; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, longer than broad; disc furnished with two strongly raised and obtused tubercles at middle, fairly depressed behind middle, and then gradually raised to basal margin; anterior margin as broad as posterior margin; a slightly raised callosity at each side of prothorax near basal margin; apical and basal margin substraight; lateral sides sinuated, swollen at middle without toothed. Scutellum hemicircular. *Elytra* about 3 times as long as broad, subparallel, slightly concave at side behind humeral angles, furnished with a pair of strongly raised and subacuted tubercles behind scutellum, and then bent backward, strongly oblique truncation apices without toothed; basal margin substraight, rounded at angles; disc furnished with three longitudinal rows of punctured on each elytron; sutural end angles with very strongly and acutely toothed. *Ventral surfaces* finely punctured. *Legs*: Fore and mid femora gradually swollen to middle, and gradually narrow to tip; meta femur gradually swollen to 3/4 of femur, and then gradually narrow to tip; hind tarsal segment 1 distinctly longer than remainder united.

Distribution: Laos and Thailand (new record).

Material examined: Thailand: Phitsanulok Prov.: Wang Thong, 16.05.2003(1♀).

Remark: This species is very distinct characters of elytra are covered with golden brown pubescence and furnished with a dark reddish brown pubescence stripe at middle of each lateral side; pronotum is furnished with two strongly raised and obtused tubercles at middle; elytra are furnished with a pair of strongly raised and subacuted tubercles behind scutellum; sutural end angles are furnished with a very

strong and acute dentation. The only one specimen was collected in early rainy season.

Paraleprodera cordifera saigonensis Pic, 1930

Figures 68B, 127C-D

Leprodera saigonensis Pic, 1930, *Mel. Exot. Ent.* 4: 16.

Paraleprodera cordifera saigonensis: Breuning, 1964, l.c., 265.

Description: *Body* length 31 mm and breadth 11 mm, reddish brown to dark brown; head dark reddish brown, covered with dark brown pubescence; clypeus reddish brown, glabrous; labrum dark reddish brown, covered with brown pubescence, furnished with long reddish brown hairs; antennal segments 1-3 dark reddish brown, covered with brown pubescence; segments 4-11 reddish brown, covered with brown pubescence; pronotum reddish brown, covered with brown pubescence; scutellum reddish brown, covered with brown pubescence; elytra reddish brown, darker on basal portion, covered with brown pubescence, furnished with densely dark brown pubescence bands with following: A very large subtriangular band on basal portion, gradually narrow from humeral angles to middle; a moderately and irregularly oval band on each side behind middle line, reaching to external sutures and touching; ventral surfaces dark brown, covered with brown pubescence; legs dark reddish brown, covered with brown pubescence.

Head slightly broader than anterior margin of prothorax, finely punctured, sparsely furnished with moderately punctured; frons as broad as long; genae about 1/2 as deep as eye-lobes; anterior margin of frons straight; a narrow and shallow groove running from frons to vertex; antennal tubercles separated, slightly raised. Antennae longer than body; segment 1 finely punctured, ventral rugulose, external apices obliquely truncated with minutely punctured; segment 3 distinctly longer than segment 1 and segment 2 united; segment 4 about 0.5 times as long as segment 3; segments 4-10 decreasing in length; segment 11 as long as segment 10. *Pronotum*

narrower than elytra, broader than long; disc unevenly and slightly convex, finely punctured, somewhat sparsely punctured; a transverse and deep groove above basal margin; apical margin as broad as basal margin; basal collar with a transverse ridge; lateral sides fairly swollen with strongly and acutely toothed on middle. Scutellum subsquare. *Elytra* finely punctured, gradually narrow from humeral angles to apex, smoothly rounded apically, moderately granulate at each side of scutellum and granules getting gradually bigger toward each humeral angle and basal lateral side; sutural end angles without toothed. *Ventral surfaces* finely punctured most hidden by pubescence. *Legs* fairly long, stout; fore legs slightly arched; small hump behind middle of hind tibiae.

Distribution: Vietnam, Laos and Thailand.

Material examined: Thailand: Tak Prov., Umphang, 30.06.2007(1♂, 1♀).

Remark: The species differs from *P. crucifera* in having elytra are furnished a very largely subtriangular band on basal portion. Specimens were collected in early rainy season.

Paraleprodera crucifera (Fabricius, 1792)

Figures 68A, 127A-B

Lamia crucifera Fabricius, 1792, *Ent. Syst.* 1(2): 269; 1801, *Syst. El.* 2: 285.

Cerambyx crucifera: Olivier, 1795, *Ent.* 4(67): 70, pl. fig. 68.

Phryneta crucifera: Castelnau, 1840, *Hist. Nat. Col.* 2: 477.

Leprodera crucifera Gahan, 1888, *Ann. Mag. Nat. Hist.* ser. 6, 2: 391.

Paraleprodera crucifera: Breuning, 1943, l.c., 264, fig. 133.

Description: *Body* length 21-41 mm and breadth 8-13 mm, dark brown to black; head black, covered with brown pubescence on vertex, darker on frons; clypeus brown, glabrous; labrum dark brown, covered with brown pubescence, furnished with long reddish brown hairs on lateral sides; antennal segments 1-4 black, covered with brown pubescence; segments 5-6 dark brown, covered with reddish brown pubescence, furnished with brown hairs on apical margin; segment 7 dark brown, separate to two portions with different hairs with following: Basal portion covered with reddish brown pubescence; apical portion covered with brown pubescence; segments 8-9 dark brown, covered with brown pubescence; segment 9 dark brown, covered with reddish brown pubescence; segment 11 dark brown, covered with dark reddish brown for most parts except apex which is covered with brown hairs; pronotum, scutellum, ventral surfaces and legs black, covered with brown pubescence; elytra black, covered with brown pubescence, furnished with densely pubescence band with following: A largely triangular pale dark brown pubescence band on basal portion, tip reaching to above middle; a largely hemicircular dark brown pubescence band on each side at middle, about 1/3 as long as elytra, furnished with a densely whitish moderate spot on each lateral side; a narrow whitish pubescence stripe on edge of a largely hemicircular dark brown pubescence band; a large dark brown pubescence spot each near apex and near external sutures but not touching.

Head about as broad as anterior margin of prothorax, finely punctured, scattered with moderately punctured; frons broader than long, anterior margin substraight; genae about 1/3 as deep as eye-lobes; a narrow and shallow groove running from frons to vertex; antennal tubercles distinctly separate. Antennae longer than body in both sexes; segment 1 roughly rugose, subtruncated at tip with closely and roughly punctured, strongly expanded apex; segment 3 asperated, distinctly longer than segment 3; segment 4 asperated, shorter than segment 3; segments 5-10 smooth, decreasing in length; segment 11 smooth, longer than segment 10. *Pronotum* narrower than elytra, minutely and feebly corrugate-vermiculate; apical collar uneven without rugose; basal collar uneven with rugulose; lateral sides swollen, with strongly and acutely toothed. Scutellum subtrapezoidal. *Elytra* widest at basal margin,

gradually narrow to apex; granulate on basal portion about 1/4 of elytra and then finely toward each sides and apices; humeral slightly raised forward; slightly oblique subtruncation at tip; outer angles without toothed; sutural end angles without toothed. *Ventral surfaces* finely punctured most hidden by pubescence. *Legs* fairly long, stout; fore legs longest in male, normal in female; ventral side of fore femur rugose in male, smooth in female; moderately toothed on near apex of fore tibiae in male, disappearing in female.

Distribution: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 5.09.2004(1♂, 1♀), 7.04.2005(1♀), 1.03.2006(1♀), Doi Saket, 20.06.2004(1♂), Fang, 2.03.2002(1♂, 1♀), 2.02.2003(1♂), Chiang Rai Prov.: Doi Luang, 6.03.2005(1♀), Wiang Pa Pao, 5.06.2002(1♀), 23.08.2003(1♂), Kamphaeng Phet Prov.: Pang Si La Thong, 4.06.2002(1♂), Lamphun Prov.: Theon, 2.03.2004(1♀), Mae Hong Son Prov.: Khun Yuam, 19.11.2005(1♂, 1♀), Phetchabun Prov.: Nam Nao, 14.08.2004(1♀), Phitsanulok Prov.: Nakhon Thai, 1.03.2003(1♀), Uttaradit Prov.: Ban Khok, 15.05.2005(1♀).

Remark: The species differs from *P. cordifera saigonensis* in having elytra are black, covered with brown pubescence and furnished with a largely triangular pale dark brown pubescence band on basal portion. Specimens were collected from mid and continued to late summer, early and continued to mid rainy, and early winter seasons.

Paraleprodera laosensis Breuning, 1964

Figure 68C

Paraleprodera laosensis Breuning, 1964, *Bull. Soc. R. Sci. Nat. Laos*
15: 31 (Laos).

Description: *Body* length 25-27 mm and breadth 6-8 mm, reddish brown to dark brown; head dark brown, covered with yellowish pubescence but unevenly; antennal segment 1-2 dark brown, remainder reddish brown; segments 1-2 covered with yellowish brown hairs; segments 3-11 covered with reddish brown hairs except each apical margin which is covered with yellowish hairs; pronotum dark brown, covered with yellowish for most parts, furnished with a pair of broad longitudinal yellowish pubescence stripes on middle; a broad longitudinal yellowish pubescence stripes on each lateral sides; scutellum dark brown, covered with yellowish hairs except middle; elytra reddish brown, darker on anterior portion, covered with yellowish brown pubescence, furnished with densely pale yellowish pubescence bands and spots with following: A pair of moderately spots above middle line near inner sutures; a large spot behind each a moderately spot near external sutures; a pair of small spots at 3/4 of elytra, somewhat united or disappearing; a narrow and oblong band on each side near apex, somewhat disappearing; small spots scattered on disc; ventral surfaces dark brown, covered with yellowish pubescence but unevenly; legs dark brown, covered with yellowish pubescence but unevenly.

Head as broad as apical margin of prothorax, finely punctured; antennal tubercles distinctly separated; antennae supports strongly raised; genae about 3/4 as deep as eye-lobes; a narrow and shallow groove running from frons to vertex. Antennae slightly longer than body; segment 1 asperate and roughly rugulose, subtruncated at tip with roughly punctured; segment 3 as long as segment 1 and segment 2 united, finely punctured; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, rugose; apical margin as broad as basal margin; lateral sides sinuate with strongly toothed and acuted at middle; basal margin sinuate. Scutellum hemicircular. *Elytra* about 2 times as long as broad, rather granulate at each side of scutellum and rugulose toward each sides 2/3 of elytra and then smooth to apex; subparallel to near apex; subtruncated apex; outer angles without toothed; sutural end angles without toothed. *Ventral surfaces* finely punctured for most parts, furnished with rugulose on prosternum and metasternum. *Legs* fairly long; fore tibia slightly arched near apex; meso tibia slightly swollen at out side behind middle.

Distribution: Laos and Thailand.

Material examined: Thailand: Mae Hong Son Prov.: Mae Sariang, 2.12.2005(1♀).

Remark: This species differs from *P. crucifera* and *P. cordifera* in having pronotum is covered with yellowish for most parts and furnished with a pair of broad longitudinal yellowish pubescence stripes on middle. The only one specimen was collected in mid winter season.

Paraphemone multimaculata Gressitt, 1935

Figure 37I

Paraphemone multimaculata Gressitt, 1935, *The Philippine Journal of Sciences*, 58(2): 267-280.

Description: *Body* length 17 mm and breadth 6 mm, dark brown; head covered with yellowish brown pubescence, furnished with densely yellowish brown pubescence bands with following: Two broadly longitudinal and moderate bands, each band starting from above upper eye lobe to vertex, and then continued to pronotum; a longitudinal and moderate band at lateral side of each eye, and then continued to each side of prothorax; clypeus reddish brown, glabrous; labrum subtrapezoidal, covered with reddish brown pubescence; antennal segment 1 dark reddish brown, covered with yellowish brown pubescence; antennal segments 2-3 reddish brown, covered with yellowish brown; antennal segment 4 covered with blackish pubescence; antennal segments 5-11 reddish brown, covered with reddish brown pubescence; pronotum covered with dark reddish brown pubescence, furnished with densely yellowish brown pubescence bands, each band continued from head with following: Two broadly longitudinal and moderate bands on pronotum; a moderate and longitudinal band at each side of prothorax; scutellum covered with yellowish brown pubescence except basal margin which is glabrous; elytra covered with dark reddish brown pubescence, furnished with densely yellowish brown pubescence spots

with following: A longitudinal row of small spots along each inner suture, somewhat spots united; longitudinal rows of spots on each elytron, somewhat spots scattered throughout or spots united; ventral surfaces covered with yellowish brown pubescence; femora and tibiae covered with yellowish brown pubescence; fore tarsal segment covered with dark reddish brown, furnished with yellowish hairs; meso tarsal segments 1-2 covered with yellowish pubescence; meso tarsal segment 3 covered with dark reddish brown pubescence; meso tarsal segment 5 covered with dark reddish brown pubescence; hind tarsal segments 1-2 covered with yellowish pubescence; hind tarsal segment 3 covered with dark reddish brown pubescence; hind tarsal segment 5 covered with dark reddish brown pubescence.

Head as broad as anterior margin of prothorax; frons longer than broad, finely punctured, lateral sides straight; anterior margin slightly swollen; genae as deep as eye-lobes; antennal tubercles moderately separated; vertex rugulose; a narrow and shallow groove running from frons to vertex. Antennae longer than body; segment 1 finely punctured, subcylindrical; segment 3 longer than segment 1, cylindrical, slightly swollen at tip; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrow than elytra, broader than long; anterior margin narrower than posterior margin; disc slightly convex, sparsely and moderately punctured; a narrow and shallow groove running from middle to basal margin; apical and basal margin slightly sinuated; lateral sides fairly swollen without toothed. Scutellum subtrapezoid, rounded at angles, depressed at middle. *Elytra* subparallel, smoothly rounded apically, rather moderately and deeply punctured at each side of scutellum and scattered toward each sides above middle line, and then punctures getting finer toward each sides and apices; humeral angles smoothly and slightly raised; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, stout; hind tarsal segment 1 shorter than segment 2 and segment 3 united, last longest.

Distribution: Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 7.04.2005(1♀).

Remark: This species is very distinct characters of pronotum is furnished with four densely yellowish brown pubescence bands; elytra are furnished with longitudinal rows of brown pubescence spots throughout. The only one specimen was collected in late summer season.

Parepepeotes breuningi (Pic, 1935)

Figures 63H, 122C-D

Epepeotes breuningi Pic, 1935, *Mel. Exot. Ent.* 66: 16.-Breuning, 1943, l.c., 216, fig. 36.

Description: *Body* length 34-36 mm and breadth 10-13 mm, reddish brown to black; head black, covered with pale brown pubescence, furnished with densely whitish pubescence bands with following: A moderately longitudinal band running from between eyes to vertex; a narrowly longitudinal band running from behind eyes and gradually extend to occiput; a narrowly longitudinal band running along lateral margins of frons; a large suboval spot on each genae; clypeus brown, very sparse brown hairs; labrum reddish brown, covered with reddish brown pubescence; antennal segment 1-2 and 2/3 of segment 3 black, remainder reddish brown; segments 1-2 covered with dark brown; segments 3-11 covered with reddish brown hairs, furnished with densely whitish hairs on anterior portion; pronotum dark brown to black, covered with pale brown pubescence, furnished with densely whitish bands with following: A narrowly longitudinal band running from apical margin to basal margin, somewhat a shortly longitudinal band running from apical margin to middle; a broadly longitudinal band on each upper lateral sides, running from apical margin to basal margin; a longitudinal band on each under lateral sides, gradually extend from apical margin to basal margin; scutellum reddish brown, covered with pale brown hairs, furnished with densely whitish pubescence along middle; elytra black, covered with dark brown pubescence, furnished with densely whitish pubescence bands or spots with following: A suboblong spot on each middle of apical margin near scutellum; a large irregular spot above middle line on each elytron, somewhat small spots near large spots; a moderate irregular spot at each lateral side behind a large irregular spot,

touching external sutures; a large irregular spot at middle line, slightly reaching to external suture not touching; a irregularly curved band behind a large irregular spot at middle line, running from middle elytron and gradually extend to near external suture not touching; a slightly narrow and oblique band each on near apex; ventral surfaces black, covered with pale brown pubescence, furnished with densely whitish pubescence bands or spots with following: A broad longitudinal band on each lateral sides of prosternum and mesosternum; a moderate spot on each apical angles of mesosternum; a largely oval band on each side above middle line of mesosternum; a oval spot on each basal angles; a small spot on each side of 1st abdominal sternum; a large irregularly oval band on each sides near middle; a pair of small spot on each sides of 2nd-4th sternum; a moderate irregular spot on each sides of 5th sternum; legs dark brown to black, covered with pale brown pubescence.

Head as broad as apical margin of prothorax, finely punctured; clypeus glabrous; antennal tubercles distinctly separated; antennal supports strongly raised; genae about 1/3 as deep as eye-lobes; a narrow and shallow groove running from middle anterior margin of frons to vertex. Antennae about 1.5 times as long as body; segment 1 finely granulated, slightly obliquely truncated at outer apices with roughly punctured; segment 3 about 1.5 times as long as segment 1; segment 4 shorter than segment 3, as long as segment 5; segments 5-10 decreasing in length; segment 11 slightly longer than segment 10. *Pronotum* narrower than elytra, rugose, furnished with slightly raised tubercles on each sides above middle line; a small irregular tubercle at middle behind middle line; minutely rugulose on apical and basal collars; lateral sides sinuate with a strongly and acutely toothed; basal margin sinuate. Scutellum subtrapezoidus, rounded tip. *Elytra* about 2 times as long as broad, covered with finely punctured, furnished with granulate on humeral angles and lateral side of scutellum; gradually narrow from humeral angles to apex; truncated apex; outer angles with slightly toothed; sutural end angles with moderately toothed. *Ventral surfaces* finely punctured most hidden by pubescence. *Legs* fairly long; fore tibia arched near apex; meso tibia slightly swollen behind middle.

Distribution: India, Vietnam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 7.04.2004(1♂).

Remark: This species is very distinct characters of genae is furnished with a large whitish suboval spot on each side; lateral sides of pronotum are sinuated and placed with a strong and acute dentation; elytra are distinctly furnished of four pairs of irregular whitish bands on difference area; humeral angles and lateral side of scutellum are covered with granules. The only one specimen was collected in late summer season.

Perihammus lemoulti Breuning, 1938

Figures 62I, 127E-F

Perihammus lemoulti Breuning, 1938, *Nov. Ent.* 8: 33; 1943, l.c., 374 (Laos).

Description: *Body* length 16-19.5 mm and breadth 5.5-7.5 mm, dark reddish brown to black; head, pronotum and scutellum covered with dark reddish brown pubescence; antennal segments 1-2 covered with dark brown pubescence; antennal segments 3-8 each segment covered with silvery pubescence on anterior portion alternated with dark reddish brown pubescence on posterior portion; antennal segments 9-11 covered with dark reddish brown pubescence; elytra covered with dark reddish brown pubescence, furnished with transverse brownish pubescence bands with following: A broad zigzag band about 1/6 as broad as long of elytra, above middle line; a broad zigzag band about 1/6 as broad as long of elytra behind middle line; ventral surfaces covered with dark reddish brown pubescence; femora and tibiae covered with dark reddish brown pubescence; tarsal segments 1-2 covered with silvery pubescence; tarsal segments 4-5 covered with dark reddish brown pubescence.

Head as broad as anterior margin of prothorax, finely punctured; frons longer than broad; anterior margin straight; genae about 1/5 as deep as eye-lobes; antennal tubercles fairly separated; antennal supports strongly raised; a moderately deep groove running from frons to vertex. Antennae longer than body in both sexes; segment 1 finely punctured, gradually thicken to tip; segment 3 longer than segment

1, cylindrical; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, broader than long, slightly convex, scattered with moderately deep punctures; anterior margin slightly narrower than posterior margin; distinctly constrict at apical margin; apical and basal margins substraight; lateral sides swollen at middle with strongly and subacutely toothed. Scutellum triangular, rounded at tip. *Elytra* distinctly narrow at tip, lateral sides gradually narrow to apex, rather punctured at each side of scutellum and punctures getting finer toward each sides and apices, truncated at tip without toothed; basal margin substraight; humeral angles minutely granulated; outer apical angles without toothed; sutural end angles without toothed. *Ventral surfaces* finely punctured; apical margin of 5th abdominal segment moderately depressed on each side. *Legs* fairly long, stout; hind tarsal segment 1 as long as segment 2 and segment 3 united, and last.

Distribution: Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 1.03.2006(1♀), Chiang Rai Prov.: Wiang Pa Pao, 23.08.2003(1♂, 1♀), 17.03.2005(1♀), Doi Luang, 19.11.2002(1♂), Lamphun Prov.: Mae Tha, 7.04.2002(1♂), Phitsanulok Prov.: Nakhon Thai, 1.03.2003(1♀): Chat Trakan, 3.05.2005(1♀).

Remark: This species is very distinct characters of 3rd-8th antennal segments are covered with silvery pubescence on anterior portion alternated with dark reddish brown pubescence on posterior portion; elytra are furnished with two transverse zigzag brownish pubescence bands. Specimens were collected from mid and continued to late summer, early and continued to mid rainy, and early winter seasons.

Pharsalia duplicata Pascoe, 1866

Figures 52E, 128C-D

Pharsalia duplicata Pascoe, 1866, *Trans. Ent. Soc. Lond.* Ser. 3, 3: 250.

Pharsalia (s. str.) *duplicata*: Breuning, l.c., 332.

Description: *Body* length 18-21 mm and breadth 6-7 mm, dark reddish brown to black; head dark reddish brown, covered with whitish and brownish pubescence for most parts; genae sparsely furnished with whitish and brownish hairs; antennal segments 1-2 dark reddish brown, covered with reddish brown, brownish and whitish hairs; antennal segments 3-11 reddish brown, each anterior portion covered with whitish pubescence and each posterior portion covered with reddish brown pubescence; pronotum dark reddish brown, covered with densely pubescent stripes with following: A longitudinal whitish and brownish pubescence stripe running from apical margin to basal margin at middle; a longitudinal brownish pubescence stripe at each side and then together at basal margin; a longitudinal brownish pubescence stripe on each lateral side; scutellum dark brown, covered with whitish pubescence except at middle which is glabrous; elytra dark brown, covered with short whitish and short brownish pubescence bands and stripes throughout; disc furnished with irregularly subtrapezium reddish pubescence bands on middle area, somewhat combined; ventral surfaces dark reddish brown to black, covered with brown pubescence; legs dark reddish brown, covered with whitish and brownish pubescence.

Head as broad as anterior margin of prothorax, finely punctured; frons longer than broad, anterior margin slightly sinuate; genae about 1/2 as deep as eye-lobes; antennal tubercles adjacent, narrowly separated. Antennae about 2.3 times as long as body; segment 1 finely punctured, subcylindrical, apically subtruncated, covered with finely punctured; segment 3 longer than segment 1 and segment 2 combined; segment 4 slightly longer than segment 3; segment 5 as long as segment 4; segment 6 slightly shorter than segment 5; segments 6-10 decreasing in length; segment 11 longest. *Pronotum* widest as broad as elytra, broader than long; disc uneven with roughly punctured, sparsely granulated; basal margin slightly broader than apical margin; apical collar with minutely punctured; basal margin collar with finely punctured; lateral sides slightly swollen with strongly and obtusely toothed. Scutellum hemicircular, slightly depressed at middle. *Elytra* about 2 times as long as broad, gradually narrow from humeral angles to apex; humeral angles moderately and

obtusely raised forward; disc furnished with a fairly raised tubercle at each side of scutellum, rather punctured at each side of scutellum and punctures getting finer towards each sides and apices; subtruncated apex without toothed; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long; meso-tibiae with small tubercles behind middle; hind tibiae slightly arched; hind tarsal segment 1 as long as segment 2 and segment 3 united and last.

Distribution: Indonesia, Cambodia, Laos and Thailand (new record).

Material examined: Thailand: Phitsanulok Prov.: Chat Trakan, 3.05.2005(1♂), Tak Prov.: Phop Phra, 5.09.2005(1♀).

Remark: This species differs from *P. pulchroides* in having elytra are covered with short whitish and short brownish pubescence bands and stripes. Specimens were collected in early and late rainy seasons.

Pharsalia pulchroides Breuning, 1964

Figures 52F, 128E-F

Pharsalia (s. str.) *pulchroides* Breuning, 1964, *Bull. Soc. R. Sci. Nat. Laos* 12: 50.

Description: *Body* length 18-20 mm and breadth 6.5-8 mm, dark reddish brown to black; head covered with dark reddish brown pubescence for most parts, furnished with yellowish brown pubescence on lateral sides of frons; genae covered with yellowish brown pubescence; vertex furnished with two short and narrow bands at middle; a densely yellowish spot on each side of vertex; antennal segments 1-2 black, covered with blackish pubescence; antennal segments 3-11 dark reddish brown, covered with dark reddish brown pubescence; pronotum covered with dark reddish brown, furnished with a longitudinal yellowish brown pubescence stripe with following: A broad stripe on each lateral side; a short stripe on each side of pronotum, somewhat uncontinued stripe; somewhat sparse small spots or disappearing; scutellum covered with dark yellowish brown pubescence; elytra covered with dark

reddish brown pubescence, furnished with densely pubescent bands with following: A broad transverse whitish pubescence band about $1/4$ as broad as long of elytra at middle of each elytron, somewhat band continued at middle; a densely dark yellowish brown pubescence band at each apice, furnished with a densely whitish pubescence mark on each band; a densely dark yellowish brown pubescence band on middle of basal margin of each elytron; ventral surfaces and legs covered with dark reddish brown pubescence.

Head slightly narrower than anterior margin of prothorax, finely punctured, sparsely large punctures; frons longer than broad, widest at middle; anterior margin slightly concave; genae about $1/2$ as deep as eye-lobes; antennal tubercles adjacent, nearly separated; antennal supports strongly raised. Antennae about 1.8 times as long as body; segment 1 roughly and closely punctured, subcylindrical, apically subtruncated with deeply punctured; segment 3 longer than segment 1 and segment 2 combined; segment 4 slightly shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* widest slightly narrower than elytra, broader than long; disc uneven with rugosus, sparsely granulated; a transverse groove at basal margin; a moderate and fairly raised tubercles at middle behind middle line; basal margin slightly broader than apical margin; lateral sides slightly swollen with strongly and subacutely toothed at middle. Scutellum triangular, rounded at tip. *Elytra* about 2 times as long as broad, narrow at apex, gradually narrow from humeral angles to apex; humeral angles moderately and obtusely raised forward, sparsely granulated; disc furnished with a fairly raised tubercle at each side of scutellum, rather punctured at each side of scutellum and punctures getting finer towards each side and apice; smoothly rounded apically; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long; meso tibiae with small tubercles behind middle; hind tibiae slightly arched; hind tarsal segment 1 as long as segment 2 and segment 3 united and last.

Distribution: Cambodia, Laos, Thailand (new record).

Material examined: Thailand: Chiang Rai Prov.: Wiang Pa Pao, 23.08.2003(1♂, 1♀), 17.03.2005(1♀), Doi Luang, 19.11.2002(1♂).

Remark: This species differs from *P. duplicata* in having elytron is furnished with a broad transverse whitish pubescence band which is about 1/4 as broad as elytra length at middle. Specimens were collected in mid summer, rainy and early winter seasons.

Pharsalia subgemmata (Thomson, 1857)

Figures 52C-D, 128A-B

Monochamus subgemmatus Thomson, 1857, *Arch. Ent.* 1: 294.

Monochamus georgius White, 1858, *Proc. Zool. Soc. Lond.* 26: 407.-

Chevrolat, 1859, *Ann. Soc. Ent. Fr. Ser. 3*, 7: 6.

Cycos subgemmatus: Lacordaire, 1869, *Gen. Col.* 9: 346.

Phasalia (Cycos) subgemmatus: Breuning, 1943, l.c., 329.-Gressitt, l.c., 376.

Description: *Body* length 16-32 mm and breadth 6-11 mm, reddish brown to black; frons covered with brownish pubescence; vertex furnished with two longitudinal brownish pubescence stripes running from antennal tubescles to occiput, and then continued to pronotum; genae each furnished with a longitudinal brownish pubescence stripe, and continued to each lateral side of prothorax; antennal segment 1 black, covered with brownish pubescence; antennal segments 2-11 each reddish brown, covered with brownish pubescence, furnished with reddish brown hairs on apical margin; pronotum black, covered with unevenly brownish pubescence; scutellum reddish brown, darker on margin, covered with brownish pubescence; elytra dark reddish brown, darker on anterior margin, covered with unevenly brownish pubescence; disc furnished with densely brownish pubescence spots throughout; a pair of densely blackish pubescence spots behind scutellum; a pair of

blackish pubescence spots at about 1/4 of each elytron; three densely brownish pubescence bands at 2/3 of each elytron, furnished with densely blackish pubescence spots above each band; scattered with minute small blackish pubescence spots on disc, somewhat united or disappearing; ventral surfaces dark reddish brownish, covered with unevenly brownish pubescence; lateral side of prosternum furnished with a densely brownish pubescence stripe on each side, and continued to mesosternum; abdominal sternum 1st-4th each furnished with four densely brownish spots; legs dark reddish brown, covered with brownish pubescence.

Head slightly narrower than prothorax, finely punctured; frons as long as broad, anterior margin strongly raised, slightly depressed at lateral sides; anterior margin substraight; genae about 1/3 as deep as eye-lobes in male, 1/2 in female; a narrow and shallow groove running from frons to vertex; antennal tubercles narrowly separated. Antennae about 2.2 times as long as body in male, slightly longer than body in female; segment 1 finely punctured, subtruncated at tip with closely and roughly punctured; segment 3 about 1.5 as long as segment 1, slightly swollen at tip; segment 4 slightly shorter than segment 3; segments 4-10 decreasing in length; segment 11 longest in male, longer than segment 10 in female. *Pronotum* distinctly narrower than elytra, slightly longer than broad; anterior margin slightly broader than posterior margin; disc slightly convex, rugulose, sparsely and moderately punctured; a transverse and shallow groove on anterior portion; a transverse and moderately deep groove on posterior portion; apical margin straight; basal margin slightly sinuated; lateral sides strongly swollen with fairly toothed. Scutellum subtrapezoidal, rounded at angles. *Elytra* about 2 times as long as broad, apex distinctly narrow in male, subparallel in female, smoothly rounded apically; disc rather granulate at each side of scutellum and toward to 1/5 of elytra, and then punctured and punctured getting finer toward each sides and apices; humeral angles slightly raised and obtused; basal margin straight; sutural end angles without toothed. *Ventral surfaces* finely punctured, furnished with rugose on prosternum. *Legs* fairly long; hind legs of male longer than female; meso tibiae with small tubercles behind middle; hind tibiae slightly arched; hind tarsal segment 1 as long as segment 2 and segment 3 united and last.

Distribution: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 6.07.2005(1♀), Mae Taeng, 8.03.2002(1♂), 6.07.2003(1♂), Samoeng, 2.02.2006(1♀), Chiang Rai Prov.: Doi Luang, 19.11.2002(1♂), Kamphaeng Phet Prov.: Khlong Lan, 10.01.2002(1♂), Khosam Pi Nakhon, 1.12.2005(1♂); Lampang Prov.: Wang Nua, 11.09.2005(1♂, 1♀), Lamphun Prov.: Thoen, 10.12.2005(1♂), Mae Tha, 12.11.2004(1♀), Mae Hong Son Prov.: Mae Sariang, 2.12.2005(1♂), Nakhonsawan Prov.: Tak Fa, 13.03.2005(1♂), Phitsanulok Prov.: Wang Thong, 16.05.2003(1♀), 5.01.2002(1♂), Tak Prov.: Phob Phra, 5.09.2005(1♀), Uttaradit Prov.: Ban Khok, 15.05.2005(1♀).

Remark: This species differs from *P. duplicata* and *P. pulchroides* in having elytra are covered with unevenly brownish pubescence and furnished with densely brownish pubescence spots throughout. Specimens were collected from winter, early and continued to mid summer and rainy seasons.

Phrissomorimus brunneus Breuning and Itzinger, 1943

Figures 62J-L, 129A-B

Phrissomorimus brunneus Breuning et Itzinger, 1943, *Atti della Società Italiana di Scienze Naturali*. 82: 36-54.

Description: *Body* length 12-17 mm and breadth 5-6 mm, dark reddish brown; body covered with dark brownish pubescence; elytra furnished with a densely reddish brown spot on each apex of elytron, reaching to external suture and touching.

Head slightly narrower than prothorax, shallowly corrugate-vermiculate; frons broader than long, anterior margin concave and narrower than posterior margin; genae about 1/2 as deep as eye-lobes; antennal tubercles moderately separated. Antennae slightly longer than body in male, slightly shorter than body in female; segment 1 rugulose, subcylindrical, slightly obliquely truncated covered with punctured;

segment 3 as long as segment 1, finely punctured, gradually thicken to tip; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* as broad as basal margin of elytra, corrugate-vermiculate; anterior margin as broad as posterior margin; apical margin slightly concave at middle; basal margin sinuated; lateral sides unevenly swollen with moderately and obtusely toothed. Scutellum hemicircular. *Elytra* short, strongly convex, distinctly narrow at tip, smoothly rounded apically; basal margin unevenly sinuated; each elytron furnished with three rows of strong tubercles; strong tubercles densely along lateral sides; interspace between row of tubercles scattered with small tubercles; apical portion sparse tubercles or disappearing; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* short and weak.

Distribution: Myanmar and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Doi Saket, 7.07.2003(1♂), Doi Kham, 1.12.2005(1♀), Chiang Rai Prov.: Wiang Pa Pao, 17.03.2005(1♂), Lampang Prov.: Wiang Nua, 11.09.2005(1♂, 1♀).

Remark: This species is very distinct characters of pronotum is covered with corrugate-vermiculate; elytra are short and strongly convex and three rows of strong tubercles are present on each elytron. Specimens were collected from mid summer, winter and continued to rainy seasons.

Pothyne septemvittipennis Breuning, 1962

Figure 68H

Pothyne septemvittipennis Breuning, 1962, *Bull. Soc. R. Sci. Nat. Laos* 5: 61; 1966, l.c., 34 (Laos).

Description: *Body* length 22 mm and breadth 5.5 mm, subelongate; head dark reddish brown, covered with pale brownish pubescence, furnished with two narrowly longitudinal blackish glabrous bands on vertex; antennae reddish brown to dark

reddish brown, covered with reddish brown pubescence, furnished with silvery pubescence on basal margin of segments 3-5; segments 2-8 each segment furnished with long dark reddish brown hairs along inner side; pronotum covered with pale whitish yellow pubescence for most parts; basal portion covered with reddish brown pubescence; disc furnished with longitudinal whitish yellow pubescence stripes with following: 1st a broad band at middle, starting at apical margin, and then separated to two narrow bands at 1/4, and together at above basal margin, and running continued to basal margin and touching; 2nd a narrow band on each side; 3rd two narrow bands on each sides behind each 2nd band; scutellum covered with pale whitish yellow pubescence; elytra covered with reddish brown pubescence, furnished with longitudinal whitish yellow pubescence stripes with following: 1st a narrow stripe running along each external suture, then continued along external sutures; 2nd a short and narrow stripe at each side of scutellum; 3rd a very narrow stripe starting from middle of basal margin of each elytron, running backward to 9/10 of elytra, somewhat a stripe uncontinued; 4th a broad stripe starting behind humeral angle running to apex, somewhat a stripe uncontinued running; 5th a short and narrow stripe between 4th band and 5th band on each elytron; ventral surfaces covered with whitish yellow pubescence, furnished with a longitudinal whitish yellow pubescence stripe along each lateral side; middle of basal margin of 5th abdominal sternite depressed; legs covered with whitish yellow pubescence, furnished with reddish brown pubescence on apical margin of meso tibiae and hind tibiae.

Head as broad as anterior margin of prothorax, deeply punctured; frons longer than broad, slightly raised, anterior portion broader than posterior portin; anterior margin straight; genae about 1/4 as deep as eye-lobes; antennal tubercles nearly separated; antennal supports slightly raised. Antennae about 1.2 times as long as body; segment 1 finely punctured, subcylindrical, slightly arched; segment 3 slightly shorter than segment 1, subcylindrical, slightly swollen at tip; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longest. *Pronotum* narrower than elytra, broader than long, densely and strongly rugose, scattered with deeply punctured above basal margin; anterior margin as broad as posterior margin; apical margin substraight; basal margin slightly sinuated; lateral sides unevenly and

slightly sinuated without toothed. Scutellum hemicircular, slightly raised. *Elytra* gradually narrow at sides from humeral angles to apex, gradually oblique truncation without toothed, rather punctured at each side of scutellum and punctures getting finer and shallower toward each sides and apices; humeral angles slightly raised; basal margin slightly sinuated; sutural end angles with slightly toothed. *Ventral surfaces* finely punctured; apical margin of 5th abdominal sternite slightly concave. *Legs* short, stout; femora swollen; meso tibiae arched; hind tarsal segment 1 as long as segment 2 and segment 3 united, last longest.

Distribution: Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Pahom Pok, 18.10.2006(1♀).

Remark: The species differs from *P. variegata* in having pronotum is covered with pale whitish yellow pubescence for most parts; basal portion is covered with reddish brown pubescence and furnished with three longitudinal whitish yellow pubescence stripes. The only one specimen was collected in late rainy season.

Pothyne variegata Thomson, 1864

Figures 68I, 132E-F

Pothyne variegata Thomson, 1864, l.c.-Lacordaire, 1872, l.c.-Gahan, 1894,

Ann. Mus. Civ. Genova ser. 2, 14: 78.-Breuning, 1949, *Bull.*

Inst. Sci. Nat. Belg. 25(38): 27; 1966, l.c., 9.

Pothyne niveosparsa Pic, 1908, *Longic.* 7(1): 16.-Gressitt, 1942, *Lingn.*

Nat. Hist. Surv. Mus., Spec. Publ. 8: 31; 1951, l.c. 537.

Description: *Body* length 18-28 mm and breadth 5-8 mm, subelongate, dark reddish brown; head covered with orangey yellow pubescence, furnished with two narrowly longitudinal blackish pubescence bands on vertex; antennae covered with

reddish brown pubescence, furnished with silvery pubescence on basal margin of segments 3-10; segments 2-8 each segment furnished with long dark reddish brown hairs along inner side; pronotum covered with orangey yellow pubescence, furnished with longitudinal orangey yellow pubescence bands with following: 1st a broad band at middle, starting at apical margin, and then separated to two narrow bands at 1/4, and together at above basal margin, and running continued to basal margin and touching; 2nd a narrow band on each side; 3rd a narrow band on each sides behind each 2nd band; scutellum covered with orangey yellow pubescence, sparsely at middle; elytra covered with unevenly reddish brown pubescence, scattered with dark reddish brown spots throughout, somewhat spots united, furnished with orangey yellow pubescence spots and irregularly longitudinal stripes with following: 1st a narrow stripe running along each external suture, then continued along external sutures; 2nd a narrow stripe starting from middle of basal margin of each elytron to 1/4 of elytron, somewhat a stripe shorter; 3rd a narrow stripe starting from 3/4 of basal margin near humeral angles, running above humeral angles, and then running backward to apex, somewhat a stripe uncontinued running; 4th a narrow stripe starting behind humeral angle running to apex, somewhat a stripe uncontinued running; somewhat 3rd stripe and 4th stripe together before apex; basal margin and humeral angles covered with blackish; ventral surfaces covered with brownish pubescence, furnished with orangey yellow pubescence along lateral sides; apical margin of 2-5 abdominal sternite furnished with silvery pubescence; legs covered with brownish pubescence.

Head as broad as anterior margin of prothorax, asperate with punctured and granulate in male, deeply punctured in female; frons longer than broad, slightly raised, anterior portion broader than posterior portion, anterior margin straight; genae about 1/3 as deep as eye-lobes; antennal tubercles nearly separated; antennal supports slightly raised. Antennae about 1.5 times as long as body in male, slightly longer than body in female; segment 1 finely punctured, subcylindrical; segment 3 longer than segment 1, subcylindrical, slightly swollen at tip; segment 4 shorter than segment 3; segment 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, broader than long, densely and strongly rugose, scattered with deeply punctured above basal margin; apical margin slightly swollen; basal margin

slightly sinuated; constrict at basal portion more distinct than apical portion; lateral sides unevenly and slightly sinuated without toothed. Scutellum hemicircular, slightly raised. *Elytra* gradually narrow at sides from humeral angles to apex, smoothly rounded apically, rather punctured at each side of scutellum and punctures getting finer and shallower toward each side and apice; humeral angles slightly raised; basal margin slightly sinuated; sutural end angles without toothed. *Ventral surfaces* finely punctured; apical margin of 5th abdominal sternite concave in male, slightly swollen in female. *Legs* short, stout; femora swollen; hind tarsal segment 1 as long as segment 2 and segment 3 united, last longest.

Distribution: Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 6.07.2005(1♂), Mae Taeng, 2.06.2004(1♂, 2♀), 1.10.2005(1♂), Chiang Rai Prov.: Wiang Pa Pao, 23.08.2003(1♂, 1♀), 17.03.2005(1♀), Lamphun Prov.: Mae Tha, 7.04.2002(1♂, 1♀), 19.11.2004(1♀), Mae Hong Son Prov.: Khun Yuam, 20.06.2004(1♀), Phitsanulok Prov.: Wang Thong, 23.10.2005(1♂), Phrae Prov.: Wang Chin, 15.01.2002(1♀), 6.08.2004(1♂).

Remark: The species differs from *P. septemvittipennis* in having pronotum is covered with orangey yellow pubescence and furnished with three longitudinal densely orangey yellow pubescence bands. Specimens were collected from mid and continued to late summer, rainy, early and late winter seasons.

Pseudanaesthetis langana Pic, 1922

Figure 65K

Pseudanaesthetis langana Pic, 1922, *L'Échange, Revue Linnéenne*. 38(409): 28.

Description: *Body* length 10.5 mm and breadth 3.5 mm, reddish brown; head covered with pale yellowish brown pubescence; antennae covered with reddish brown pubescence; pronotum reddish brown, darker on lateral sides, covered with pale

yellowish brown pubescence; scutellum and elytra covered with reddish brown pubescence; ventral surfaces and legs covered with silvery pubescence.

Head slightly narrower than prothorax; frons broader than long, scattered with deeply punctured; anterior margin straight; genae about 1/7 as deep as eye-lobes; antennal tubercles widely separated; antennal supports fairly raised; vertex furnished with closely and deeply punctured; a narrow and shallow groove running from frons to vertex. Antennae slightly longer than a half of body; segment 1 finely punctured, slightly gradually thicken to tip, rounded tip; segment 3 slightly shorter than segment 1, gradually thicken to tip; segment 4 slightly shorter than segment 3; segment 5 slightly shorter than segment 4; segments 5-11 decreasing in length. *Pronotum* narrower than elytra, broader than long, anterior margin slightly narrower than posterior margin, scattered with moderately and deeply punctured; lateral sides covered with closely, deeply and largely punctured; apical collar smooth, and broader than basal collar; a transverse and deep groove running at 1/4 of pronotum; a longitudinal and deep groove at middle, starting behind middle line to near basal margin; apical margin straight; basal margin slightly sinuated; lateral sides swollen, with fairly and acutely toothed at middle; each fairly toothed slightly bent backward at tip. Scutellum slightly raised subrectangular. *Elytra* distinctly narrow at apex, slightly narrow at sides from humeral angles to apex, smoothly rounded apically, rather closely, largely and deeply punctured at each side of scutellum and toward at 1/8 of elytra; each elytron furnished with ten longitudinal rows of fairly punctured; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* short, stout; femora swollen; hind tarsal segment 1 shorter than segment 2 and segment 3 united, last longest.

Distribution: Thailand, China, India and Vietnam.

Material examined: Thailand: Kamphaeng Phet Prov.: Khlong Lan, 5.12.2005(1♀).

Remark: This species is very distinct characters of pronotum is reddish brown, darker on lateral sides and covered with pale yellowish brown pubescence; lateral sides are covered with closely, deeply and largely punctured and a fair and acute dentation is placed on middle. The only one specimen was collected in mid winter season.

Pseudomacrochenus antennatus (Gahan, 1894)

Figures 53A-B, 130E-F

Pelargoderus antennatus Gahan, 1894, *Ann. Mus. Civ. Genova* 34: 34.

Pelargoderus apicalis Gahan, 1900, *Ann. Mag. Nat. Hist. ser. 7*, 5: 348.

Macotagus rufulosparsus Fairmaire, 1902, *Bull. Soc. Ent. Fr.*, 268.

Pelargoderus perplexus Schwarzer, 1926, *Ent. Mitteil.* 15: pl. 2.

Pseudomacrochenus antennatus: Breuning, 1943, l.c.-Gressitt, 1951, l.c.

Description: *Body* length 29-32 mm and breath 7-9 mm, reddish brown to dark brown; head dark brown, covered with brown pubescence; clypeus brown, glabrous; labrum dark brown, covered with brown pubescence, furnished with long reddish brown hairs; antennae about 2.3 times as long as body; segments 1-3 dark brown, remainder reddish brown, covered with brown pubescence, furnished with densely long reddish brown hairs along under side of segment 3 and apical of segments 4-5; pronotum dark brown, covered with brownish pubescence but unevenly, furnished with a narrowly longitudinal brownish pubescence stripe on each lateral side; scutellum reddish brown, covered with brownish hairs; elytra reddish brown, darker on anterior portion, covered with brown pubescence, furnished with densely yellowish brown spots and bands with following: A pair of small spots on 1/4 of elytra near inner sutures; a transverse band on each side behind middle line; a pair of longitudinal oblong bands near apex; small spots scattered on disc, somewhat united or

disappearing; ventral surfaces dark brown, covered with brown pubescence but unevenly; legs dark reddish brown covered with brownish pubescence but unevenly on femora.

Head longer than broad, finely punctured; a narrow and shallow groove running from frons to vertex; genae about 1/3 as deep as eye-lobes; antennal tubercles moderately separated; antennal supports slightly raised. Antennae about 2.5 times as long as body; segment 1 asperate, subtruncate apex covered with roughly punctured; segment 3 about 2.2 times as long as segment 1 and segment 2 united; segment 4 shorter than segment 3, as long as segment 5; segment 6 longer than segment 5; segments 6-10 gradually decreasing in length; segment 11 longer than segment 3. *Pronotum* narrower than elytra, longer than broad; apical margin slightly narrower than basal margin; disc covered with rugulose-vermiculate; lateral sides uneven without toothed; apical margin concave at middle; basal margin sinuate. Scutellum subtrapezoidal. *Elytra* rather granulate to each side of scutellum 1/4 of elytra and then finely punctured toward each sides and apices; humeral angles slightly raised forward; basal margin distinctly broader than apical margin; gradually narrow from basal to apical margin; narrow and rounded apex; slightly dehiscent. *Ventral surfaces* finely punctured most hidden by pubescence, furnished with rugose on prosternum. *Legs* long; fore legs longest; femora slightly swollen; moderately toothed on under side of fore tibia near apex; meso tibia slightly swollen near apex.

Distribution: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, Vietnam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Inthanon, 15.08.2006(3♂), Doi Saket, 17.11.2007(1♀).

Remark: This species is very distinct characters of pronotum is covered with brownish pubescence and furnished with a narrowly longitudinal brownish pubescence stripe on each lateral side; elytra are reddish brown furnished with a pair

of longitudinal yellowish brown oblong bands near apex. Specimens were collected in mid rainy and early winter seasons.

Pseudomeges marmoratus (Westwood, 1848)

Figures 64A-D

Hammaticherus marmoratus Westwood, 1848, *Cabin. Orient. Ent.* 11, pl. 5, fig. 1.

Meges marmoratus: Lacordaire, 1869, *Gen. Col.* 9: 311.-Stebbing, 1914, *Ind. For. Ins.* 371, fig. 248.

Pseudomeges marmoratus: Breuning, 1943, l.c., 300.-Gressitt, 1951, l.c., 374.

Description: *Body* length 65-90 mm and breadth 17-27 mm, very large sized, black, covered with olive-green pubescence; each segment of antennae covered with densely olive-green pubescence on anterior portion alternated with densely blackish pubescence on posterior portion; elytra furnished with large and small marks scattered throughout, somewhat marks combined, or disappearing.

Head large, broader than anterior margin of prothorax, finely punctured; eyes small; genae about 3/4 as deep as eye-lobes, lateral sides strongly extend; frons broader than long in female, as broad as long in male; a transverse and deep groove running above anterior margin of frons; a narrow and shallow groove running from frons to vertex; mandibles very strong about 1.4 times as long as frons in female, as long as frons in male. Antennae about 2 times as long as body in male, about 1.3 times as long as body in female; segment 1 finely punctured, minutely rugulose under side, gradually swollen to apex; subtruncated apex with finely punctured; segment 3 slightly arched, 1.5 times as long as segment 1, cylindrical; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, finely punctured, slightly convex with a narrow and shallow groove running from anterior margin to posterior margin; anterior margin and posterior margin sinuate; lateral sides slightly swollen with very strongly and acutely

toothed, slightly bent backward. Scutellum trapezoidal. *Elytra* about 2.2 times as long as broad, slightly concave behind humeral angles; widest at middle and then gradually narrow to apex; rounded apex; humeral angles slightly raised forward; each elytron furnished with two distinct costae; sutural end angles without toothed; slightly dehiscent. *Ventral surfaces* finely punctured. *Legs* fairly long, stout.

Distribution: India, Bhutan, Myanmar, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 2.03.2002(3♂, 4♀), 5.09.2003(1♀), 6.07.2005(1♂).

Remark: This species is very distinct characters of body is very large sized, black and covered with olive-green pubescence; mandibles are very strong about 1.4 times as long as frons in female, as long as frons in male; lateral sides of pronotum are slightly swollen with very a strong and acuted dentation. Specimens were collected in mid summer and rainy seasons.

Pseudomyagrus waterhousei (Gahan, 1888)

Figures 41G, 129C-D

Cyriocrates waterhousei Gahan, 1888, *Ann. Mag. Nat. Hist. Lond.*, (6), 1(4): 270-281. 1 pl. 5 fig.

Nemophas eupholoides Nonfried, 1894, *Deutsche Entomologisches Nachrichten*, Berlin. 20: 9-14, 28-32, 45-48, 81-83.

Pseudomyagrus borneensis Breuning, 1950, *Arkiv för Zoologi. Stockholm.* (ser. 2). 1(19): 265-274.

Description: *Body* length 23-29 mm and breadth 8-12 mm, black; head covered with blue green pubescence tinged with purple bronze, furnished with two densely blackish bands on vertex, somewhat two spots; antennal segment 1 covered

with blue green pubescence in female, tinges with purple bronze, furnished with blackish pubescence on apical margin in male; antennal segment 2 covered with pale blue pubescence tinges with purple bronze; segments 3-11 each covered with blue green pubescence tinges with purple bronze alternated with dark reddish brown pubescence in female, blue green pubescence tinges with purple bronze band gradually narrow from segment 3 to segment 11; antennal segments 3-7 each covered with blue green pubescence tinges with purple bronze alternated with dark reddish brown pubescence in male, blue green pubescence tinges with purple bronze band gradually narrow from segment 3 to segment 7; prothorax, ventral surfaces and legs covered with blue green pubescence tinges with purple bronze; scutellum covered with blue green pubescence; elytra covered with blue green pubescence tinges with purple bronze, furnished with four transverse rows of small transversely rectangular black spots, minutely small black spots on anterior portion.

Head as broad as anterior margin of prothorax, finely punctured; frons slightly longer than broad, anterior margin straight; genae $1/3$ as deep as eye-lobes; antennal tubercles moderately separated; antennal supports strongly raised; a narrow and shallow groove running from frons to vertex, and then continued to pronotum. Antennae about 1.5 times as long as body in male, slightly longer than body in female; segment 1 finely punctured, gradually thicken to tip, slightly oblique truncation at tip covered with sparsely punctured; segment 3 about 1.3 times as long as segment 1, subcylindrical, slightly swollen at tip; segment 4 slightly shorter than segment 3; segments 4-10 decreasing in length; segment 11 slightly longer than segment 10. *Pronotum* distinctly narrower than elytra, slightly broader than long, slightly convex, sparsely and moderately punctured on sides; a narrow and shallow groove running continued from vertex to middle of basal margin of pronotum, but not touching; basal margin slightly broader than apical margin; sinuate groove on basal portion; apical margin substraight; basal margin sinuated; lateral sides swollen with strongly and acutely toothed at middle. Scutellum subtriangular, rounded at tip. *Elytra* strongly convex from basal margin to $3/4$ of elytra, and then gradually obliquely depressed to apex, slightly truncated without toothed, granulated at each side of scutellum and humeral angles, rather punctured behind scutellum and

punctures getting finer toward sides and apices; each punctures with dark reddish brown hairs in the bottom; basal margin sinuated; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, stout.

Distribution: Malaysia and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Pahom Pok, 28.10.2006(1♀), Mae Hong Son Prov.: Mae Sariang, 5.03.2006(1♂, 1♀).

Remark: This species is very distinct characters of body is black covered with blue green pubescence tinge with purple bronze; elytra are furnished with four transverse rows of rectangular black spots. Specimens were collected in mid summer and late rainy seasons.

Pseudonemophas versteegii (Ritsema, 1881)

Figures 41C-E, 129E-F

Anoplophora versteegii Ritsema, 1881, *Notes from the Leyden Museum*. 3: 151-157.

Description: *Body* length 28-36 mm and breadth 7-11 mm, black, covered with silvery blue pubescence for most parts; antennal segments 3-11 each covered with silvery pubescence alternated with dark reddish brown pubescence in female; antennal segment 11 covered with dark reddish brown in male; pronotum furnished with three small glabrous black spots at middle; elytra furnished with eight irregularly transverse rows of small black glabrous spots, somewhat spots united or disappearing; apical mid tibiae and hind tibiae furnished with blackish hairs.

Head as broad as anterior margin of prothorax, finely punctured; frons slightly broader than long, anterior margin substraight; genae 1/3 as deep as eye-lobes; antennal tubercles moderately separated; a narrow and shallow groove running from frons to vertex. Antennae about 2.2 times as long as body in male, about 1.5 times as long as body in female; segment 1 finely punctured, slightly rugulose at inner basal

margin, gradually thicken to tip, slightly oblique truncation at tip with punctured; segment 3 about 1.3 times as long as segment 1, finely punctured, subcylindrical, slightly swollen at tip; segment 4 slightly shorter than segment 3; segments 4-10 decreasing in length; segment 11 longest in male, longer than segment 10 in female. *Pronotum* narrower than elytra, broader than long, finely punctured, sparsely and moderately punctured, furnished with a dark reddish brown hair in each bottom; anterior margin as broad as posterior margin; apical margin straight; basal margin sinuated; lateral sides slightly swollen with moderately and acutely toothed. Scutellum hemicircular, longer than broad. *Elytra* subparallel, slightly oblique truncation without toothed, rather punctured at each side of scutellum and punctures getting finer toward sides and apices in male, finely punctured throughout except on glabrous spots which is covered with moderately punctured in female; basal margin sinuated; apex slightly depressed; outer apical corner without toothed; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, stout.

Distribution: Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 5.09.2004(1♂, 1♀), Fang, 2.03.2002(1♀), Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♂, 1♀), 23.08.2003(1♂), 17.03.2005(1♀), Lampang Prov.: Chae Son, 8.07.2004(1♂), Nan Prov.: Mae Charim, 11.06.2002(1♀), Phayao Prov.: Chiang Kham, 9.01.2004(1♂), Phitsanulok Prov.: Chat Trakan, 3.05.2005(1♀), Tak Prov.: Tha Song Yang, 2.02.2006(1♀).

Remark: This species is very distinct characters of body is black and covered with silvery blue pubescence for most parts; elytra are furnished with eight irregularly transverse rows of small black glabrous spots. Specimens were collected from late winter, early and continued to mid summer season and rainy seasons.

Pterolophia bituberculatithorax (Pic, 1930)

Figure 67B

Ropica bituberculatithorax Pic, 1930, *Mel. Ent.* 56: 20.

Pterolophia (s. str.) *bituberculatithorax*: Breuning, 1965, l.c., 266.

Description: *Body* length 5-7 mm and breadth 1.5-2.5 mm, dark reddish brown to black; head covered with dark brown pubescence, furnished with two large oval dark reddish brown pubescence bands on vertex; antennal segment 1 covered with reddish brown pubescence, scattered with whitish and yellowish brown hairs; antennal segment 2 covered with reddish brown pubescence; antennal segments 3-4 covered with reddish brown pubescence, furnished with whitish and yellowish brown hairs on apical and basal margin, and middle; antennal segments 5-11 each covered with silvery pubescence, tinges with bronze on basal portion, and covered with reddish brown pubescence on apical portion; prothorax covered with reddish brown pubescence but unevenly, darker on pronotum, furnished with two small yellowish brown pubescence spots on middle of basal margin; scutellum covered with dark reddish brown pubescence, furnished with yellowish brown pubescence at sides; elytra covered with dark brown to dark reddish brown pubescence, furnished with a pair of largely and irregularly subtrapezoidal whitish brown pubescence bands at 2/3 of elytra; ventral surfaces and legs covered with brownish pubescence.

Head slightly broader than anterior margin of prothorax, deeply and closely punctured; frons broader than long, anterior portion as broad as posterior portion, anterior margin concave; genae about as deep as eye-lobes in male, 3/4 as deep as eye-lobes in female; antennal tubercles widely separated; antennal supports strongly raised, inner ridge strongly raised and slightly acuted; a narrow and shallow groove running from frons to vertex; strongly depressed behind antennal tubercles. Antennae as long as body in male, longer than a half of body in female; segment 1 short, deeply and closely punctured; segment 3 longer than segment 1, finely punctured, slightly swollen at tip; segment 4 shorter than segment 3, slightly curved; segment 5 shorter

than segment 4; segments 5-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, broader than long, covered with deeply and closely punctured, furnished a pair of strongly raised of tubercles at middle line; anterior margin narrower than posterior margin, fairly convex; basal margin constrict more than apical margin; apical margin slightly swollen at middle; basal margin straight; lateral sides swollen without toothed. *Scutellum* hemicircular, longer than broad. *Elytra* about 3/5 as broad as long of elytra, narrow at tip, fairly depressed above middle, gradually oblique from 2/3 of elytra to apex, subtruncated without toothed, deeply punctured throughout; disc furnished with a strongly raised tubercle on each side of scutellum; a longitudinal ridge running from middle to 2/3 of each elytron, and then strongly raised at the end of ridge; a longitudinal ridge starting from middle of basal margin of each elytron to apice; lateral sides strongly oblique; lateral margin slightly bent to ventral surfaces; outer apical conner without toothed; sutural end angles without toothed. *Ventral surfaces* finely punctured; 5th abdominal sternite furnished with longitudinal groove at middle in female, disappearing in male. *Legs* short, weaken; hind tarsal segment 1 shorter than segment 2 and segment 3 united, and last about 1.5 time as long as segment 2 and segment 3 united.

Distribution: Vietnam, Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Chiang Dao, 5.09.2002(1♂), Samoeng, 2.09.2003(1♂), Mae Chaem, 1.03.2006(1♀), Fang, 6.07.2005(1♂, 1♀), Doi Saket, 24.08.2007(1♀), Chiang Rai Prov.: Wiang Pa Pao, 17.03.2005(1♂), Mae Hong Son Prov.: Mae Sariang, 22.07.2004(1♂, 1♀), 2.12.2005(1♀), Phetchabun Prov.: Nam Nao, 20.02.2005(1♀), Tak Prov.: Tha Song Yang, 6.08.2003(1♂, 1♀): Phop Phra, 5.05.2004(1♀).

Remark: This species is very distinct characters of elytra are covered with dark brown to dark reddish brown pubescence and furnished with a pair of largely and irregularly subtrapezoidal whitish brown pubescence bands at 2/3 of elytra; pronotum is covered with deeply and closely punctured and a pair of strongly raised of tubercle

is present on middle line. Specimens were collected from early and continued to mid summer, rainy seasons and mid winter seasons.

Pterolophia consularis (Pascoe, 1866)

Figure 66C

Praonetha consularis Pascoe, 1866, *Proc. Zool. Lond.*, 240.

Pterolophia consularis: Gahan, 1894, *Ann. Mus. Civ. Genova* 34: 68.-
Breuning, 1965, l.c., 313.

Praonetha cristulata Fairmaire, 1896, *Ann. Soc. Ent. Belg.* 50: 391.

Pterolophia notaticeps Pic, 1934, *Mel. Exot. Ent.* 64: 12.

Description: *Body* length 12 mm and breadth 5.5 mm, dark reddish brown; frons and genae covered with yellowish brown pubescence, furnished with whitish hairs throughout; vertex covered with dark brown pubescence, furnished with two longitudinal blackish pubescence bands on vertex; antennal segment 1 covered with reddish brown pubescence, furnished with a small whitish brown pubescence spot on middle of external side; antennal segments 2-7 covered with reddish brown pubescence, furnished with whitish pubescence on inner side; antennal segments 8-11 covered with reddish brown pubescence; pronotum covered with dark brownish on pronotum pubescence, furnished with two longitudinal yellowish brown pubescence stripes, starting from middle of apical margin to middle line, and then two stripes together, and then continued running to basal margin; lateral sides covered with yellowish brown pubescence, scattered with whitish hairs; scutellum covered with yellowish brown pubescence, furnished with a longitudinal blackish pubescence band at middle; elytra covered with dark reddish brown pubescence, furnished with densely yellowish brown pubescence with following: 1st a irregular and large band covered lateral sides and behind scutellum; 2nd a broad hemicircular band on apical portion; 3rd a oblique and broad band at lateral side starting from each humeral angle to above

middle; 4th small spots scattered behind 2nd band, somewhat spots united; 5th a narrowly transverse and zigzag stripe at 2/3 of elytra, somewhat a band separated at middle; 6th a transversely zigzag band behind 5th band, widest at middle, somewhat a band separated at middle; ventral surfaces covered with pale brownish pubescence, furnished with brownish pubescence on lateral sides of meta thoracic sternite; legs covered with pale brownish pubescence.

Head slightly narrower than anterior margin of prothorax, deeply punctured on between upper eye-lobes, sparsely on frons; frons broader than long, slightly convex, anterior portion slightly narrower than posterior portion, anterior margin substraight; genae as deep as eye-lobes; antennal tubercles widely separated; antennal supports strongly raised; a narrow and shallow groove running from frons to vertex; fairly depressed between antennal tubercles. Antennae shorter than body; segment 1 finely punctured, depressed along inner sides, gradually thicken to tip; segment 3 as long as segment 1, finely punctured, slightly curved, slightly swollen at tip; segment 4 shorter than segment 3, fairly curved; segment 5 about 3/5 as long as segment 4; segments 5-10 decreasing in length; segment 11 as long as segment 10. *Pronotum* narrower than elytra, broader than long, densely and deeply punctured on middle of behind apical margin; anterior margin slightly narrower than posterior margin, slightly convex; basal margin constrict more than anterior margin; apical margin slightly swollen at middle; basal margin straight; lateral sides slightly swollen without toothed. Scutellum subtriangular, rounded at tip, slightly raised. *Elytra* about 1/2 as broad as long of elytra, narrow at tip, strongly oblique from 2/3 of elytra to apex, slightly truncated without toothed, rather punctured at each side of scutellum and punctures getting finer toward sides and apices; a fairly raised tubercle at each side of scutellum; each elytron furnished with three longitudinal ridges on lateral side, a inner ridge shortest, a longest ridge running from middle of basal margin of each elytron to near apice; fairly depressed at middle; basal margin substraight; strongly oblique along lateral sides; sutural end angles without toothed. *Ventral surfaces* finely punctured; 5th abdominal sternite furnished with a longitudinal groove at middle. *Legs* short, stout; hind tarsal segment 1 shorter than segment 2 and segment 3 united, and last.

Distribution: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, Laos and Thailand.

Material examined: Thailand: Mae Hong Son Prov.: Mae Sariang, 2.12.2005(1♀).

Remark: The species differs from *P. minoconsularis* in having elytra are covered with dark reddish brown pubescence and furnished with a broad hemicircular band on apical portion. The only one specimen was collected in mid winter season.

Pterolophia dorsalis (Pascoe, 1858)

Figure 67A

Sthenias dorsalis Pascoe, 1858, *Trans. Ent. Soc. Lond.* Ser. 2, 4: 251.

Anaches dorsalis: Pascoe, 1865, *Trans. Ent. Soc. Lond.* Ser. 3, 3: 160.

Anaches albonotatus Pic, 1932, *Mel. Exot. Ent.* 59: 25.

Pterolophia (s. str.) *dorsalis*: Breuning, 1965, l.c., 209.

Description: Body length 15 mm. and breadth 5 mm.; head dark reddish brown, covered with dark reddish brown pubescence but unevenly alternated with brown pubescence throughout; antennae reddish brown, darker on segments 1-3, covered with reddish brown pubescence; pronotum dark reddish brown, pale on anterior and posterior margin, covered with reddish brown pubescence but unevenly, furnished with whitish hairs on apical and basal margin; scutellum dark reddish brown, pale at middle, covered with dark reddish brown pubescence; elytra reddish brown, darker on anterior portion, covered with dark reddish brown pubescence, furnished with a broadly transverse and zigzag whitish pubescence band, about 1/2 as broad as long of elytra, starting above middle line; ventral surfaces reddish brown, darker on thoracic sternite; thoracic sternites covered with reddish brown pubescence;

abdominal sternites covered with reddish brown pubescence, furnished with long pale yellowish brown hairs along basal margin of each segment; legs dark reddish brown, covered with dark reddish brown pubescence, furnished with brownish hairs on hind femur.

Head slightly broader than anterior margin of prothorax, scattered with deeply punctured; frons broader than long, slightly convex, anterior portion slightly narrower than posterior portion; anterior margin straight; genae $\frac{1}{3}$ as deep as eye-lobes; antennal tubercles widely separated; antennal supports strongly raised; a narrow and shallow groove running from frons to vertex; fairly depressed between antennal tubercles. Antennae slightly longer than body; segment 1 finely and closely punctured, slightly depressed along inner sides, distinctly constrict at basal margin; segment 3 longer than segment 1, finely and closely punctured, slightly curved, distinctly swollen at tip; segment 4 slightly shorter than segment 3, slightly curved; segments 5-10 decreasing in length; segment 11 as long as segment 10. *Pronotum* narrower than elytra, broader than long, closely and deeply punctured; anterior margin about as broad as posterior margin; a transverse and deep groove on anterior portion; two fairly raised tubercles at middle line; apical margin fairly raised, substraight; basal margin slightly depressed and sinuated; lateral sides slightly swollen without toothed. Scutellum hemicircular, as broad as long, slightly raised. *Elytra* about $\frac{1}{2}$ as broad as long of elytra, gradually narrow to tip, sides slightly concave at middle, gradually oblique from $\frac{4}{5}$ of elytra to apex, rather punctured at each side of scutellum and punctures getting finer toward sides and apices, minutely granulated at each side of scutellum toward to each humeral angle, fairly depressed behind scutellum; apex very strongly depressed, subtruncated without toothed; humeral angles slightly raised forward; basal margin slightly sinuated; strongly oblique along lateral sides, and lateral margins slightly bent to ventral surfaces; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, stout; hind tarsal segment 1 shorter than segment 2 and segment 3 united, and last longest.

Distribution: India, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Sutep, 2.05.2005(1♂).

Remark: This species is very distinct characters of pronotum is covered with closely and deeply punctured and two fairly raised tubercles are present on middle line; elytra are reddish brown covered with dark reddish brown pubescence and furnished with a transverse and zigzag whitish pubescence band which is about 1/2 as broad as long of elytra. The only one specimen was collected in early rainy season.

Pterolophia humerosa (Thomson, 1865)

Figure 66F

Mycerinus humerosus Thomson, 1865, *Syst. Cer.*, 550.

Lychrosis albonotata Pic, 1918, *Mel. Exot. Ent.* 27: 10.

Pterolophia (Lydhrosis) humerosa: Breuning, 1965, *l.c.*, 460.

Description: *Body* length 18 mm and breadth 7 mm, dark reddish brown, darker on head, covered with dark reddish brown pubescence; antennal segments 4-5 covered with silvery pubescence, each segment furnished with dark reddish brown pubescence on apical margin.

Head narrower than prothorax, deeply punctured throughout; frons broader than long, slightly convex, anterior portion slightly narrower than posterior portion, widest at middle, anterior margin substraight; genae 1/2 as deep as eye-lobes; antennal tubercles widely separated; antennal supports strongly raised; a narrow and shallow groove running from frons to vertex; fairly depressed between antennal tubercles. Antennae slightly shorter than a half body; segment 1 finely punctured, slightly depressed along inner sides, subcylindrical; segment 3 longer than segment 1, finely punctured, slightly curved, slightly swollen at tip; segment 4 shorter than segment 3; segment 5 about 3/5 as long as segment 4; segments 5-10 decreasing in length; segment 11 as long as segment 10. *Pronotum* narrower than elytra, broader

than long, closely and deeply punctured; anterior margin about as broad as posterior margin, slightly depressed; basal margin slightly depressed; apical and basal margin substraight; lateral sides slightly swollen without toothed. Scutellum hemicircular, broader than long. *Elytra* about 3/5 as broad as long of elytra, lateral sides slightly concave behind humeral angles, and then gradually extend to 2/3 of elytra, and gradually narrow to apex; disc slightly depressed from basal margin to above middle line, and then slightly convex at middle, and gradually oblique from 2/3 of elytra to apex, deeply punctured throughout; apex narrow and obliquely truncated without toothed, concave at middle; fairly depressed at middle of basal margin of each elytron; humeral angles slightly raised forward; basal margin slightly sinuated; strongly oblique along lateral sides, and lateral margins slightly bent to ventral surfaces; sutural end angles without toothed. *Ventral surfaces* finely punctured; a transverse and deep groove on each side of meta thoracic sternite above basal margin. *Legs* fairly long, stout; hind tarsal segment 1 shorter than segment 2 and segment 3 united, and last.

Distribution: India, Vietnam, Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Mae Taeng, 2.06.2004(1♀).

Remark: The species differs from *P. zebrine reductesignata* in having elytra are covered with dark reddish brown pubescence without whitish pubescence spots. The only one specimen was collected in early rainy season.

Pterolophia lateralis Gahan, 1894

Figures 66D, 130A-B

Pterolophia lateralis Gahan, 1894, *Ann. Mus. Civ. Genova* 34: 65.

Pterolophia lunigera Aurivillius, 1930, *Arkiv. Zool.* 8(22): 25.

Pterolophia (Hylobrotis) lateralis: Breuning, 1965, l.c., 363.

Description: *Body* length 10-11 mm and breadth 3-4 mm, dark reddish brown; head covered with dark brown pubescence, scattered with whitish hairs; antennal segments 1-3 covered with brownish pubescence, scattered with small dark reddish brown pubescence spots; antennal segment 4 covered with brownish pubescence, furnished with dark reddish brown pubescence on apical and basal margin; antennal segments 5-11 covered with dark reddish brown pubescence; pronotum covered with brownish pubescence, furnished with two longitudinal dark reddish brown pubescence stripes on middle, running from apical margin to basal margin; scutellum covered with dark reddish brown pubescence, furnished with brownish pubescence at middle; elytra covered with dark brown pubescence, furnished with large hemicircular dark reddish brown pubescence band on each lateral side; a broad curved band running along inner side of each a large hemicircular band; ventral surfaces covered with brownish pubescence, scattered with small dark reddish brown pubescence spots; legs covered with brownish pubescence, scattered with small dark reddish brown pubescence spots.

Head narrower than prothorax, deeply punctured; frons broader than long, anterior portion narrower than posterior portion, anterior margin slightly concave; genae $\frac{3}{4}$ as deep as eye-lobes; antennal tubercles widely separated; a narrow and shallow groove running from frons to vertex; fairly depressed between antennal tubercles. Antennae longer than a half of body; segment 1 finely punctured, depressed along inner sides, gradually thicken to tip; segment 3 slightly shorter than segment 1, finely punctured, slightly curved, slightly swollen at tip; segment 4 slightly longer than segment 3; segment 5 about $\frac{2}{3}$ as long as segment 4; segments 5-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, broader than long, deeply and closely punctured; anterior margin narrower than posterior margin, slightly convex; anterior margin distinctly constrict more than basal margin; apical and basal margin substraight; lateral sides swollen without toothed. Scutellum hemicircular, broader than long, slightly raised. *Elytra* about $\frac{1}{2}$ as broad as long of elytra, narrow at tip, gradually oblique from $\frac{2}{3}$ of elytra to apex, subtruncated without toothed, rather punctured at each side of scutellum and punctures getting finer toward sides and apices; basal margin substraight; strongly

oblique along lateral sides; outer apical angles without toothed; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* short, stout; hind tarsal segment 1 slightly shorter than segment 2 and segment 3 united, and last longest.

Distribution: Indonesia, Myanmar, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 22.09.2006(1♂), 2.03.2002(1♀).

Remark: This species is very distinct characters of pronotum is covered with brownish pubescence and furnished with two longitudinal dark reddish brown pubescence stripes on middle; elytra are covered with dark brown pubescence and a large hemicircular dark reddish brown pubescence band is present on each lateral side. Specimens were collected in mid summer and late rainy seasons.

Pterolophia mimoconsularis Breuning, 1968

Figure 66B

Pterolophia (Hylobrotus) mimoconsularis Breuning, 1968, *Bull. Soc. R. Sci. Nat. Laos* 16: 19 (Laos).

Description: *Body* length 13 mm and breadth 5 mm, dark reddish brown; head covered with brownish to reddish brown pubescence; antennal segments 1-3 covered with brownish pubescence, darker on external sides of segment 1; antennal segment 4 covered with brownish pubescence, furnished with dark reddish brown pubescence on apical margin; antennal segments 5-11 covered with dark reddish brown pubescence; pronotum covered with brownish to dark reddish brown pubescence; elytra covered with dark reddish brown pubescence, furnished with densely brownish pubescence bands with following: A narrow circular band on apical portion, starting from lateral side of scutellum, running gradually curved backward middle line, and then gradually curved running forward lateral side of scutellum; a irregular mark on each side above middle, somewhat marks and a narrow circular band united; a pair of short curved

bands at 3/4 of elytra; a short band at 3/4 of each elytron near each a short curved band; a pair of moderate spots on apical margin; apex covered with brownish pubescence; ventral surfaces covered with brownish pubescence; 1st-4th abdominal sternite furnished with long whitish hairs along basal margin; legs covered with dark reddish brown pubescence.

Head as broad as anterior margin of prothorax, scattered with deeply punctured; frons broader than long, slightly convex, anterior portion as broad as posterior portion, widest at middle; anterior margin straight; genae 3/4 as deep as eye-lobes; antennal tubercles widely separated; a narrow and shallow groove running from frons to vertex; fairly depressed between antennal tubercles. Antennae slightly longer than a half body; segment 1 finely punctured, depressed along inner sides, gradually thicken to tip; segment 3 slightly shorter than segment 1, finely punctured, slightly curved, slightly swollen at tip; segment 4 about as long as segment 3; segment 5 about 1/2 as long as segment 4; segments 5-10 decreasing in length; segment 11 slightly longer than segment 10. *Pronotum* narrower than elytra, broader than long, scattered with deeply punctured; anterior margin narrower than posterior margin, slightly convex; anterior margin distinctly constrict more than basal margin; apical margin slightly swollen at middle; basal margin straight; lateral sides slightly swollen without toothed. Scutellum subtriangular, rounded at tip, slightly raised. *Elytra* about 1/2 as broad as long of elytra, narrow at tip, gradually oblique from 2/3 of elytra to apex, smoothly rounded apically, rather punctured at each side of scutellum and punctures getting finer toward sides and apices, sparsely granulate on apical portion; a short longitudinal and fairly raised tubercle at each side of scutellum, furnished with minutely granulate; each elytron furnished with three longitudinal ridges on lateral side, inner ridge shortest; slightly depressed at middle; basal margin straight; strongly oblique depression along lateral sides; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* short, stout; hind tarsal segment 1 shorter than segment 2 and segment 3 united, and last.

Distribution: Laos and Thailand (new record).

Material examined: Thailand: Phetchabun Prov.: Nam Nao, 2.04.2002(1♂).

Remark: The species differs from *P. consularis* in having elytra are covered with dark reddish brown pubescence and furnished with narrowly circular brownish pubescence band on apical portion. The only one specimen was collected in late summer season.

Pterolophia paralaosensis Breuning, 1968

Figure 66A

Pterolophia (Hylobrotus) paralaosensis Breuning, 1968, *Bull. Soc. R. Sci.*

Nat. Laos 16: 19 (Laos).

Description: *Body* length 10.5 mm and breadth 4 mm, dark reddish brown; head covered with dark yellowish brown pubescence; antennae reddish covered with reddish brown pubescence, furnished whitish pubescence inner sides of segment 4; pronotum covered with dark yellowish brown pubescence, sparsely furnished with dark reddish brown hairs on pronotum; scutellum covered with dark yellowish brown pubescence, sparsely furnished with whitish hairs on basal margin; elytra covered with dark reddish brown pubescence, furnished with a broad transverse brownish pubescence band about 1/2 as broad as long of elytra at middle portion; ventral surfaces covered with brownish pubescence, furnished with small dark reddish brown pubescence spots throughout; 1st abdominal sternite furnished with long yellowish brown hairs along basal margin; legs covered with reddish brown to dark reddish brown pubescence, furnished with small dark reddish brown pubescence spots.

Head slightly narrower than prothorax, densely, closely and deeply punctured on vertex; frons broader than long, slightly convex, scattered with deeply punctured, anterior portion as broad as posterior portion, anterior margin slightly concave; genae 1/2 as deep as eye-lobes; antennal tubercles widely separated; antennae supports slightly raised; a narrow and shallow groove running from frons to vertex. Antennae shorter than a half body; segment 1 finely and closely punctured, depressed along

inner sides, gradually thicken to tip; segment 3 longer than segment 1, finely punctured, slightly curved, slightly swollen at tip; segment 4 about as long as segment 3, slightly curved; segment 5 about 1/2 as long as segment 4; segments 5-10 decreasing in length; segment 11 slightly longer than segment 10. *Pronotum* narrower than elytra, broader than long, closely and deeply punctured; anterior margin as broad as posterior margin, slightly convex; basal margin fairly depressed; apical margin slightly swollen at middle; basal margin slightly sinuated; lateral sides slightly swollen without toothed. Scutellum hemicircular, rounded at tip, slightly raised, longer than broad. *Elytra* about 1/2 as broad as long of elytra, subparallel to 3/4 of elytra, and then gradually narrow to apex; disc gradually oblique from 3/4 of elytra to apex, smoothly rounded apically, deeply and roughly punctured throughout; slightly raised at each side of scutellum; each elytron furnished with three longitudinal ridges on lateral side, inner ridge shortest; interspaces between ridges furnished with deeply punctured; fairly depressed behind middle; humeral angles slightly raised forward; basal margin slightly sinuated; strongly oblique along lateral sides, and then lateral margins slightly bent to ventral surfaces; sutural end angles without toothed. *Ventral surfaces* finely punctured; basal of meso-sternal process strongly depressed; lateral sides of meta sternite fairly raised. *Legs* short, stout; hind tarsal segment 1 as long as segment 2 and segment 3 united, and last longest.

Distribution: Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 7.04.2004(1♀).

Remark: The species differs from *P. partealbicollis* in having elytra are smooth without fairly raised tubercle at each side of scutellum. The only one specimen was collected in late summer season.

Pterolophia partealbicollis Breuning, 1964

Figure 66E

Pterolophia (s. str.) *partealbicollis* Breuning, 1964, *Bull. Soc. R. Sci. Nat.*

Laos 13: 48 (Laos).

Description: *Body* length 10 mm and breadth 3.5 mm, dark reddish brown, cover with dark reddish brown pubescence for most parts; 1st abdominal segment 1 furnished with densely yellowish brown long hairs along basal margin except middle.

Head slightly narrower than prothorax, closely and deeply punctured; frons broader than long, slightly convex, anterior portion as broad as posterior portion, widest at middle, anterior margin slightly concave; genae 1/2 as deep as eye-lobes; antennal tubercles widely separated; antennal support fairly raised; vertex furnished with two large slightly raised tubercles; a narrow and shallow groove running from frons to vertex; fairly depressed between antennal tubercles. Antennae slightly longer than a half body; segment 1 finely and closely punctured, depressed along inner sides, gradually thicken to tip; segment 3 longer than segment 1, finely punctured, slightly curved, slightly swollen at tip; segment 4 about as long as segment 3, slightly curved; segment 5 about 1/2 as long as segment 4; segments 5-10 decreasing in length; segment 11 slightly longer than segment 10. *Pronotum* narrower than elytra, broader than long, closely and deeply punctured; anterior margin as broad as posterior margin, slightly convex; a pair of small and fairly raised tubercles at middle; basal margin fairly depressed; apical and basal margin straight; lateral sides slightly swollen without toothed. Scutellum subtriangular, rounded at tip, slightly raised. *Elytra* about 1/2 as broad as long of elytra, narrow at tip, gradually oblique from 2/3 of elytra to apex, subtruncated apically without toothed, rather punctured at each side of scutellum and punctures getting finer toward sides and apices; a short longitudinal and fairly raised tubercle at each side of scutellum, furnished with minutely granulate; each elytron furnished with three longitudinal ridges on lateral side, inner ridge shortest; interspaces between ridges furnished with deeply and closely punctured; fairly depressed at middle; basal margin straight; strongly oblique along lateral sides; sutural end angles without toothed. *Ventral surfaces* finely punctured; basal of meso-sternal process strongly depressed; lateral sides of meta-sternite fairly raised. *Legs* short, stout; hind tarsal segment 1 as long as segment 2 and segment 3 united, and last longest.

Distribution: Laos and Thailand (new record).

Material examined: Thailand: Lampang Prov.: Chae Son, 8.07.2004(1♂).

Remark: The species differs from *P. paralaosensis* in having elytra are furnished with fairly raised tubercle at each side of scutellum. The only one specimen was collected in mid summer season.

Pterolophia zebrina (Pascoe, 1858)

Figure 66H-L, 130C-D

Hathlia zebrina Pascoe, 1858, *Trans. Ent. Soc. Lond.* Ser. 2, 4: 252.

Lychrosis zebrina Lacordaire, 1872, *Gen. Col.* 9: 541, nota 2.-Gressitt, 1940, *Phil. J. Sci.* 72: 153, pl. 3, 10: 1942, *Lingn. Nat. Hist. Surv. Mus., Spec. Publ.* 8: 23; 1951, *Longicornia* 2: 476-478.

Pterolophia (Lychrosis) zebrina: Breuning, 1965, l.c., 458.

Description: *Body* length 12-18.5 mm and breadth 4-6 mm, black, covered with whitish pubescence, furnished with variation of patterns of densely whitish pubescence spots and bands; head furnished with longitudinal blackish pubescence bands and spots with following: Two narrow bands on vertex, running from between antennal tubercles to occiput, and then continued running to pronotum; a broader band behind each upper eye-lobes, and then continued running to each lateral side of prothorax; genae sparsely furnished with small spots; antennal segments 5-10 covered with reddish brown pubescence, furnished with whitish pubescence on apical and basal margin; antennal segment 11 covered with reddish brown; pronotum furnished with longitudinal blackish pubescence bands and spots with following: A pairs of narrow bands on middle, running from apical margin to basal margin, somewhat two bands united; a broader band on each side; a irregularly oblong spot on under side of each lateral side; scutellum covered with blackish pubescence, furnished with whitish hairs

along apical ridge; elytra furnished with variation of patterns of irregularly blackish pubescence marks, somewhat large blackish pubescence marks throughout or small blackish spots throughout, or somewhat spots united; ventral surfaces scattered with small dark reddish brown pubescence spots; legs sparsely furnished with small dark reddish brown pubescence spots.

Head slightly narrower than anterior margin of prothorax, deeply punctured on vertex; frons as broad as long, finely punctured, slightly convex, anterior portion slightly narrower than posterior portion in male, anterior portion as broad as posterior portion in female; anterior margin substraight; genae as deep as eye-lobes in female, about $\frac{3}{4}$ as deep as eye-lobes in male; antennal tubercles widely separated; antennal supports fairly raised; a narrow and shallow groove running from frons to vertex; fairly depressed between antennal tubercles. Antennae longer than body in male, as long as body in female; segment 1 finely punctured, subcylindrical, a longitudinal ridge on external sides; segment 3 longer than segment 1, finely punctured, slightly curved, slightly swollen at tip; segment 4 shorter than segment 3; segment 5 about $\frac{2}{3}$ as long as segment 4; segments 5-10 decreasing in length; segment 11 as long as segment 10 in male, slightly shorter than segment 10 in female. *Pronotum* narrower than elytra, broader than long, deeply punctured throughout; anterior margin about as broad as posterior margin, slightly depressed, straight; basal margin slightly depressed, substraight; lateral sides slightly swollen without toothed. Scutelum hemicircular, about $\frac{1}{2}$ as long as broad. *Elytra* about $\frac{1}{2}$ as broad as long of elytra, distinctly narrow at apex, sides slightly concave behind humeral angles, and then gradually extend to $\frac{2}{3}$ of elytra, and gradually narrow to apex, deeply punctured throughout; apex narrow, oblique truncation without toothed, concave at middle; humeral angles slightly raised forward; basal margin slightly concave; strongly oblique along lateral sides, and lateral margins slightly bent to ventral surfaces; sutural end angles without toothed. *Ventral surfaces* finely punctured; 5th abdominal sternite furnished with longitudinal groove at middle in female, disappearing in male. *Legs* fairly long, stout; hind tarsal segment 1 shorter than segment 2 and segment 3 united, and last.

Distribution: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, Vietnam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 20.01.2002), 3.08.2005(1♀), Doi Saket, 1.02.2003(1♂), 7.07.2003(1♂), 1.12.2005(1♀), Mae Taeng, 2.06.2004(1♂), Mae Chaem, 7.04.2005(1♂, 1♀), Chiang Dao, 5.09.2002(1♀), Chiang Rai Prov.: Wiang Pa Pao, 5.06.2002(1♂, 1♀), 17.03.2005(1♀), Doi Luang, 16.12.2004(1♀), Lampang Prov.: Chae Son, 8.07.2004(1♂), Wiang Nua, 18.04.2003(1♂), 11.09.2005(1♂, 1♀), Lamphun Prov.: Mae Tha, 7.04.2002(1♂), 19.11.2004(1♂), Mae Hong Son Prov.: Khun Yuam, 19.11.2005(1♀), Nakhonsawan Prov.: Tak Fa, 13.03.2005(1♀), Nan Prov.: Mae Charim, 11.06.2002(1♀), Phayao Prov.: Chiang Muan, 6.10.2004(1♂), Chiang Kham, 4.08.2003(1♀), Phichit Prov.: Taphan Hin, 10.10.2004(1♀), Phitsanulok Prov.: Nakhon Thai, 1.03.2003(1♂), 20.12.2004(1♀), Chat Trakan, 3.05.2005(1♀), Wang Thong, 5.01.2002(1♂), Sukhothai Prov.: Khiri Mat, 25.10.2004(1♀), Tak Prov.: Phop Phra, 29.01.2002(1♂), Uttaradit Prov.: Ban Khok, 15.05.2005(1♂, 1♀), Utthai Thani, Lan Sak, 25.07.2007(1♂, 1♀).

Remark: The species differs from other species in same genus in having elytra are black and furnished with variation of patterns of whitish pubescence spots and bands. Specimens were collected throughout the year.

Pterolophia zebrina reductesignata Breuning, 1965

Figure 66G

Pterolophia (Lychrosis) zebrina reductesignata Breuning, 1965, *Ent. Arb.* 16: 459.

Description: Body length 17 mm and breadth 6 mm, black, covered with blackish pubescence, tinge with reddish bronze; pronotum furnished with densely whitish pubescence bands and spots with following: A short and narrow longitudinal band on each side of apical margin; a small spot on each side of basal margin; antennal segment 1 covered with silvery pubescence; antennal segment 2 covered with

reddish brown pubescence; antennal segment 3 covered with silvery pubescence, furnished with reddish brown hairs on apical margin; antennal segment 4 covered with silvery pubescence on basal portion, and covered with reddish brown pubescence on apical portion; antennal segments 5-8 covered with reddish brown pubescence, each furnished with silvery hairs on apical and basal margin; antennal segments 9-11 covered with reddish brown pubescence; elytra furnished with densely whitish pubescence bands and spots with following: 1st a small spot on each side of scutellum; 2nd a irregularly small spot on each lateral side behind humeral angle; 3rd a obliquely subrectangular and short band on each lateral side above middle line; 4th a very small spot under each 3rd band; 5th a narrowly and obliquely short band behind 3rd band; 6th a small spot at 3/4 of each side of elytron; legs covered with brownish pubescence, furnished with densely reddish brown pubescence on apical margin of meso- and meta tibiae.

Head slightly narrower than anterior margin of prothorax, deeply punctured; frons as broad as long, sparsely punctured, slightly convex, anterior portion slightly narrower than posterior portion, widest at middle, lateral margin fairly raised; anterior margin substraight; genae as deep as eye-lobe; antennal tubercles widely separated; antennal supports strongly raised; a narrow and shallow groove running from frons to vertex; fairly depressed between antennal tubercles. Antennae as long as body; segment 1 finely punctured, subcylindrical, a longitudinal ridge on external sides; segment 3 longer than segment 1, finely punctured, slightly curved, slightly swollen at tip; segment 4 shorter than segment 3; segment 5 about 2/3 as long as segment 4; segments 5-10 decreasing in length; segment 11 as long as segment 10. *Pronotum* narrower than elytra, broader than long, deeply punctured throughout; anterior margin about as broad as posterior margin, slightly depressed; basal margin slightly depressed; apical margin substraight; basal margin slightly sinuated; lateral sides slightly swollen without toothed. Scutellum hemicircular, about 1/2 as long as broad. *Elytra* about 1/2 as broad as long of elytra, distinctly narrow at apex, sides slightly concave behind humeral angles, and then gradually extend to 2/3 of elytra, and gradually narrow to apex, deeply punctured on each side of scutellum, and getting finer and shallower toward sides and apices; apex narrow and oblique truncation

without toothed, concave at middle; humeral angles slightly raised forward; basal margin slightly concave; strongly oblique along lateral sides, and lateral margins slightly bent to ventral surfaces; sutural end angles without toothed. *Ventral surfaces* finely punctured; 5th abdominal sternite furnished with longitudinal groove at middle. *Legs* fairly long, stout; hind tarsal segment 1 shorter than segment 2 and segment 3 united, and last.

Distribution: Thailand and Laos.

Material examined: Thailand: Mae Hong Son Prov.: Mae Sariang, 22.07.2004(1♀).

Remark: The species differs from *P. zebrana* in having elytra are black and furnished with densely whitish pubescence bands and spots. The only one specimen was collected in mid rainy season.

Rhodopina griseipes Breuning, 1963

Figure 63F

Rhodopina griseipes Breuning, 1963, *Bull. Soc. R. Sci. Nat. Laos* 8: 22 (Laos).

Description: *Body* length 16.5 mm and breadth 6 mm, reddish brown; frons scattered with yellowish brown hairs, and densely furnished with yellowish brown hairs on lateral sides; genae covered with yellowish brown pubescence; vertex densely furnished with yellowish brown hairs along ridge near eye-lobe; antennal segments 1-2 covered with yellowish brown pubescence; antennal segments 3-7 each segment covered with silvery bronze pubescence on apical portion alternated with reddish brown pubescence on basal portion; antennal segments 8-11 covered with silvery reddish brown pubescence; pronotum reddish brown, darker on middle, covered with reddish brown pubescence, furnished with longitudinal yellowish brown pubescence stripes with following: 1st a narrow stripe on middle; 2nd a narrow stripe on each side; scutellum covered with yellowish brown pubescence; elytra covered

with reddish brown pubescence, furnished with unevenly and densely yellowish brown hairs throughout, distinctly large reddish brown pubescence band behind middle on each elytron.

Head as broad as anterior margin of prothorax, fairly deeply punctured; frons longer than broad, anterior margin substraight; genae about 1/4 as deep as eye-lobe; antennal tubercles moderately separated; antennal supports strongly raised; a fairly deep groove running from frons to vertex. Antenne about 1.5 times as long as body; segment 1 short, slightly thicken from middle to near tip, and round tip, finely punctured; segment 3 about 2 times as long as segment 1, slightly thicken to tip; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, broader than long, anterior margin as broad as posterior margin, unevenly and slightly raised at middle, fairly deep punctures throughout, sparsely granulate; apical and basal portion slightly depressed; apical margin substraight; basal margin sinuated; lateral sides slightly sinuated with fairly and subacutely toothed. Scutellum hemicircular. *Elytra* distinctly broader than prothorax, parallel sides at basal 3/4, gradually narrow to apex, subtruncated apex without toothed, rather deeply punctured at each side of scutellum and punctures getting finer and shallower toward each sides and apices, minutely granulate on each humeral angle; basal margin slightly sinuated; outer apical angles without toothed; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, stout; femora gradually thicken from basal to tip; hind tarsal segment 1 as long as segment 2 and segment 3 united, last longest.

Distribution: Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 5.09.2004(1♂).

Remark: This species is very distinct characters of elytra are covered with reddish brown pubescence, furnished with unevenly and densely yellowish brown hairs throughout; disc is furnished with distinctly large reddish brown pubescence

band behind middle on each elytron. The only one specimen was collected in late rainy season.

Sarothrocera lowi White, 1846

Figures 57E-F, 133A-B

Sarothrocera lowi White, 1846, *Ann. Mag. Nat. Hist.* 18: 47, pl. 1, fig. 6.-Pascoe, 1886, l.c.-Lacordaire, 1869, l.c.-Heyne-Tasch., 1906, *Exot. Kzf.*, 241, pl. 37: fig. 10.-Breuning, 1943, l.c.

Description: *Body* length 42-52 mm and breadth 13-18 mm, dark reddish brown to black, covered with brownish pubescence; head dark reddish brown, covered with brownish pubescence; antennae black, covered with brownish pubescence; ventral of tip of segment 1 furnished with tuft black hairs; ventral of segments 2-8 furnished with tuft black hairs; pronotum covered with brownish pubescence; scutellum covered with pale brown pubescence; elytra covered with brownish pubescence, darker on anterior portion, feeble moiré reflections; ventral surfaces covered with brownish pubescence; legs covered with brownish pubescence, darker on fore legs.

Head as broad as anterior margin of prothorax, finely punctured, posterior portion slightly narrower than anterior portion; frons longer than broad, anterior margin slightly depressed and sinuated; genae about 1/2 as deep as eye-lobes; antennal tubercles moderately separated; antennal supports strongly raised; a narrow and shallow groove running from frons to vertex. Antennae slightly longer than body; segment 1 finely punctured, gradually extend to apex, slightly oblique truncation with punctured; segment 3 longer than segment 1, cylindrical; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* broader than long, finely punctured; a row of minutely punctured on each side near basal margin; anterior margin as broad as posterior margin; apical margin straight; basal margin sinuated; lateral sides slightly swollen, each with a very strongly and acutely toothed at middle. Scutellum linguiform. *Elytra* about 2.1 times

as long as broad, slightly concave behind humeral angles, smoothly rounded apically, rather granulate at each side of scutellum and toward to humeral angles, and then running along sides to behind middle line; disc covered with punctured behind scutellum and punctures getting finer towards each sides and apices; humeral angles slightly raised and obtuse; basal margin slightly sinuated; sutural end angles with moderately toothed; slightly dehiscent. *Ventral surfaces* finely punctured. *Legs* fairly long, slightly flatten; fore- and meso tibiae swollen at middle to tip; hind tibia gradually extend from basal to apical tip.

Distribution: Indonesia, Myanmar, Laos and Thailand.

Material examined: Thailand: Chiang Rai Prov.: Doi Luang, 6.03.2005 (1♂, 1♀).

Remark: This species is very distinct characters of ventral of 2nd-8th antennal segments are furnished with tuft black hairs; elytra are covered with brownish pubescence and feeble moiré reflections. Specimens were collected in mid summer season.

Serixia apicefusicipennis Breuning, 1968

Figure 59H

Serixia (s.s.) *apicefusicipennis* Breuning, 1968, *Bull. Soc. R. Sci. Nat. Laos* 16: 38 (Laos).

Description: *Body* length 8.5 mm and breadth 3 mm, elongate; head reddish brown, covered with reddish brown pubescence; antennal segments 1-3 dark reddish brown, covered with dark reddish brown pubescence; antennal segments 4-5 each segment covered with brownish pubescence on basal portion, and dark reddish brown pubescence on apical portion; antennal segments 6-8 covered with pale reddish brown pubescence; antennal segments 9-11 covered with dark reddish brown; prothorax and scutellum reddish brown, covered with reddish brown pubescence;

elytra pale reddish brown, covered with pale reddish brown pubescence, furnished with a densely dark reddish brown pubescence mark on each apice of elytron; ventral surfaces pale reddish brown, covered with pale reddish brown pubescence; legs pale reddish brown, covered with pale reddish brown pubescence.

Head slightly broader than prothorax, scattered with punctured throughout; frons broader than long, slightly convex; anterior margin slightly concave; genae about as deep as eye-lobes; antennal tubercles widely separated; antennal supports strongly raised; a narrow and shallow groove running from frons to vertex. Antennae about 2.3 times as long as body in male; antennal segment 1 finely punctured, slightly gradually thicken to tip; segment 3 longer than segment 1, slightly swollen at tip; segment 4 slightly longer than segment 3; segment 5 slightly shorter than segment 4; segments 5-9 decreasing in length; segment 10 longer than segment 9; segment 11 shorter than segment 10. *Pronotum* narrower than elytra, slightly broader than long, punctured throughout; anterior margin slightly broader than posterior margin; apical margin slightly swollen at middle; basal margin straight; lateral sides slightly narrow from apical angles to near basal angles, slightly constrict near basal margin, without toothed. Scutellum subtriangular, rounded at tip. *Elytra* parallel to near apex, and then gradually narrow to apex, gradually oblique truncation without toothed; disc furnished with longitudinal rows of deeply punctured; basal margin slightly sinuated; sutural end angles with slightly toothed; strongly dehiscent. *Ventral surfaces* finely punctured; 5th abdominal segment broad. *Legs* fairly long, weak; hind tarsal segment 1 shorter than segment 2 and segment 3 united, and last.

Distribution: Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Fang, 6.07.2005(1♂).

Remark: This species is very distinct characters of elytra are covered with pale reddish brown pubescence and a densely dark reddish brown pubescence mark is present on each apice of elytron. The only one specimen was collected in mid rainy season.

Sthenias franciscana Thomson, 1865

Figures 65J, 131C-D

Sthenias franciscana Thomson, 1865, *Mémoires de la Société Royale des Sciences de Liège*. 19: 353-540.

Description: *Body* length 16.5 mm and breadth 5.5 mm, dark brown to black; head furnished with a fairly broad whitish pubescence alternated with fairly broad yellowish brown pubescence stripe on middle, running from anterior margin to vertex, and then continued to pronotum; fairly broad dark reddish brown pubescence stripes alternated with fairly broad brownish pubescence stripes on each side of a fairly broad brownish pubescence stripe on middle, each stripe running continued to prothorax; antennal segments 1-2 covered with brownish pubescence; antennal segment 3 covered with brownish pubescence, furnished with reddish brown pubescence on apical portion; antennal segments 4-11 covered with dark reddish brown pubescence; prothorax covered with densely yellowish brown pubescence, furnished with a broad blackish pubescence band on each side near middle; scutellum covered with dark reddish brown pubescence; elytra covered with blackish pubescence, furnished with densely whitish pubescence alternated with yellowish brown pubescence bands with following: 1st a fairly broad band starting from each humeral angle, running gradually curved to middle of external suture but not touching; 2nd a narrow band starting from each middle of elytron, running gradually narrow to middle line; 3rd a pair of fairly broad bands, running behind middle line, and then gradually curved to each lateral side, and together near external suture, and then touching external suture; 4th a narrow strongly curved stripe on apical portion, somewhat slightly reaching in inner side of a stripe; 5th a moderate spot on each an apice; ventral surfaces covered with brownish to dark reddish brown pubescence; femora covered with densely whitish hairs alternated with yellowish brown hairs throughout; tibiae covered with densely whitish hairs alternated with yellowish brown hairs on basal portion, and covered with dark reddish brown on apical margin; tarsal segment covered with dark reddish brown pubescence.

Head as broad as prothorax, deeply punctured; frons slightly broader than long; anterior margin narrow, slightly concave at middle; genae as deep as eye-lobes; antennal tubercles moderately separated; antennal supports strongly raised; a moderately deep groove running from frons to vertex. Antennae slightly longer than body; segment 1 short, finely punctured, slightly arched; segment 3 longer than segment 1, slightly swollen at tip; segment 4 slightly shorter than segment 3; segments 4-10 decreasing in length; segment 11 as long as segment 3. *Pronotum* narrower than elytra, unevenly and slightly convex; anterior margin as broad as posterior margin; apical and basal margins substraight; lateral sides slightly swollen without toothed; disc gradually depressed from middle to above basal margin, and then slightly raised. Scutellum hemicircular. *Elytra* subparallel to near apex, smoothly rounded apex, deeply punctured at each side of scutellum and toward sides and apices; disc slightly convex behind middle, and then gradually oblique to apex; apex strongly reaching; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* short, stout; hind tibiae strongly arched; hind tarsal segment 1 shorter than segment 2 and segment 3 united, last longest.

Distribution: Indonesia, Malaysia, Borneo and Thailand (new record).

Material examined: Thailand: Phrae Prov.: Wang Chin, 10.12.2005(1♂).

Remark: The species differs from *S. pascoei* in having pronotum is covered with densely yellowish brown pubescence and furnished with a broad blackish pubescence band on each side near middle. The only one specimen was collected in mid winter season.

Sthenias pascoei Ritsema, 1888

Figures 65H-I, 131A-B

Sthenias pascoei Ritsema, 1888, Nov. *Leyd. Mus.* 10: 272.

Sthenias (s. str.) *pascoei*: Breuning, 1962, l.c., 432.

Description: *Body* length 17.5-22.5 mm and breadth 5.5-7.5 mm, elongate and rather thick body, dark brown to black; head covered with dark brownish to blackish pubescence; genae covered with a very broad brownish pubescence band, and then continued to lateral sides of prothorax; vertex furnished with two densely blackish pubescence stripes alternated with brownish pubescence stripes, and then running continued to prothorax; antennal segments 1-2 covered with dark brown hairs alternated with brownish hairs throughout; antennal segment 3 covered with dark brown pubescence, furnished with reddish brown pubescence on apical margin; antennal segments 4-9 each covered with reddish brown pubescence, furnished with brownish hairs on apical margin; antennal segments 10-11 covered with reddish brown pubescence; pronotum covered with densely dark brown pubescence, furnished with a broad blackish pubescence band on each side near middle; lateral sides covered with brownish pubescence, somewhat furnished with blackish spots; scutellum covered with dark reddish brown; elytra covered with irregularly dark reddish brown pubescence for most parts, furnished with densely pubescence bands and spots with following: 1st a very broad brownish pubescence band at middle, about 1/3 as broad as long of elytra, gradually oblique from lateral sides and internal side to external sutures and touching, pale along internal side; 2nd two densely blackish pubescence marks under internal sides of 1st band; densely pale brown pubescence marks on apical portion and humeral angles; ventral surfaces covered with dark brown pubescence for most parts; 5th abdominal segment covered with dark reddish brown; femora covered with dark brown pubescence, furnished with densely dark reddish brown pubescence spots throughout, somewhat united; tibiae covered with dark brown, furnished with dark reddish brown pubescence on apical portion; tarsal segment covered with dark reddish brown pubescence.

Head as broad as prothorax, deeply punctured throughout; frons broader than long, anterior margin narrow and substraight; genae about 1/2 as deep as eye-lobes; antennal tubercles moderately separated; antennal supports strongly raised. Antennae slightly longer than body in male, slightly longer than a half of body in female; segment 1 short, finely punctured, slightly arched; segment 3 longer than segment 1, slightly swollen at tip; segment 4 shorter than segment 3, slightly curved; segments 4-

10 decreasing in length; segment 11 slightly shorter than segment 3. *Pronotum* slightly narrower than elytra, unevenly and slightly convex; anterior margin as broad as posterior margin; apical and basal margins substraight; lateral sides slightly swollen without toothed; disc gradually depressed from middle to above basal margin, and then slightly raised. Scutellum subpentagonal, rounded tip. *Elytra* subparallel to near apex, smoothly subtriangular apex, deeply punctured throughout; disc straight to 3/4 of elytra, and then strongly oblique to apex; apex strongly reaching; roughly rugose behind scutellum along sutures to middle; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* short, stout; hind tibiae strongly arched; hind tarsal segment 1 shorter than segment 2 and segment 3 united, last longest.

Distribution: Indonesia, Malaysia, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Saket, 1.10.2004(1♂), Fang, 22.09.2006(1♀).

Remark: The species differs from *S. franciscana* in having pronotum is covered with densely dark brown pubescence and furnished with a broad blackish pubescence band on each side near middle. Specimens were collected in late rainy season.

Stibara humeralis Thomson, 1865

Figure 68J

Stibara humeralis Thomson, 1865, *Syst. Cer.*, 560.

Description: *Body* length 19.5 mm and breadth 6.5 mm, subelongate, reddish brown; head, prothorax and scutellum covered with reddish brown pubescence; antennae dark reddish brown, covered with dark reddish brown pubescence; elytra covered with reddish brown pubescence, furnished with a densely blackish pubescence spot on each humeral angle; a densely blackish pubescence band about 1/3 as broad as long of elytra at apex, anterior margin of zigzag band; ventral surfaces

covered with reddish brown pubescence; femora covered with reddish brown pubescence; tibiae covered with reddish brown pubescence, furnished with densely blackish pubescence on apical margin; tarsal segments covered with blackish brown pubescence.

Head slightly narrower than prothorax, scattered with punctured; frons longer than broad, slightly convex; anterior portion slightly narrower than posterior portion; a transverse and deep groove running on anterior margin; clypeus covered with reddish brown, slightly convex, slightly curved; genae about 1/3 as deep as eye-lobes; antennal tubercles widely separated; antennae supports slightly raised; a narrow and shallow groove running from frons to vertex. Antennae slightly longer than a half of body; segment 1 gradually thicken to tip; segment 3 slightly shorter than segment 1; segment 4 shorter than segment 3; segments 4-5 decreasing in length; segment 11 slightly longer than segment 10. *Pronotum* narrower than elytra, about as broad as long, anterior margin slightly narrow than posterior margin, distinctly constricted at apical portion; disc unevenly convex, punctured; disc furnished with a pair of small knots at middle line; a large and fairly raised tubercle at each side near basal margin; a large tubercle at middle above basal margin; apical margin straight; basal margin sinuated; lateral sides swollen at middle. Scutellum hemicircular, slightly raised. *Elytra* distinctly narrow at apex, gradually narrow at sides from humeral angles to apices, truncated apex without toothed, surface substraight; each elytron furnished with six longitudinal rows of punctures, a longitudinal strong raised ridge starting from each humeral angle to apex, and strongly depressed along lateral sides; basal margin sinuated; outer apical angles without toothed; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, hind tarsal segment 1 as long as segment 2 and segment 3 united, and last.

Distribution: Malaysia, Myanmar, Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Doi Saket, 7.07.2003(1♀).

Remark: The species differs from *S. rufina*, *S. tricolor* and *S. subpunctata* in having elytra are covered with reddish brown pubescence and furnished with a densely blackish pubescence spot on each humeral angle. The only one specimen was collected in mid rainy season.

Stibara rufina Pascoe, 1858

Figure 68K

Stibara rufina Pascoe, 1858, *Trans. Ent. Soc. Laond.* Ser. 2, 4: 259.

Stibara rufina Pascoe, m. *laosensis* Pic, 1925, *Mel. Exot. Ent.* 43: 32.

Description: *Body* length 19.5-20.5 mm and breadth 5.5-6mm; head reddish brown, covered with yellowish brown pubescence; antennae black, covered with dark reddish brown to blackish pubescence; pronotum blackish, reddish brown on basal margin and lateral sides, covered with yellowish brown pubescence; scutellum reddish brown, covered with yellowish brown pubescence; elytra black for most parts, pale reddish brown at lateral side of scutellum, covered with yellowish brown pubescence; ventral surfaces reddish brown, darker on meta thoracic sternite, covered with golden reddish brown pubescence; femora reddish brown, covered with reddish brown pubescence; tibiae covered with reddish brown pubescence, furnished with densely blackish pubescence on apical margin; tarsal segments covered with blackish brown pubescence.

Head slightly narrower than prothorax, scattered with punctured; frons longer than broad, slightly convex; anterior portion slightly narrower than posterior portion; a transverse and deep groove running on anterior margin; clypeus covered with reddish brown, slightly convex, slightly curved; genae about 1/3 as deep as eye-lobes; antennal tubercles widely separated; antennal supports slightly raised; a narrow and shallow groove running from frons to vertex. Antennae slightly longer than a half of body; segment 1 gradually thicken to tip; segment 3 slightly shorter than segment 1; segment 4 shorter than segment 3; segments 4-5 decreasing in length; segment 11

slightly longer than segment 10. *Pronotum* narrower than elytra, about as broad as long, anterior margin slightly narrower than posterior margin, roughly and closely punctured, a large fairly raised tubercle at each side, distinctly constricted at basal portion more than apical portion; apical margin substraight; basal margin sinuated; lateral sides slightly swollen. Scutellum subtrapezoidal, rounded at angles, slightly raised. *Elytra* distinctly narrow at apex, gradually narrow at sides from humeral angles to apices, subtruncated apex without toothed, surface substraight; each elytron furnished with five longitudinal rows of punctures, each row starting from basal margin, and running to apex, and furnished with three longitudinal strongly raised ridges; a longitudinal row of punctures at each side, starting from middle to apex; strongly depressed along lateral sides; basal margin sinuated; outer apical angles with fairly toothed; sutural end angles with slightly toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, hind tarsal segment 1 as long as segment 2 and segment 3 united, and last.

Distribution: India, Myanmar, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 5.09.2004 (2♀).

Remark: The species differs from *S. tricolor* in having pronotum is blackish except basal margin and lateral sides which are reddish brown and covered with yellowish brown pubescence. Specimens were collected in late rainy season.

Stibara subpunctata Breuning, 1954

Figure 68L

Stibara subpunctata Breuning, 1954, *Entomologische Arbeiten aus dem Museum G. Frey, Tutzing*. 5: 401-567.

Description: *Body* length 19-20 mm and breadth 5-5.5 mm, orangey red, pale on elytra; head covered with orangey red pubescence, tinges with golden; antennae

dark reddish brown, darker on segments 1-3, covered with dark reddish brown pubescence; pronotum covered with orangey red pubescence; scutellum covered with orangey red pubescence; elytra pale orangey red, darker on humeral angles and at sides behind humeral angles; disc covered with grayish pubescence for most parts, except apices and basal margin which are covered with orangey red pubescence, tinges with blackish pubescence on apex; humeral angles covered with dark reddish brown pubescence; ventral surfaces covered with orangey red pubescence; legs covered with orangey red pubescence, furnished with densely blackish brown pubescence on apical margin of meso- and meta tibiae; tarsal segments covered with blackish brown pubescence.

Head slightly broader than anterior margin of prothorax, scattered with deeply punctured; frons slightly longer than broad, slightly convex; anterior portion distinctly narrower than posterior portion, a transverse and slightly deep groove running on anterior margin; anterior margin substraight; clypeus rather glabrous, slightly convex, anterior margin slightly curved; genae about $\frac{2}{5}$ as deep as eye-lobes; antennal tubercles widely separated; antennal supports slightly raised; a narrow and shallow groove running from frons to vertex. Antennae shorter than body; segment 1 finely and closely punctured, gradually thicken to tip; segment 3 about as long as segment 1; segment 4 shorter than segment 3; segments 4-5 decreasing in length; segment 11 slightly longer than segment 10. *Pronotum* narrower than elytra, about as broad as long, anterior margin slightly narrower than posterior margin, deeply and closely punctured, fairly swollen tubercle at each side; apical and basal margin substraight; distinctly constricted at basal margin; lateral sides slightly swollen without toothed. Scutellum subtrapezoidal, slightly concave at anterior margin, rounded at angles, slightly raised. *Elytra* distinctly narrow at apex, gradually narrow at sides from humeral angles to apices, subtruncated apex without toothed, surface substraight; each elytron furnished with six longitudinal rows of punctures, each row starting from basal margin, and running to $\frac{5}{6}$ of elytra; a longitudinal row of punctures at each side, starting behind humeral angles to $\frac{5}{6}$ of elytra, and furnished with three longitudinal fairly raised ridges; strongly depressed along lateral sides; humeral angles fairly raised forward; basal margin straight, and then swollen at angles; outer apical

angles with slightly toothed; sutural end angles with slightly toothed. *Ventral surfaces* finely punctured; 5th abdominal sternite furnished with a longitudinal and shallow groove at middle. *Legs* fairly long, stout; hind tarsal segment 1 as long as segment 2 and segment 3 united, and last.

Distribution: Myanmar and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Doi Inthanon, 15.08.2006(1♀), Doi Saket, 17.11.2007(1♀).

Remark: The species differs from *S. tricolor* in having elytra are pale orangey red, darker on humeral angles and at sides behind humeral angles; disc is covered with grayish pubescence for most parts except apices and basal margin which are orangey red pubescence; humeral angles are covered with dark reddish brown. Specimens were collected in mid rainy and early winter seasons.

Stibara tricolor (Fabricius, 1792)

Figures 68M, 111A-B

Saperda tricolor Fabricius, 1792. *Hafniae, Proft* 1(2): xx + 538 pp.

Stibara multipunctata Pic, 1925. *Moulins*. 43:1-32.

Description: *Body* length 18.5-20 mm and breadth 5.5-6.5 mm, orangey red; head and prothorax covered with orangey red pubescence; antennae dark reddish brown, covered with dark reddish brown pubescence; scutellum covered with reddish brown pubescence; elytra dark reddish brown for most parts, pale reddish brown at lateral side of scutellum, covered with brownish pubescence; ventral surfaces covered with golden reddish brown pubescence; legs covered with reddish brown pubescence, furnished with densely blackish pubescence on apical margin of tibiae; tarsal segments covered with blackish brown pubescence.

Head slightly narrower than prothorax, closely and deeply punctured; frons longer than broad, slightly convex; anterior portion slightly broader than posterior portion; a transverse and deep groove running on anterior margin; clypeus covered with orangey red pubescence, slightly convex; genae about 1/3 as deep as eye-lobes; antennal tubercles widely separated; antennal supports slightly raised; a narrow and shallow groove running from frons to vertex. Antennae slightly shorter than body; segment 1 finely punctured, gradually thicken to tip; segment 3 slightly shorter than segment 1; segment 4 shorter than segment 3; segments 4-5 decreasing in length; segment 11 slightly longer than segment 10. *Pronotum* narrower than elytra, about as broad as long, anterior margin slightly narrow than posterior margin, roughly and closely punctured, large and fairly raised tubercle at each side; apical margin straight; basal margin sinuated; lateral sides slightly swollen without toothed. Scutellum subtrapezoidal, rounded at angles, slightly raised. *Elytra* distinctly narrow at apex, gradually narrow at sides from humeral angles to apices, subtruncated apex without toothed, surface substraight; each elytron furnished with five longitudinal rows of punctures, each row starting from basal margin, and running to apex; a longitudinal row of punctures at each side, starting from middle to apex, and furnished with three longitudinal strongly raised ridges; strongly depressed along lateral sides; basal margin sinuated, and then slightly swollen at corner; outer apical corner with slightly toothed; sutural end angles with slightly toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, hind tarsal segment 1 as long as segment 2 and segment 3 united, and last.

Distribution: Myanmar, India, Laos, Malaysia, Vietnam and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Pahom Pok, 18.10.2006(1♀), 28.10.2006(1♀, 1♂).

Remark: The species differs from *S. rufina* in having pronotum is covered with orangey red pubescence. Specimens were collected in late rainy season.

Stratioceros princes Lacordaire, 1869

Figures 68E, 131E-F

Stratioceros princes Lacordaire, 1869, *Gen. Col.* 9: 303, note 1.-Gahan, 1888, l.c.-Brongniart, 1892, *Nouv. Arch. Mus. Paris* ser. 3, 3: 248, pl. 10, fig. 10.-Breuning, 1943, l.c., 210, fig. 24.

Cacoscapus mouhoti Thomson, 1878, l.c., 48.

Description: *Body* length 32-42 mm and breadth 9-13 mm, dark brown to black; head black, covered with dark reddish brown pubescence, furnished with a narrowly transverse whitish yellow pubescence stripe running from right antennal tubercle to left antennal tubercle; a longitudinal whitish yellow pubescence band running from each lateral side of eye to occiput; a longitudinal black pubescence band running above a longitudinal whitish yellow pubescence band; antennal segments 1-4 black, covered with dark reddish brown pubescence; segments 5-11 dark reddish brown, covered with reddish brown pubescence; pronotum black covered with reddish brown pubescence, furnished with densely pubescence stripes with following: Two broad longitudinal blackish pubescence strips each running from anterior margin to posterior margin; a broad longitudinal whitish yellow pubescence band on each lateral side; scutellum dark reddish brown, covered with reddish brown pubescence; elytra dark reddish brown, covered with blackish pubescence, furnished with densely pubescence stripes with following: A broad longitudinal reddish brown pubescence stripe running from scutellum to apex at middle; a broad longitudinal whitish yellow pubescence stripe each starting from lateral side of scutellum running along anterior margin to humeral angles and then toward extending to apex; a narrow and oblique whitish yellow pubescence stripe each on middle, internal end reaching to reddish brown stripe and touching, outer end reaching to broad whitish yellow pubescence stripe and touching; a densely whitish yellow pubescence spot each on 3/4 of elytra; ventral surfaces dark reddish brown, darker on prosternum, covered with dark reddish brown pubescence; abdominal segments 1-4 furnished with a densely brown

pubescence spot on each side; legs dark brown; femora covered with reddish brown pubescence; tibiae covered with brown pubescence.

Head about as broad as anterior margin of prothorax, finely punctured; frons broader than long, slightly depressed on anterior margin; anterior margin of frons concave at middle and at angles; antennal tubercles separate; a narrow and shallow groove running from frons to between eyes and then narrower to vertex. Antennae slightly longer than body in both sexes; segment 1 finely punctured, large and strong, slightly arched; subtruncated apex with finely punctured; strong and long internal apical tooth; external apical tooth shorter internal apical tooth; segment 3 shorter segment 1 and segment 4; segment 4 slightly shorter segment 5; segments 5-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, longer than broad; disc unevenly convex with a large and irregular tubercle; two transverse and deep grooves with one on 1/4 and another on 3/4 of pronotum; basal distinctly constricted more than apical; apical margin straight; basal margin sinuate; lateral sides sinuate with strongly and acutely toothed at middle. Scutellum hemicircular. *Elytra* subparallel to above middle, slightly extend at middle and then gradually narrow to apex; humeral angles slightly raised forward, granulate; rounded apex. *Ventral surfaces* finely punctured. *Legs* fairly long, stout; fore tibia slightly arched, moderately toothed near apex in male, disappearing in female; meso tibia slightly raised knob on outer sides near apex in both sexes.

Distribution: Myanmar, Thailand, Cambodia, Vietnam and Laos.

Material examined: Thailand: Chiang Mai Prov.: Fang, 2.03.2002 (1♂), 22.09.2006 (1♂) Doi Sutep, 1.04.2003 (1♂), Lampang Prov.: Wiang Nua, 18.04.2003 (1♀), Phitsanulok Prov.: Wang Thong, 23.10.2005 (1♀).

Remark: This species is very distinct characters of a broad longitudinal whitish stripe is running from each lateral side of head to apice of elytron; lateral sides of pronotum are sinuate furnished with strong and acute dentation at middle. Specimens were collected from mid and continued to late summer, and late rainy seasons.

Tetraglenes hirticornis (Fabricius, 1798)

Figures 59G, 135A-B

Saperda hirticornis Fabricius, 1798, *Ent. Syst. Suppl.* 148; 1801, *Syst. Eleuth.* 2: 132.

Dorcasta tonkinea Pic, 1919, *Mel. Exot. Ent.* 31: 11, 1920, *Echange* 36: 3.

Tetraglenes sublineatus Gressitt, 1935, *Lingn. Sci. J.* 14: 572.

Tetraglenes insignis sublineatus Gressitt, 1940, *Phil. J. Sci.* 72: 199, pl. 4, fig. 18.

Tetragles tonkinea: Breuning, 1949, *Bull. Inst. R. Sci. Nat. Belg.* 25(38): 32.

Tetraglenes hirticornis: Breuning, 1966, l.c., 134.

Description: *Body* length 13 mm and breadth 1.5 mm, elongate, slightly flatten, reddish brown; head covered with brownish pubescence, furnished with three reddish brown pubescence stripes on vertex, and then continued to prothorax; antennal segment 1 covered with brownish pubescence; antennal segments 2-11 covered with dark reddish brown pubescence, ventral of each segment furnished with long dark reddish brown hairs; pronotum covered with brownish pubescence, furnished with densely reddish brown pubescence stripes continued running from vertex; scutellum covered with pale brown pubescence; elytra covered with brownish pubescence, furnished with a narrow longitudinal whitish pubescence stripe starting from basal margin near humeral angle of each elytron running to 5/6 of each elytron, somewhat continued stripe or uncontinued stripe; ventral surfaces covered with brownish pubescence, furnished with dark reddish brown pubescence on lateral side of meso- and meta thoracic sternum; mid- and hind legs covered with reddish brown pubescence; fore legs covered with reddish brown pubescence, inner sides furnished with whitish pubescence.

Head as broad as prothorax, longer than broad, flatten, punctured; frons longer than broad, subtrapezoidal, anterior margin strongly concave; genae about 3 times as broad as eyes; antennal tubercles narrowly separated; eye separated to two portions, upper small suboval eyes, lower small oval eyes; a shallow groove running from frons to vertex, and then continued to pronotum. Antennae as long as body in male, shorter than body in female; segment 1 longest and biggest, punctured, cylindrical; segment 3 about 0.5 as long as segment 1, slightly swollen at tip; segment 4 longer than segment 3, about 0.6 as long as segment 1; segment 5 shorter than segment 4; segments 5-10 decreasing in length; segment 11 as long as segment 10. *Pronotum* slightly narrower than elytra, longer than broad, anterior margin slightly narrower than posterior margin; disc covered with closely and roughly punctured throughout; apical margin substraight; basal margin distinctly sinuated; lateral sides substraight without toothed. Scutellum subcircular. *Elytra* slightly extend at middle, and then gradually narrow to apex, obliquely truncated inner apice with very small toothed; disc covered with closely and roughly punctured at each side of scutellum and toward to 4/6 of elytra, and then getting finer toward to sides and apices; sutural end angles without toothed. *Ventral surfaces* punctured. *Legs* short, weak, and punctured.

Distribution: India, Indonesia, Myanmar, China, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 5.09.2004(1♂, 1♀), 1.03.2006(1♂), Mae Taeng, 8.03.2002(1♀), 1.10.2005(1♀).

Remark: The species differs from *Eucomatocera vittata* in having 7th-9th antennal segments are covered with dark reddish brown pubescence without long blackish tuft hairs. Specimens were collected from mid and continued to late summer, and late rainy seasons.

Thermonotus nigripes Gahan, 1888

Figure 41F

Thermonotus nigripes Gahan, 1888, *Ann. Mag. Nat. Hist.* 2: 399.-Breuning, 1943,

l.c., 327.

Description: *Body* length 18 mm and breadth 7 mm, red or orange; head red, sparsely covered with reddish hairs; antennae black except base of first segment which is red; pronotum red, sparsely covered with long reddish hairs; scutellum and elytra red, covered with reddish pubescence; ventral surfaces red, covered with golden brown pubescence; legs black, covered with golden brown pubescence.

Head slightly narrower than prothorax, smooth for most parts; frons wide with smooth area; deeply depressed between antennal tubercles; genae about 3/4 as deep as eye-lobes; antennal tubercles moderately separated; antennal supports strongly raised; a narrow and shallow groove running from anterior margin of frons to vertex. Antennae longer than body; segment 1 finely punctured, about as long as segment 3; segment 4 shorter than segment 3; segment 5 shorter than segment 4; segments 5-10 decreasing in length; segment 11 longer than segment 10; segments 3-4 slightly swollen at apex. *Pronotum* narrow than elytra, furnished with three raised knobs; basal constrict more than apical constrict; collars glabrous; a very strongly toothed at each lateral side. Scutellum subtriangular, rounded at tip; disc deeply depressed, covered with finely punctured. *Elytra* about 1.5 as long as broad, rather large punctures at each side of scutellum and punctures getting smaller towards each sides and apices; basal margin raised forward at each side of scutellum; humeral angles raised forward but not more than basal margin raised; subparallel to near apex; rounded apex; sutural end angles without toothed. *Ventral surfaces* sparsely punctured. *Legs* shorter; hind tarsal segment 1 shorter than segment 2 and segment 3 united and last.

Distribution: India, Malaysia, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Samoeng, 13.10.2007(1♀).

Remark: This species is very distinct characters of body is red or orange covered with reddish pubescence for most parts; pronotum is furnished with three

raised knobs and a very strong dentation at each lateral side. The only one specimen was collected in late rainy season.

Threnetica lacrymans (Thomson, 1864)

Figures 63I, 132A-B

Callophora lacrymans Thomson, 1864, *Syst. Cer.*, 553.

Threnetica lacrymans: Thomson, 1868, l.c.-Breuning, 1937, l.c., fig. 499; 1956, l.c., fig. 4.

Description: *Body* length 22- 40 mm and breadth 7-13 mm, pitchy black; frons and genae covered with reddish brown pubescence; vertex glabrous, furnished with densely whitish pubescence W shape band, somewhat a densely whitish pubescence spot at middle; antennal segments 1-2 covered with dark reddish brown pubescence; antennal segments 3-10 each covered with whitish pubescence alternated with dark reddish brown pubescence; antennal segment 11 covered with dark reddish brown pubescence; pronotum furnished with densely whitish pubescence spots and stripes with following: Two moderate spots, once on middle line, another on middle of basal margin; a longitudinal stripe on each side; scutellum covered with whitish pubescence; elytra glabrous, furnished with densely whitish spots and bands with following: 1st a moderate spot on middle of each basal of elytron; 2nd a pair of small spots behind scutellum; 3rd a moderate spot behind each humeral angle; 4th a small spot under each humeral angle; 5th a pair of moderate spots at 1/3 of elytra; 6th a oblong band each at 1/3 of elytron, reaching to external suture and touching; 7th a pair of small spots at middle, each near inner suture; 8th a pair of oblong bands behind middle, each reaching to external suture and touching; 9th a pair of shorter oblong bands at 2/3 of elytra, each reaching to external suture and touching; 10th two pairs of small spots between 9th band behind middle and shorter than 9th band, each near inner suture; 11th a pair of moderate spots at 5/6 of elytra, each near inner suture; 12th a moderate spot at 5/6 of each side of elytra, reaching and touching external suture; 13th a pair of moderate spots on apex; ventral surfaces covered with orangey red

pubescence, somewhat pale yellowish pubescence for most parts except middle of metathoracic and abdominal sternite; dorsal of femora covered with dark reddish brown pubescence, ventral covered with orangey red pubescence, somewhat pale yellowish; disc furnished with blackish pubescence on knee; dorsal of tibiae covered with whitish hairs, ventral covered with dark reddish brown hairs; tarsal segments each covered with whitish pubescence.

Head slightly narrower than anterior margin of prothorax, finely punctured; frons broader than long, anterior margin straight; genae about 1/3 as deep as eye-lobes in male, 1/4 in female; antennal tubercles moderately separated; a shallow and groove running from frons to vertex. Antennae slightly longer than body in male, shorter than body in female; segment 1 finely punctured, clavate; segment 3 as long as segment 1, clavate, slightly swollen at tip; segment 4 slightly shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, unevenly and slightly convex; disc furnished with a pair of oval calli at middle line; shallowly rugulose behind each oval calli; a irregularly subtrapezoidal callus at middle behind a pair of oval calli; a transversely zigzag groove on anterior portion; a transverse and deep groove on posterior portion; anterior margin substraight; posterior margin sinuated; apical margin slightly narrower than basal margin; lateral sides slightly swollen with moderately and obtusely toothed on middle. Scutellum triangular, deeply depressed. *Elytra* subparallel, smoothly rounded apically, sparsely and finely punctured; basal margin sinuated, slightly depressed at middle of each elytron; sutural end angles with slightly toothed. *Ventral surfaces* finely punctured; 5th abdominal sternite strongly depressed at tip in female, slightly depressed in male. *Legs* fairly long, stout.

Distribution: India, Cambodia, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Fang, 22.09.2006(1♂, 1♀), Mae Taeng, 6.07.2003(1♀), Mae Chaem, 10.06.2004(1♂), 5.09.2004(1♂, 1♀), 6.04.2005(1♀), 7.04.2005(1♀), 1.03.2006(1♂), Doi Inthanon, 15.08.2006(1♀), Chiang Rai Prov.: Doi Luang, 16.12.2004(1♂, 1♀), 6.03.2005(1♂, 1♀),

Kamphaeng Phet Prov.: Pang Si La Thong, 4.06.2002(1♀), Lamphun Prov.: Mae Tha, 7.04.2002(1♀), Mae Hong Son Prov.: Khun Yuam, 20.06.2004(1♂), 19.11.2005(1♀), Phayao Prov.: Chiang Muan, 6.10.2004(1♂).

Remark: This species is very distinct characters of elytra are pitchy black and spots and irregular bands are present throughout; ventral surfaces are covered with orangey red pubescence except middle of metathoracic and abdominal sternite. Specimens were collected in early summer, rainy and late winter seasons.

Thylactus simulans Gahan, 1890

Figures 63K, 132C-D

Thylactus simulans Gahan, 1890, *Ann. Mag. Nat. Hist.* ser. 6, 5: 58.-
Breuning, 1950, l.c., 400.

Description: *Body* length 31-37 mm and breadth 9-12 mm, black; head covered with woolly brownish to dark brown pubescence; frons furnished with two dark brownish pubescence spots above anterior margin; vertex furnished with two densely dark brown pubescence bands; antennal segments 1-2 covered with woolly dark brown pubescence; segments 3-11 each covered with densely brownish pubescence band alternated with dark brown pubescence band; pronotum covered with brownish to dark brown pubescence; scutellum covered with dark brown pubescence; elytra covered with brownish pubescence, darker on anterior portion; disc furnished with densely dark brown pubescence bands with following: A pair of irregularly oblong bands behind scutellum; short and narrow bands behind middle line, somewhat united or disappearing; very short and narrow bands at 5/6 of elytra, somewhat united or disappearing; ventral surfaces covered with brownish pubescence; legs dark brown covered with brownish pubescence, furnished with small dark brown pubescence bands throughout; tarsal segments covered with dark brown pubescence.

Head slightly broader than anterior margin of prothorax, finely punctured; frons broader than long, anterior margin straight; genae as broad as eyes; a moderately deep groove running from frons to vertex, and then running continued to prothorax; genae about 1/4 as deep as eye-lobes; antennal tubercles widely separated; antennae supports strongly raised. Antennae slightly shorter than body in both sexes; segment 1 finely punctured; segment 3 as long as segment 1, cylindrical; segment 4 shorter than segment 3; segments 4-11 decreasing in length; segments 3-10 each dentate ectoapically in male, segments 2-6 swollen apically in female. *Pronotum* narrower than elytra, as long as broad, corrugate-vermiculate, sparsely punctured; a moderately deep groove running continued from head to basal margin of prothorax provided to two areas; apical margin convex at middle; basal margin sinuated; lateral sides slightly swollen with moderately toothed at behind middle. Scutellum hemicircular. *Elytron* like dried bark of trees, about 2.5 times as long as broad, subparallel, slightly concave behind humeral angles, each elytron furnished with strongly raised costae; apical margin strongly depressed, obliquely truncated and then slightly concave at middle apex, without toothed; sutural end angles without toothed; moderately dehiscent. *Ventral surfaces* finely punctured. *Legs* shorter, stout.

Distribution: India, Vietnam, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Mae Chaem, 5.09.2004(1♀), Lampang Prov.: Wiang Nao, 11.09.2005(1♂).

Remark: The species differs from *T. uniformis* in having elytra are covered with brownish pubescence, darker on anterior portion and furnished with dark brown pubescence bands. Specimens were collected in late rainy season.

Thylactus uniformis Pic, 1934

Figure 63J

Thylactus uniformis Pic, 1934. *Moulins*. 63:1-36.

Description: *Body* length 18 mm and breadth 4 mm, reddish brown to dark brown; head dark brown, covered with brown pubescence for most parts; vertex covered with reddish brown pubescence; dorsal of antennal segment 1 reddish brown, ventral black, covered with brown pubescence; antennal segments 2-11 reddish brown, darker on apical margin, covered with brown pubescence; pronotum black, covered with dark reddish brown, furnished with a longitudinal brownish pubescence stripe on each lateral side; scutellum reddish brown, covered with reddish brown pubescence; elytra reddish brown for most parts, darker on interspaces of strongly punctured rows, covered with reddish brown pubescence; anterior portion and lateral sides of scutellum, reaching above middle line black, covered with dark reddish brown pubescence; pro-, meso- and meta sternum dark brown to black, covered with reddish brown pubescence; abdominal sternite reddish brown, covered with reddish brown pubescence; legs black: femora covered with dark brown pubescence; tibiae covered with brown pubescence.

Head slightly broader than anterior margin of prothorax; frons, genae and antennal tubercles strongly punctured, furnished with a reddish brown long hair in each the bottom of puncture; frons broader than long, anterior margin concave at middle; a narrow and shallow groove running from frons to vertex; genae about 1/3 as deep as eye-lobes; vertex furnished with roughly and moderately punctured but unevenly; antennal tubercles moderately separate and strongly raised. Antennae slightly shorter than body; segment 1 rugose-punctate, furnished with minutely and moderately punctured; segment 3 slightly longer than segment 1, asperate; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, largely punctured furnished with a long reddish brown hair in each the bottom of puncture; disc furnished with slightly raised tubercle on middle of anterior margin; anterior margin slightly convex at middle; posterior margin sinuate; lateral sides slightly sinuate with moderately and obtusely toothed at middle. Scutellum hemicircular. *Elytra* about 3 times as long as broad; lateral sides slightly concave above middle line; disc furnished with rows of rather strongly punctured, interspaces slightly raised; apex slightly depressed, subtruncated apex without toothed; outer angles without toothed; sutural end angles without

toothed. *Ventral surfaces* finely punctured, scattered strongly punctured, furnished with a long reddish brown hair in each the bottom of puncture; a pair of largely oval foveae on 4th and 5th abdominal sternites. *Legs* fairly long.

Distribution: China and Thailand (new record).

Material examined: Thailand: Lamphun Prov.: Mae Tha, 7.04.2002(1♀).

Remark: The species differs from *T. simulans* in having elytra are reddish brown for most parts, darker on interspaces of strongly punctured rows and covered with reddish brown pubescence. The only one specimen was collected in late summer season.

Trachystohammus subelongatus Pic, 1936

Figure 63G

Trachystohammus subelongatus Pic, 1936. *Moulins*. 67: 1-36.

Description: *Body* length 23 mm and breadth 8 mm, black; head covered with olive green pubescence, furnished with densely blackish pubescence marks behind each upper eye-lobe; antennal segment 1 covered with olive green pubescence, furnished with whitish gray hairs on apical and basal margin; antennal segments 3-10 each segment covered with whitish gray pubescence on basal portion alternated with dark reddish brown pubescence on apical portion; segment 11 covered with reddish brown pubescence; pronotum covered with olive green pubescence, furnished with a longitudinal dark olive green pubescence band on each lateral side, minutely blackish glabrous spots above each lateral toothed; scutellum scattered with olive green hairs; elytra black for most parts except along external sutures areas which are reddish brown, covered with olive green pubescence for most parts except along internal sutures and along external sutures which are covered with whitish gray pubescence, furnished with a short longitudinal blackish pubescence band, starting from basal margin of each elytron, running to humeral angle; a transverse black glabrous band at

1/3 of elytra; a shorter transverse black glabrous band at 2/3 of elytra; ventral surfaces covered with covered with olive green pubescence; femora covered with olive green pubescence, furnished with grayish pubescence on apical and basal margins; tibiae and tarsal segments covered with grayish brown pubescence.

Head broader than anterior margin of prothorax, finely punctured; frons broader than long; anterior margin slightly concave; genae about 1/4 as deep as eye-lobes; antennal tubercles moderately separated; antennal supports strongly raised; a narrow and shallow groove running from frons to vertex. Antennae about 2.5 times as long as body; segment 1 finely punctured, gradually thicken to tip, slightly and obliquely truncated, covered with punctured; segment 3 longer than segment 1, subcylindrical, slightly swollen at tip; segment 4 shorter than segment 3; segment 5 slightly longer than segment 4; segment 6 slightly shorter than segment 5; segment 7 longer than segment 6; segment 8 as long as segment 7; segment 9 longer than segment 8; segment 10 as long as segment 9; segment 11 longer than segment 10; segments 3-10 each apical margin furnished with a row of fairly spined. *Pronotum* narrower than elytra, broader than long, anterior margin as broad as posterior margin, punctured throughout; disc slightly depressed at apical portion, two transverse moderately deep and broad groove on basal portion; apical margin straight; basal margin sinuated; lateral sides strongly swollen at middle, furnished with strongly and acutely toothed. Scutellum hemicircular, longer than broad. *Elytra* slightly depressed, distinctly broader than prothorax, distinctly narrow at apex, slightly depressed behind scutellum, rather punctured at each side of scutellum and toward each sides and apices, round apex; laterl sides strongly depressed; basal margin slightly sinuated; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* fairly long, stout; femora slightly swollen; fore-tibiae slightly arched; external sides of meso tibiae slightly depressed behind middle; hind tarsal segment 1 as long as segment 2 and segment 3 united, last longest.

Distribution: Thailand (new record).

Material examined: Thailand: Tak Prov.: Phop Phra, 5.05.2004(1♂).

Remark: This species is very distinct characters of elytra are covered with olive green pubescence for most parts and furnished with two transverse blackish pubescence bands; lateral sides of pronotum are strongly swollen at middle and furnished with a strong and acuted dentation. The only one specimen was collected in early rainy season.

Xenolea asiatica (Pic, 1924)

Figure 60H

Aeschopalaea asiatica Pic, 1924, *Echange* 41: 16.

Xenolea tomentosa v. *asiatica* Gahan, 1894, *Trans. Ent. Soc. Lond.*, 483.

Xenolea asiatica: Gressitt, 1938, *Lingn. Sci. J.* 17: 158.-Breuning, 1950, l.c., 274.

Xenolea tomentosa asiatica Gressitt, 1939, *Lingn. Sci. J.* 18: 69; 1951, l.c., 447.

Description: *Body* length 7.5 mm and breadth 2.5 mm, reddish brown; head and prothorax covered with yellowish brown pubescence; antennae covered with reddish brown pubescence; scutellum reddish brown, darker at edge, covered with yellowish brown pubescence; elytra reddish brown, darker on bottom of each punctured, covered with yellowish brown pubescence, furnished with a dark reddish brown hair on each bottom of punctured; ventral surfaces and legs covered with pale reddish brown pubescence.

Head about as broad as anterior margin of prothorax, closely and deeply punctured; frons longer than broad, slightly convex; anterior margin slightly concave; genae about 1/3 as deep as eye-lobes; antennal tubercles narrowly separated; antennal supports very strongly raised; a fairly deep groove running from frons to vertex. Antennae about 2 times as long as body; segment 1 short, gradually thicken to tip, asperate at external sides of tip; segment 3 about 2 times as long as segment 1, gradually thicken to tip; segment 4 slightly longer than segment 3; segment 5 slightly

shorter than segment 4; segments 5-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, longer than broad, anterior margin as broad as posterior margin, deeply punctured; apical margin straight; basal margin substraight; lateral sides swollen at middle, with slightly toothed at middle. Scutellum hemicircular. *Elytra* parallel sides at basal 3/4 and smoothly rounded apically, deeply punctured throughout; sutural end angles without toothed. *Ventral surfaces* finely punctured. *Legs* short, stout; femora strongly swollen; hind tarsal segment 1 as long as segment 2 and segment 3 united, and last.

Distribution: India, Viet Nam, China, Japan, Laos and Thailand (new record).

Material examined: Thailand: Chiang Mai Prov.: Doi Saket, 1.10.2004(1♂).

Remark: This species is very distinct characters of elytra are covered with yellowish brown pubescence and a dark reddish brown hair is furnished on each bottom of a puncture; pronotum is covered with deeply punctured; lateral sides are swollen at middle and furnished with slightly toothed on middle. The only one specimen was collected in late rainy season.

Xylorhiza adusta (Wiedmann, 1819)

Figures 63L, 108A-B

Lamia adusta Wiedmann, 1819, *Zool. Mag.* 1(3): 182.

Xylorhiza venosa Castelnau, 1840, l.c., 476.-Pascoe, 1865, l.c., 162.-Stebbing, 1914, *Ind. For. Ins.* 376, fig. 251.

Xylorhiza adusta Gahan, 1894, *Ann. Mus. Civ. Genova* ser. 2, 14: 58.-
Breuning, 1950, l.c., 403.-Gressitt, 1951, l.c.

Description: *Body* length 33-45 mm and breadth 8-13 mm, reddish brown to dark brown; head dark brown, covered with woolly reddish brown pubescence;

antennae dark reddish brown; segments 1-2 covered with long brownish pubescence; segments 3-4 covered with reddish brown pubescence; segments 5-11 covered with pale reddish brown pubescence; pronotum dark brown, covered with woolly dark brown pubescence, furnished with two densely brownish pubescence stripes at middle running from apical margin to basal margin; a densely brownish pubescence stripe at each lateral side; scutellum dark brown, covered with reddish brown pubescence; elytra dark brown, covered with woolly brownish pubescence; disc furnished with densely dark brown pubescence on anterior portion, short longitudinal densely blackish pubescence stripes running from basal margin to middle, some stripes running continued to apex, somewhat extend or narrow; ventral surfaces dark brown; pro and meso thoracic sternite covered with dark brown pubescence; meta sternum covered with unevenly brownish pubescence, furnished with densely dark reddish brown pubescence on apical margin, and then gradually and obliquely extend to lateral sides; abdominal segments dark brown, covered with reddish brown pubescence, furnished with densely pubescence along middle in female; abdominal segments 3rd -5th each furnished with a suboval fevea on each lateral side, each the bottom of feveae covered with long reddish brown pubescence in male; legs dark brown; femora covered with dark brown pubescence, furnished with narrow densely brownish pubescence stripes but sparsely; tibiae covered with brownish pubescence, furnished with narrow densely dark brown pubescence stripes but sparsely; tarsal segments covered with dark brown pubescence.

Head slightly broader than anterior margin of prothorax, finely punctured; frons broader than long, anterior margin narrower than posterior margin and straight; genae about 1/5 as deep as eye-lobes in female; a moderately deep groove running from frons to vertex, and then running continued to prothorax; antennal tubercles widely separated; antennae supports strongly raised. Antennae slightly shorter than body in male, slightly longer than a half of body in female; segment 1 finely punctured; segment 3 as long as segment 1, cylindrical; segment 4 shorter than segment 3; segments 4-10 decreasing in length; segment 11 longer than segment 10. *Pronotum* narrower than elytra, as long as broad in male, slightly broader than long, minutely and moderately punctured; a moderately deep groove running continued

from head to basal margin provided to two areas; a deep groove running from apical margin to basal margin on each lateral side; apical margin convex at middle; basal margin sinuated; lateral sides slightly swollen without toothed. Scutellum hemicircular. *Elytra* like dried bark of trees, about 2.7 times as long as broad, subparallel; each elytron furnished with strongly raised costae; apical margin strongly depressed, obliquely truncated without toothed; sutural end angles without toothed; slightly dehiscent. *Ventral surfaces* finely punctured. *Legs* shorter, stout.

Distribution: India, Indonesia, China, Laos and Thailand.

Material examined: Thailand: Chiang Mai Prov.: Doi Sutep, 9.10.2002(1♂), Chiang Dao, 4.02.2003(1♀), Lamphun Prov.: Li, 12.04.2005(1♂, 1♀), Nan Prov.: Mae Charim, 10.06.2004(1♀), Phayao Prov.: Chiang Kham, 1.12.2005(1♀), Phetchabun Prov.: Nam Nao, 2.04.2002(1♂).

Remark: The species differs from *Thylactus simulans* in having lateral sides are slightly swollen without toothed. Specimens were collected from early, late summer and continued to rainy season, and mid winter seasons.

DISCUSSION

In the past, the longhorn beetles fauna of Thailand has been studied on insect pest of economic crops especially agricultural trees and forests (Hutacharern, 1990; Wongsiri, 1991). Although Gressitt *et. al.* (1970) studied the cerambycids of Laos, they also reported 57 species distributed in Thailand. More recently Holzschuh (1991a, 1991b, 1991c, 1992, 1993, 1995, 1998, 1999) has described 162 new species of longhorn beetles from Thailand. The list of identified species in this study is valuable information for Thailand.

The highest amount of longhorn beetle was observed during the rainy season. The obvious reason was the fact that rain water highly influenced plant cell growth. Much rain water yielded big plant cells within cell wall and a lot of holes of sap wood and pith. Coincidentally, it is also the mating season of longhorn beetles. The females lay eggs after which the newly hatched larvae emerge having weak mandibles but are still able to feed on cell plants (Hoddle, 2010; Haavik and Stephen, 2011). The adults as well as the larvae live long life, thus, can stay overwintering (Steyrer and Perny, 2008). Two hundred and forty six longhorn species were the largest number found in Chiangmai where 82.92% areas consisted of flat terrain to high mountain with the highest Doi Intanon of 2,565 m above sea level (Department of National Park, Wildlife and Plant Conservation, 2010). This results in greatly varied topography and climate and differently affecting plant growth which in turn gives diversified habitats to longhorn beetles (Watt, 1983) of more different kinds than the other northern provinces. In the study, 37⁰C was set in the oven-dried process. This temperature was found not to distort or to change the metallic (blue or green) color of fore wings of longhorn beetle. Fourteen days and thirty to thirty five were the drying periods for the small and large specimens respectively. Each period was long enough to completely dry each kind and the specimens could be stored without getting molded later.

Four hundreds watt of lunar light bulb which was suitable to attract the beetles was used in the light trap. In the survey, before the lunar light bulb, black light was

employed in catching longhorn beetles. None were found to be attracted by the black light. It is, therefore, not recommended to use black light to catch this beetle. In the study, 37 °C was set in the oven-dried process.

From the diversity of colored patterns on fore wings of two species, *Cremosterna carrisima* and *Pterolophia zebrina*, each individual created confusion in identification at first place. However, the study showed that the individuals with different color patterns of each species had the same morphology of male genitalia. The results confirmed such individuals to belong to the same species. The fact was applied to both species. The varied colored spots are obtained by many factors as different habitats occupied, different temperatures when pupate, or different topographies (U.S. Fish and Wildlife Service, 1984; Liu *et al.*, 2009). In addition, gene mutation will also result in different colored patterns blending with the environments (Eisner, 1970) in order to escape from the predators (Linsley and Chemsak, 1972). On the other, the external anatomy with similar or same colored spots in some specimens yielded complex identification. This study indicated the followings to have similar characters according to the identification using colored spots: 1. *Chlorophorus copiosus* and *Chlorophorus ictericus punctiger* 2. *Chlorophorus punctiger* and *Chlorophorus ictericus* 3. *Rhaphuma indifferens*, *Rhaphuma aequalis* and *Rhaphuma gilvitaris*. Still, male genitalia checking clarified the different structures of each species resulting in the occurrence of different species (Holschuh, 1991a and 1992).

Ek-Amnuay (2008) misidentified 2 longhorn species as *Anoplophora birmanica cantori* and *Aphrodisium cantori*, the species which had never before been found in Thailand. They were then reported to be new records. Later, *Anoplophora birmanica* was rechecked using Revision of Genus *Anoplophora* by Lingafelter and Hoebeck (2002) where male genitalia were compared. The results revealed the species as *Anoplophora longehirsuta* which had already been identified in the country. Similarly, *Aphrodisium cantori* was also misidentified. Employing tarsi color, it revealed the true *Aphrodisium cantori* to have yellow tarsi while the misidentified *Aphrodisium cantori* had green tarsi (Grassitt *et al.*, 1970). It, therefore,

made the two species as truly new records. By comparing with the specimens in the Insect museum of Department of Entomology, Kasetsart University, Insect Museum of Chiangmai University including Ek-Amnuay (2008), *Glenea indiana* was then identified. However, Lin *et al.* (2009) suggested that the beetle determination had to be mainly made by genitalia structure since the similarly external anatomy was inseparable. According to the method of Lin *et al.* (2009), 2 species of *Glenea indiana* and *Glenea mouhoti* which already existed in Thailand were identified. But specimens from the author of this research reported the finding of *Glenea mouhoti* but no *Glenea indiana* was found in Thailand. Further study on male genitalia of this genus must then be pursued before confirmation made. The identification by Gressitt *et al.* (1970) using the character difference of spine on lateral pronotum resulted in 2 longhorn species *Drorystenes buqueti* and *Drorystenes beli*. In later examination employing male genitalia, it was found that both belonged to the same species. This might indicate the uselessness of the external anatomy. Besides, the species has been observed to distribute only in Vietnam. Dr. Ziro Komiya, the subfamily Lamini expert, pointed that *Drorystenes beli* had never been reported in Thailand, only *Drorystenes buqueti* had existed.

Some unknown specimens have been sent to Dr. Hiroshi Makihara which is now in the identification process. It is anticipated that all 8 kinds will be verified as the new species as follows: *Distenia* sp., *Chlorophorus* sp., *Thicophothyne* sp., *Pterolophia* (*Trichopraonetha*) sp., *Blepephaeus* sp., *Episcata* sp., *Nedine* sp. and *Oberea* sp.

The 308 identified species represented about 25% of the morphotypes collected. Out of the identified species, 86 were new records and an addition was then made to the fauna of Thailand. This shows that the longhorn beetles fauna in Thailand has still been poorly known.

CONCLUSION

Taxonomic of longhorn beetles (Coleoptera: Cerambycidae) in different provinces in the North of Thailand during 2004-2008, revealed 8 subfamilies including 308 identified species in 157 genera. These included species in 8 subfamilies as Disteniinae, Prioninae, Philinae, Spondylidinae, Aseminae, Lepturinae, Cerambycinae and Lamiinae. The identified species included 4 species in Disteniinae, 21 species in Prioninae, 1 species in Philinae, 1 species in Spondylidinae, 2 species in Aseminae, 3 species in Lepturinae, 115 species in Cerambycinae and 161 species in Lamiinae.

The 86 species of new records for Thailand included the following: *Typodryas callichromoides* Thomson, 1864, *Spondylis buprestoides* (Linnaeus, 1758), *Arhopalus exoticus* (Sharp, 1905), *A. unicolor* (Gahan, 1906), *Strangalia fluvialis* Gressitt and Rondon, 1970, *Anomophysis ellioti* (Waterhouse, 1884), *A. elongata* Quentin and Villiers, 1981, *Spinimegopsis piliventris antennalis* (Fuchs, 1965), *Aphrodisium cantori* (Hope, 1940), *Artimpaza colorata* Gressitt and Rondon, 1970, *A. lineata* (Pic, 1927), *A. paksensis* Gressitt and Rondon, 1970, *Camelocerambyx semiruber* Gressitt and Rondon, 1970, *Demonax albidofasciatus* Gressitt and Rondon, 1970, *D. dignus* Gahan, 1895, *D. semiluctuosus* (White, 1855), *Dere affinis* Gahan, 1906, *Erythrus laosensis* Gressitt and Rondon, 1970, *Epipedocera laticollis* Gahan, 1906, *E. subatra* Gressitt and Rondon, 1970, *E. vitalisi* Pic, 1922, *Euryarthrum lambii* Pascoe, 1866, *Hesperophanes erosus* Gahan, 1894, *Hyphus apicalis* Pascoe, 1869, *Ipothalia pyrrha* Pascoe, 1867, *Oplatocera oberthuri* Gahan, 1906, *Pachyteria equestris* Newman, 1841, *Phyodexia concinna* Pascoe, 1871, *Polyzonus flavocinctus* Gahan, 1894, *P. watosoni* Gahan, 1906, *Prothema laosensis* Gressitt and Rondon, 1970, *P. cakli* Heyrovský, 1967, *Pyrestes bicolor* Gressitt and Rondon, 1970, *P. dohertii* Gahan, 1906, *Rhaphuma clarina* Gressitt and Rondon, 1970, *R. elongata* Gressitt, 1940, *R. mekongsa* Gressitt and Rondon, 1970, *R. pseudobinhensis* Gressitt and Rondon, 1970, *R. tricolor* Gressitt and Rondon, 1970, *Agelasta bifasciana* White, 1858, *Anamera desmaculata* Breuning, 1940, *A. obesa*

Pic, 1928, *A. strandi* Breuning, 1940, *Anameromorpha metallica* Pic, 1923, *Annamanum chebanum* (Gahan, 1895), *Anoplophora birmanica* Hüdepohl, 1990, *A. medenbachii* (Ritsema, 1881), *A. stanleyana* Hope, 1839, *Astathes violaceipennis* (Thomson, 1857), *Batocera thomsonii* Javet, 1858, *Blepephaeus ocellatus* (Gahan, 1888), *Cleptometopus similis* (Gahan, 1895), *Choeromorpha subfasciata* (Pic, 1922), *Cylindrepomus viridipennis* (Pic, 1937), *Driopea luteolineata* Pic, 1926, *Epicedia maculatrix* (Perty, 1831), *Eutaenia albomaculata* Breuning, 1964, *Glenea mathematica* (Thomson, 1857), *Glenea quadrinotata* Guérin-Ménéville, 1843, *G. subviridescens* Breuning, 1963, *G. vaga* Thomson, 1865, *Gnoma gilmouri* Dillon and Dillon, 1951, *Hirtaeschopalaea fasciculata* Breuning, 1938, *Hoplothrix rivulosus* (Gahan, 1888), *Mispila kamvengal* Breuning, 1962, *Monochamus guerryi* Pic, 1903, *Nipholophia chujoi* Gressitt, 1951, *Nupserha spinifera* Gressitt, 1948, *Olenecamptus fouqueti* Pic, 1932, *Parachydaeopsis laosica* Breuning, 1968, *Pharsalia duplicata* Pascoe, 1866, *P. pulchroides* Breuning, 1964, *Phrissomorimus brunneus* Breuning and Itzinger, 1943, *Pterolophia bituberculatithorax* (Pic, 1930), *P. humerosa* (Thomson, 1865), *P. mimosconsularis* Breuning, 1968, *P. paralaosensis* Breuning, 1968, *P. partealbicollis* Breuning, 1964, *Rhodopina griseipes* Breuning, 1963, *Serxia apicefuscipennis* Breuning, 1968, *Sthenias franciscana* Thomson, 1865, *Stibara humeralis* Thomson, 1865, *S. subpunctata* Breuning, 1954, *Thylactus uniformis* Pic, 1934, *Trachystohammus subelongatus* Pic, 1936 and *Xenolea asiatica* (Pic, 1924).

Three hundred and eight species were found in the North of Thailand with 246 in Chiang Mai Province, 98 in Chiang Rai Province, 57 in Mae Hong Son Province, 40 in Lampang Province, 35 in Lamphun Province, 10 in Nakhonsawan Province, 39 in Phayao Province, 33 in Phetchabun Province, 6 in Phichit Province, 51 in Phitsanulok Province, 47 in Phrae Province, 52 in Tak Province, 21 in Uttaradit Province. There were 36 species discovered in 2 provinces as Kamphaeng Phet and Nan and 9 species in 2 provinces as Sukthothai and Uthai Thani. Two hundred and sixty eight species were found in rainy season, 184 and 135 in summer and winter seasons respectively. Moreover, some species were found in more than one province and in many seasons.

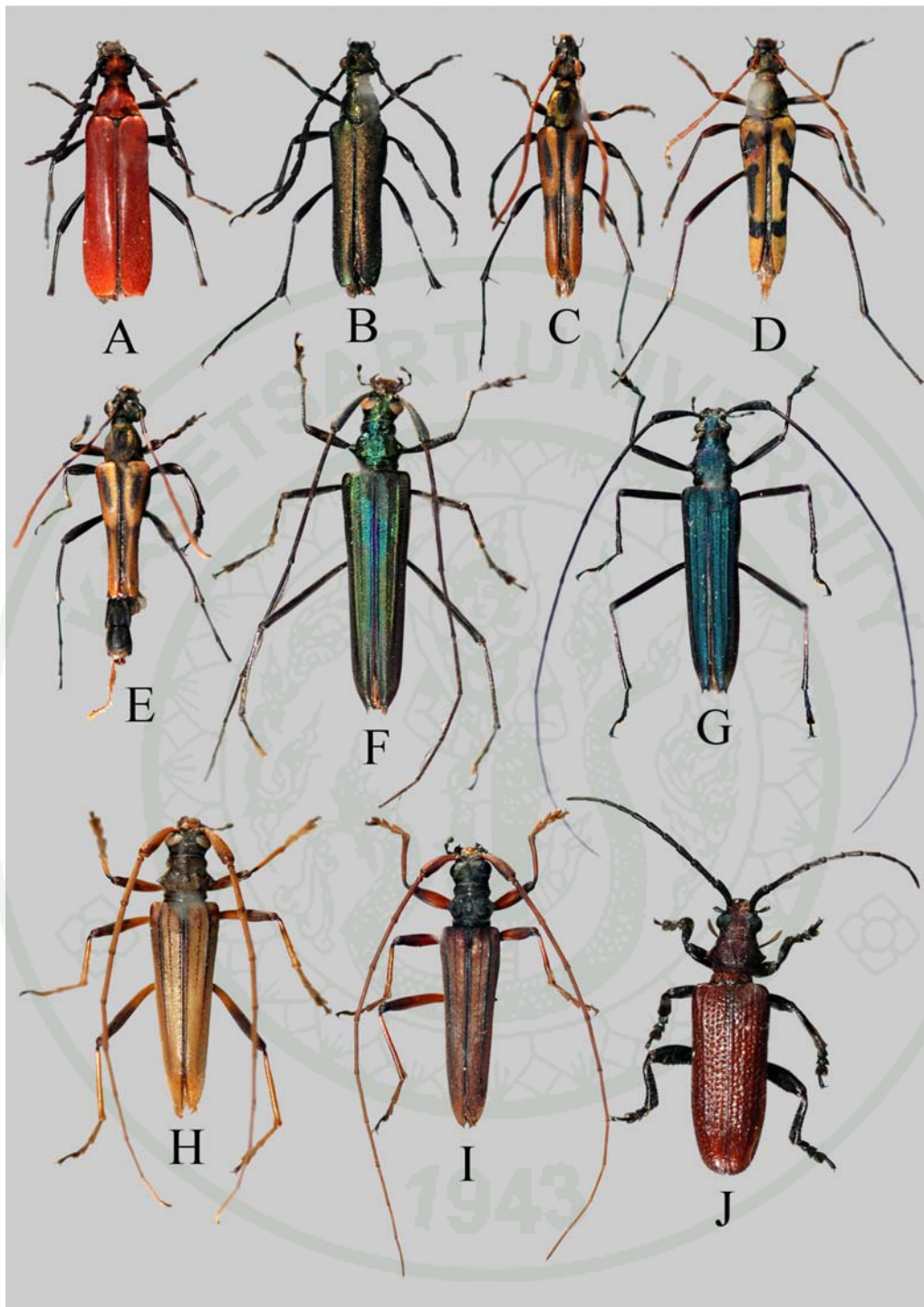


Figure 5 Adults. A. *Ephies concineus*, ♀. B. *Metalloleptura aureoviridis*, ♀. C-E. *Strangalia fulvialis*, ♀. F. *Trypodryas callichromoides*, ♂. G. *T. cambodianus*, ♂. H-I. *Distenia fulvipennis*, ♂. J. *Cyrtonops punctipennis*, ♂.

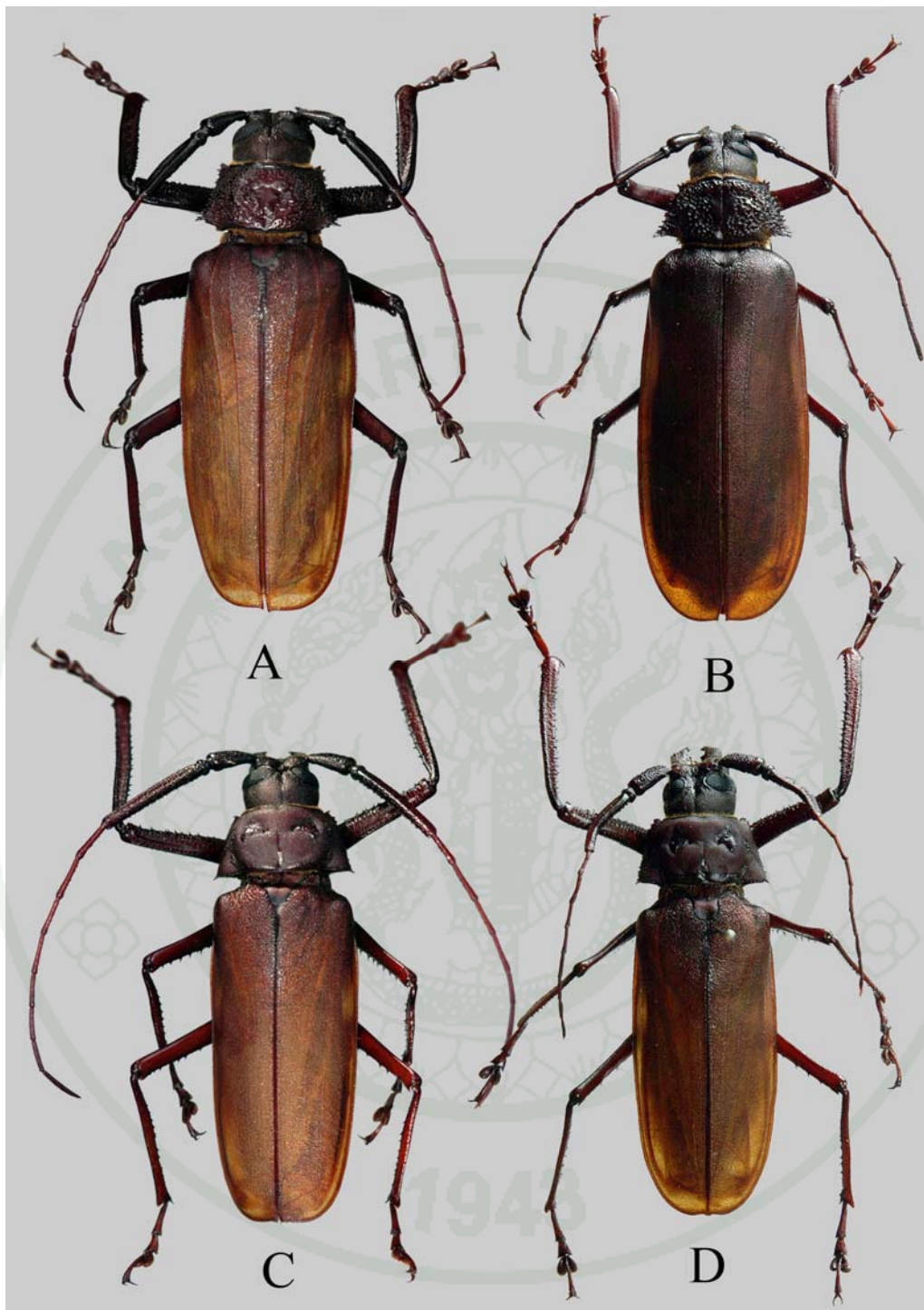


Figure 6 Adults. A. *Bandar pascoei*, ♂. B. ditto, ♀.
C. *Anomophysis spinosa*, ♂. D. ditto, ♀.

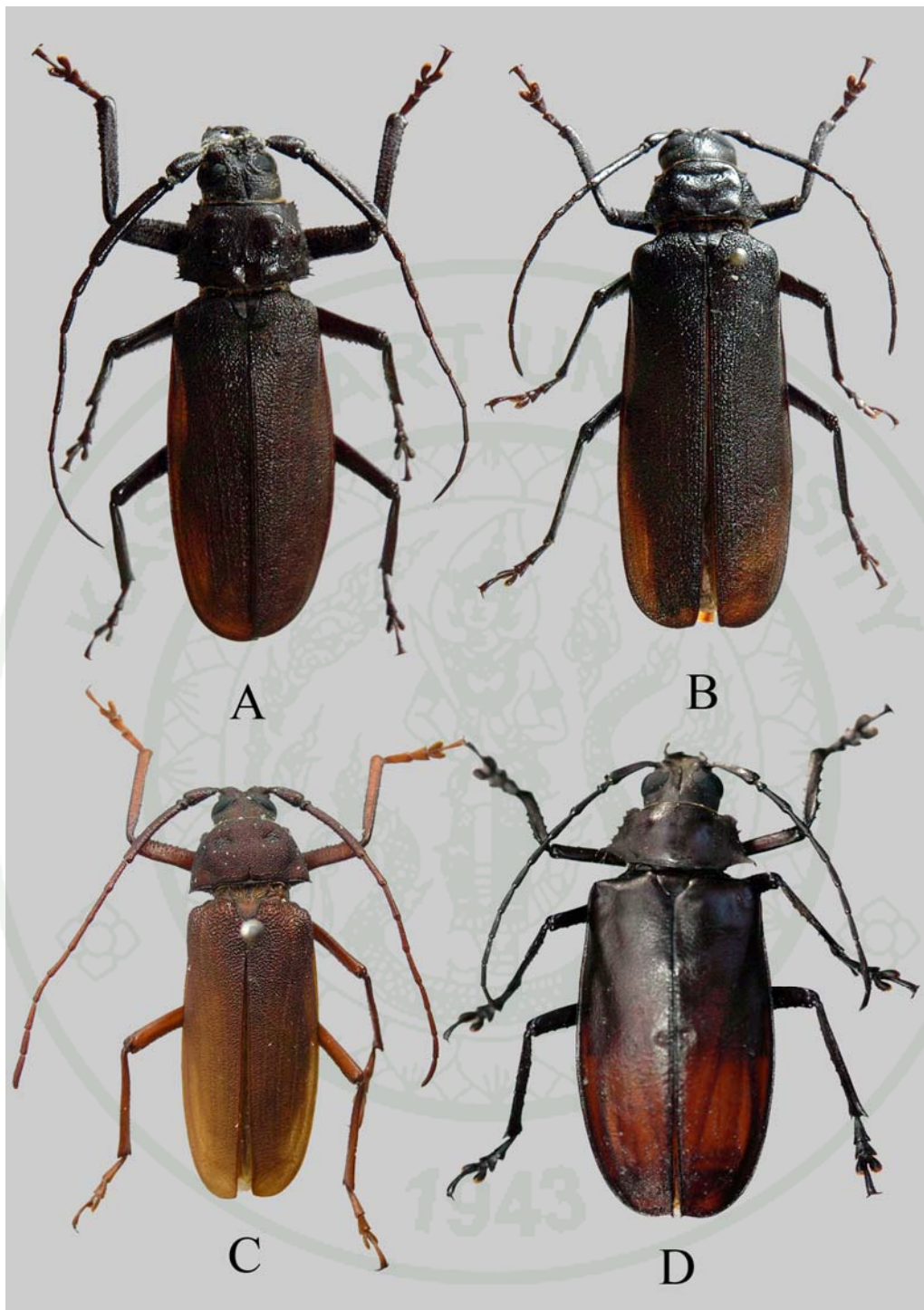


Figure 7 Adults. A. *Anomophysis elongata*, ♂. B. ditto, ♀. C. *A. ellioti*, ♂. D. *Rhaphipodus frushstorferi*, ♀.

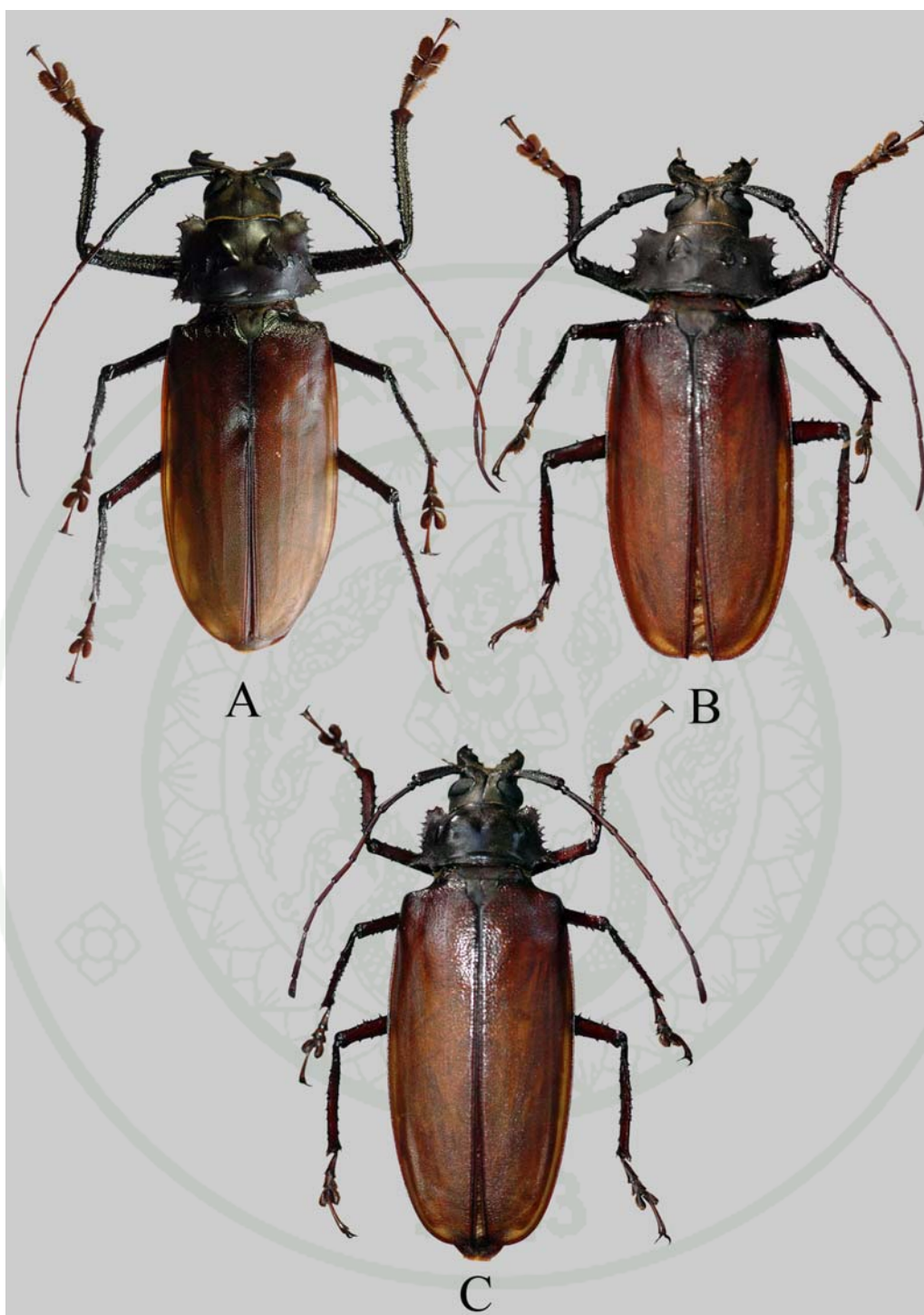


Figure 8 Adults. A. *Rhopipodus hopei*, ♀. B. ditto, ♂. C. *R. fetalis*, ♀.

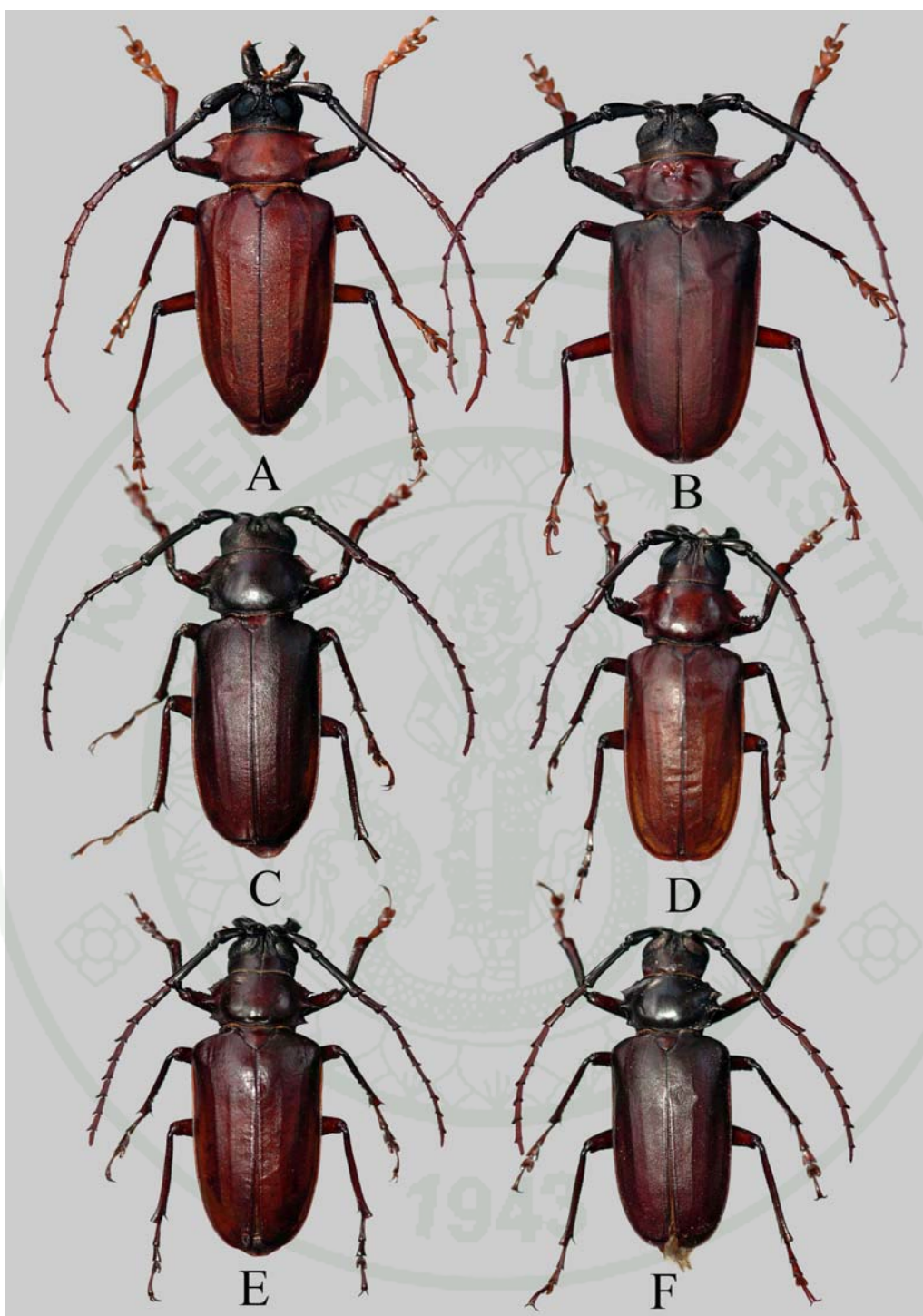


Figure 9 Adults. A-B. *Dorysthenes buqueti*, ♂. C-F. ditto, ♀.

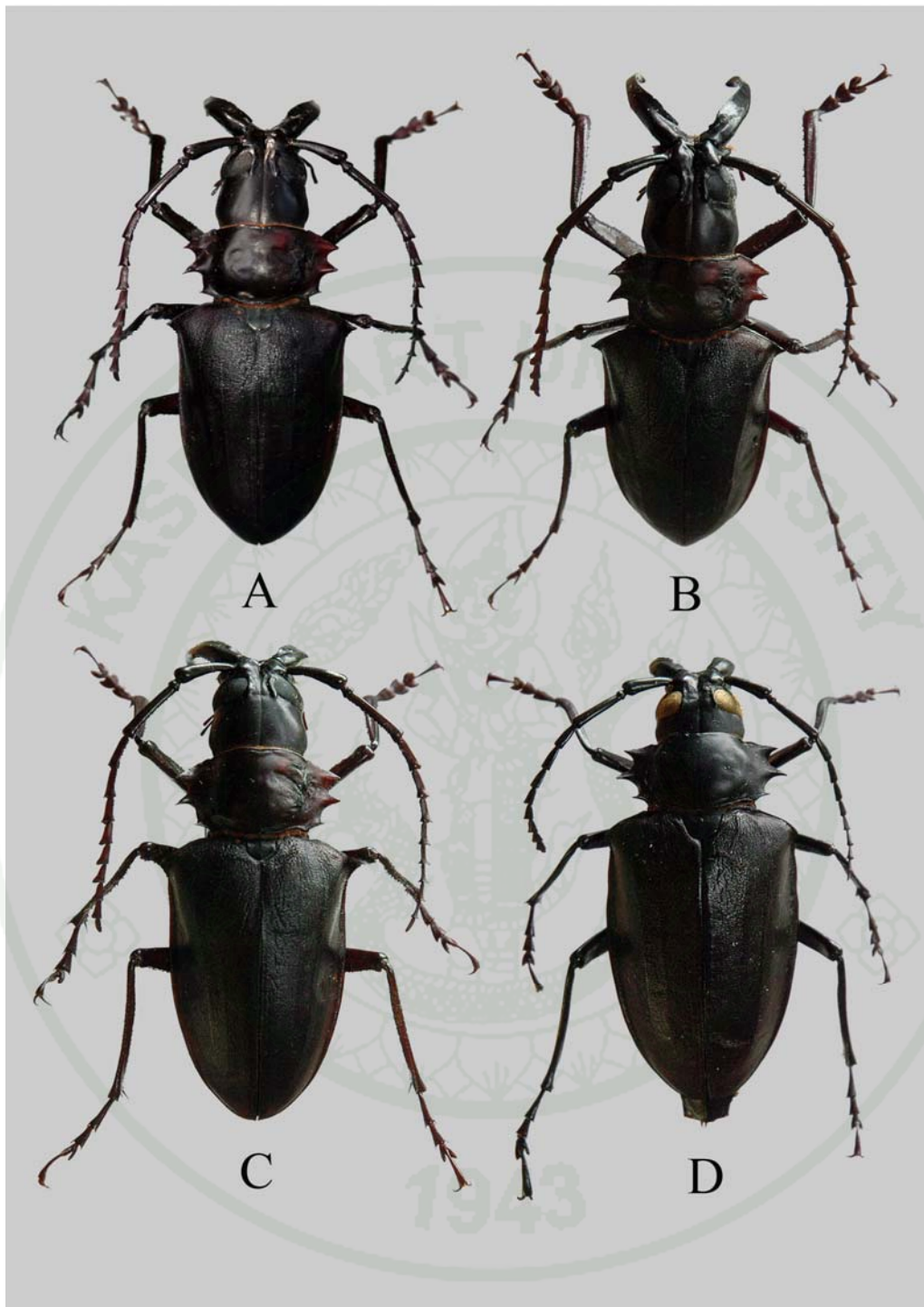


Figure 10 Adults. A-C. *Dorythenes walkeri*, ♂. D. ditto, ♀.

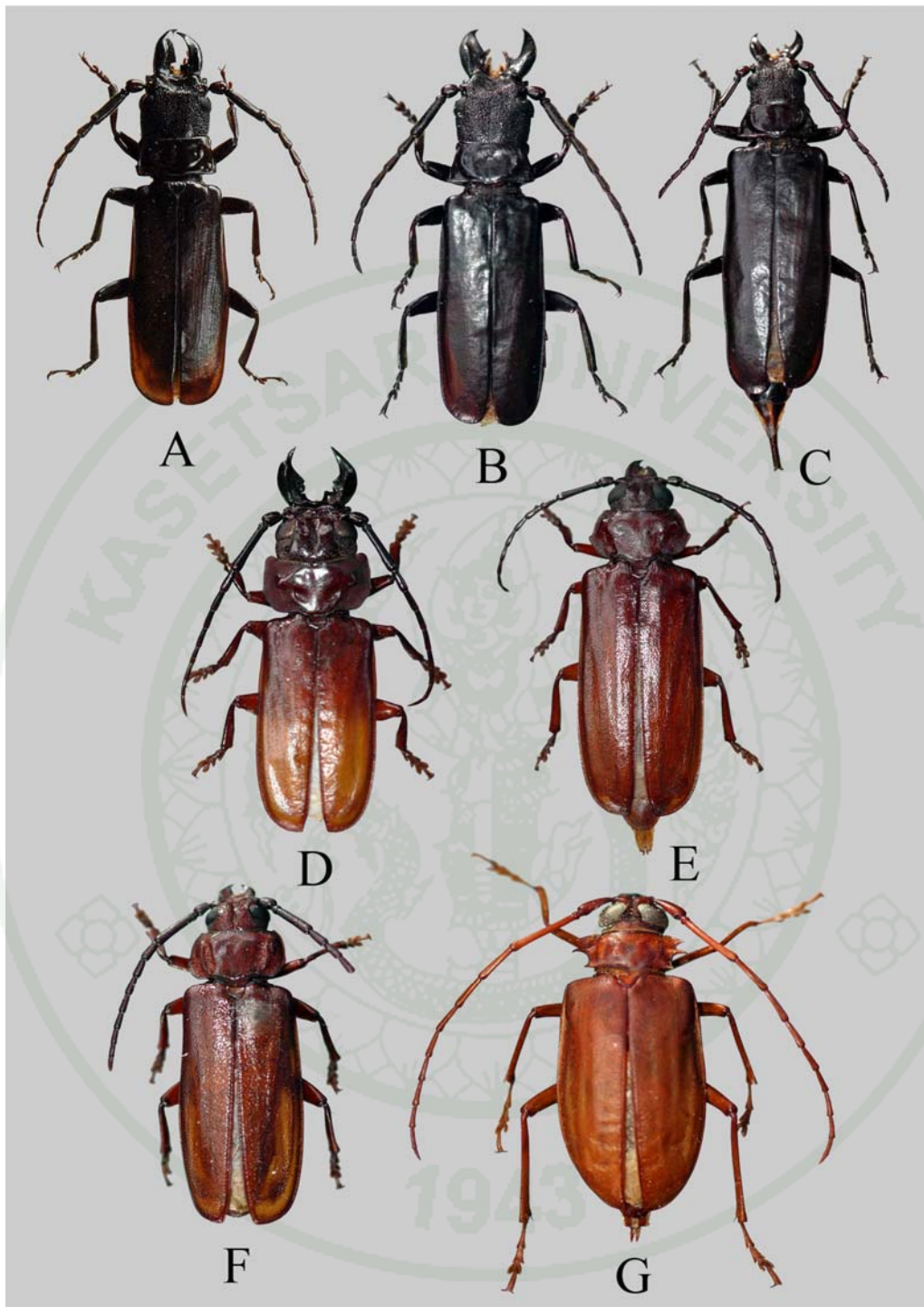


Figure 11 Adults. A-B. *Eurypoda nigrita*, ♂. C. ditto, ♀. D. *E. batesi*, ♂. E. ditto, ♀. F. *Rhineimegopsis rugicollis*, ♀. G. *Prionoma bigibbosus*, ♀.

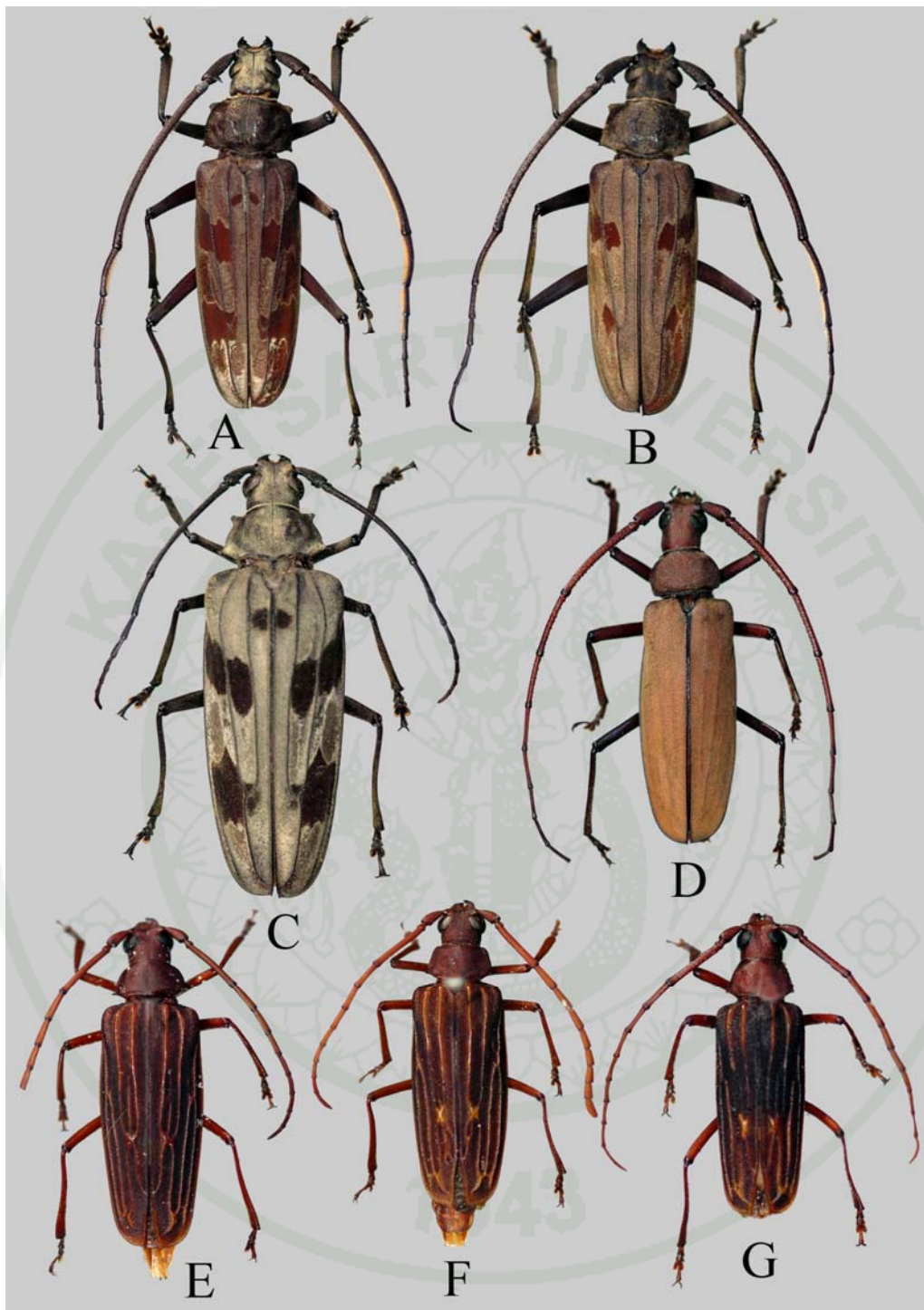


Figure 12 Adults. A-B. *Baralipion maculosa*, ♂. C. ditto, ♀.

D. *Megopis marginalis*, ♂. E-F. *M. procera*, ♀. G. ditto, ♂.

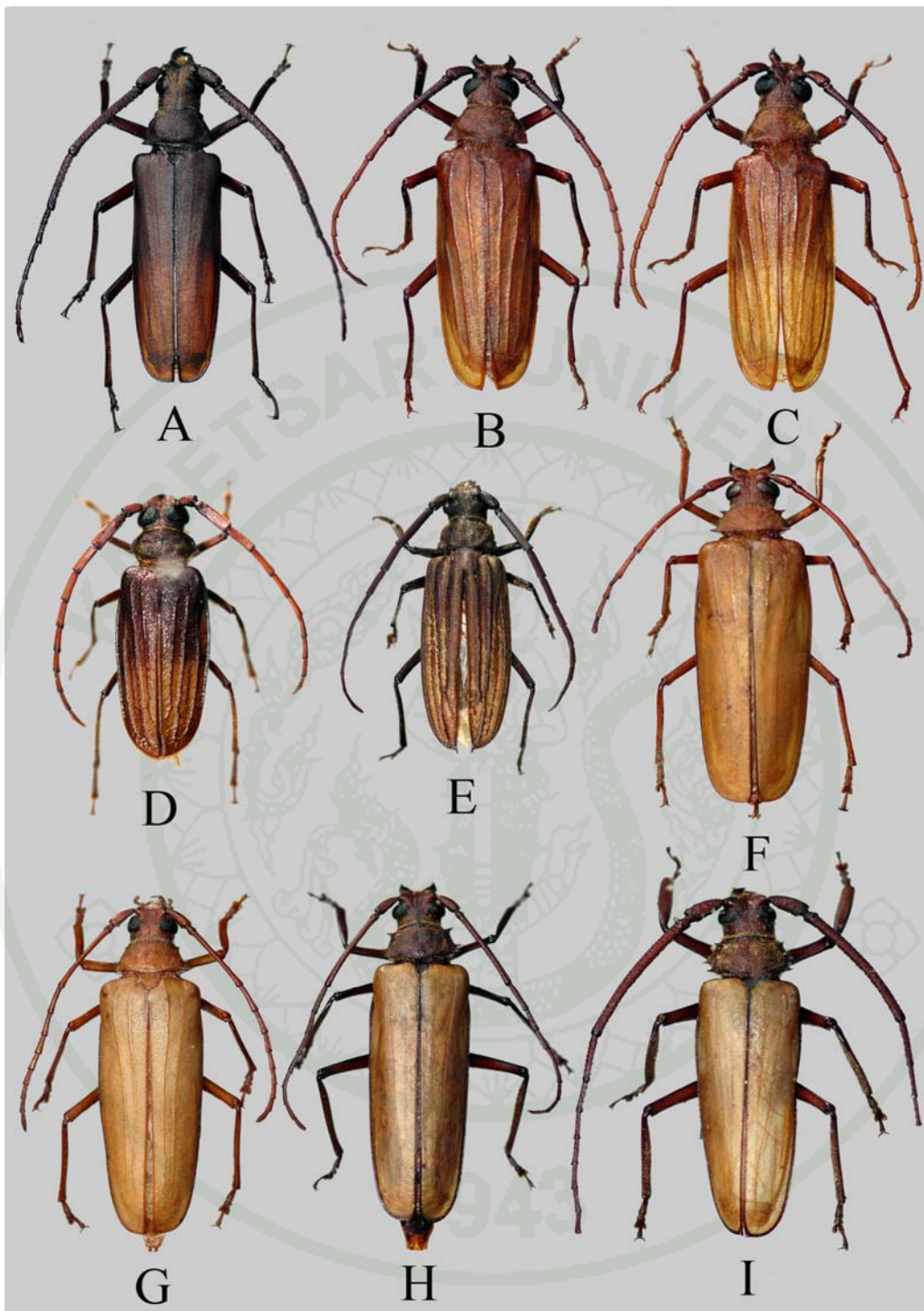


Figure 13 Adults. A. *Megopis sinica ornaticollis*, ♂. B-C. *M. sinica sinica*, ♂. D-E. *Sarmydus antennatus*, ♂. F. *Spinimegopsis lividipennis*, ♀. G. ditto, ♂. H. *S. piliventris antennalis*, ♀. I. ditto, ♂.

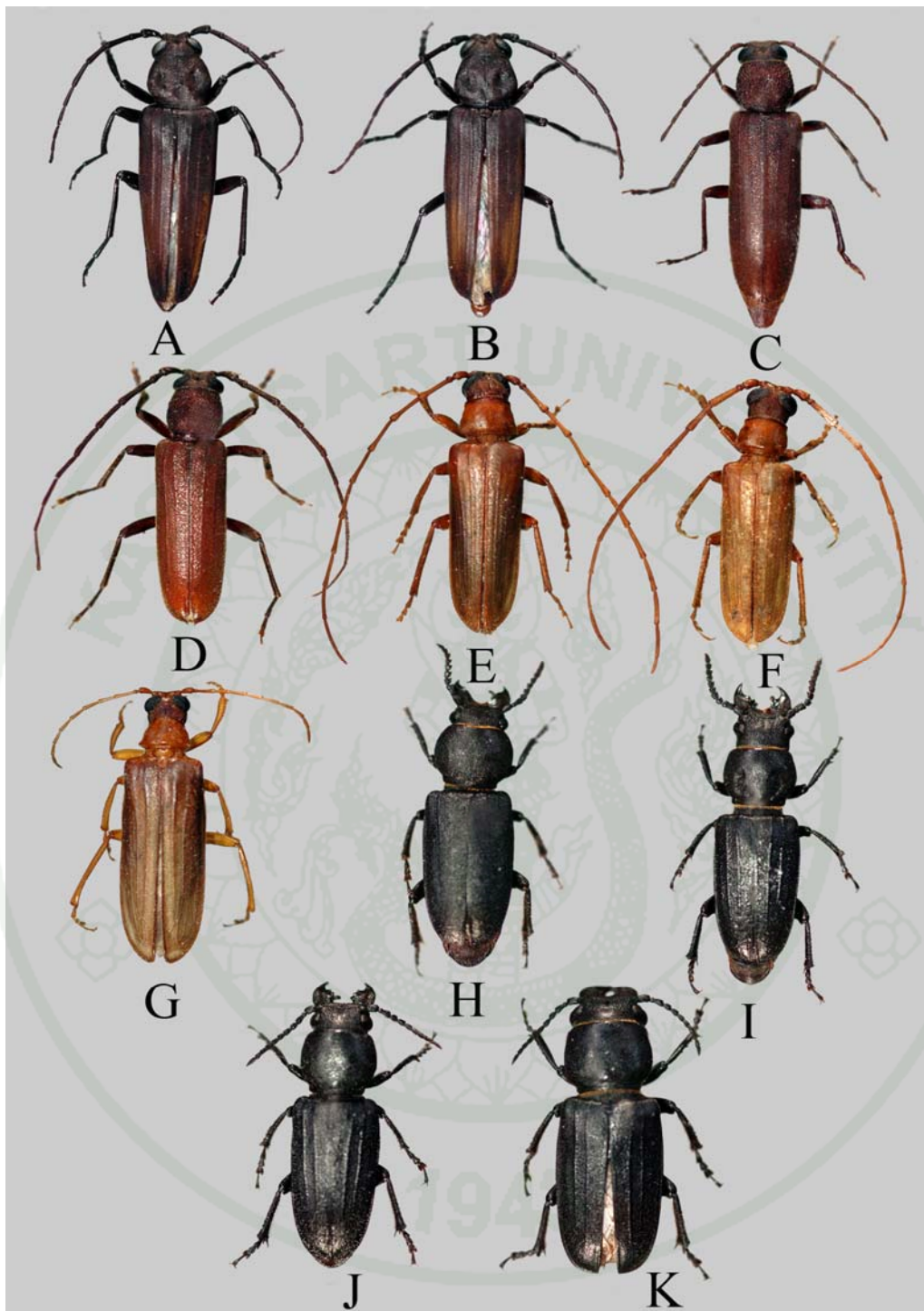


Figure 14 Adults. A. *Arhopalus exoticus*, ♂. B. ditto, ♀. C. *A. unicolor*, ♀. D. ditto, ♂. E-F. *Philus contatus*, ♂. G. ditto, ♀. H-J. *Spondylis buprestoides*, ♂. K. ditto, ♀.

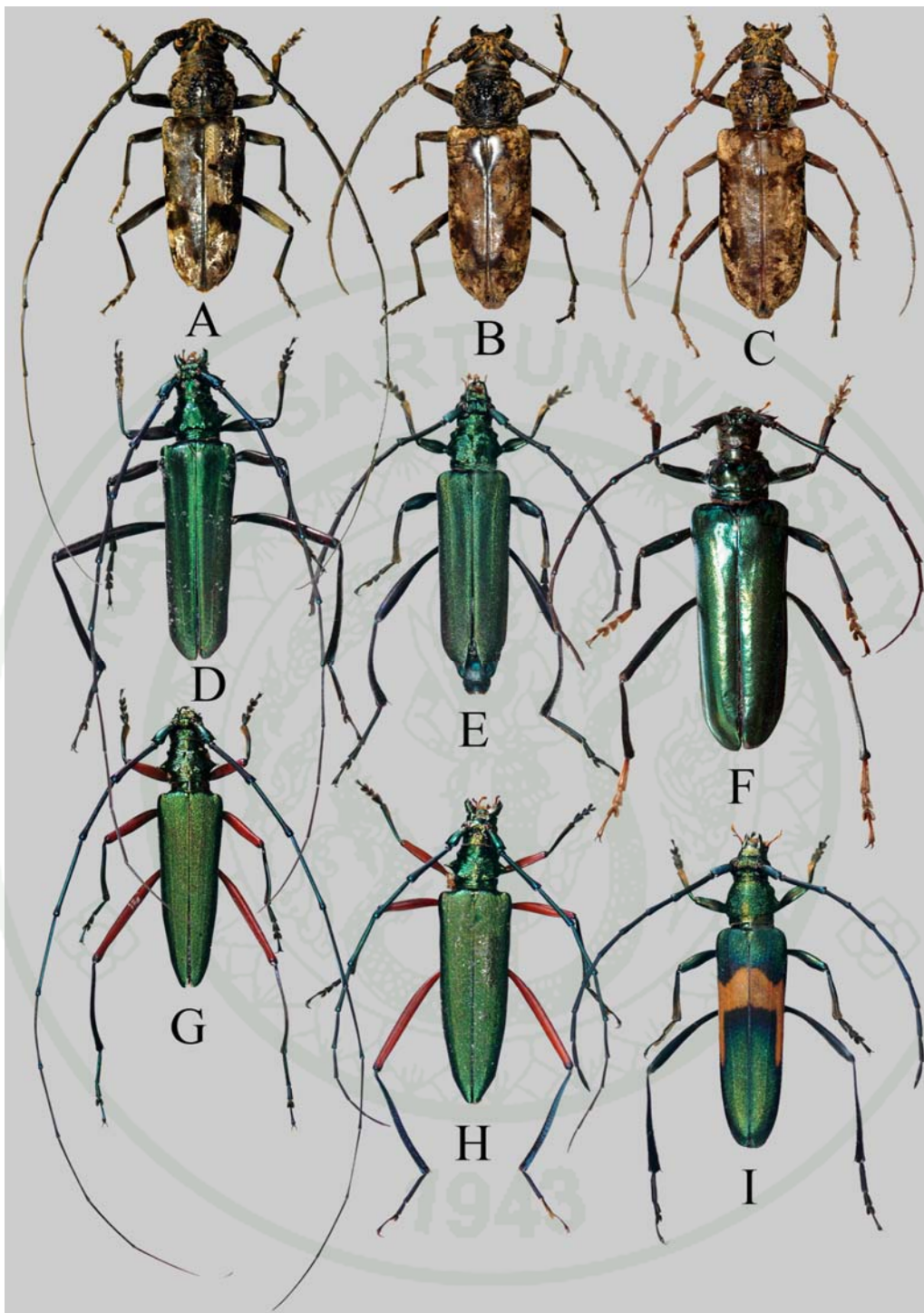


Figure 15 Adults. A. *Aeolesthes aurifaber*, ♂. B-C. ditto, ♀.
 D. *Aphrodisium gibbicolle*, ♂. E. ditto, ♀. F. *A. cantori*, ♂.
 G. *A. neoxenum*, ♂. H. ditto, ♀. I. *Chelidonium venereum*, ♂.

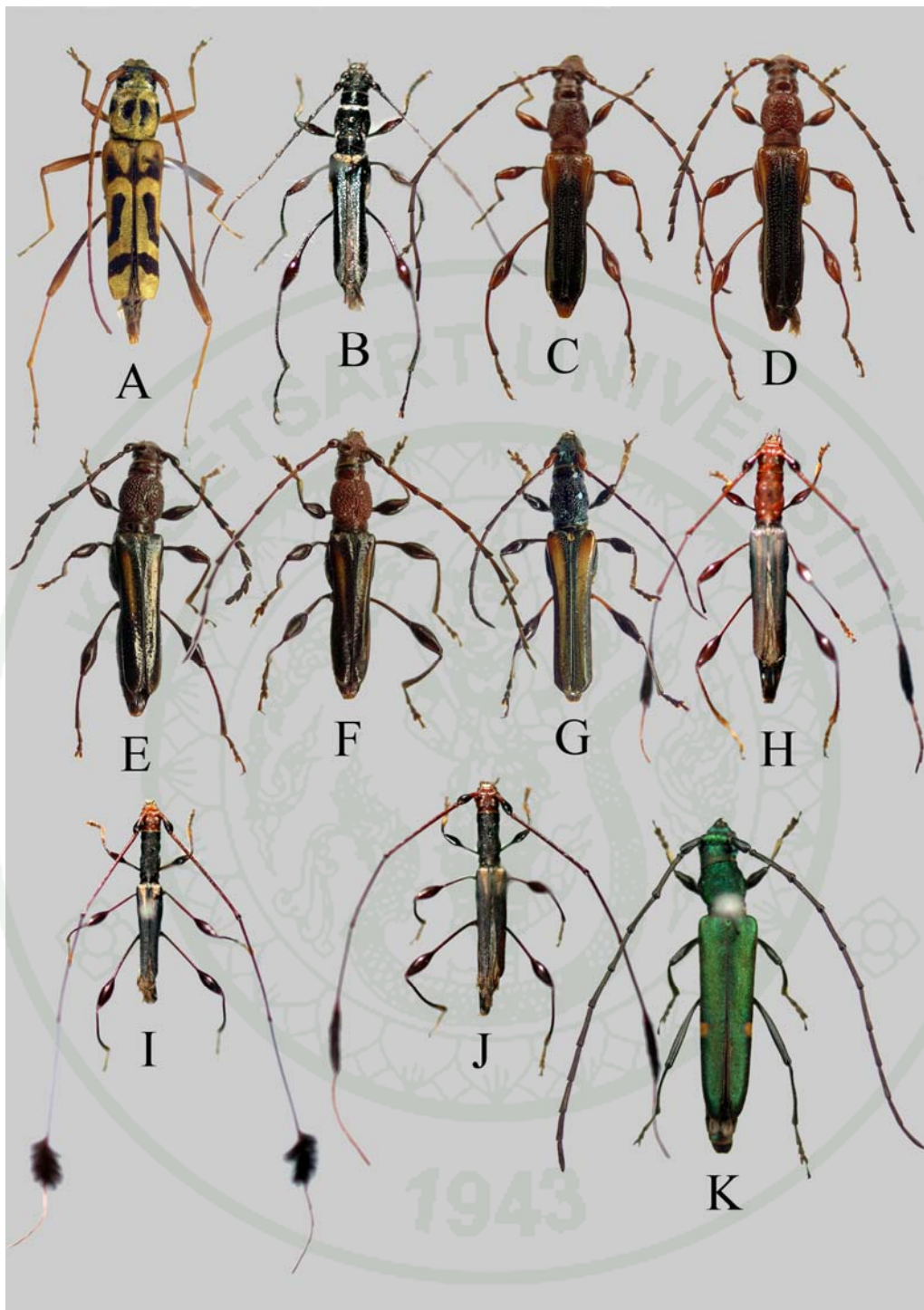


Figure 16 Adults. A. *Acrocyrtidus avarus*, ♀. B. *Artimpaza lineata*, ♂. C. *A. argentinotata*, ♂. D. ditto, ♀. E. *A. paksensis*, ♀. F. ditto, ♂. G. *A. colorata*, ♂. H. *Camelocerambyx semiruber*, ♀. I. *C. singularis*, ♂. J. ditto, ♀. K. *Anubis bipustulatus*, ♂.

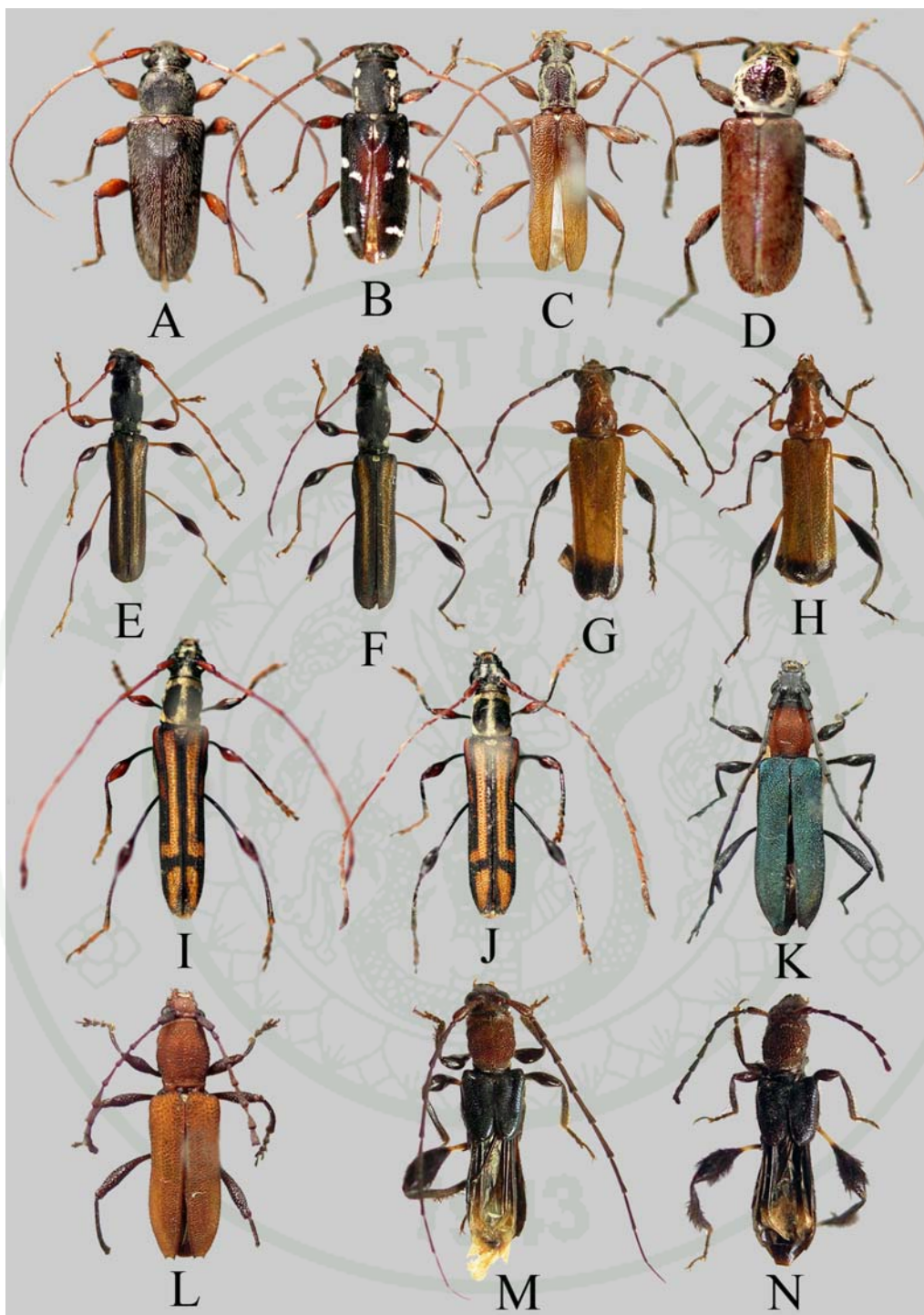


Figure 17 Adults. A. *Ceresium geniculatum*, ♀. B. *C. leucosticticum*, ♂. C. *C. fallaciosum*, ♀. D. *C. elatum*, ♀. E. *Nida flavovittata*, ♂. F. ditto, ♀. G. *Kunbir atriapicalis*, ♂. H. ditto, ♀. I. *Cleomenes micarius*, ♀. J. ditto, ♂. K. *Dere affinis*, ♀. L. *D. adelpha*, ♀. M. *Epania ruficolis*, ♂. N. ditto, ♀.

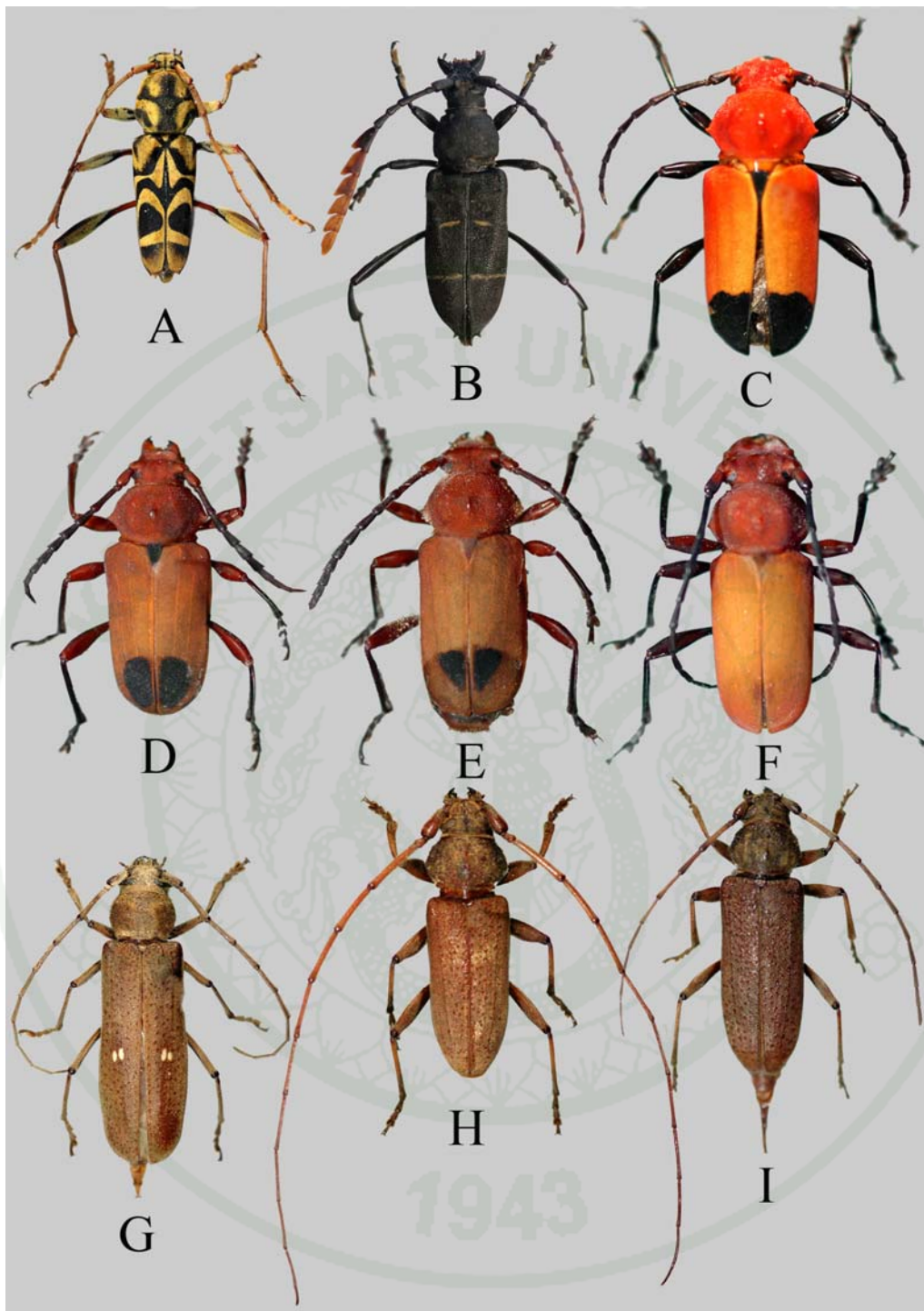


Figure 18 Adults. A. *Clytosaurus siamensis*, ♂. B. *Euryarthrum lambii*, ♀. C-E. *Euryphagus lurdii*, ♀. F. ditto, ♂. G. *Gnatholea eburifera*, ♀. H. *Stomatium longicorne*, ♂. I. ditto, ♀.

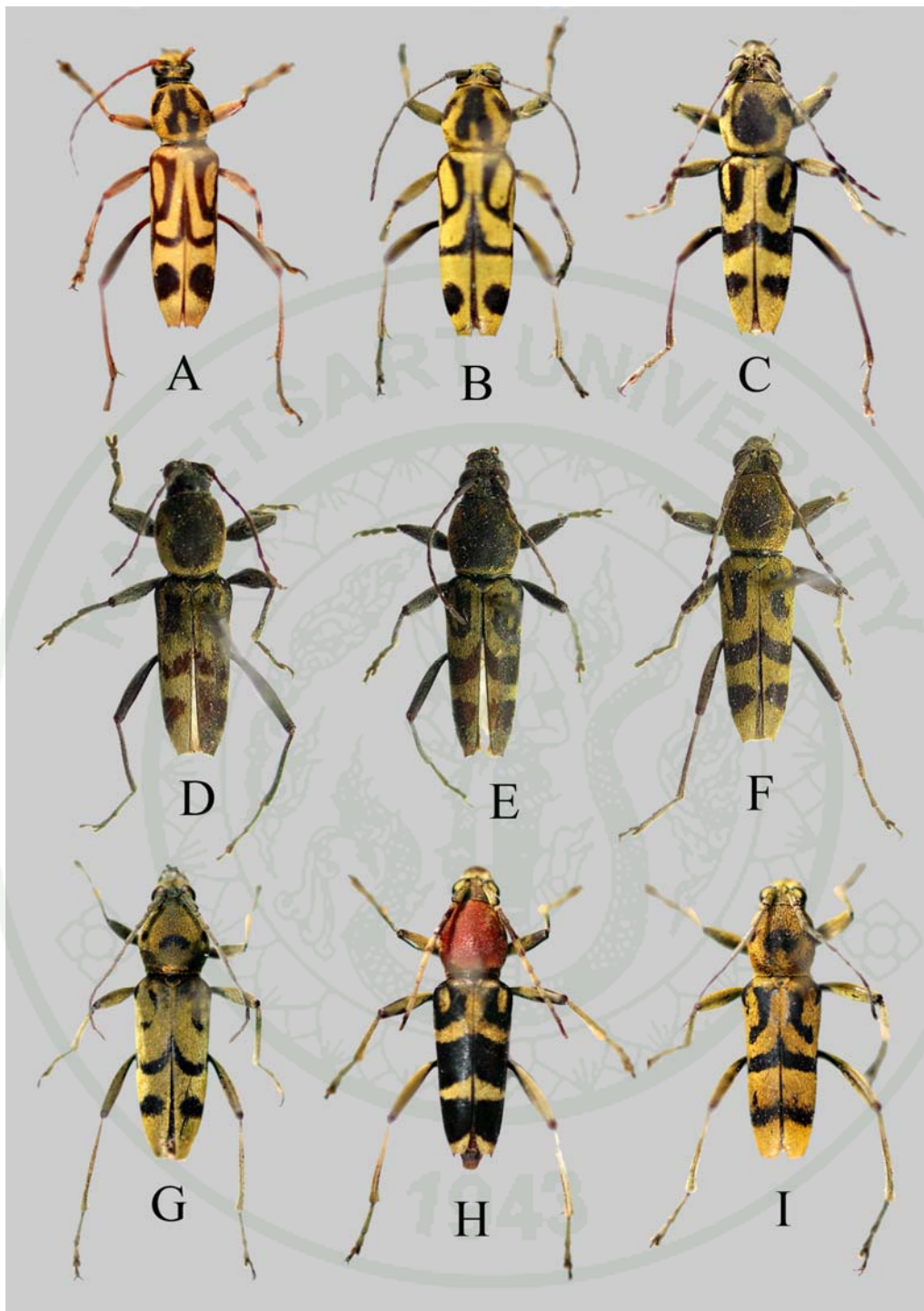


Figure 19 Adults. A. *Chlorophorus annularis*, ♂. B. ditto, ♀.
 C-E. *C. hederatus*, ♂. F. ditto, ♀. G. *C. punctiger*, ♀.
 H. *C. rubricollis*, ♂. I. *C. sapho*, ♀.

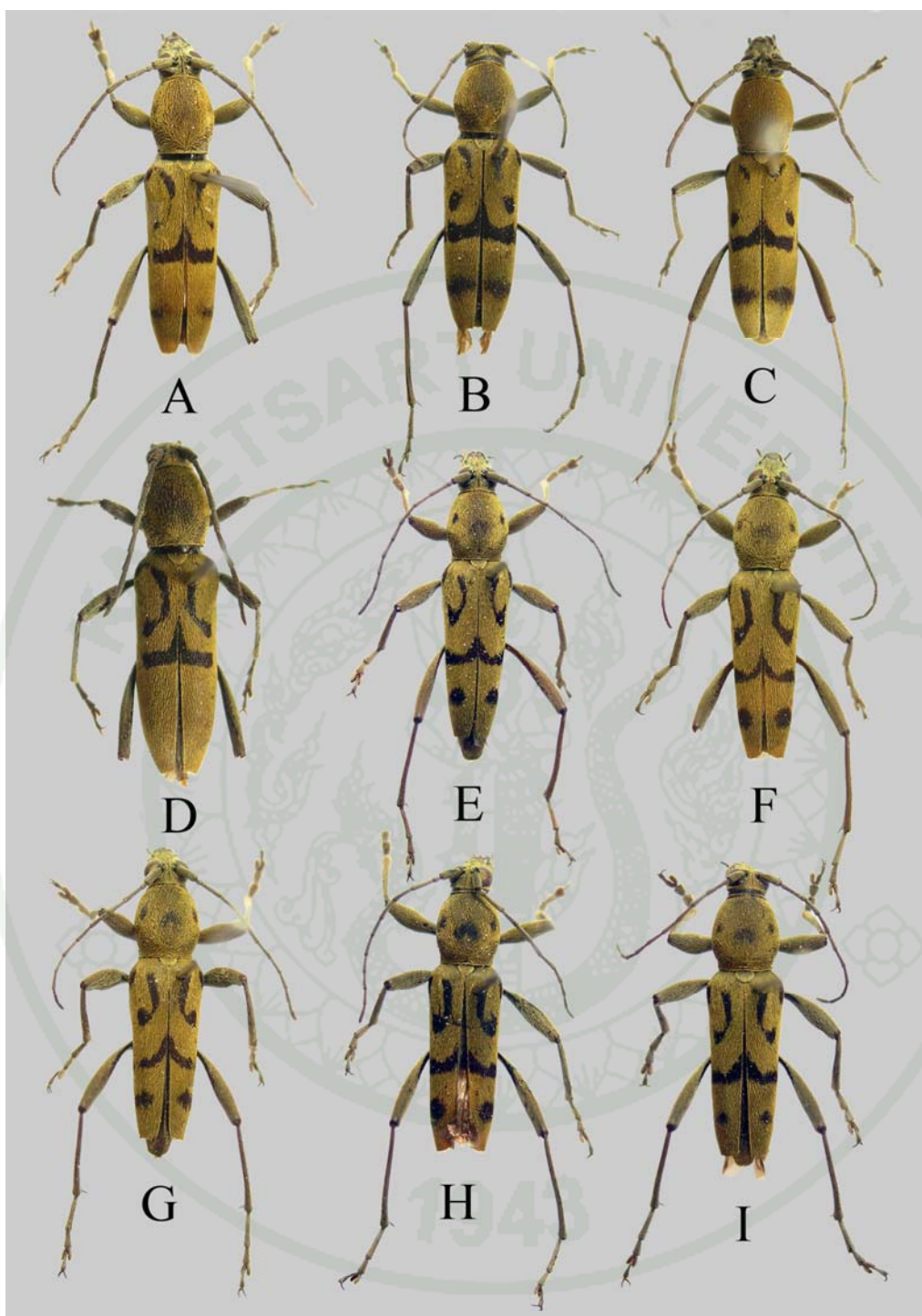


Figure 20 Adults. A-C. *Chlorophorus copiosus*, ♂. D. ditto, ♀.

E-H. *C. ictericus*, ♂. I. ditto, ♀.

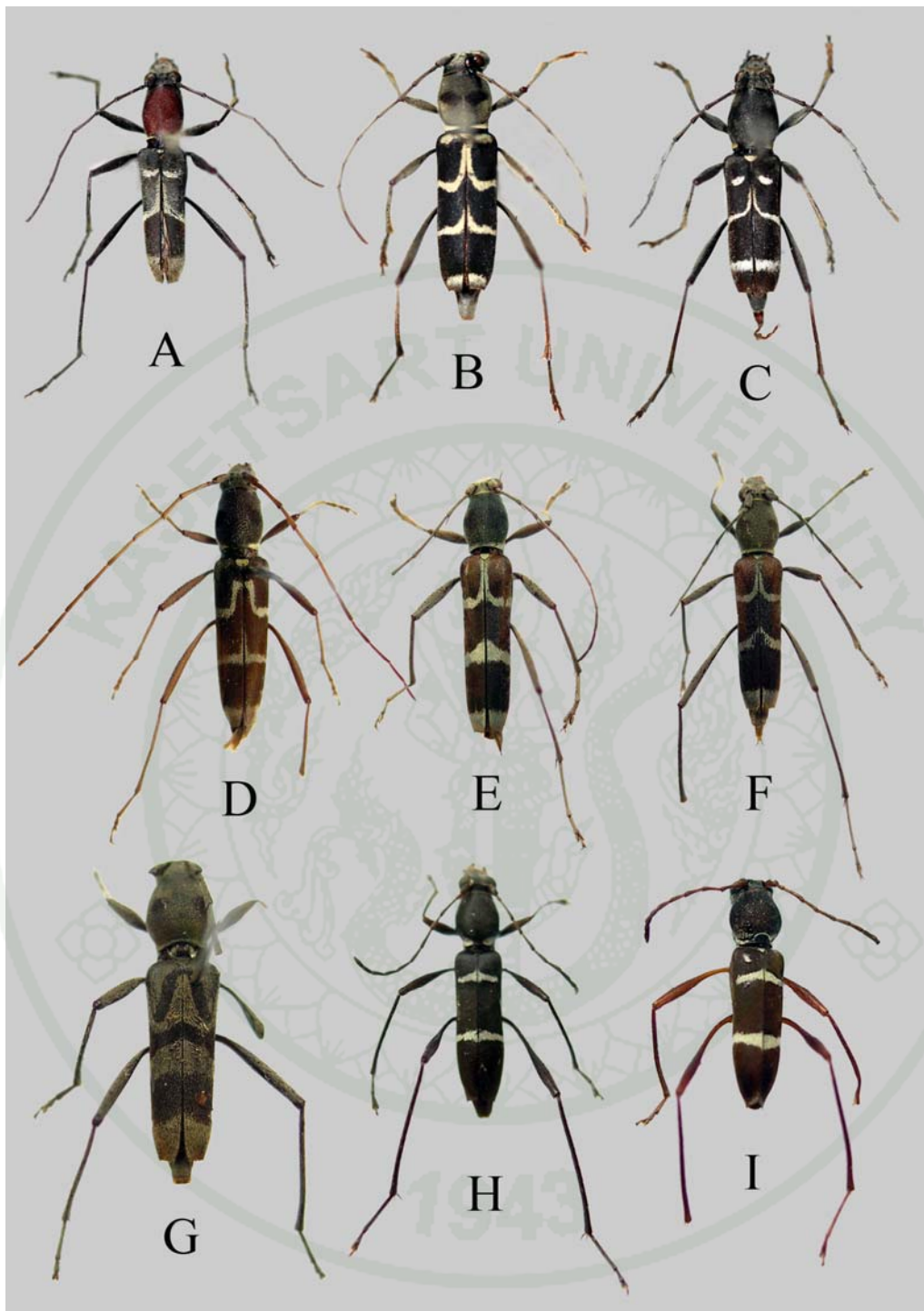


Figure 21 Adults. A. *Demonax dignus*, ♂. B. *D. elongatus*, ♂.
 C. *D. semiluctuosus*, ♂. D. *D. albidofasciatus*, ♂.
 E. *D. alboantennatus*, ♂. F. ditto, ♀. G. *D. alcanor*, ♀.
 H. *D. vilis*, ♂. I. *D. tenuiculus*, ♀.

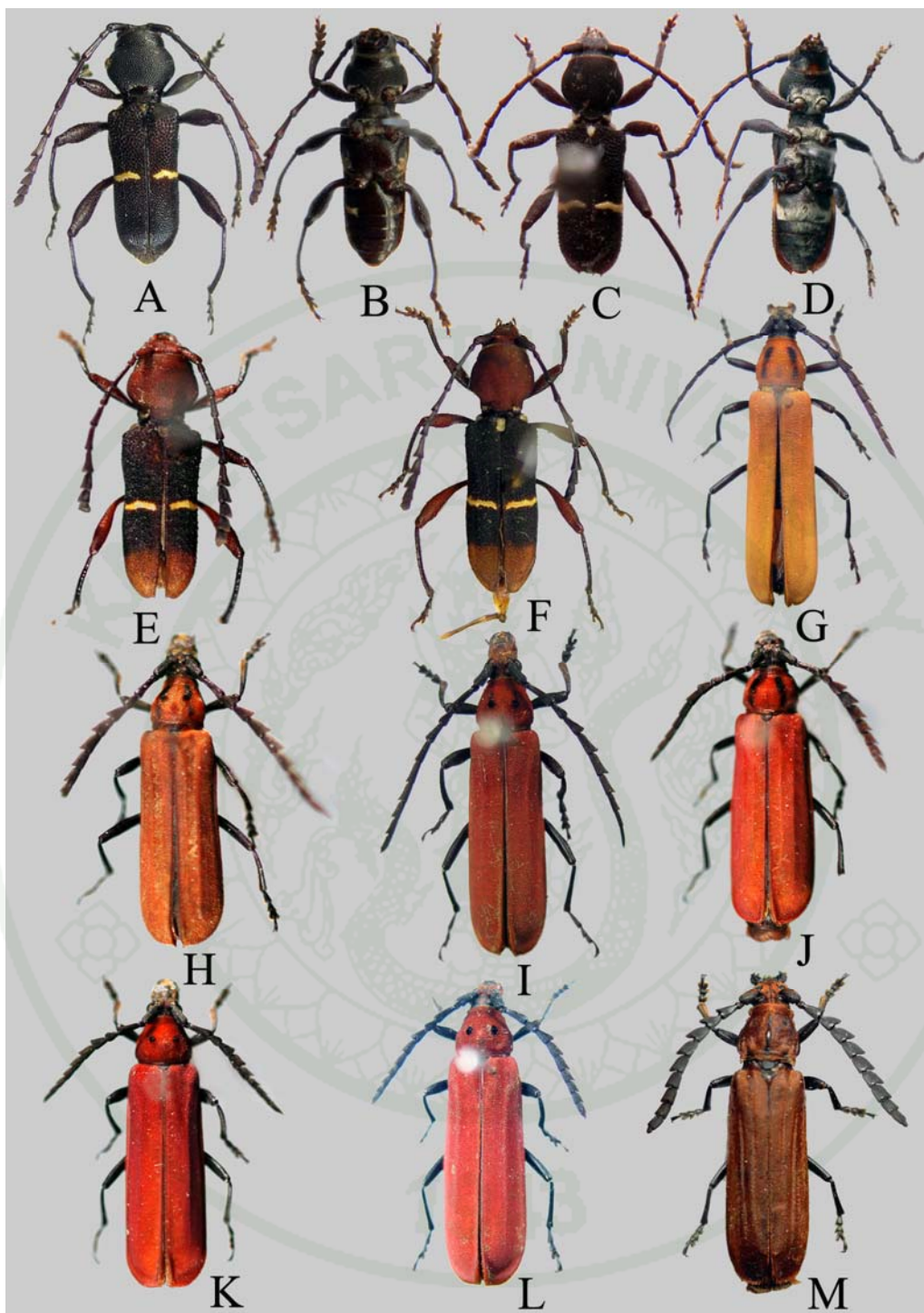


Figure 22 Adults. A. *Epipedocera laticollis*, ♂. B. ditto, ventral side. C. *E. subatra*, ♀. D. ditto, ventral side. E. *E. vitalisi*, ♂. F. ditto, ♀. G. *Erythrus laosensis*, ♀. H-I. *E. championi*, ♂. J. ditto, ♀. K. *E. laticornis*, ♂. L. ditto, ♀. M. *Erythresthes shimomurai*, ♀.

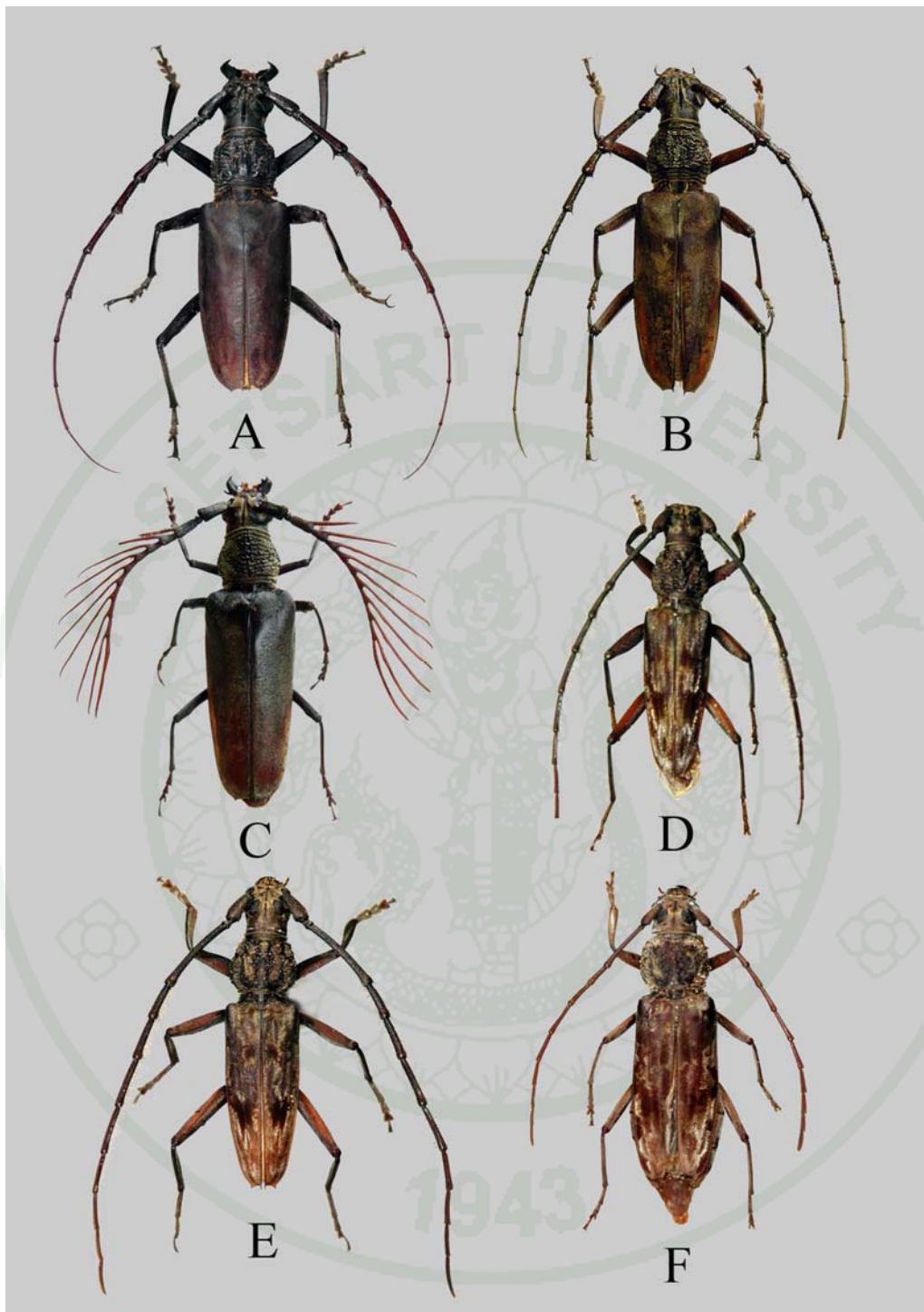


Figure 23 Adults. A-B. *Hoplocerambyx spinicornis*, ♂. C. *Cyriopalus wallacei*, ♂. D-E. *Dialeges pauper*, ♂. F. ditto, ♀.

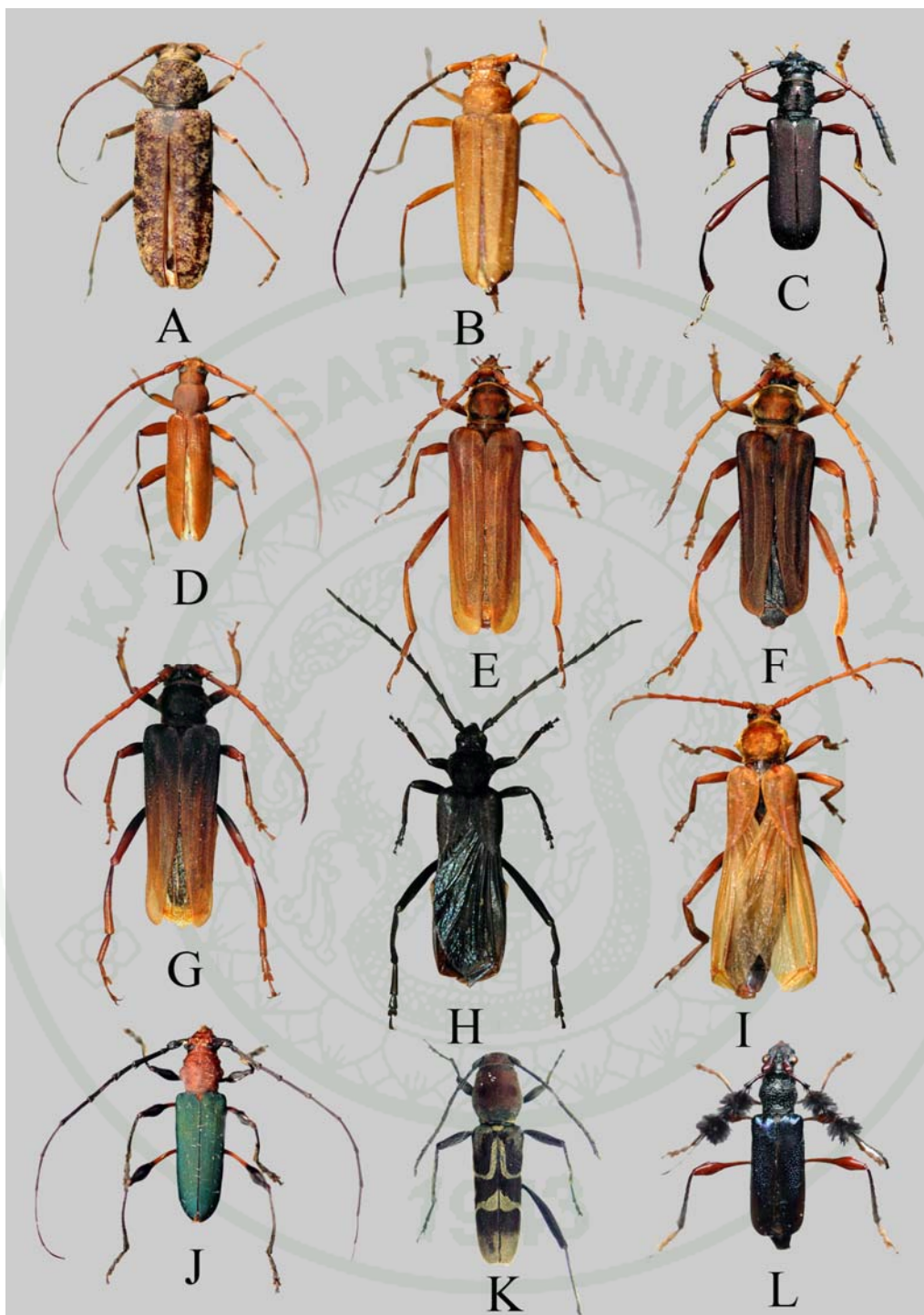


Figure 24 Adults. A. *Hesperophanes erosus*, ♀. B. *Hyphus apicalis*, ♀. C. *Ipothalia pyrrha*, ♂. D. *Noserius tibialis*, ♂. E. *Scalenus drescheri*, ♀. F-G. ditto, ♂. H-I. *S. hemipterus*, ♂. J. *Nyphasia pascoei*, ♂. K. *Perissus mutabilis*, ♂. L. *Phyodexia concinna*, ♀.



Figure 25 Adults. A. *Merionoeda fusca*, ♂. B. ditto, ♀. C. *M. aglaospadix*, ♀. D. *Ibidionidum corbetti obscuripes*, ♂. E. *Pyrestes dohertii*, ♀. F. *P. bicolor*, ♂. G. ditto, ♀.

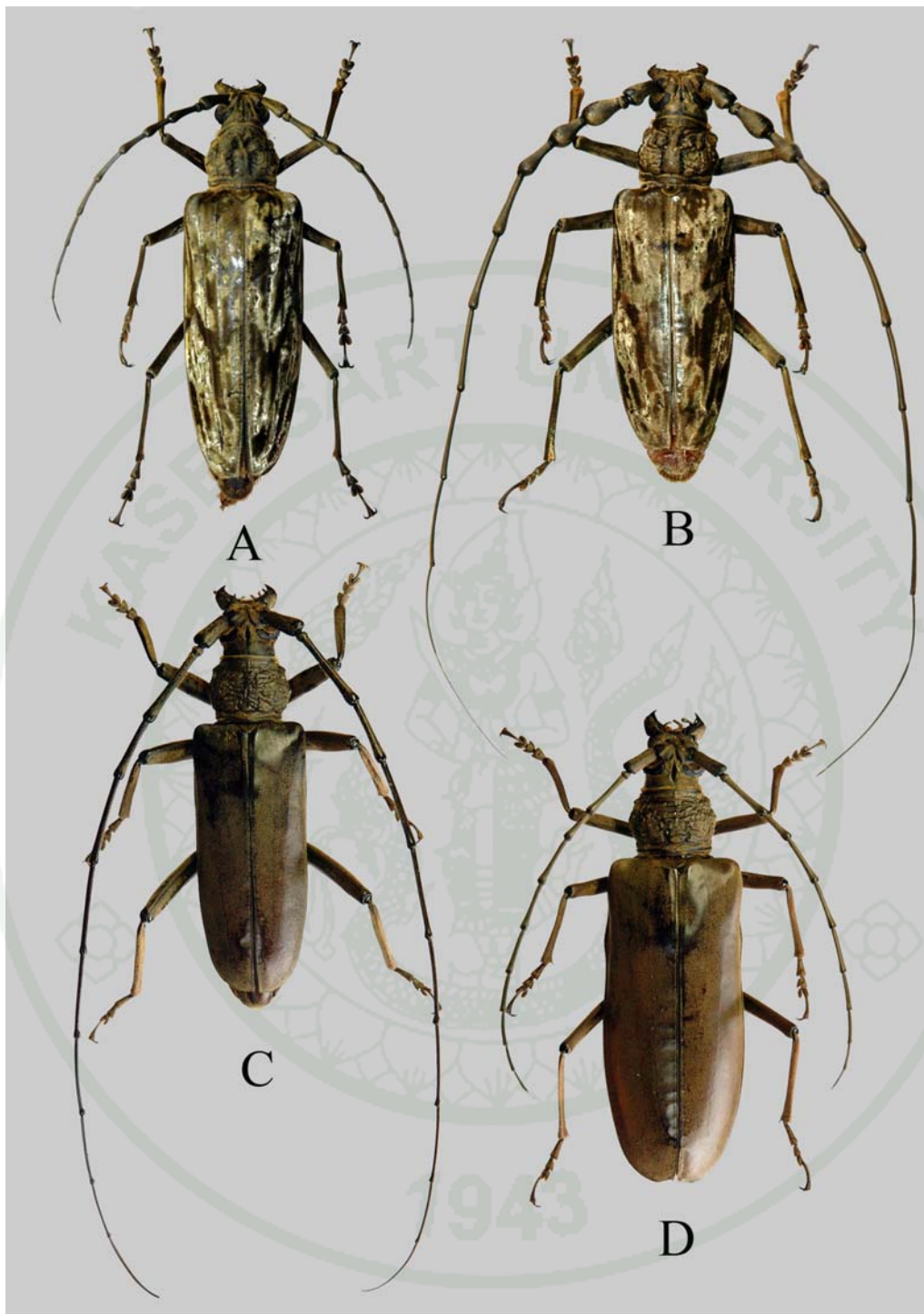


Figure 26 Adults. A. *Neocerambyx gigas*, ♀. B. ditto, ♂.
C. *N. grandis*, ♂. D. ditto, ♀.

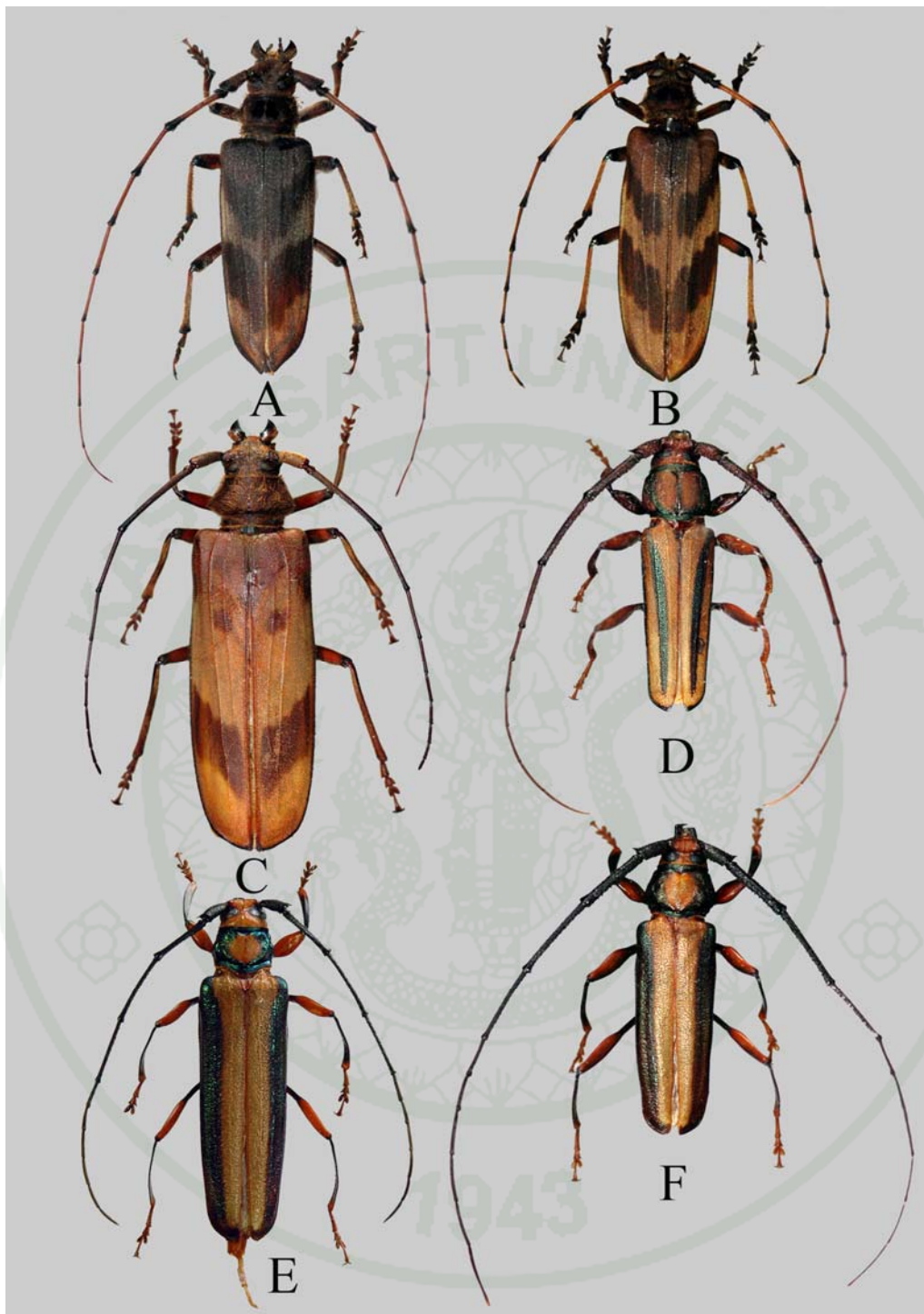


Figure 27 Adults. A. *Oplatocera oberthuri*, ♂. B. ditto, ♀.
 C. *O. callidioides*, ♂. D. *Xystrocera globosa*, ♂.
 E. *X. fastiva*, ♀. F. ditto, ♂.

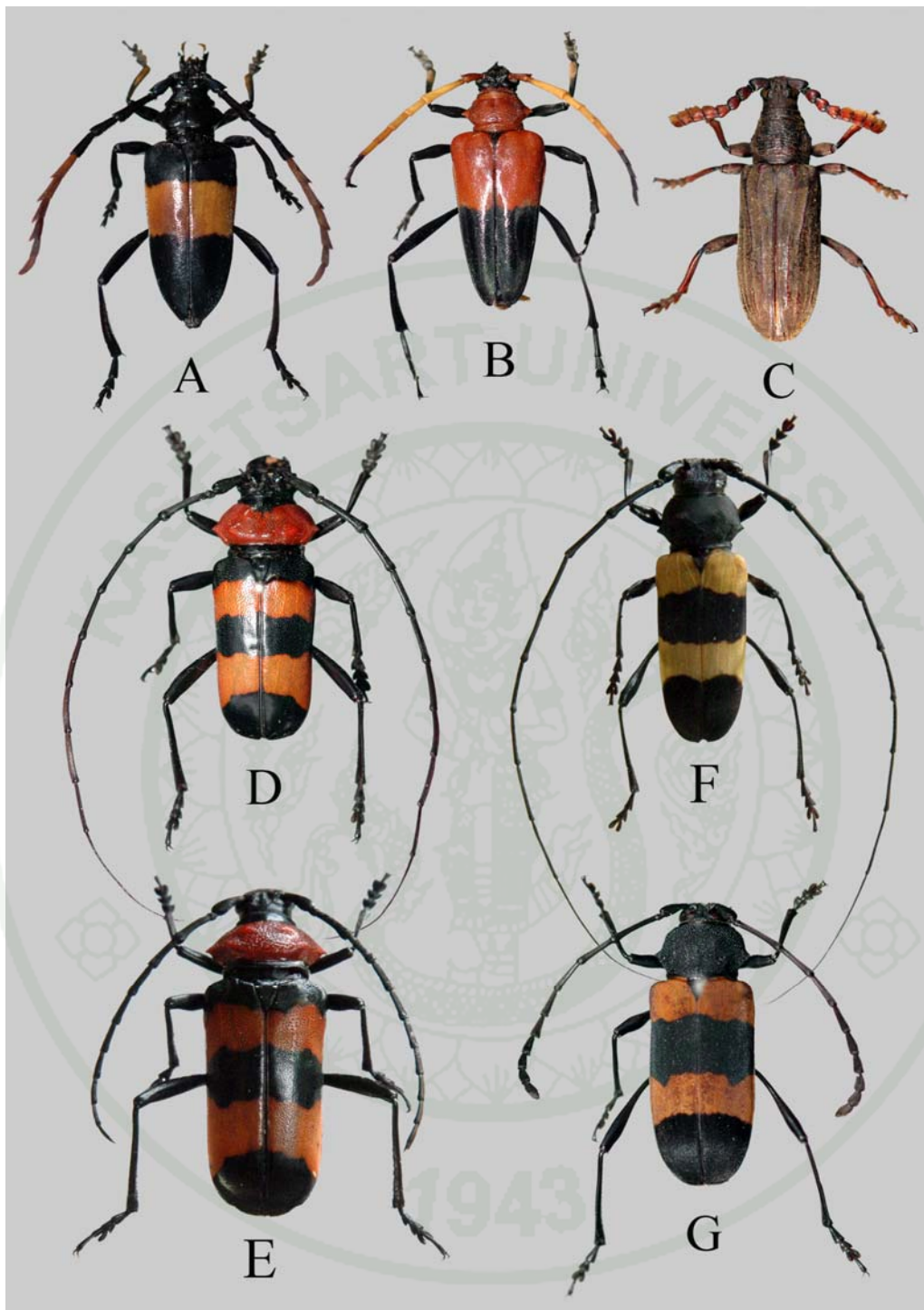


Figure 28 Adults. A. *Pachyteria dimidiata*, ♂. B. *P. equestris*, ♂.
 C. *Pachylocerus sulcatus*, ♂. D. *Pavieia superba*, ♂. E. ditto, ♀.
 F. *Purpuricenus malaccensis*, ♀. G. ditto, ♂.

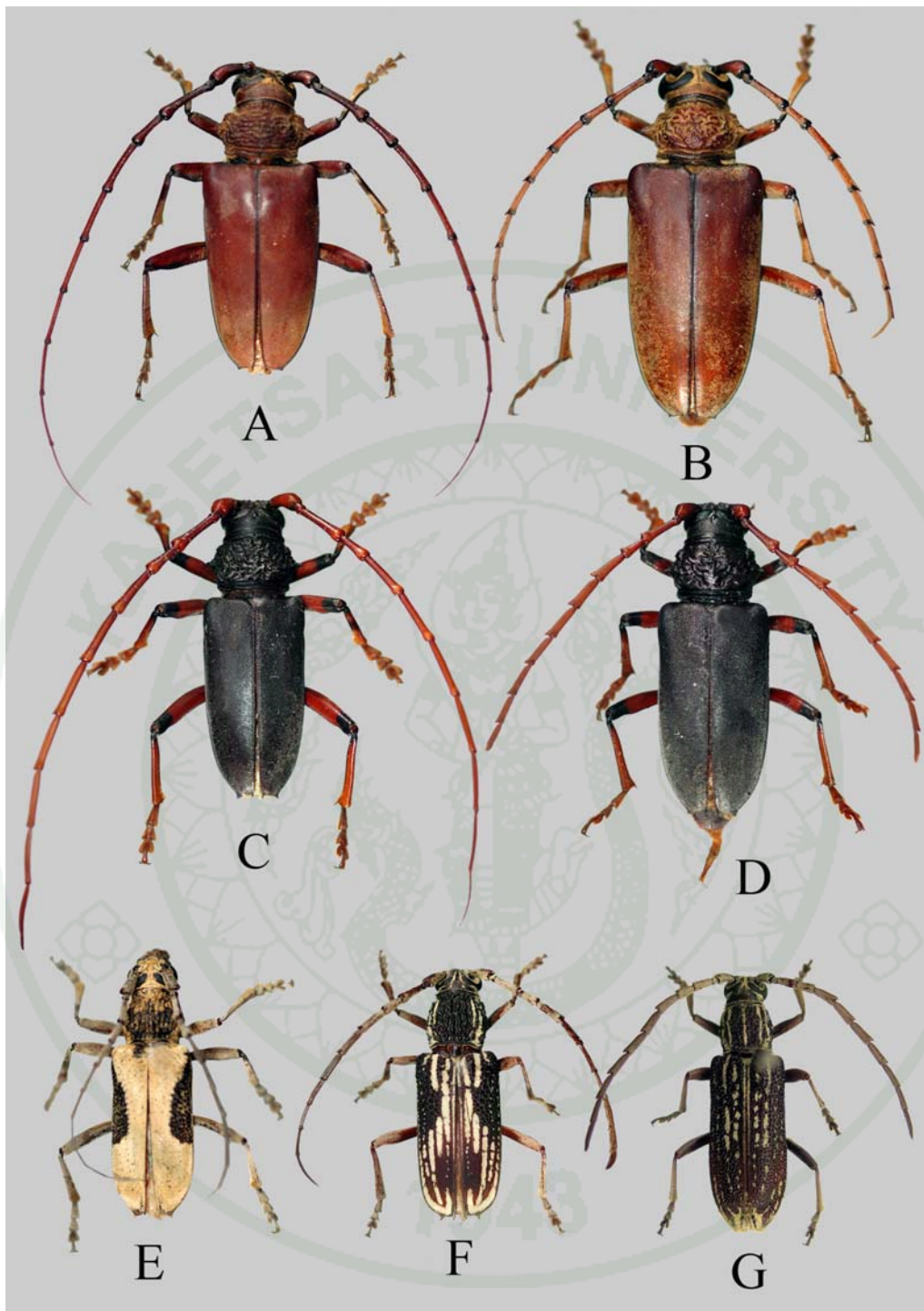


Figure 29 Adults. A. *Neoplocaederus ruficornis*, ♂. B. ditto, ♀.
 C. *N. obesus*, ♂. D. ditto, ♀. E. *Xoanodera regularis*, ♂.
 F. *X. striata*, ♂. G. *X. vitticollis*, ♀.

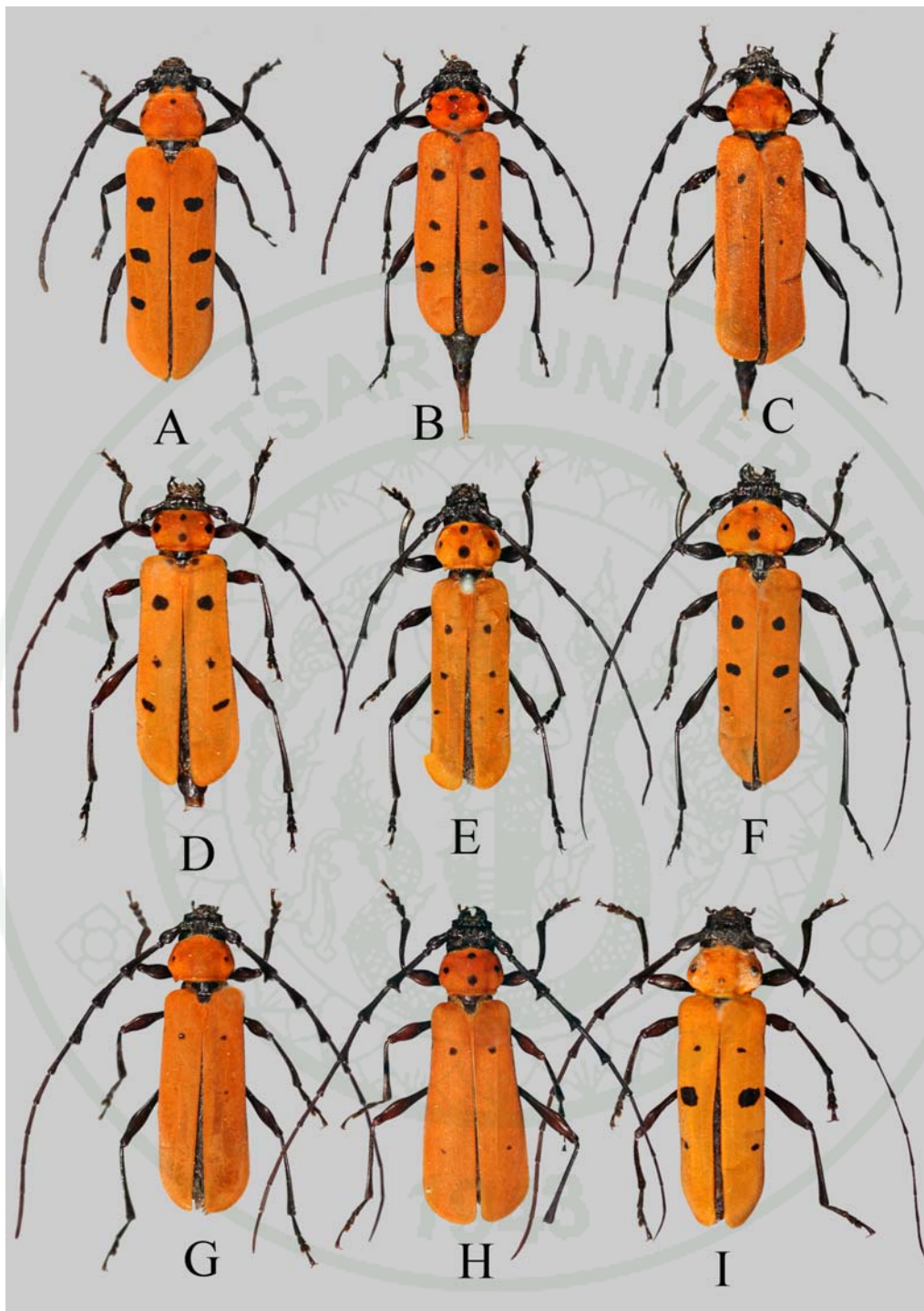


Figure 30 Adults. A-D. *Rosalia decempunctata*, ♀. E-I. ditto, ♂.

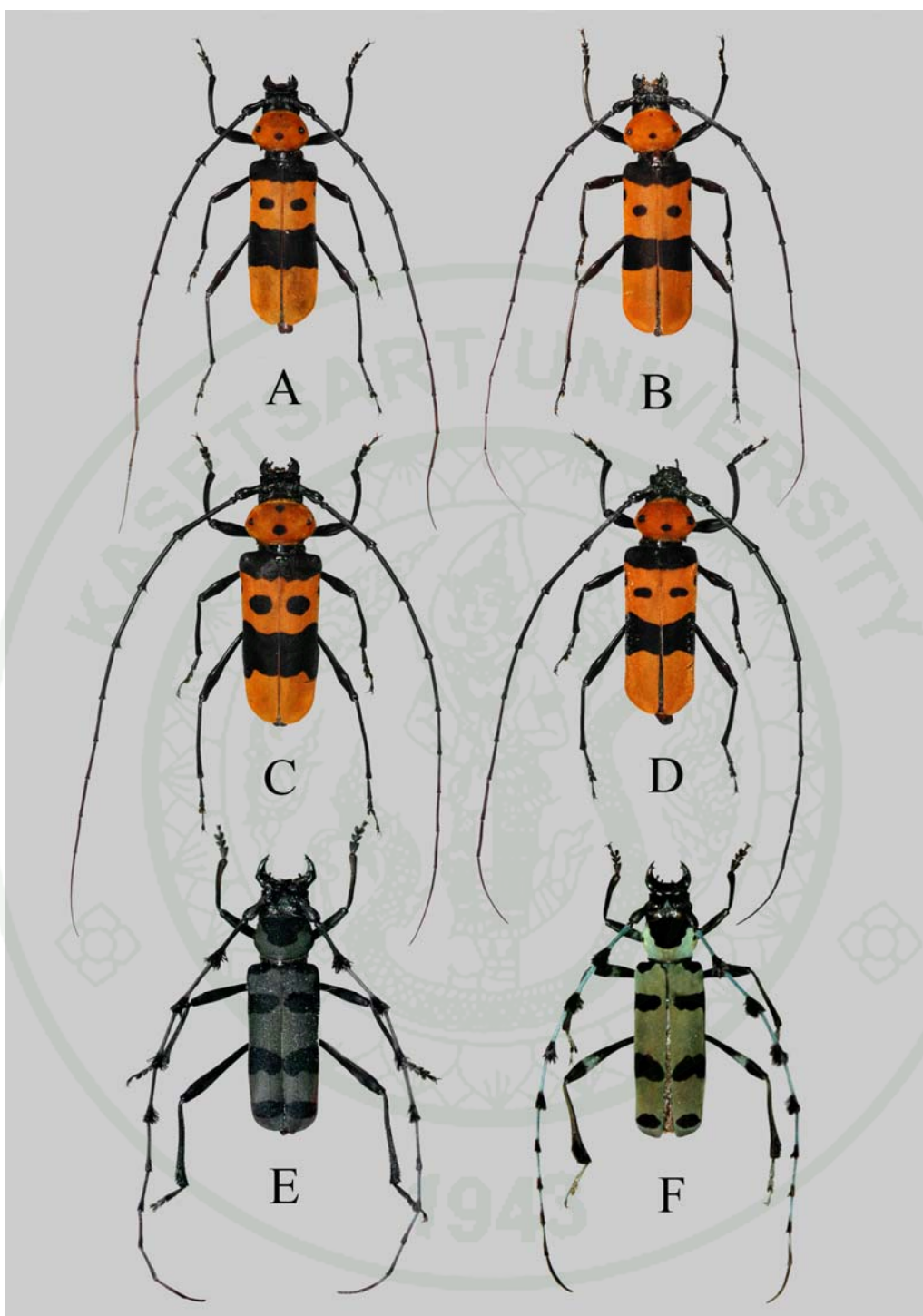


Figure 31 Adults. A-D. *Rosalia formosa*, ♂. E-F. *R. lameerei*, ♂.

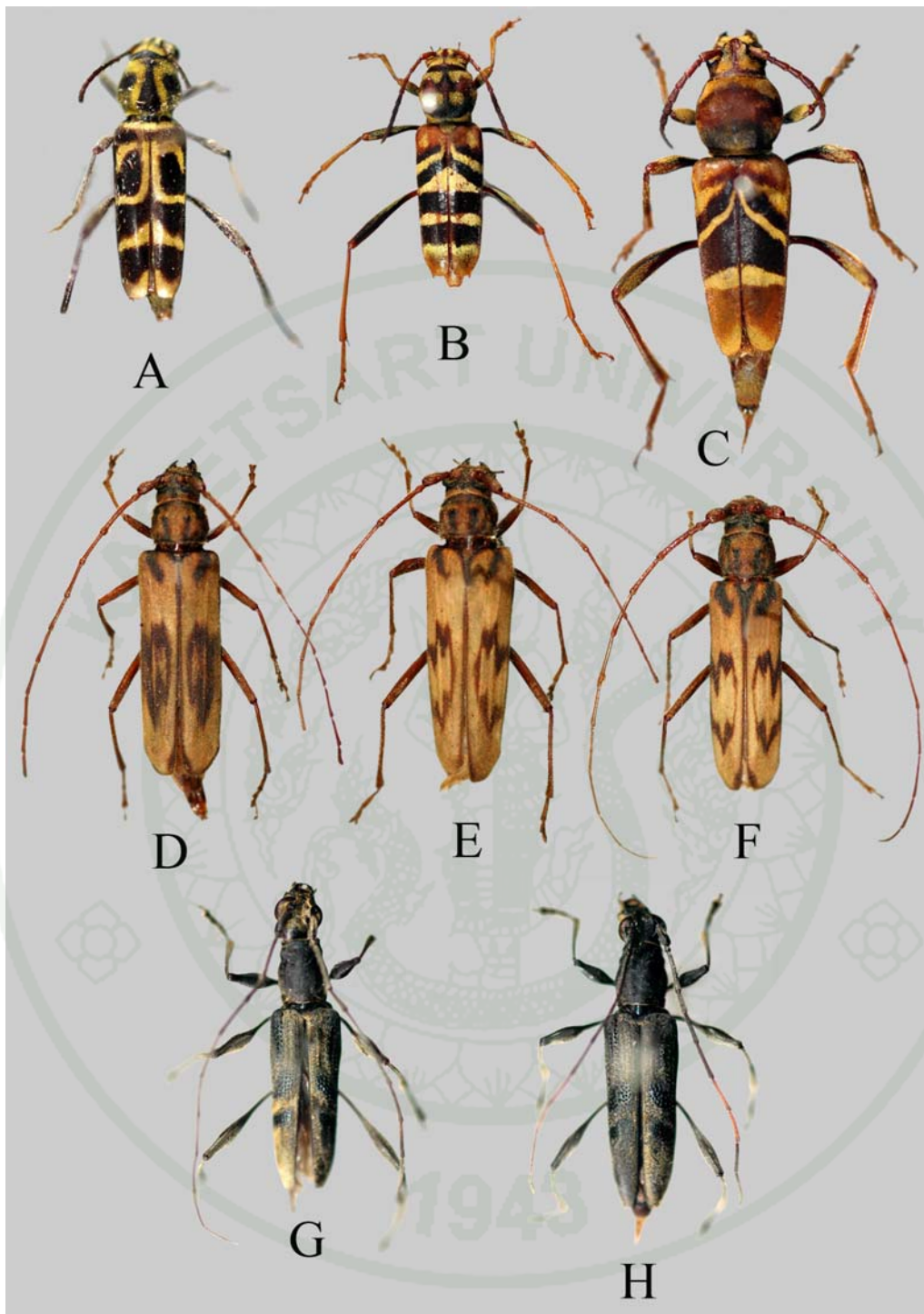


Figure 32 Adults. A. *Xylotrechus buqueti*, ♀. B. *X. unicarinatus*, ♀.
 C. *X. chinensis*, ♀. D-E. *Zoodes fulguratus*, ♀. F. ditto, ♂.
 G. *Polyphida metallica*, ♂. H. ditto, ♀.

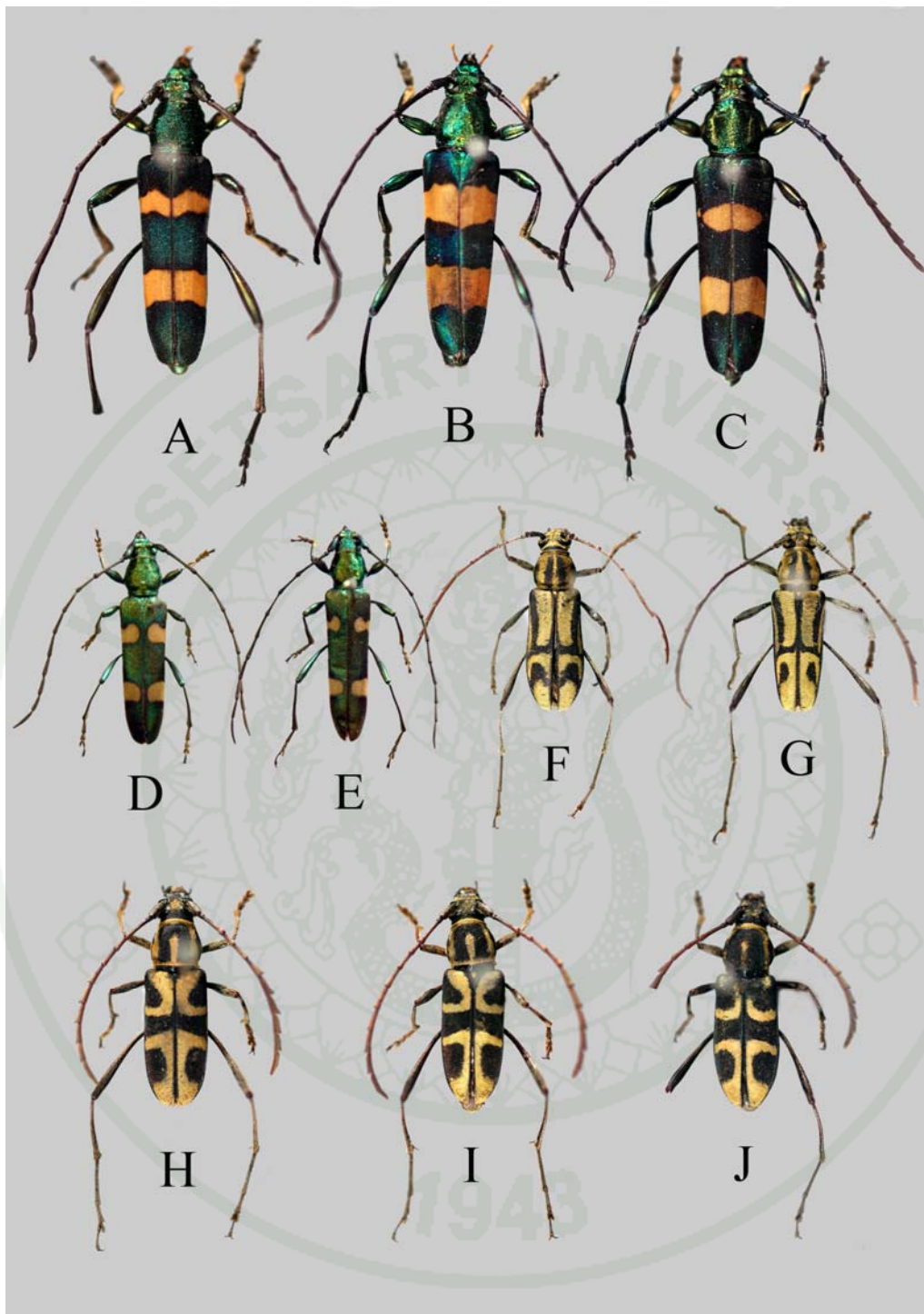


Figure 33 Adults. A. *Polyzonus flavocinctus*, ♂. B. *P. saigonensis*, ♀.
 C. *P. watosoni*, ♀. D-E. *P. subotusus*, ♂. F. *Prothema aurata*, ♀.
 G. ditto, ♂. H-I. *P. laosensis*, ♂. J. *P. cakli*, ♀.

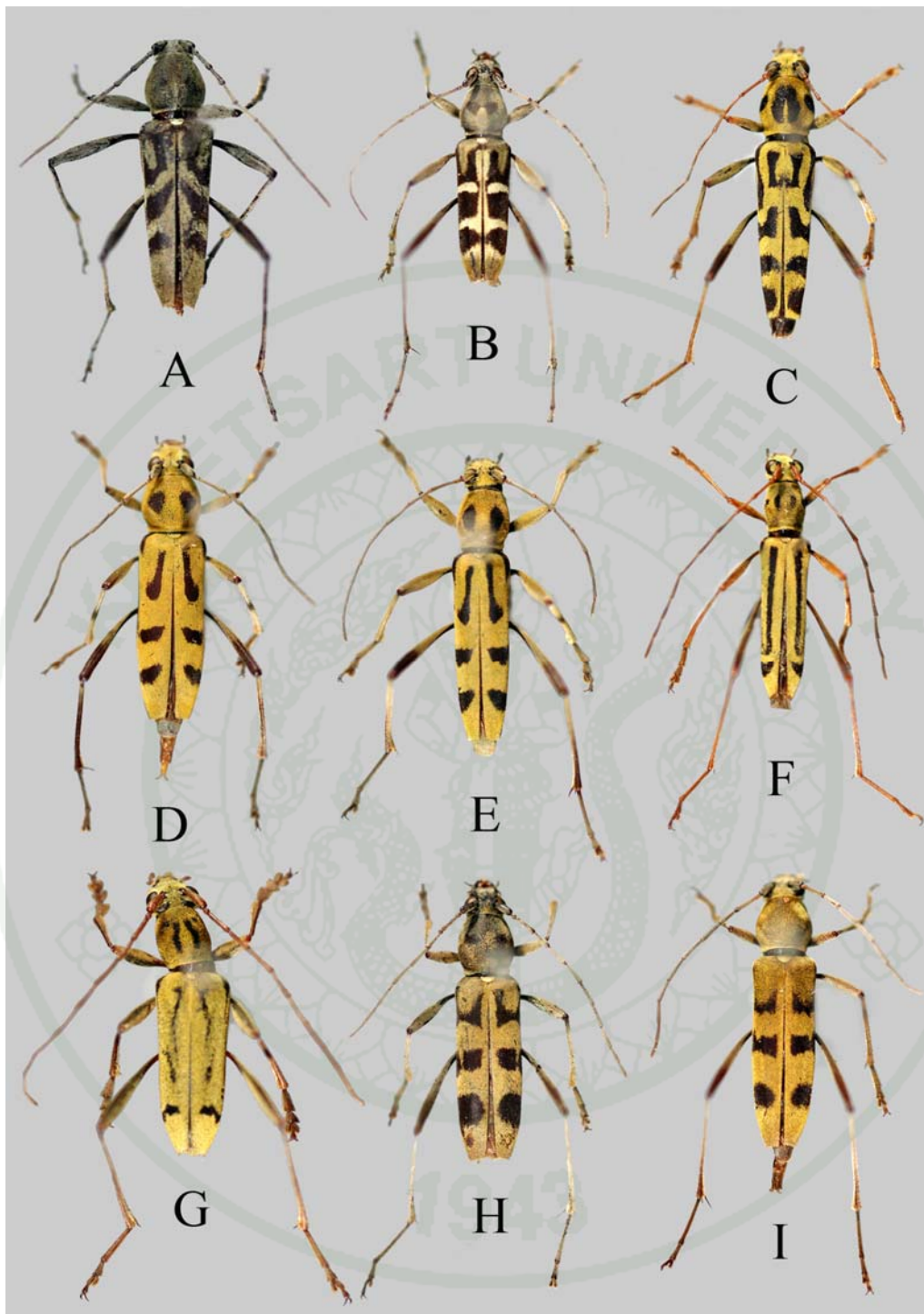


Figure 34 Adults. A. *Raphuma elongata*, ♀. B. *R. binhensis*, ♂.
 C. *R. diana*, ♂. D. *R. clarina*, ♀. E. ditto, ♂. F. *R. falx*, ♂.
 G. *R. horsfieldi*, ♀. H. *R. mekong*, ♂. I. ditto, ♀.

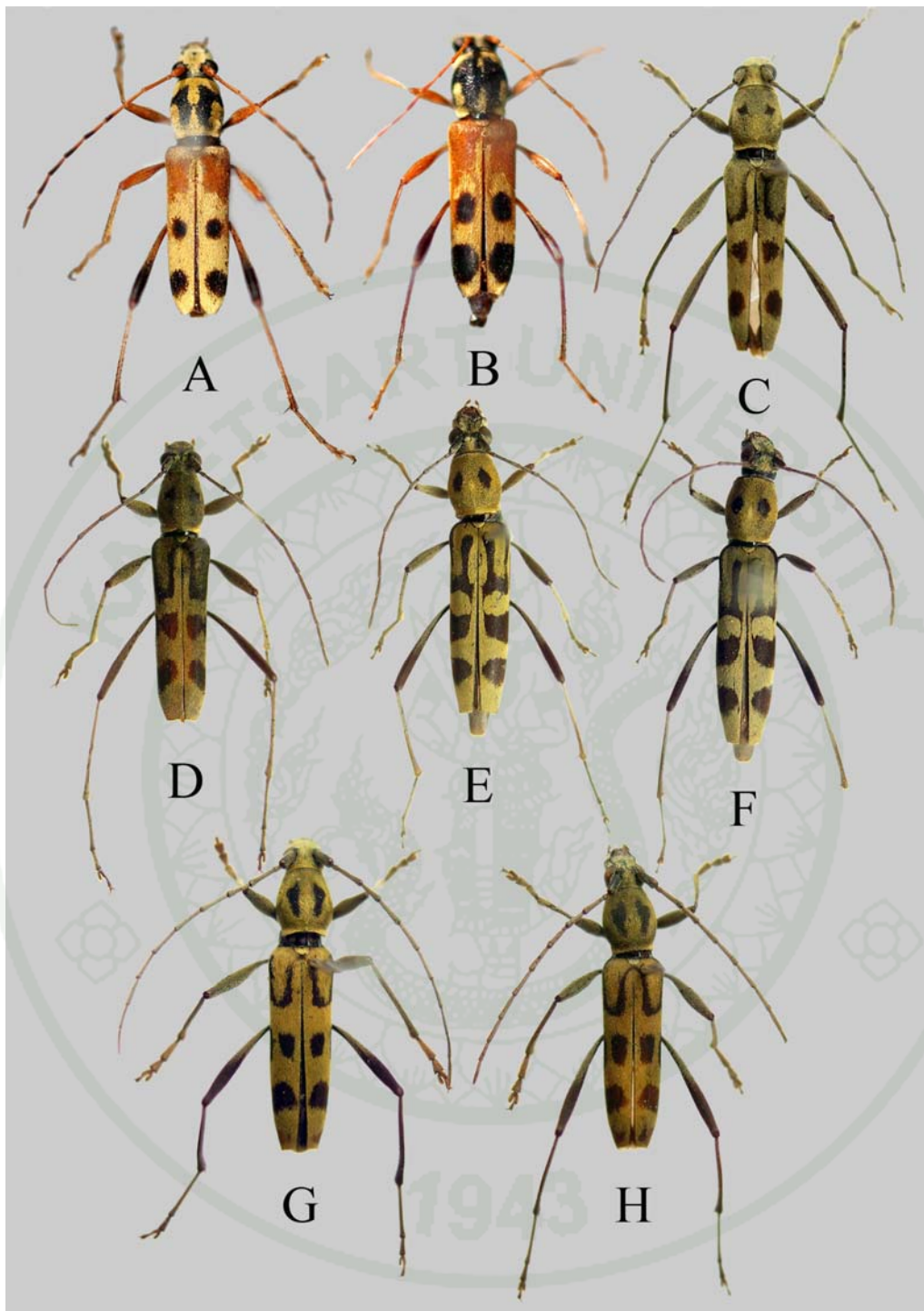


Figure 35 Adults. A. *Rhaphuma tricolor*, ♂. B. ditto, ♀. C-D. *R. indifferens*, ♂. E-F. *R. aequalis*, ♂. G-H. *R. gilvitaris*, ♂.

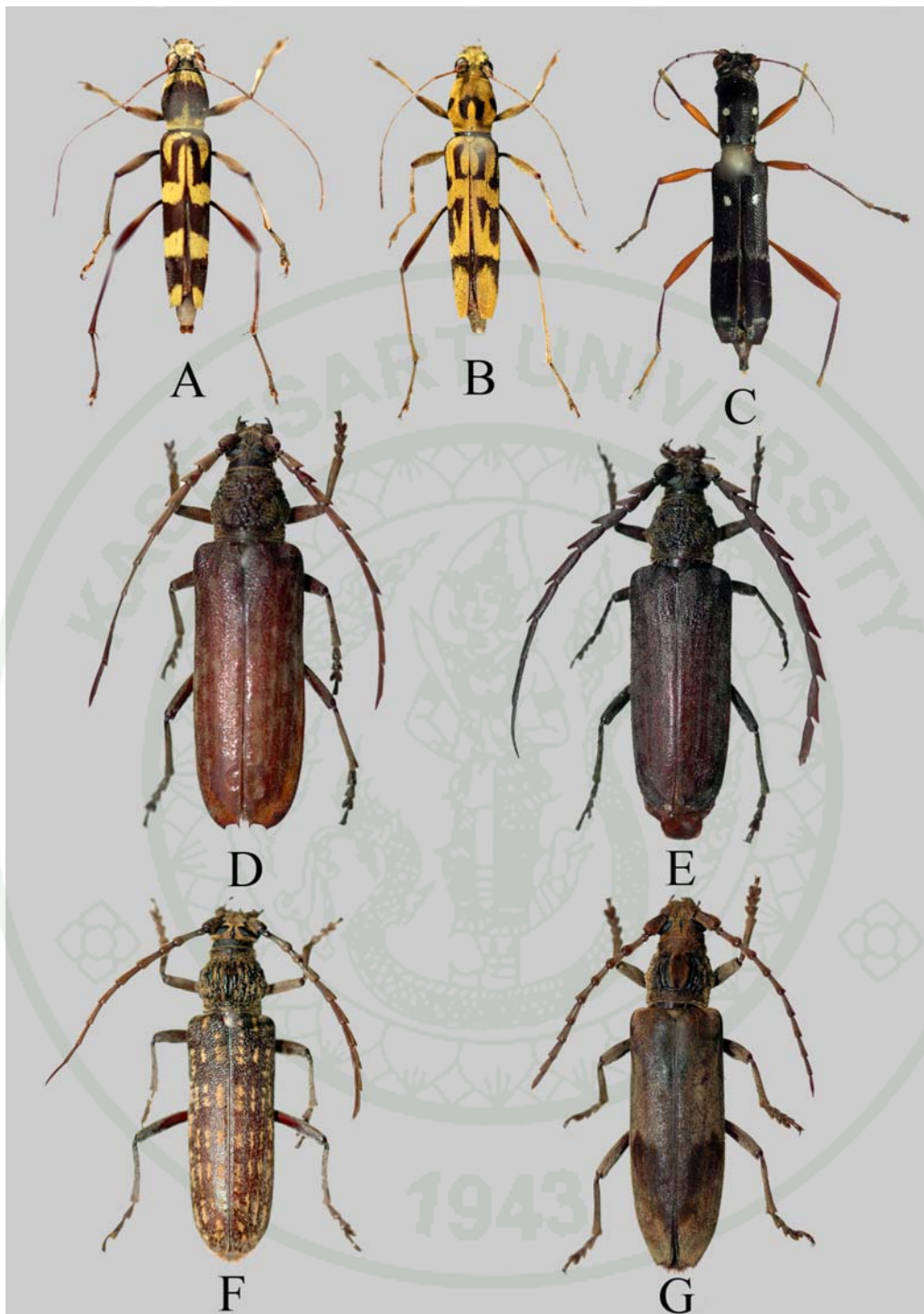


Figure 36 Adults. A. *Rhaphuma pseudobinhensis*, ♂. B. *R. patkaina*, ♂.
 C. *Sclethrus amoenus*, ♀. D. *Rhytidodera grandis*, ♀.
 E. ditto, ♂. F. *R. integra*, ♂. G. *R. mutabilis*, ♀.

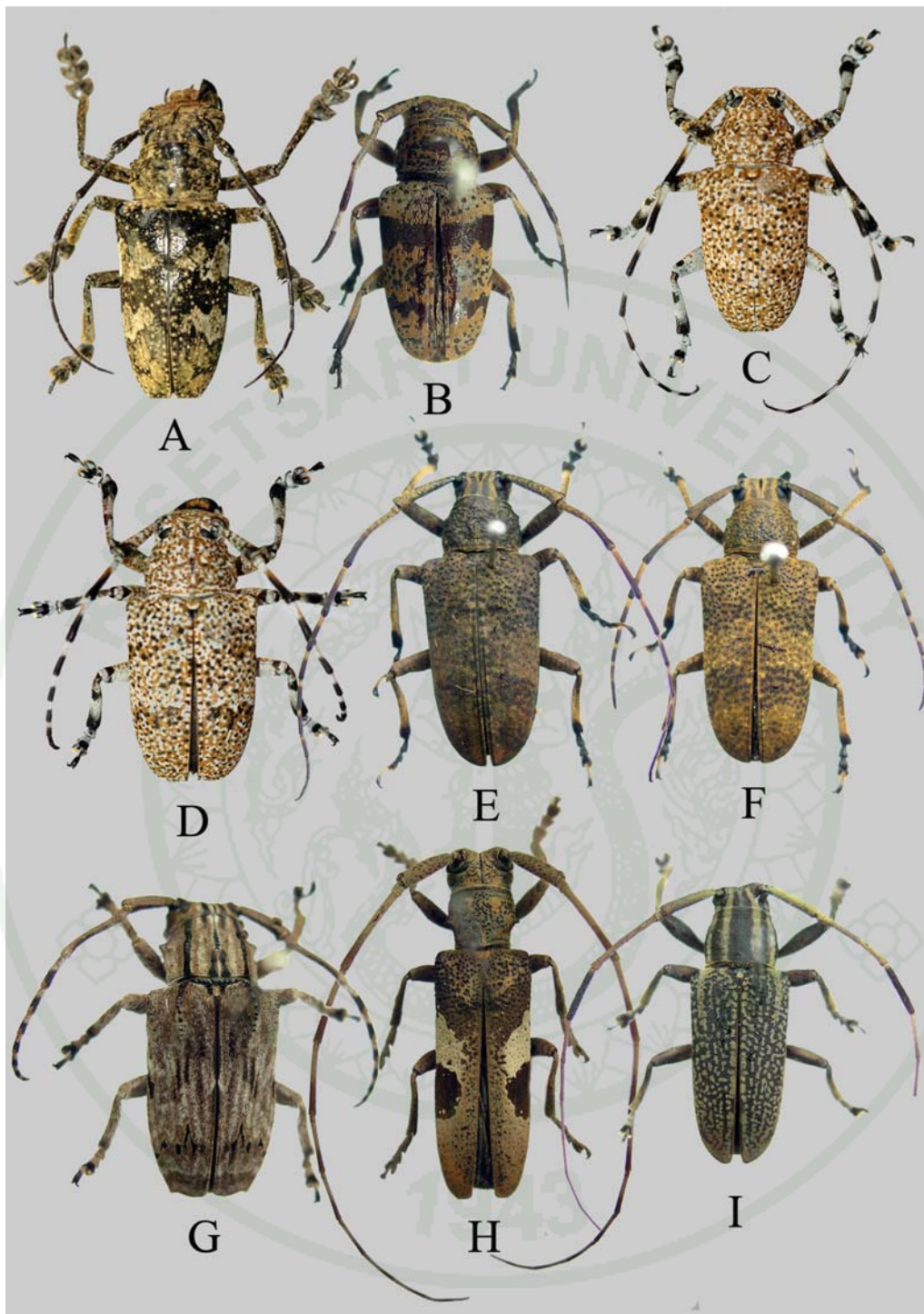


Figure 37 Adults. A. *Abryna regispetri*, ♂. B. *Agelasta mouhoti*, ♂.
 C. *A. bifasciana*, ♂. D. ditto, ♀. E. *A. birmanica*, ♂. F. ditto, ♀.
 G. *Aesopida malasiaca*, ♀. H. *Annamanum chebanum*, ♀.
 I. *Paraphemone multimaculata*, ♀.

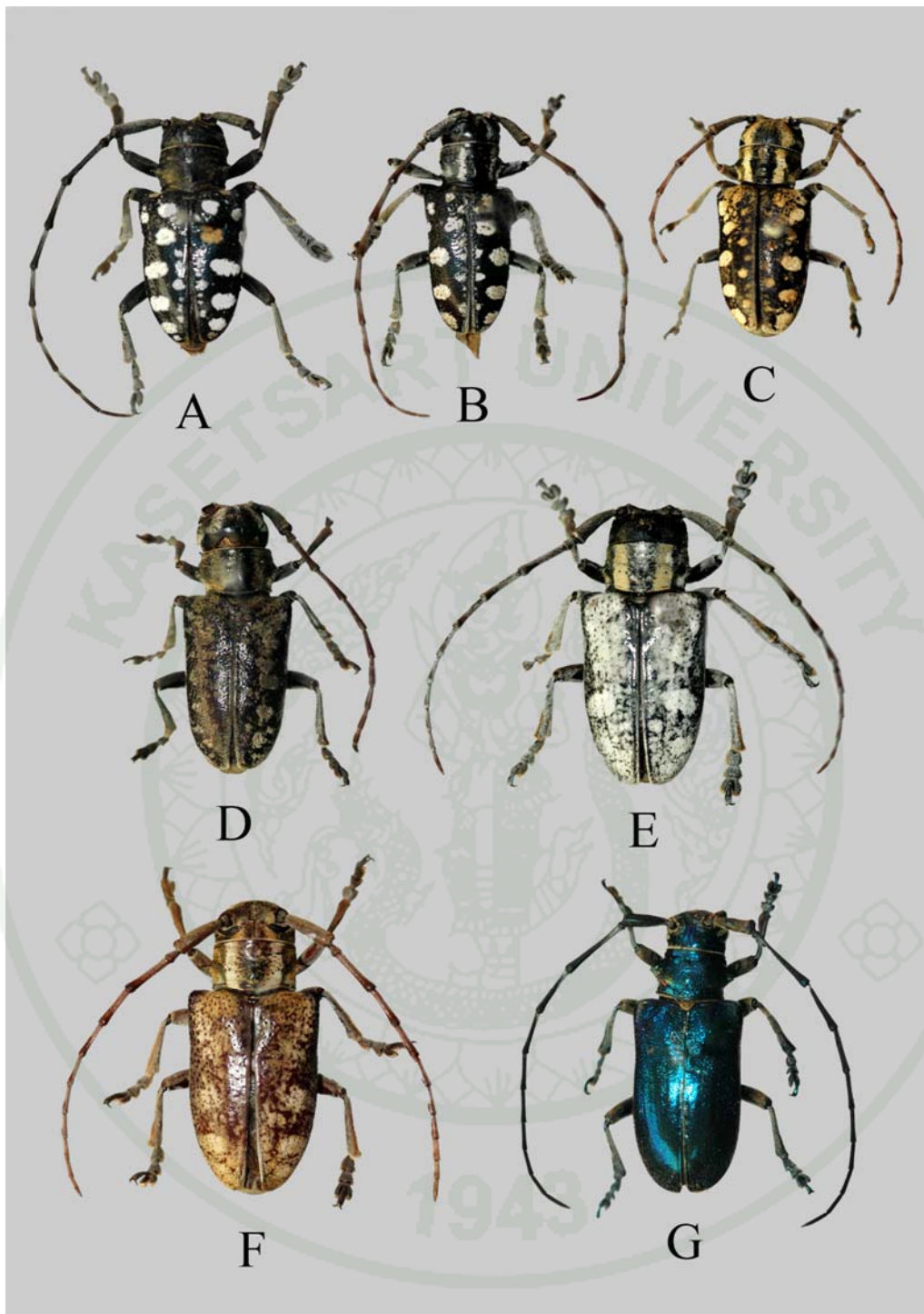


Figure 38 Adults. A. *Anamera desemaculata*, ♂. B. *A. alboguttata*, ♂.
 C. *A. harmandi*, ♀. D. *A. strandi*, ♀. E. *A. obesa*, ♀.
 F. *A. concolor*, ♀. G. *Anameromorpha metallica*, ♀.

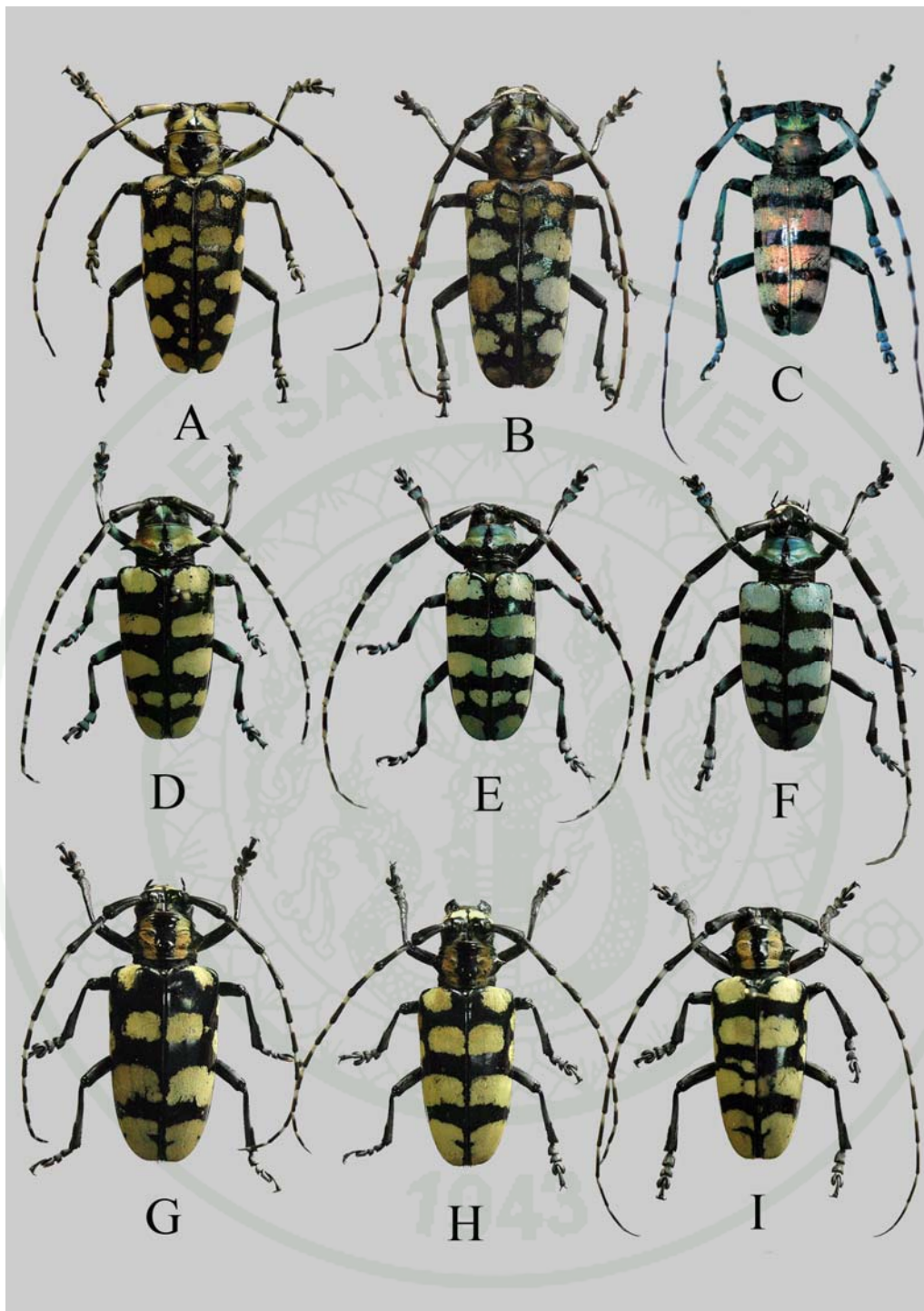


Figure 39 Adults. A. *Anoplophora birmanica*, ♀. B. *A. stanleyana*, ♀.
 C. *A. medenbachii*, ♂. D. *A. elegans*, ♀. E-F. ditto, ♂.
 G-H. *A. horsfieldii*, ♀. I. ditto, ♂.

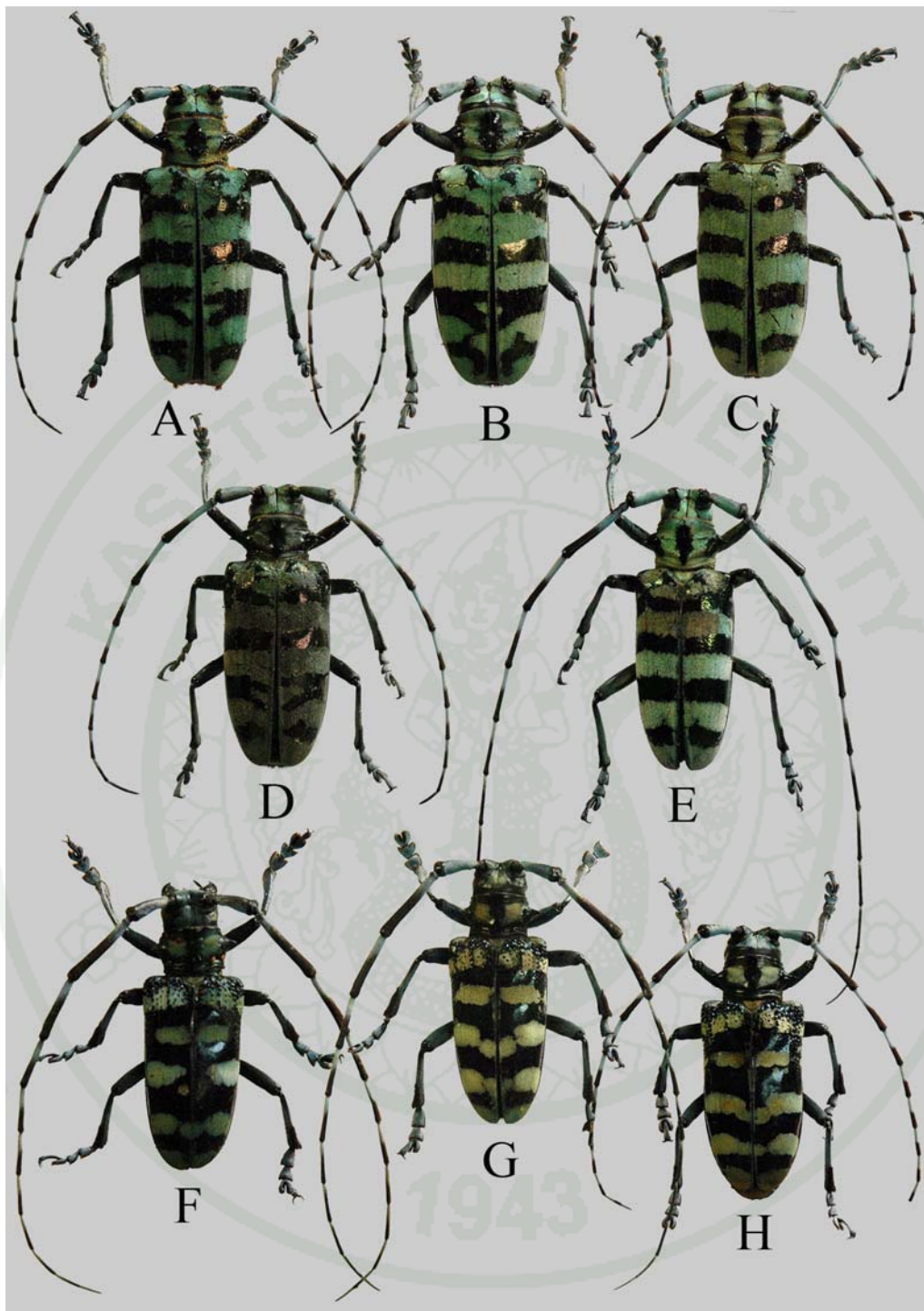


Figure 40 Adults. A-D. *Anoplophora longehirsuta*, ♀. E. ditto, ♂.
F-G. *A. zonator*, ♂. H. ditto, ♀.

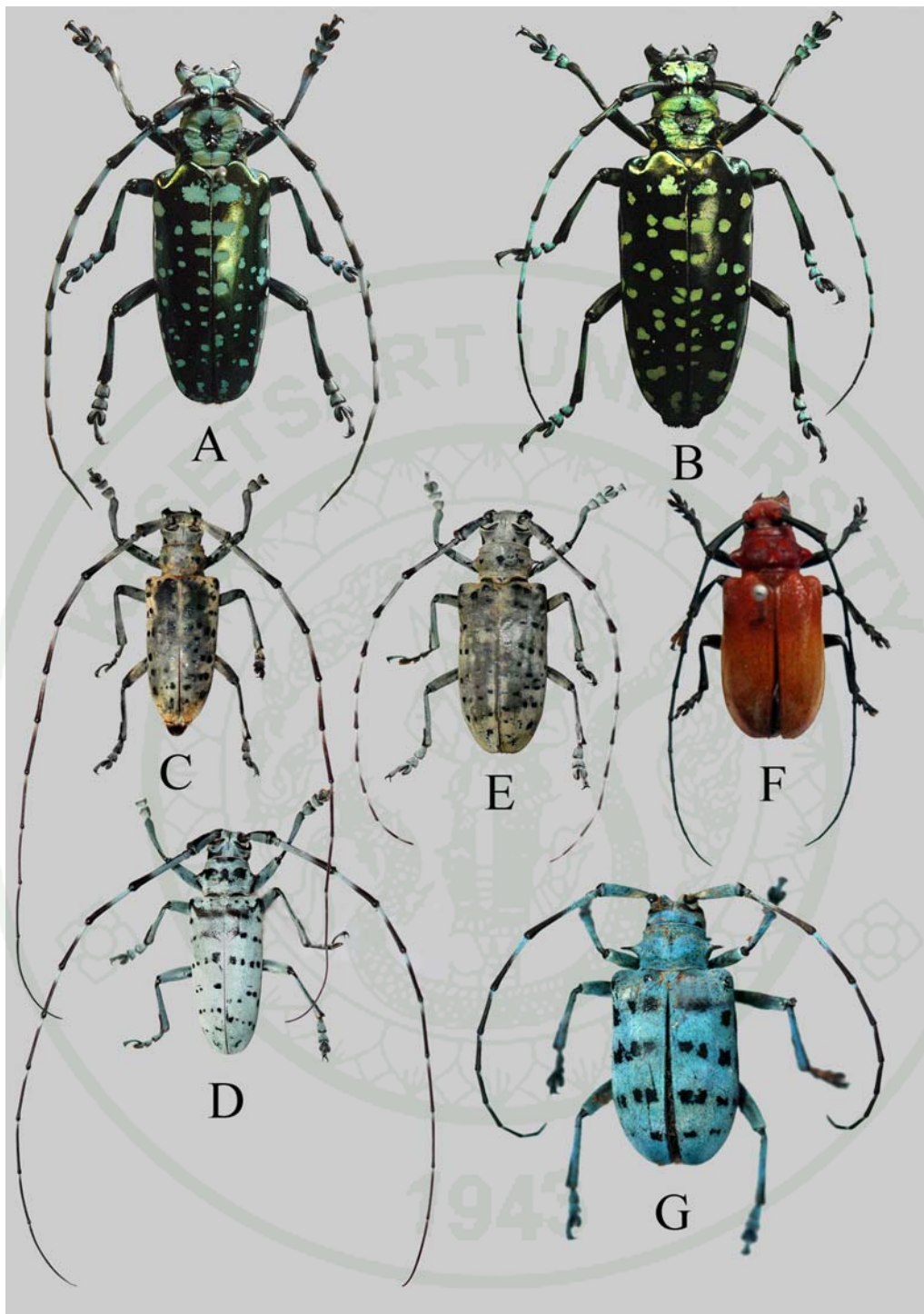


Figure 41 Adults. A. *Anoplophora solii*, ♂. B. ditto, ♀.
 C-D. *Pseudonemophas versteegii*, ♂. E. ditto, ♀.
 F. *Thermonotus nigripes*, ♀. G. *Pseudomyagrus waterhousei*, ♀.

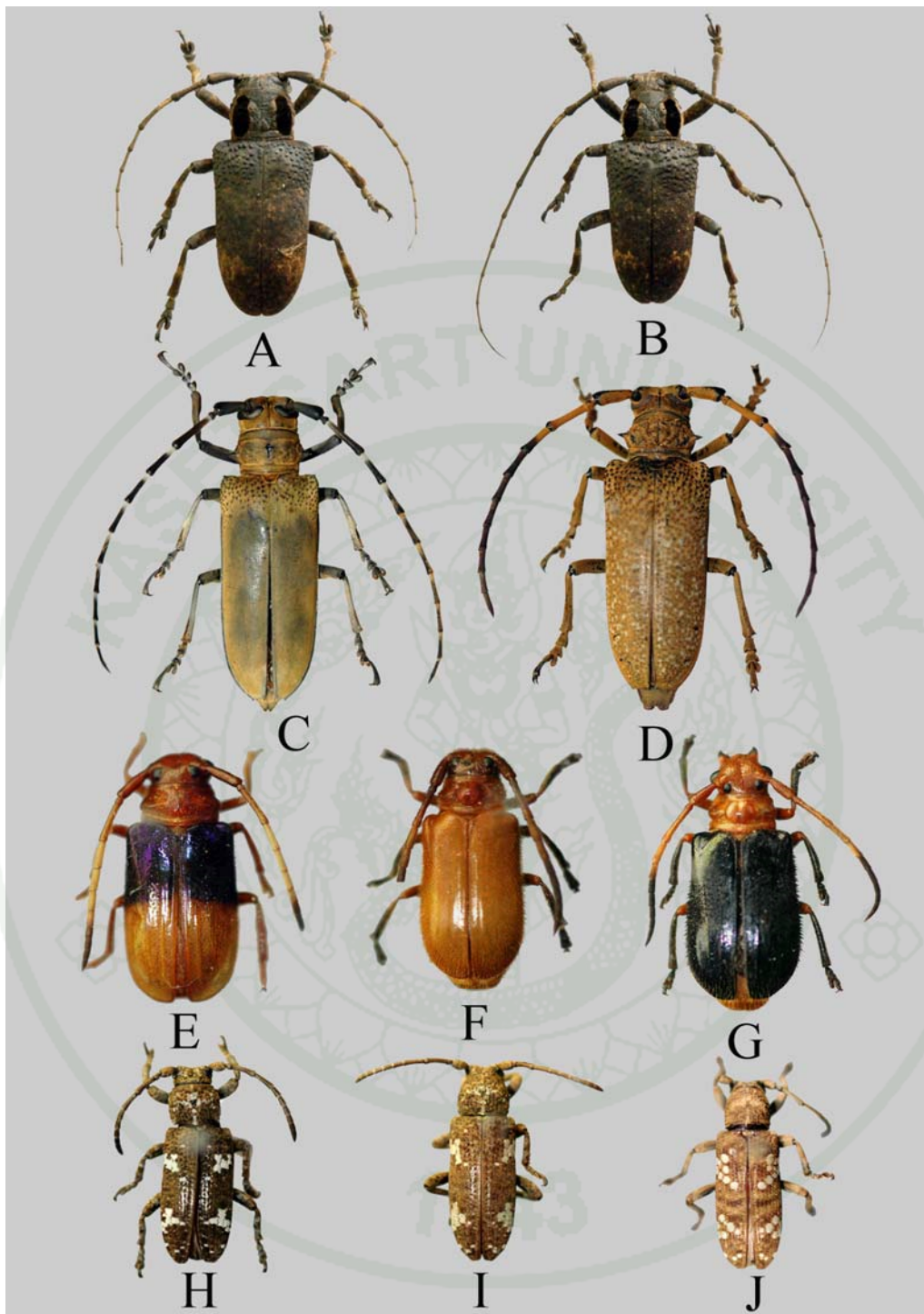


Figure 42 Adults. A. *Alidus biplagiatus*, ♀. B. ditto, ♂. C. *Apriona germari*, ♂. D. *A. swainsoni*, ♂. E. *Astathes dimidiata*, ♀. F. *A. gibbicollis*, ♀. G. *A. violaceipennis*, ♀. H-I. *Apomecyna sultator niveosparsa*, ♀. J. *A. cretacea*, ♂.

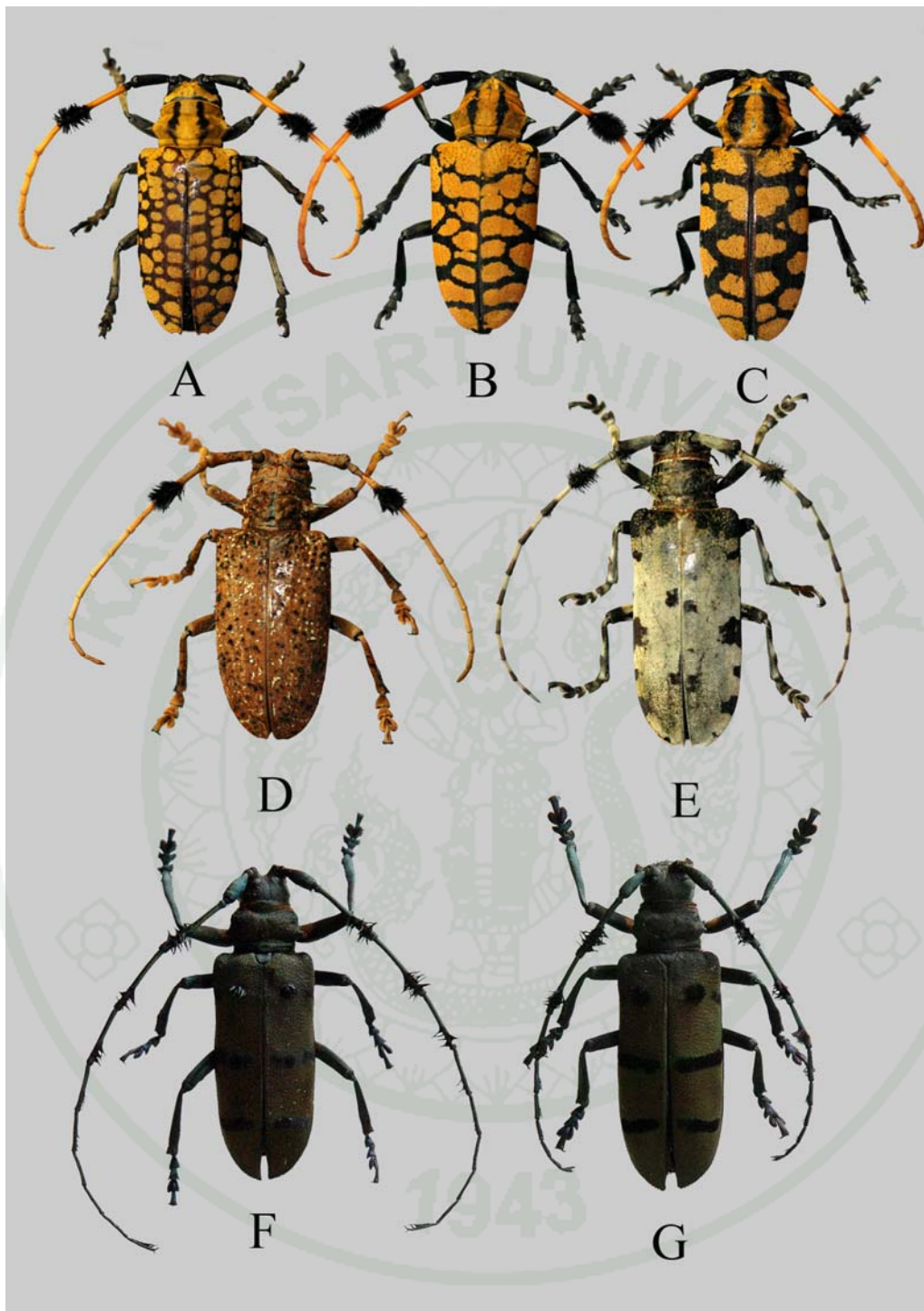


Figure 43 Adults. A-C. *Aristobia approximator*, ♂. D. *A. horridula*, ♂.
E. *A. voeti*, ♂. F. *Diastocera wallichi tonkinensis*, ♂. G. ditto, ♀.

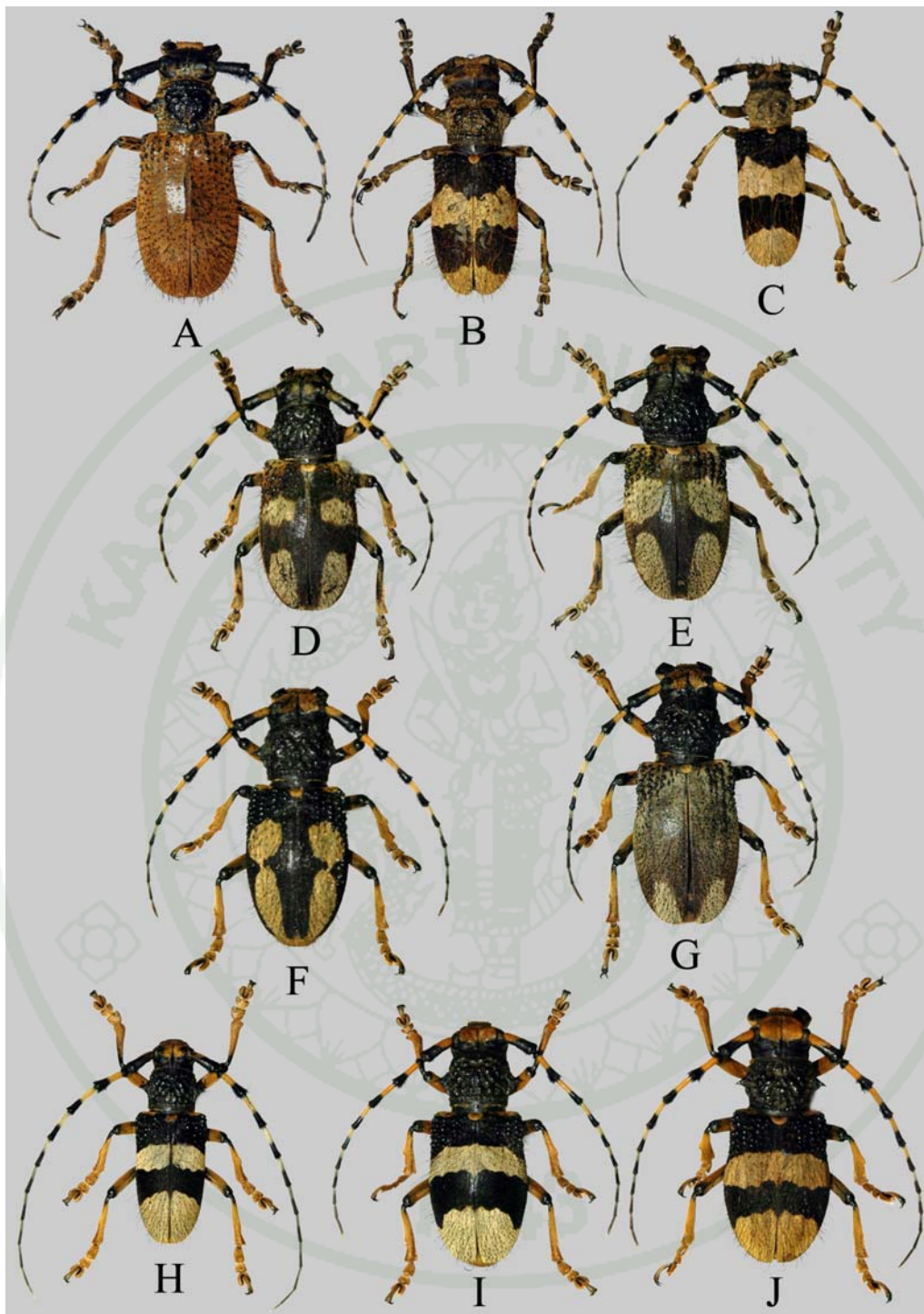


Figure 44 Adults. A. *Arctolamia villosa*, ♀. B. *A. fruhstorferi*, ♀. C. ditto, ♂. D. *A. cruciatus*, ♂. E-G. ditto, ♀. H. *A. fasciata*, ♂. I-J. ditto, ♀.

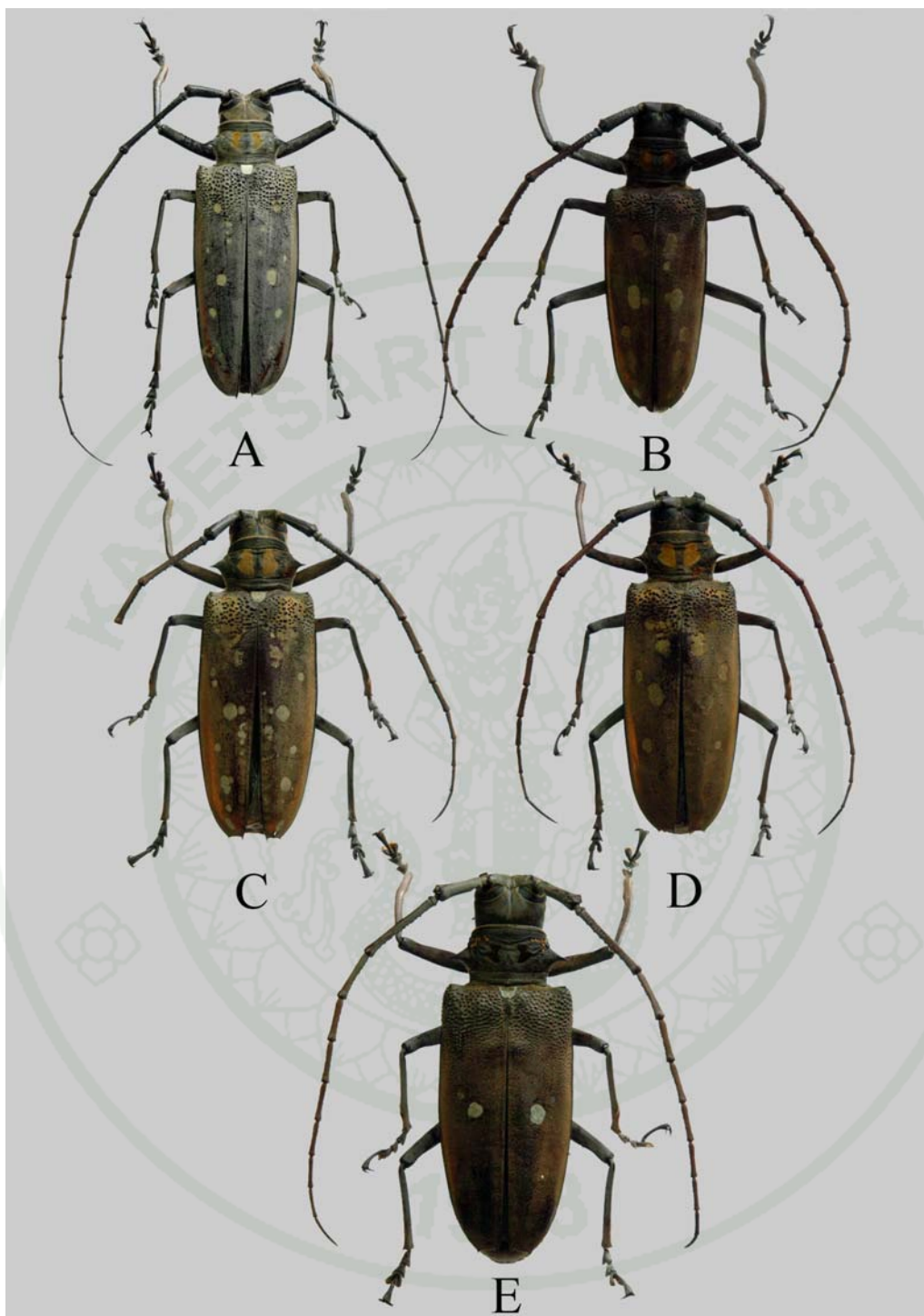


Figure 45 Adults. A-B. *Batocera davidis*, ♂. C-D. ditto, ♀. E. *B. thomsonii*, ♀.

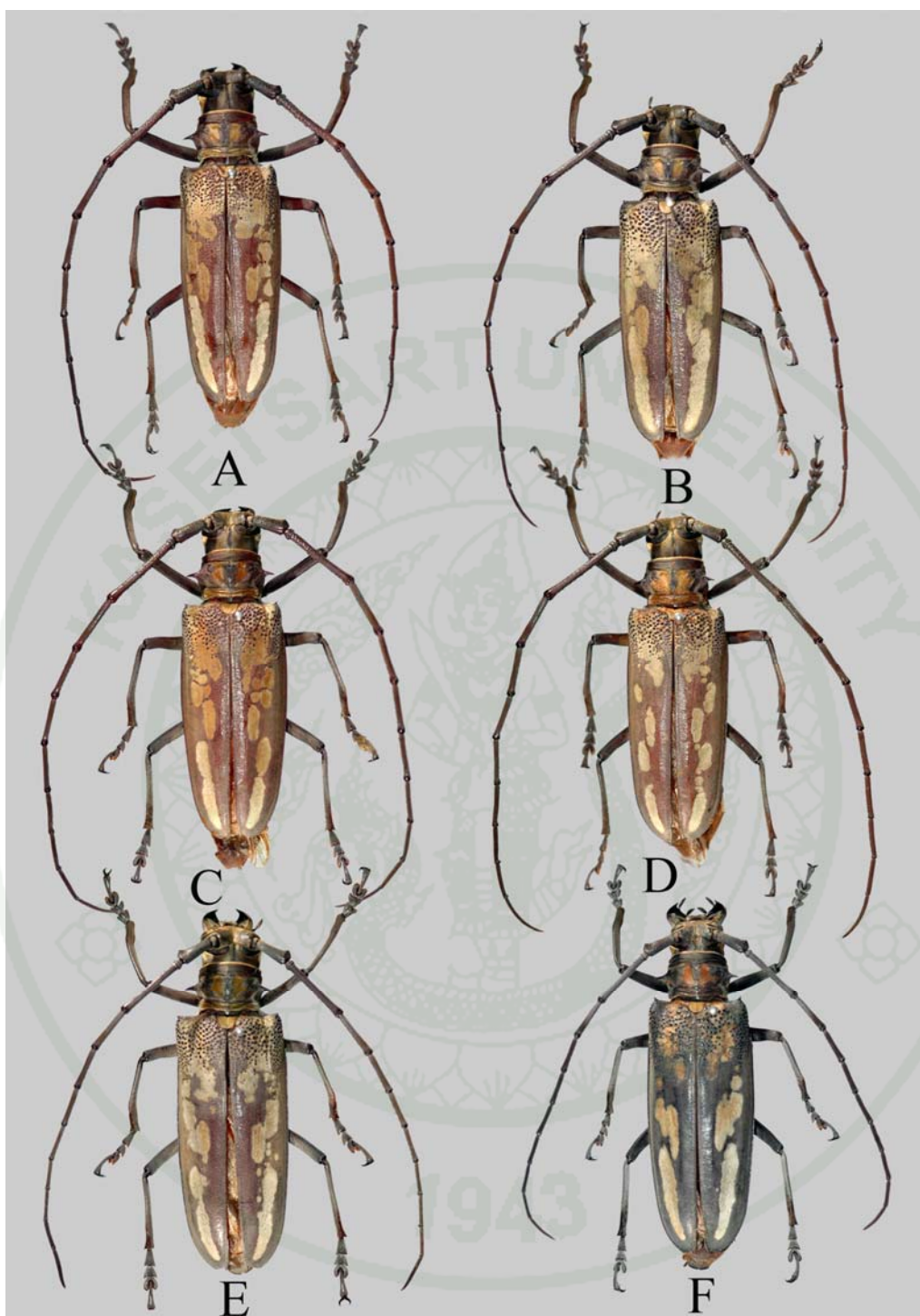


Figure 46 Adults. A-B. *Batocera lineolata*, ♂. C-F. ditto, ♀.

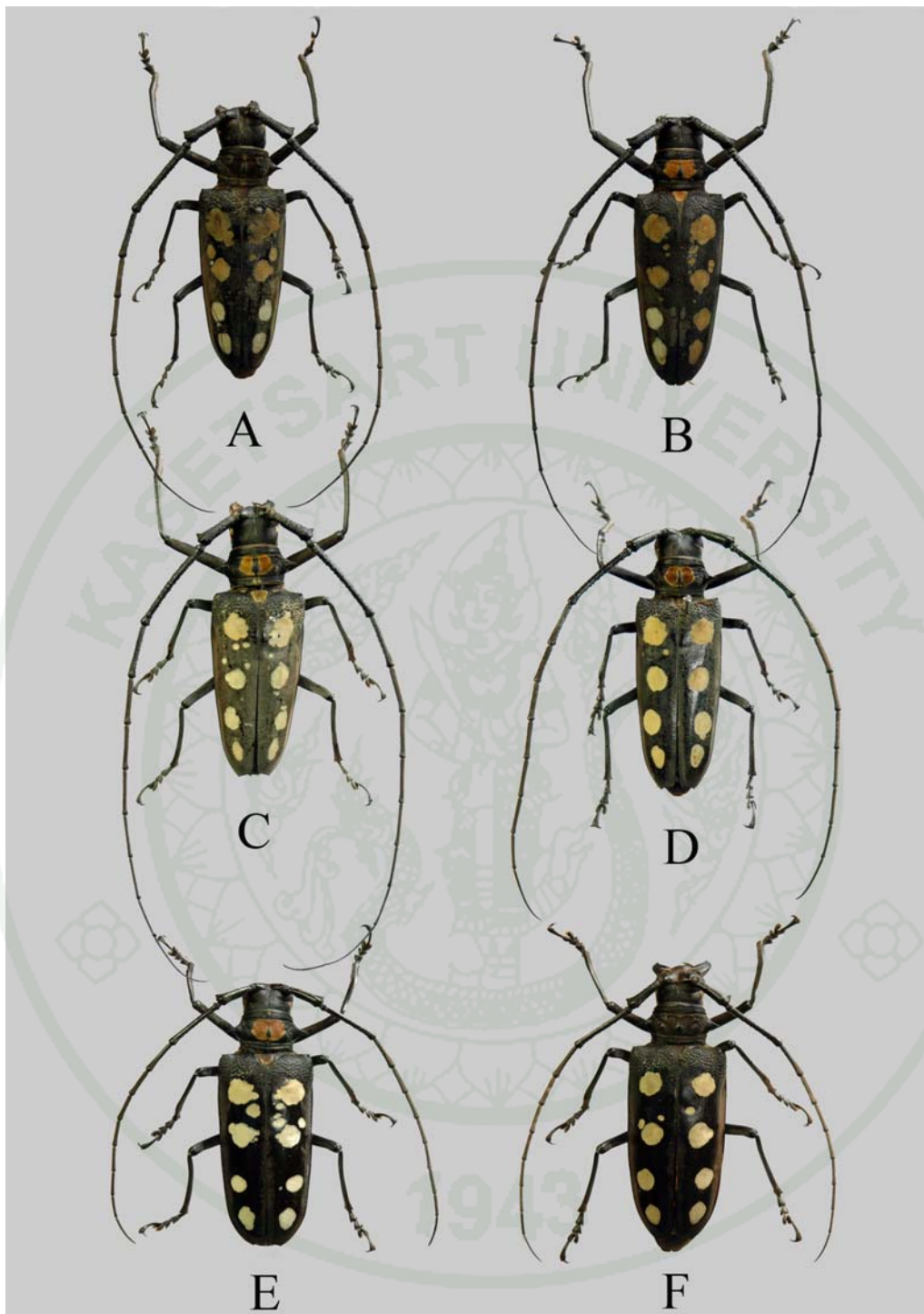


Figure 47 Adults. A-D. *Batocera roylei*, ♂. E-F. ditto, ♀.

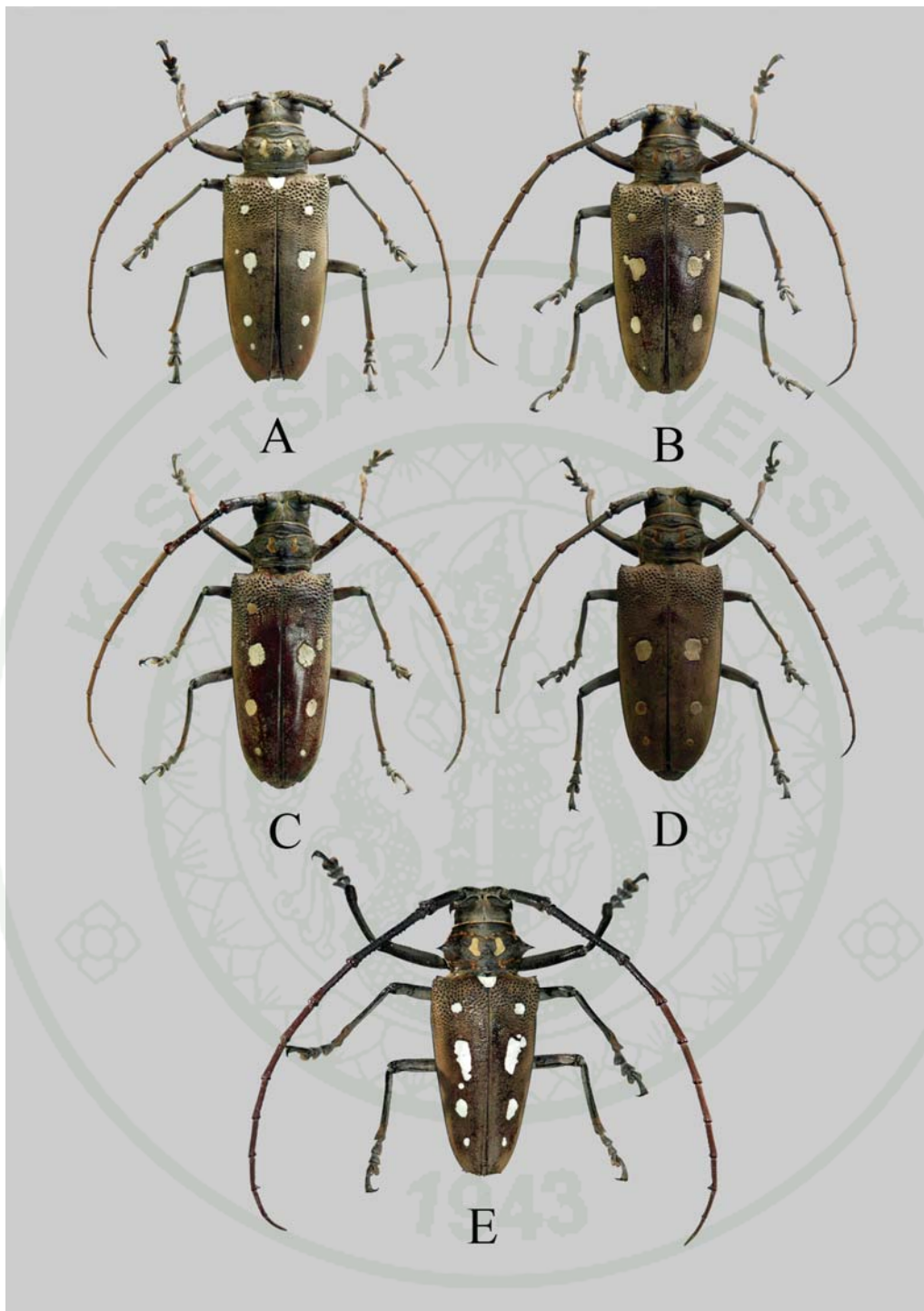


Figure 48 Adults. A-D. *Batocera rubus*, ♀. E. ditto, ♂.

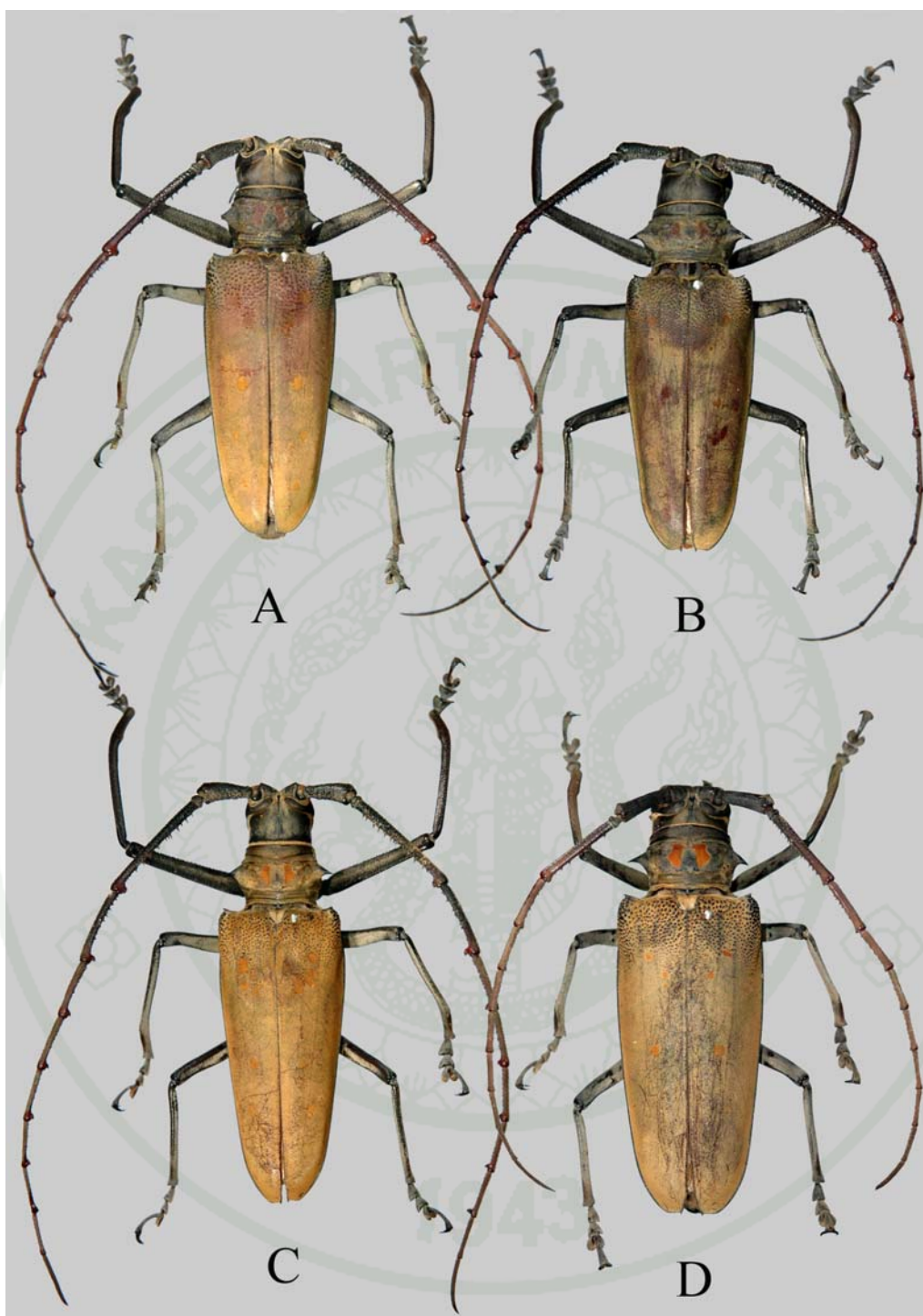


Figure 49 Adults. A-C. *Batocera numitor*, ♂. D. ditto, ♀.

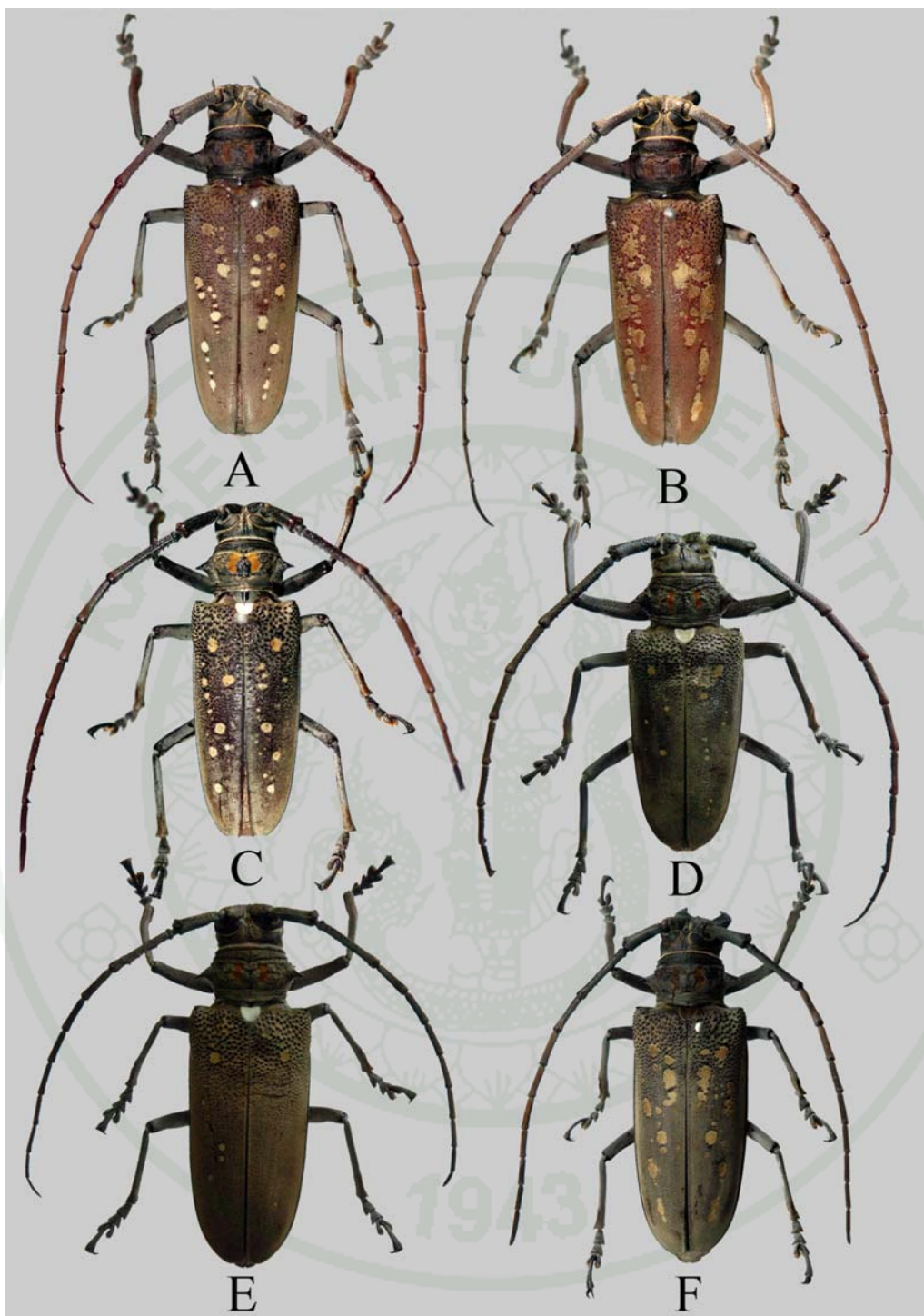


Figure 50 Adults. A-D. *Batocera rufomaculata*, ♂. E-F. ditto, ♀.

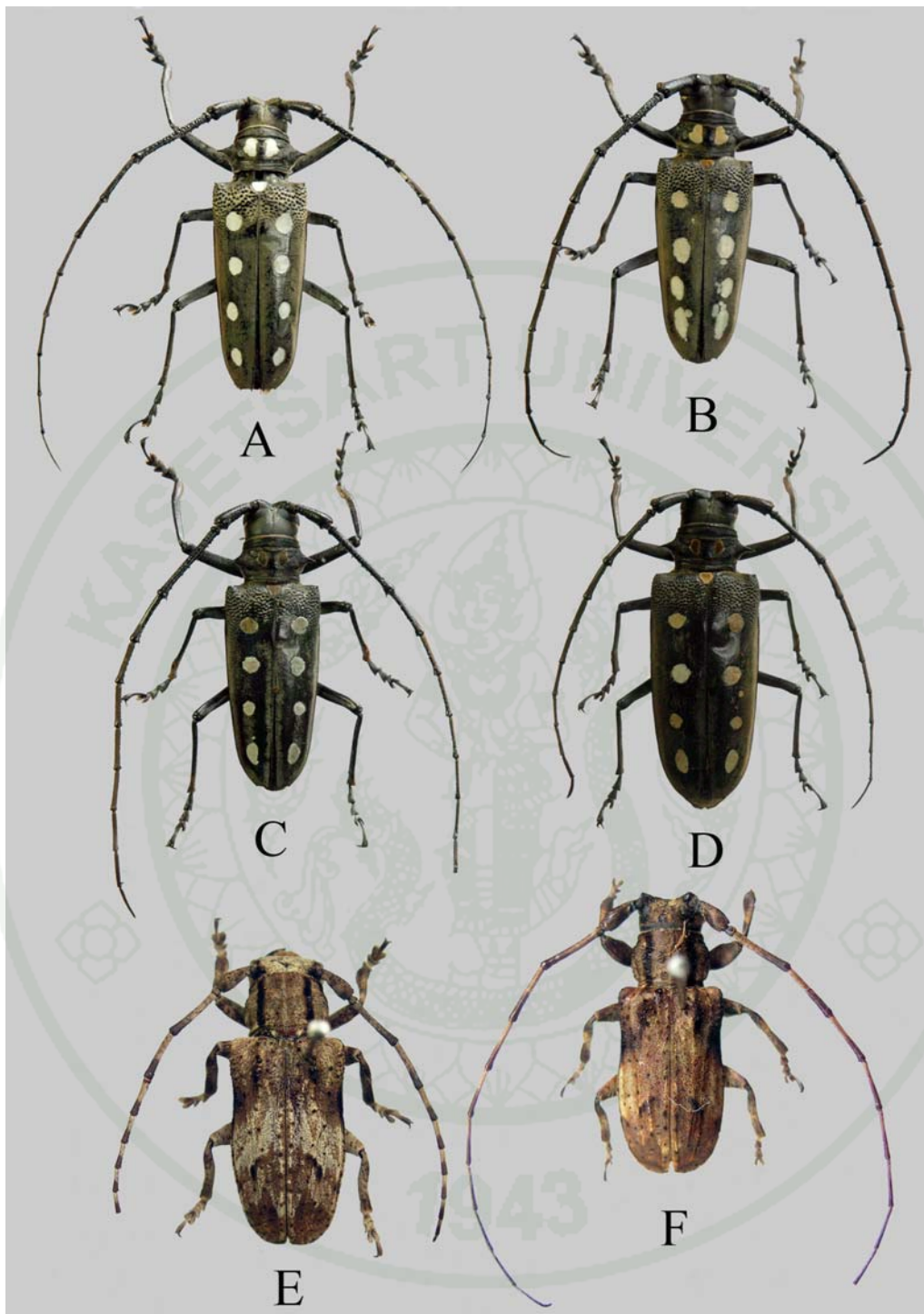


Figure 51 Adults. A-C. *Batocera parryi*, ♂. D. ditto, ♀.
E. *Leptomesosa cephalotes*, ♀. F. ditto, ♂.

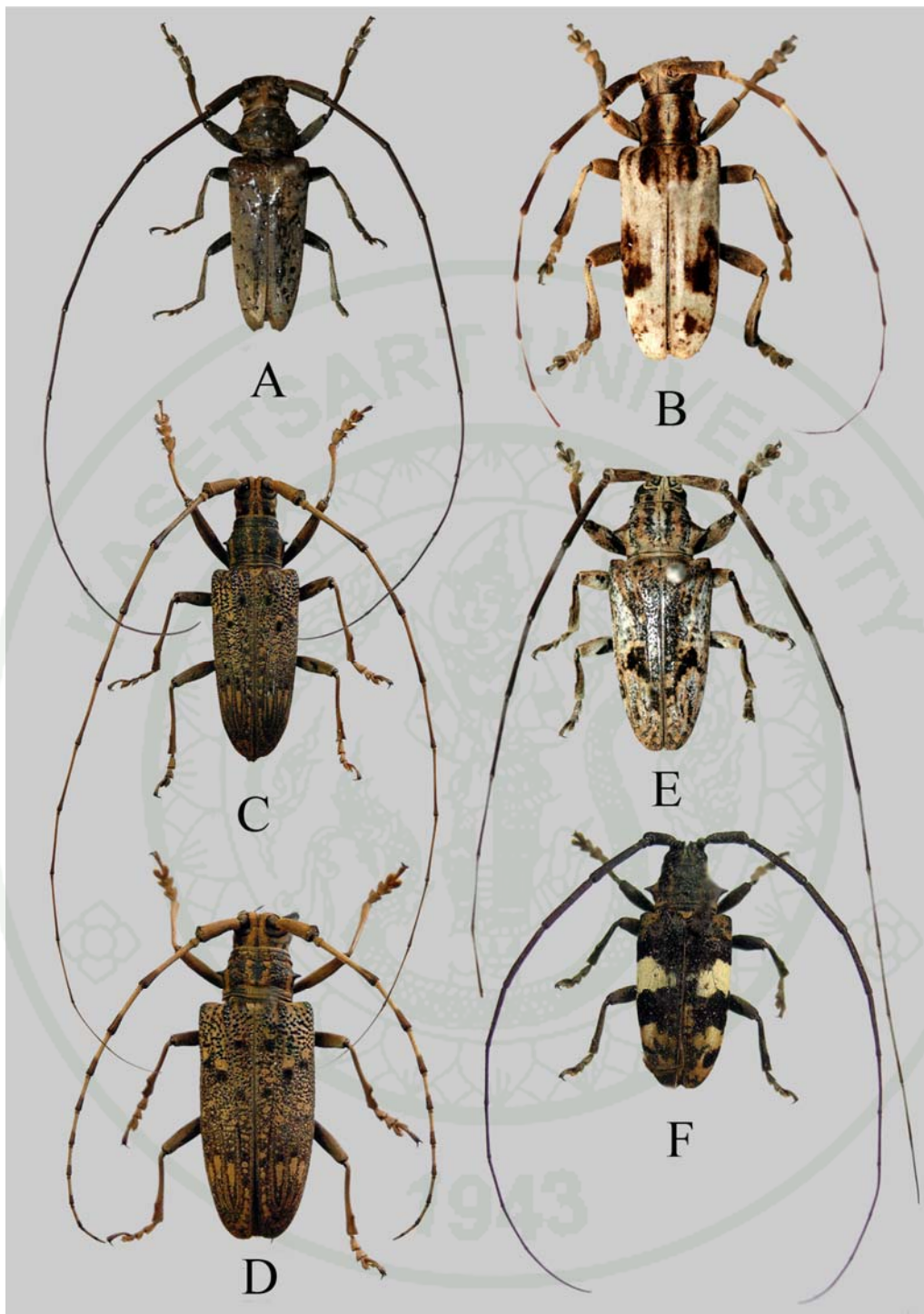


Figure 52 Adults. A. *Blepephaeus ocellatus*, ♂. B. *B. succinator*, ♂.
 C. *Pharsalia subgemmata*, ♂. D. ditto, ♀. E. *P. duplicata*, ♂.
 F. *P. pulchroides*, ♂.

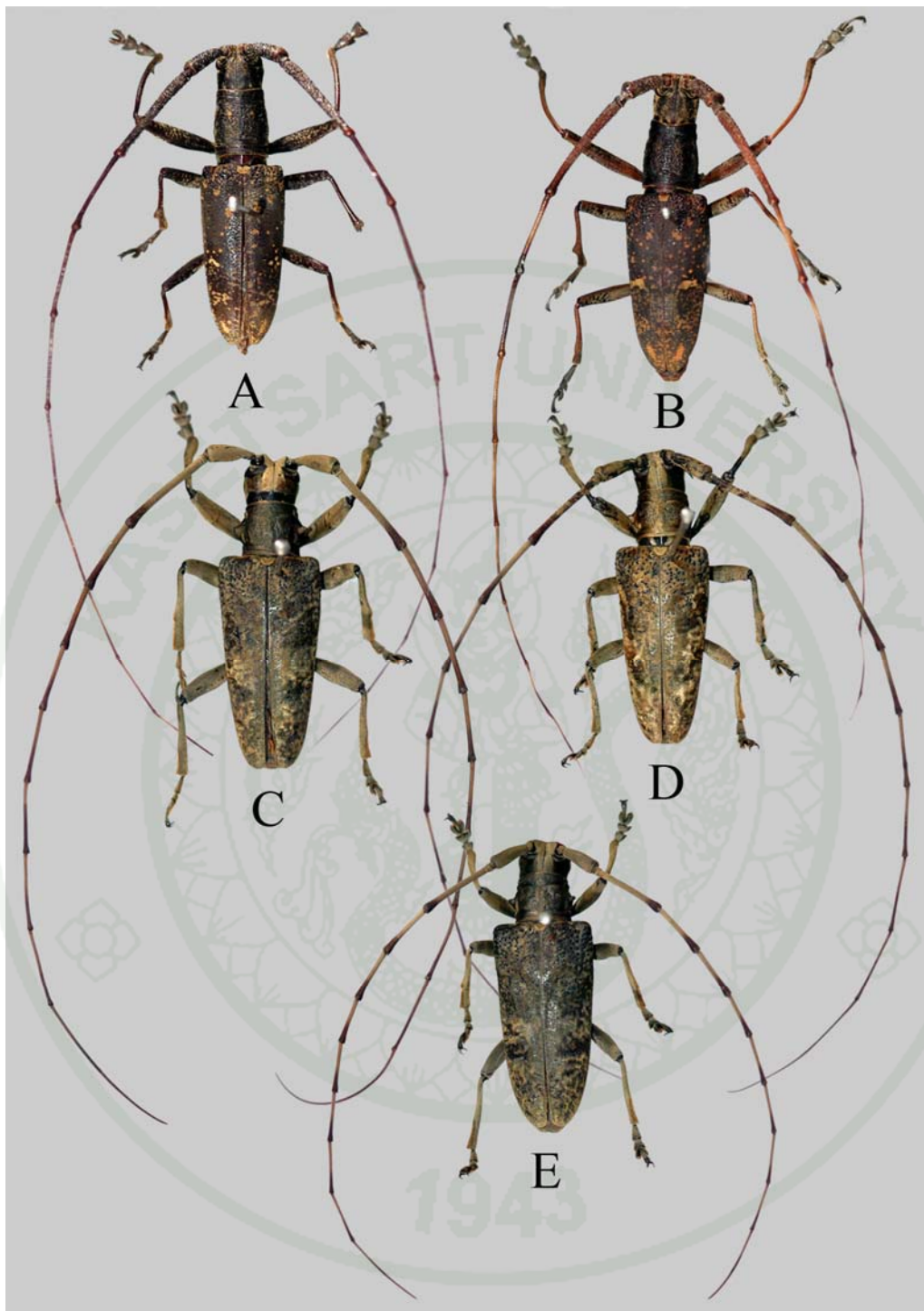


Figure 53 Adults. A-B. *Pseudomacrochenus antennatus*, ♂.
C-D. *Acalolepta pseudospeciosa*, ♂. E. ditto, ♀.

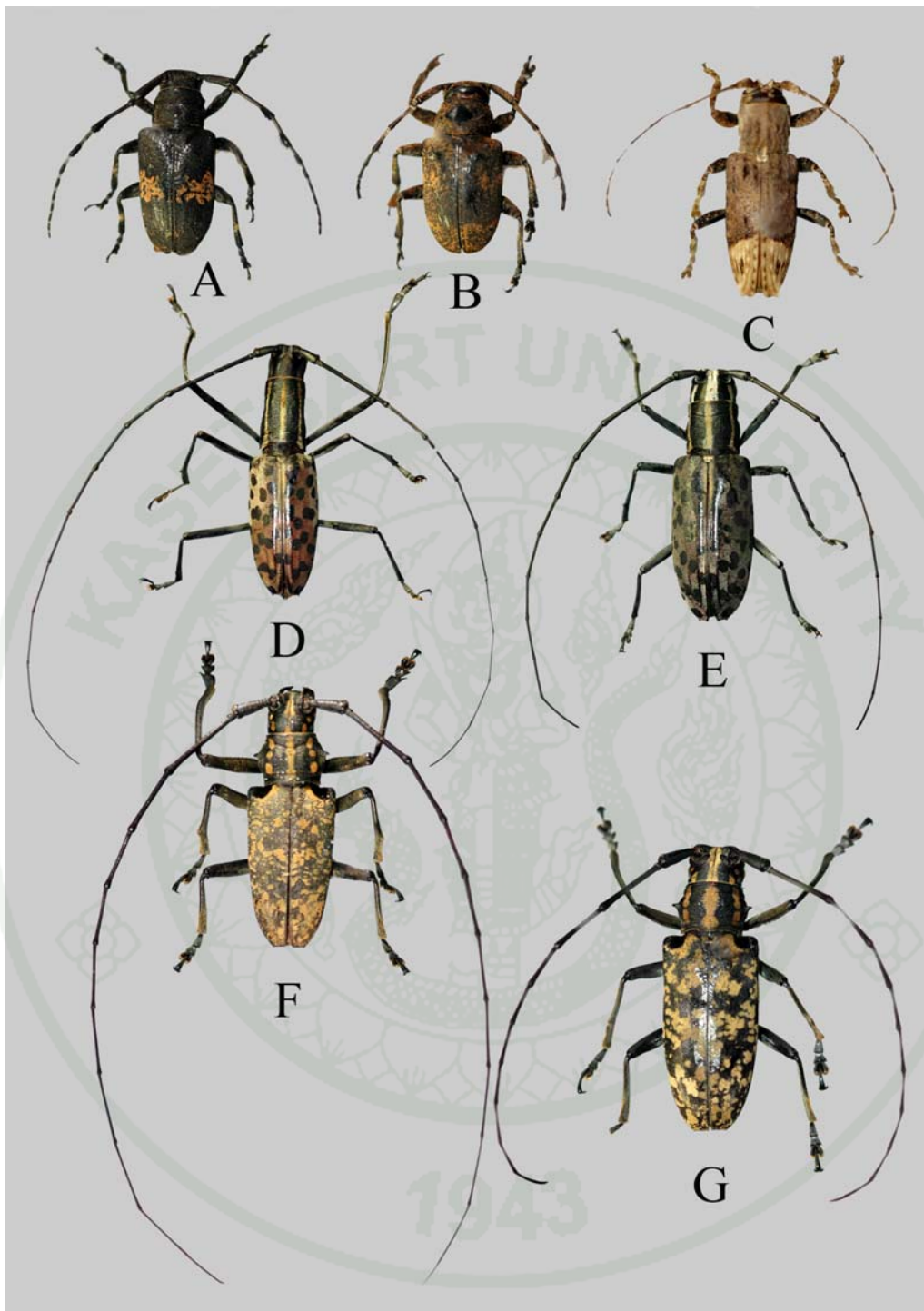


Figure 54 Adults. A. *Cacia cretifera luteofasciata*, ♂. B. ditto, ♀.
 C. *Diboma posticata*, ♀. D. *Macrochenus isabellinus*, ♂.
 E. ditto, ♀. F. *Epepeotes luscus densemaculatus*, ♂. G. ditto, ♀.

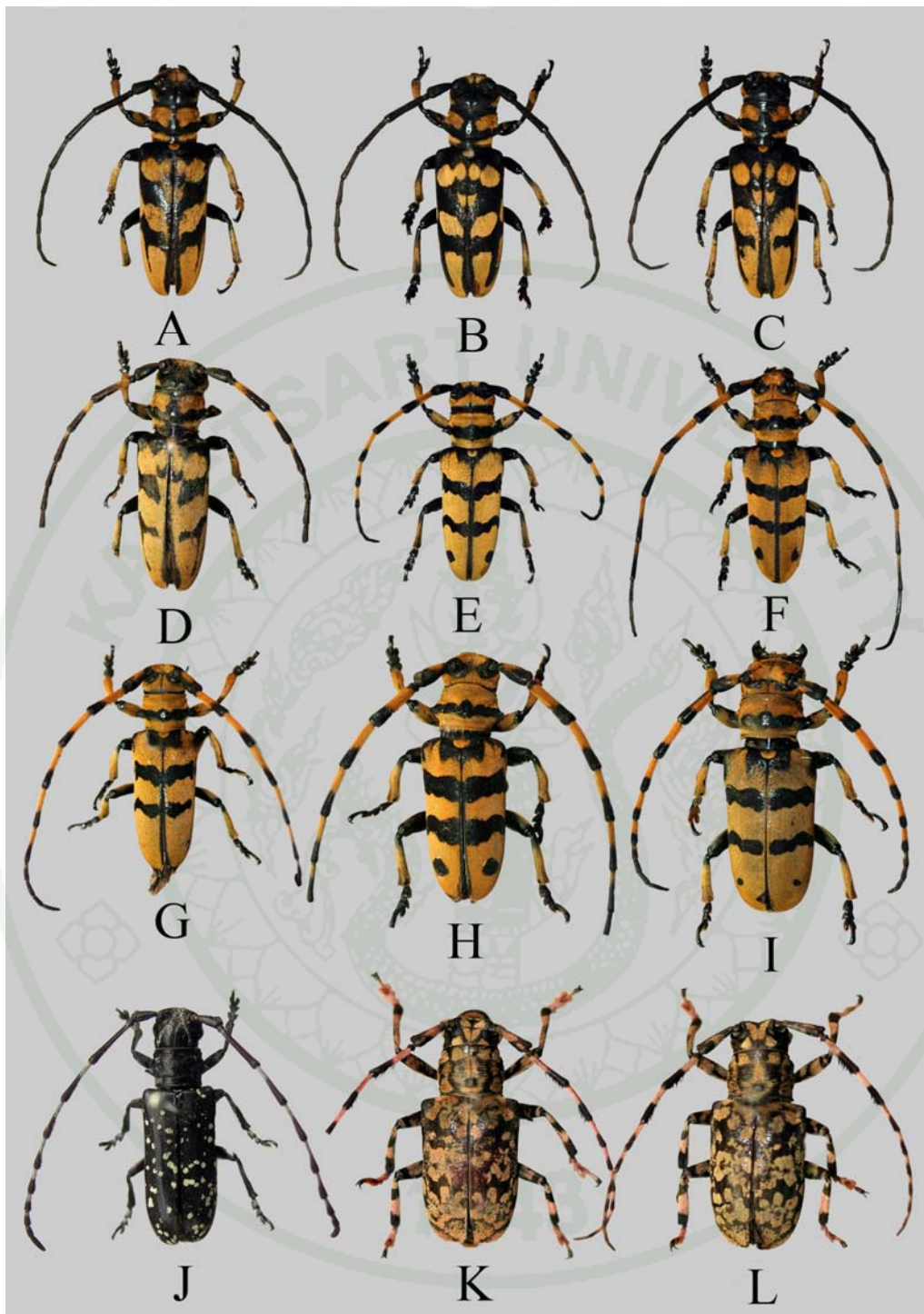


Figure 55 Adults. A-D. *Eutaenia corbetti*, ♂. E-G. *E. trifasciella*, ♂.
H-I. ditto, ♀. J. *E. albomaculata*, ♂. K-L. *Golsinda basicornis*, ♂.

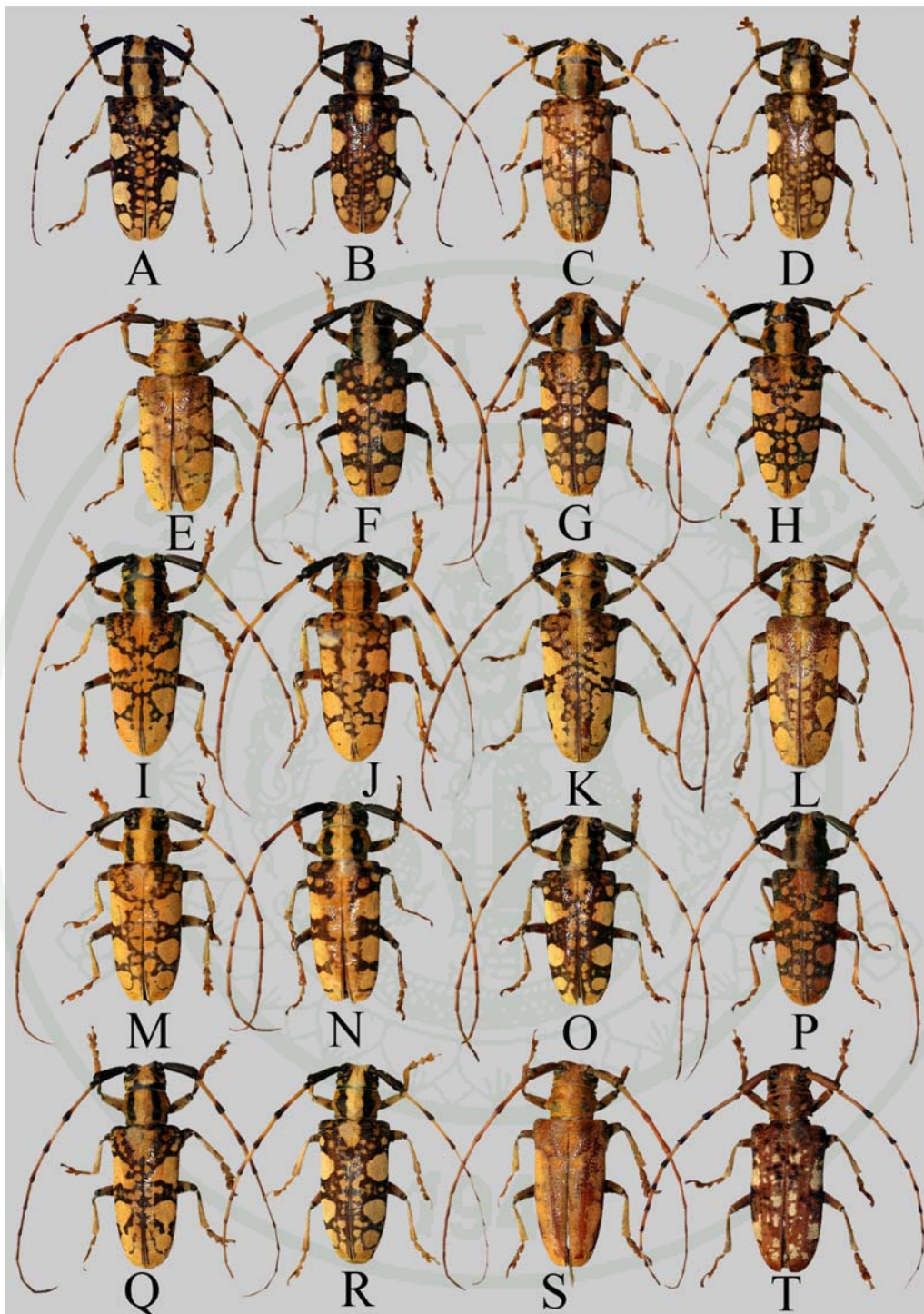


Figure 56 Adults. A-E. *Cremnosterna carrisima*, ♀. F-S. ditto, ♂.
T. *C. plagiata*, ♂.



Figure 57 Adults. A-B. *Celosterna pallinosa sulphurea*, ♂. C. *Ioessa sanguinolenta*, ♂. D. ditto, ♀. E. *Sarothrodera lowi*, ♀. F. ditto, ♂.

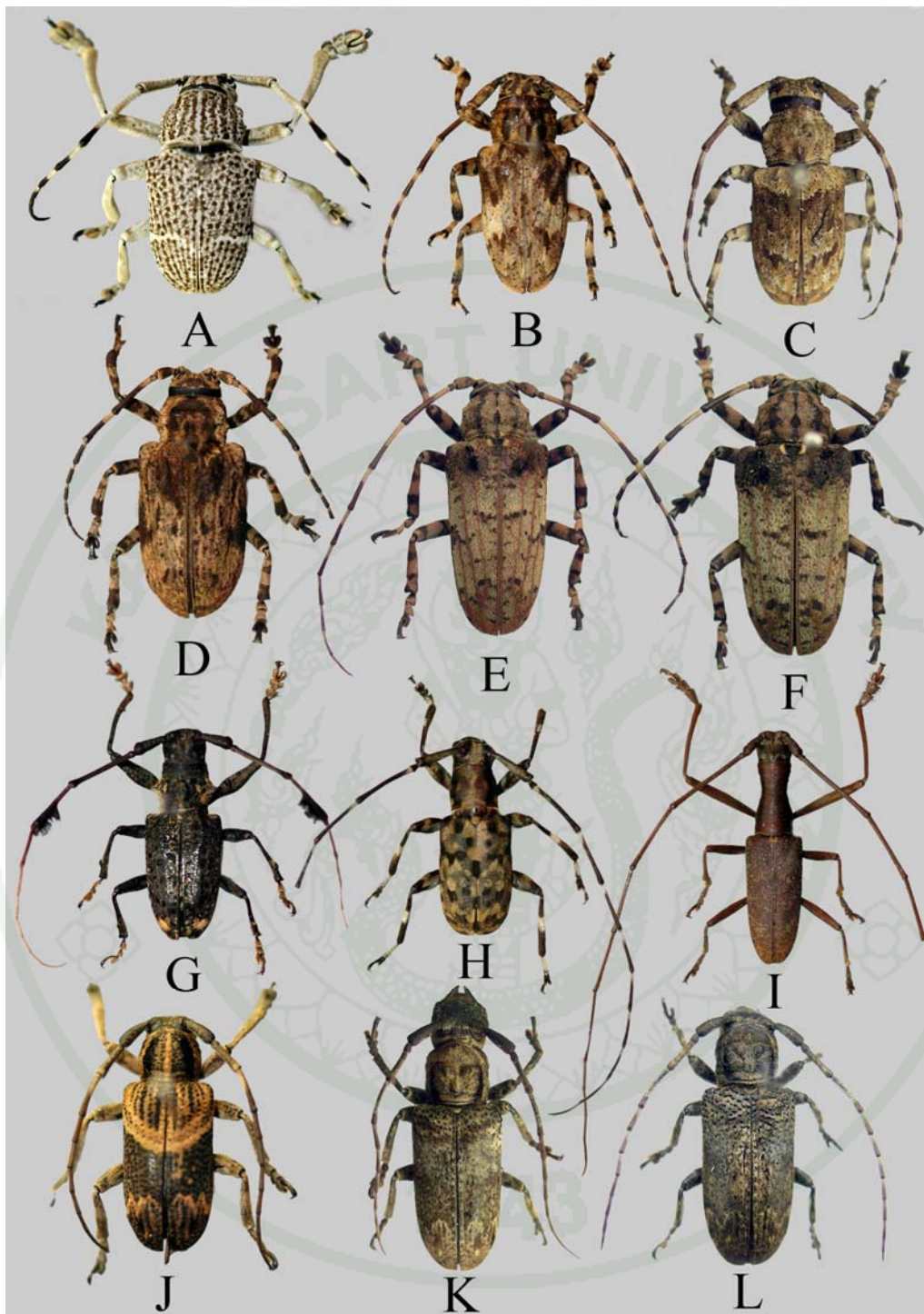


Figure 58 Adults. A. *Choeromorpha subfasciata*, ♀. B. *Coptops annulipes*, ♂. C. *C. pascoei*, ♀. D. *Moechotypa coomani*, ♀. E. *M. suffuse*, ♂. F. ditto, ♀. G. *Imantocera penicillata*, ♂. H. *Mesocacia multimaculata*, ♂. I. *Gnoma gilmouri*, ♂. J. *Misphila curvilinear*, ♂. K-L. *M. kamvengal*, ♀.

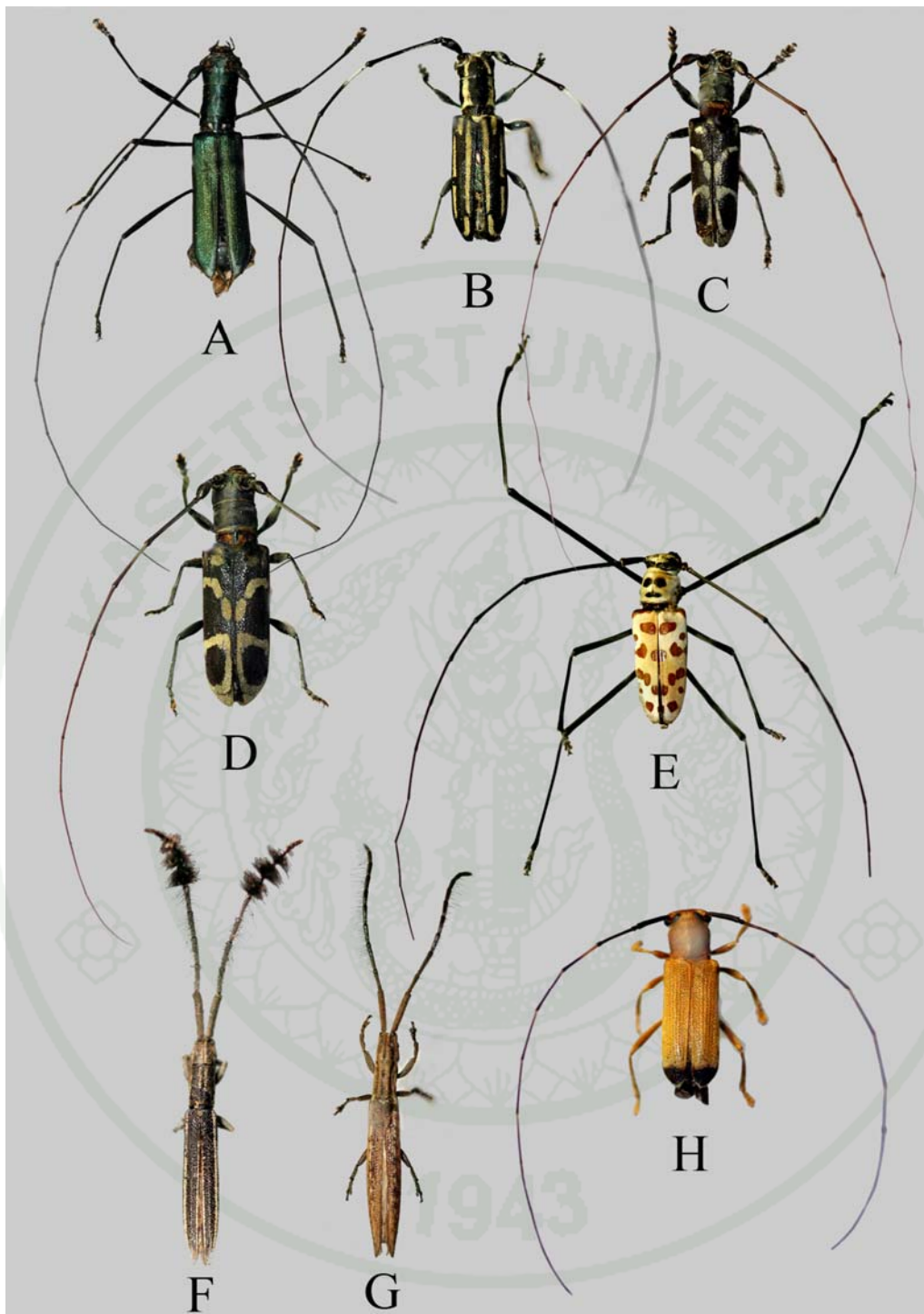


Figure 59 Adults. A. *Cylindrecamptus viridipennis*, ♀. B. *C. lineatus*, ♂. C-D. *Microlenecamptus signatus*, ♂. E. *Gerania bosci bosci*, ♂. F. *Eucomatocera vittata*, ♂. G. *Tetraglenes hirticornis*, ♂. H. *Serixia apicefusicipennis*, ♂.

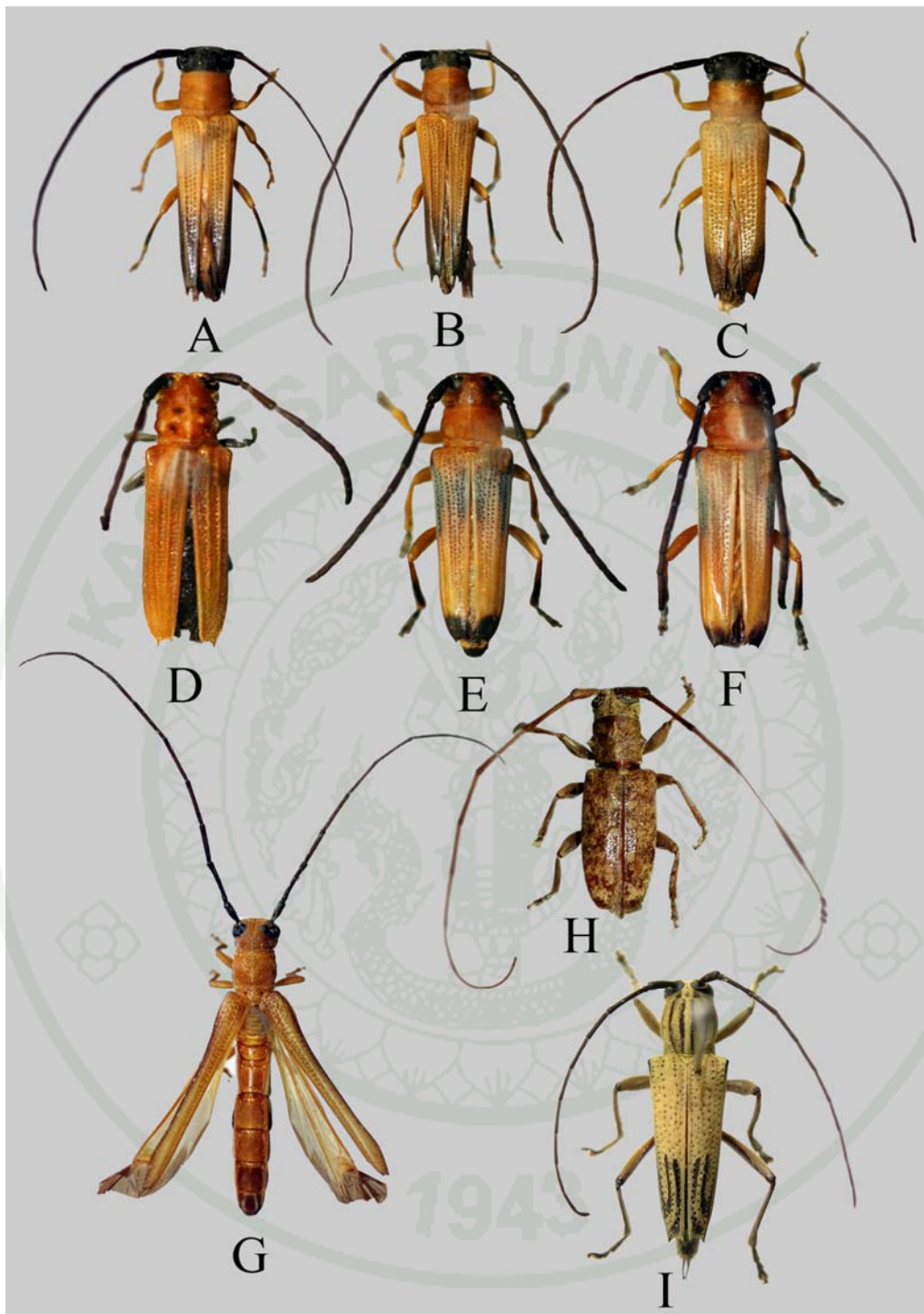


Figure 60 Adults. A-B. *Nupserha fricator*, ♂. C. *N. spinifera*, ♂.
 D. *N. quadrioculata*, ♂. E. *N. variabilis*, ♀. F. ditto, ♂.
 G. *Oberea ferruginea*, ♂. H. *Xenolea asiatica*, ♂.
 I. *Glenea quadrinotata*, ♀.

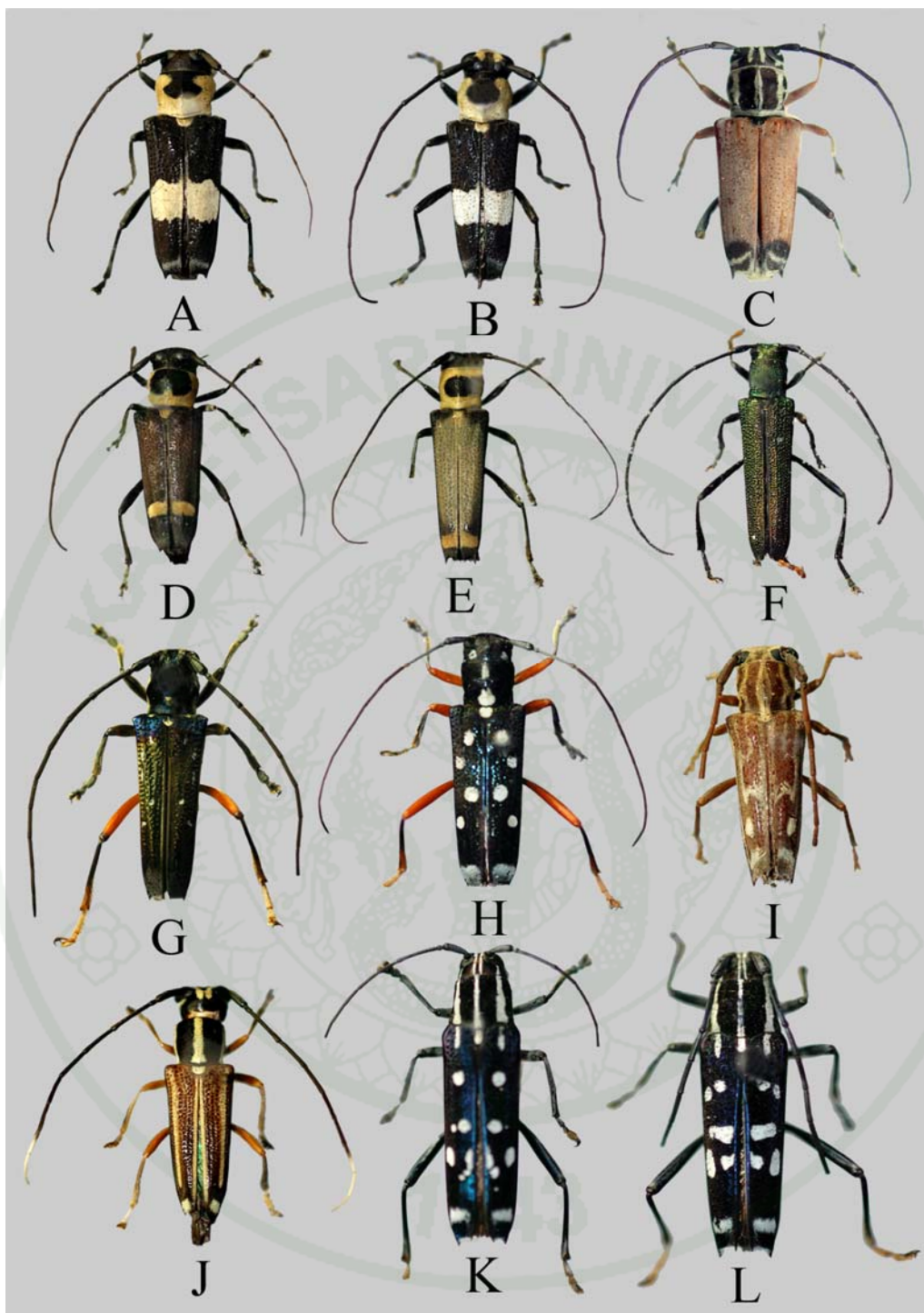


Figure 61 Adults. A. *Glenea mouhoti*, ♀. B. ditto, ♂. C. *G. cantor*, ♂.
 D. *G. laoensis*, ♂. E. ditto, ♀. F. *G. subviridescens*, ♂.
 G. *G. pulchra*, ♂. H. *G. proserpina*, ♂. I. *G. vaga*, ♀.
 J. *G. mathematica*, ♀. K. *G. elegans*, ♂. L. ditto, ♀.

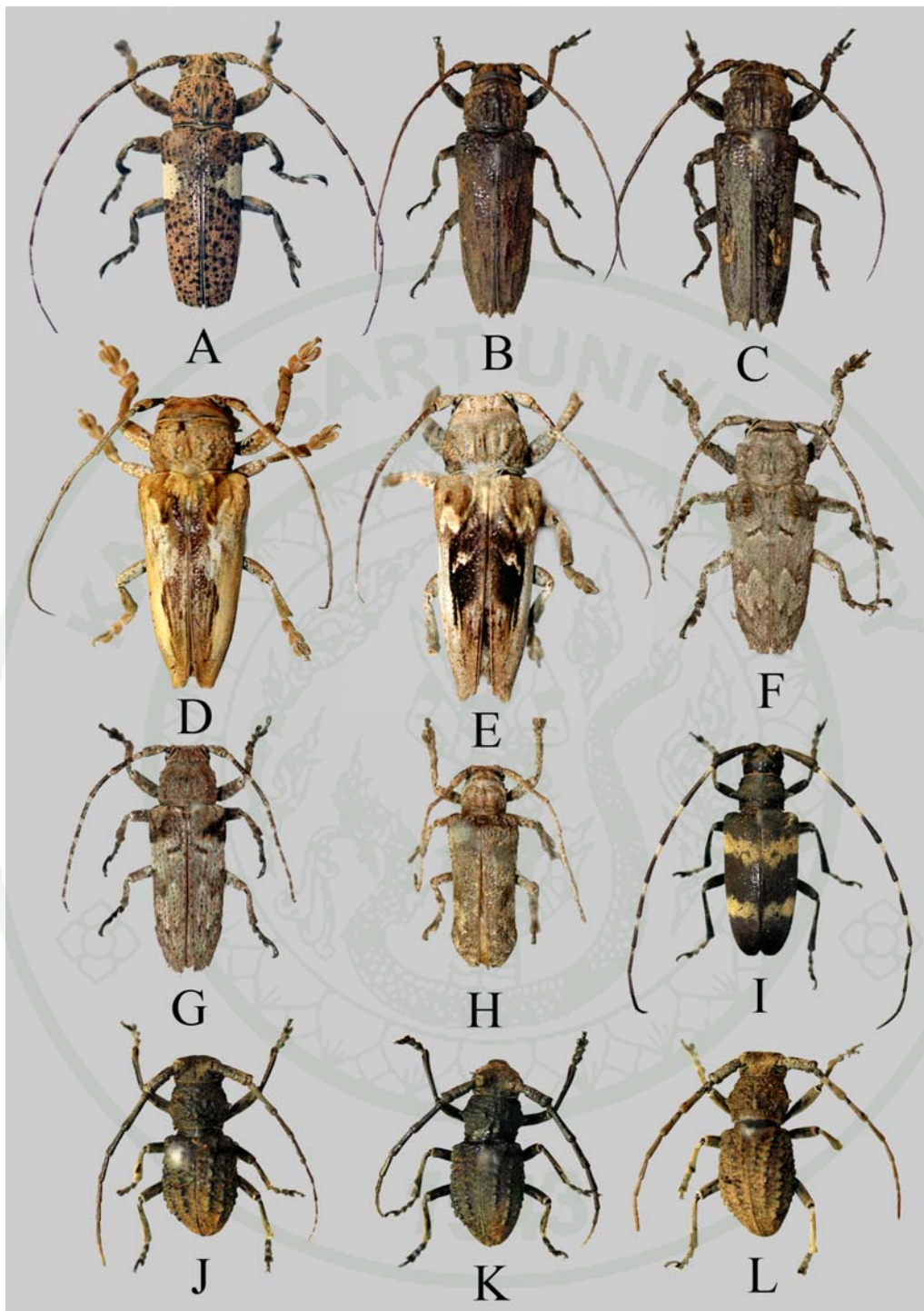


Figure 62 Adults. A. *Niphona falaizei*, ♂. B. *N. malaccensis*, ♂. C. ditto, ♀. D. *N. longesignata*, ♀. E. *N. hookeri*, ♀. F-G. *N. rondoni*, ♀. H. *Nipholophia chujoi*, ♀. I. *Perihammus lemoulti*, ♂. J-K. *Phrissomorimus brunneus*, ♂. L. ditto, ♀.

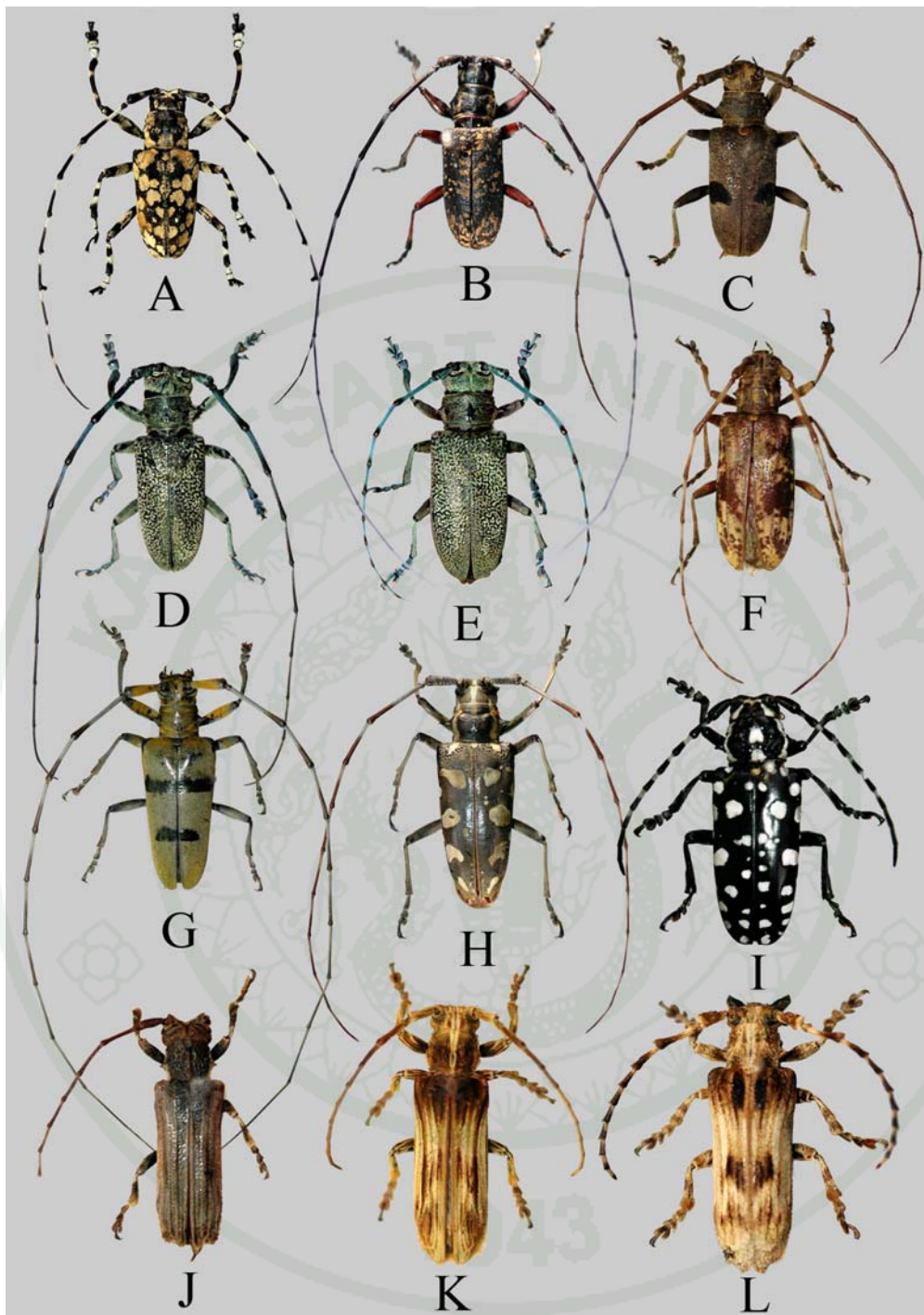


Figure 63 Adults. A. *Palimma annulata*, ♂. B. *Monochamus dubius*, ♂. C. *M. bimaculatus*, ♂. D. *M. guerryi*, ♂. E. ditto, ♀. F. *Rhodopina griseipes*, ♂. G. *Trachystohammus subelongatus*, ♂. H. *Parepepeotes breuningi*, ♂. I. *Threnetica lacrymans*, ♀. J. *Thylactus uniformis*, ♀. K. *T. simulans*, ♂. L. *Xylorhiza adusta*, ♂.

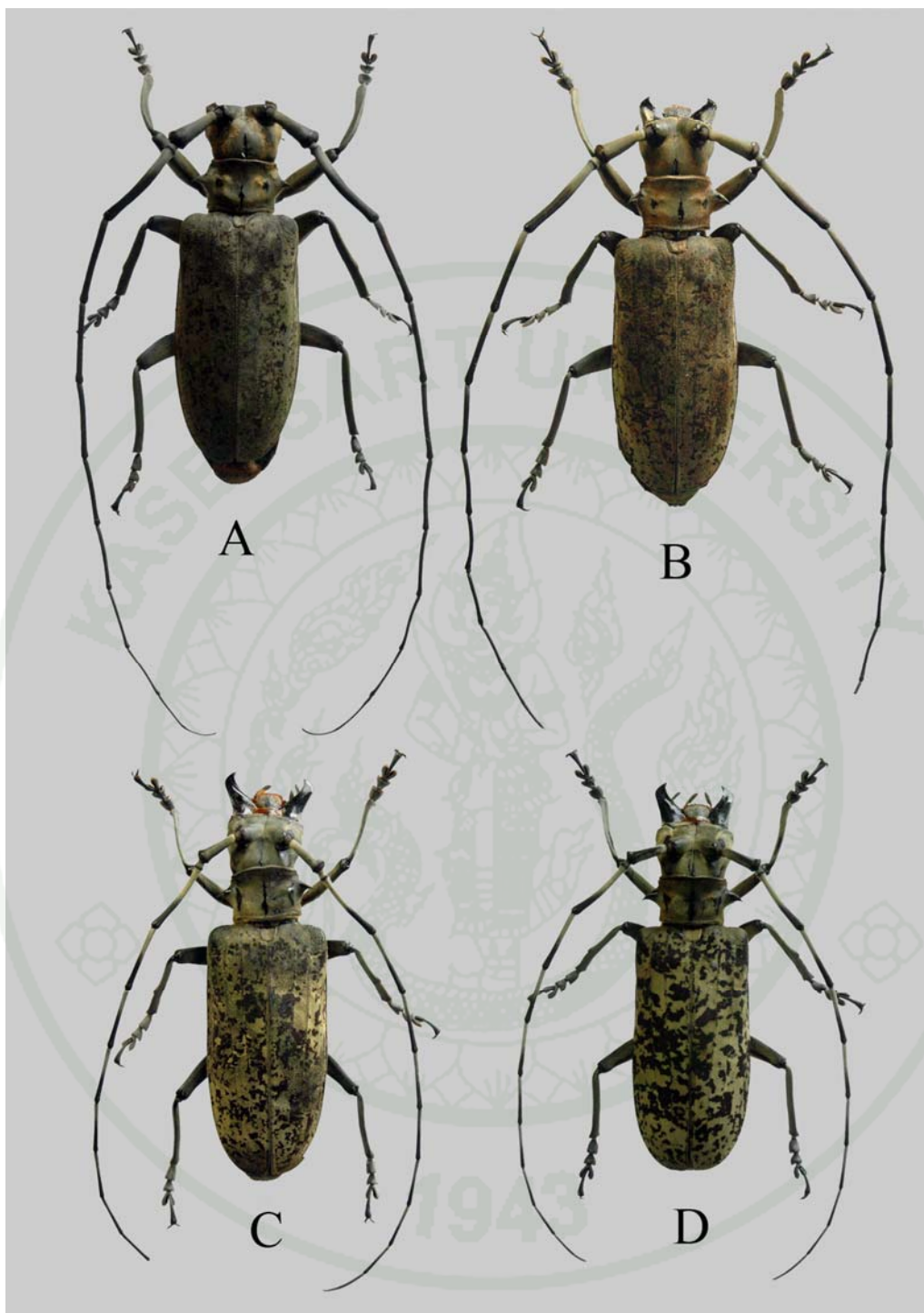


Figure 64 Adults. A-B. *Pseudomeges mormortus*, ♂. C-D. ditto, ♀.

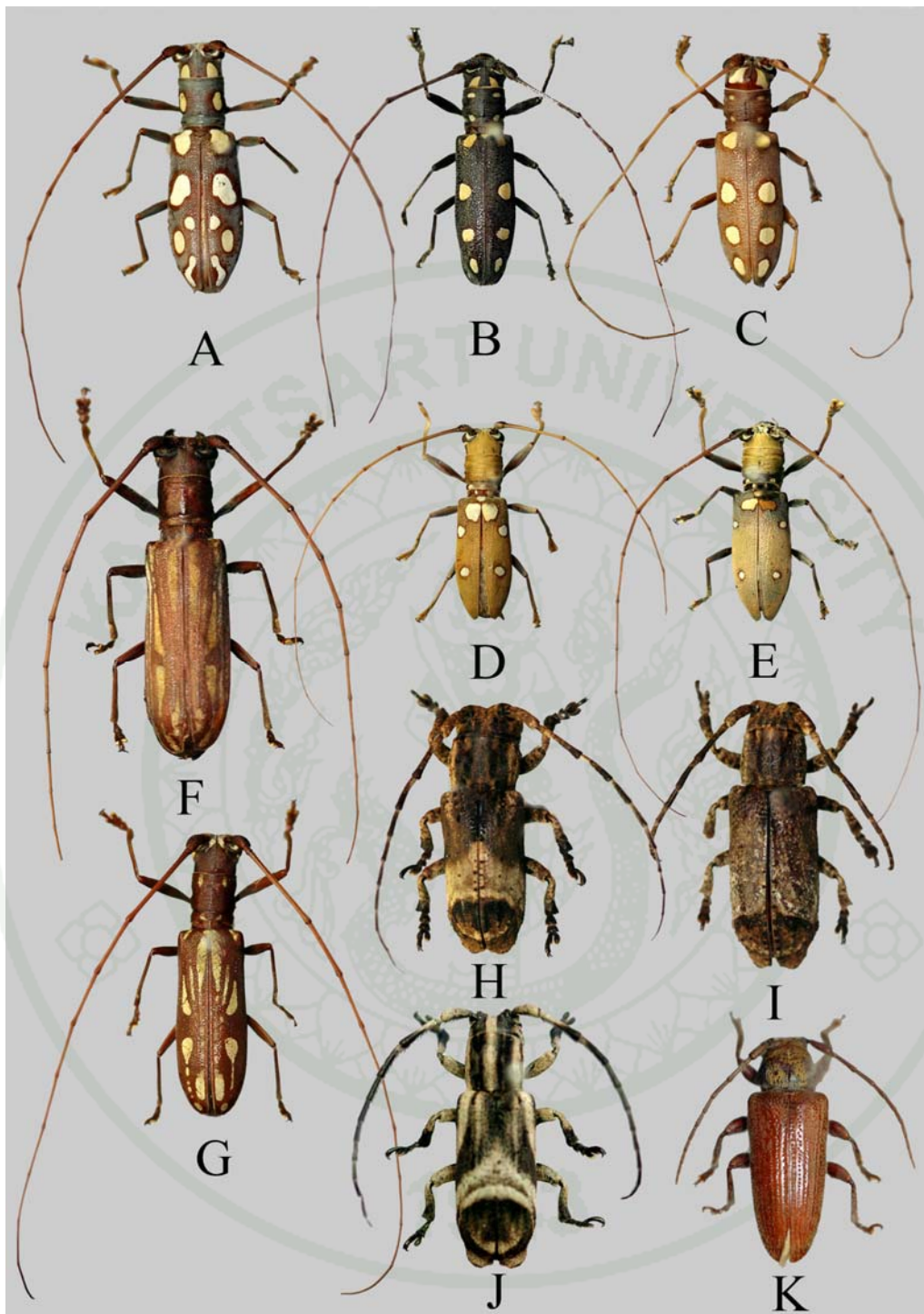


Figure 65 Adults. A. *Olenecamptus fouqueti*, ♂. B-C. *O. siamensis*, ♂.
D-E. *O. bilobus*, ♂. F. *O. dominus*, ♀. G. ditto, ♂.
H. *Sthenias pascoei*, ♂. I. ditto, ♀. J. *S. franciscana*, ♂.
K. *Pseudanaethetis langana*, ♀.

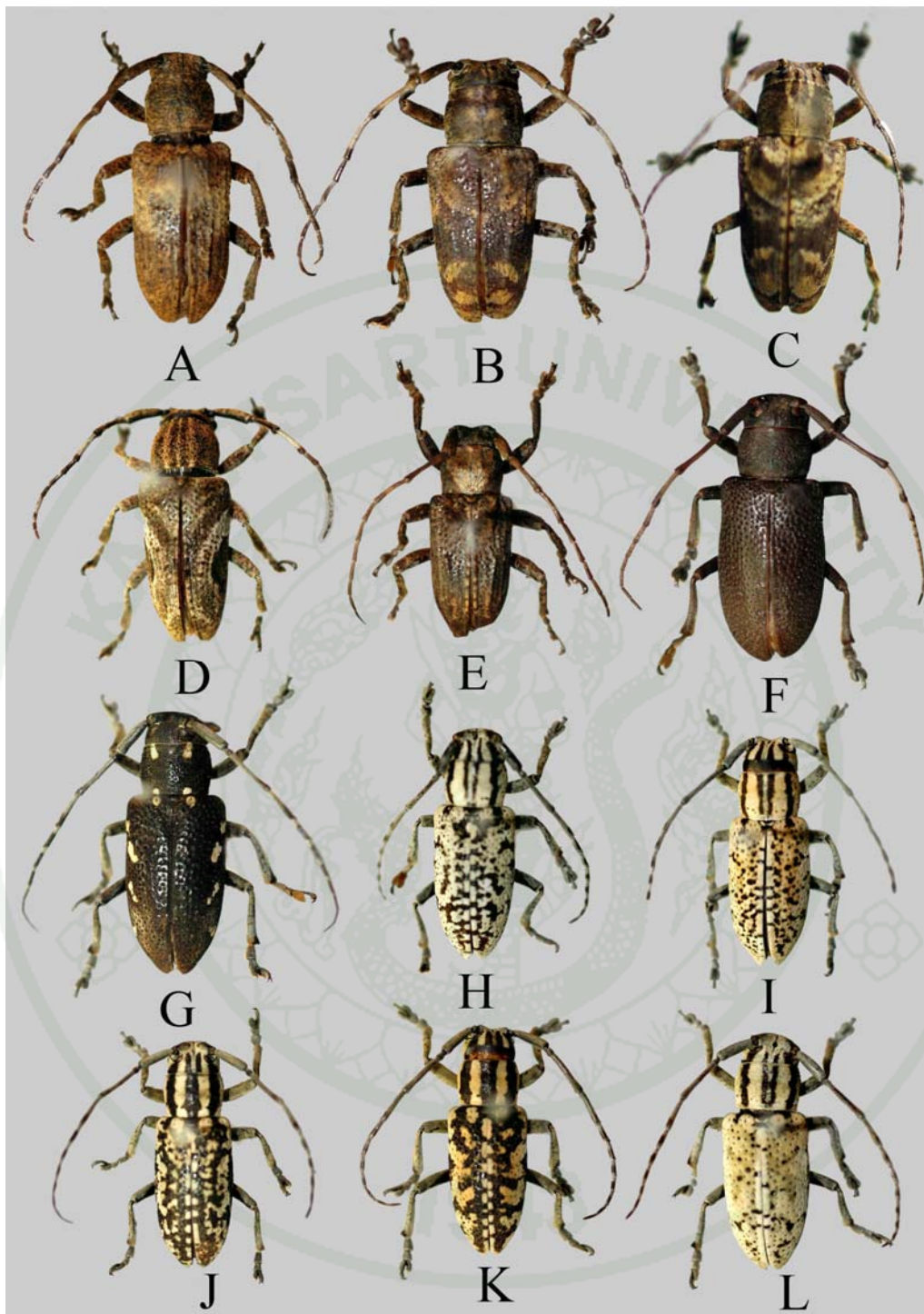


Figure 66 Adults. A. *Pterolophia paralaosensis*, ♀. B. *P. mimoconsularis*, ♂.
 C. *P. consularis*, ♀. D. *P. lateralis*, ♂. E. *P. partealbicollis*, ♂.
 F. *P. humerosa*, ♀. G. *P. zebrine reductesignata*, ♀.
 H-J. *P. zebrina*, ♀. K-L. ditto, ♂.

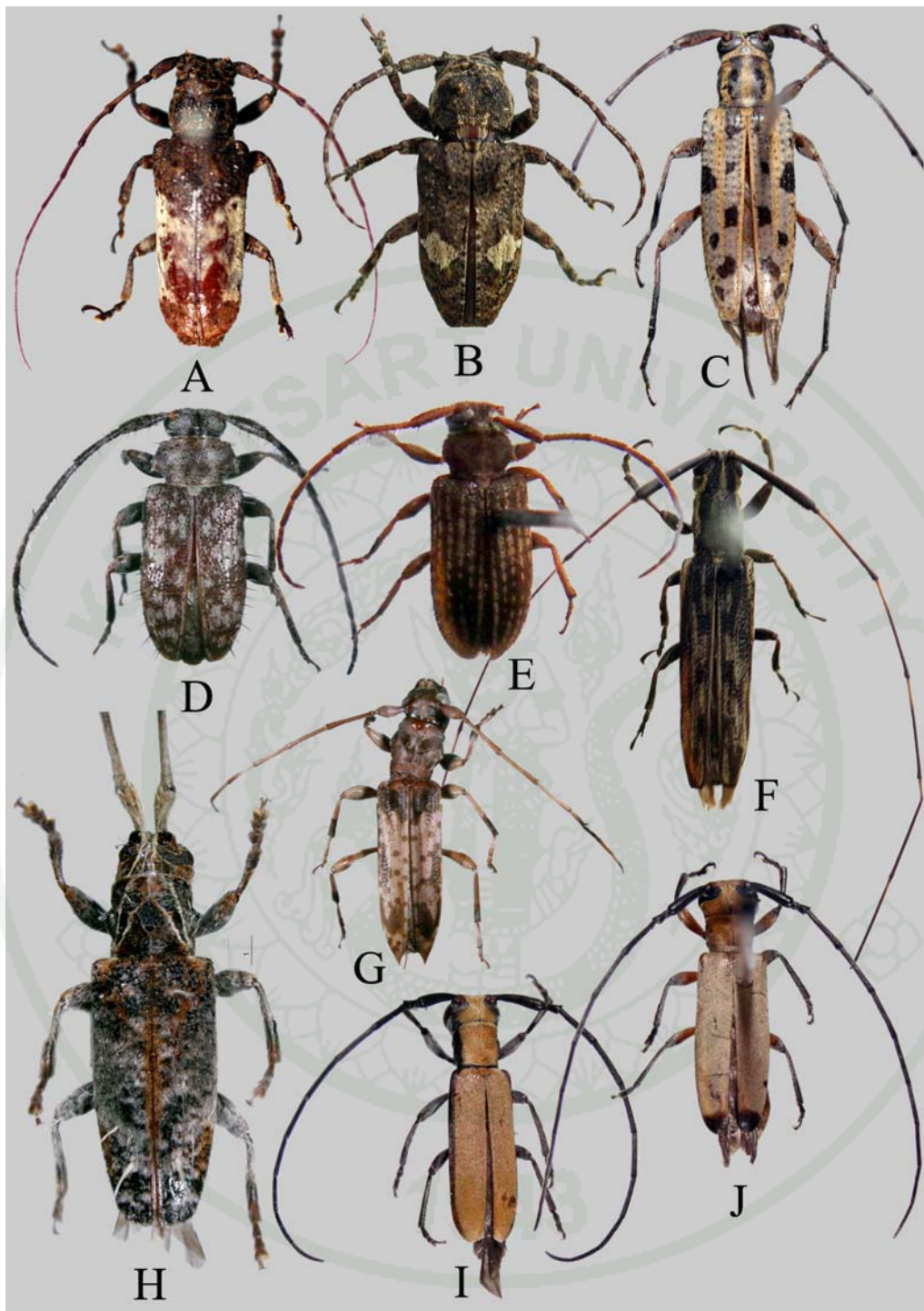


Figure 67 Adults. A. *Pterolophia dorsalis*, ♂. B. *P. bituberculatithorax*, ♀. C. *Driopea luteolineata*, ♂. D. *Exocentrus respersus*, ♂. E. *E. pelidnus*, ♂. F. *Cleptometopus similis*, ♂. G. *Parachydaeopsis laosica*, ♀. H. *Hirtaeschopalaea fasciculata*, ♂. I. *Eunidea lateralis*, ♂. J. *E. rondoni*, ♂.

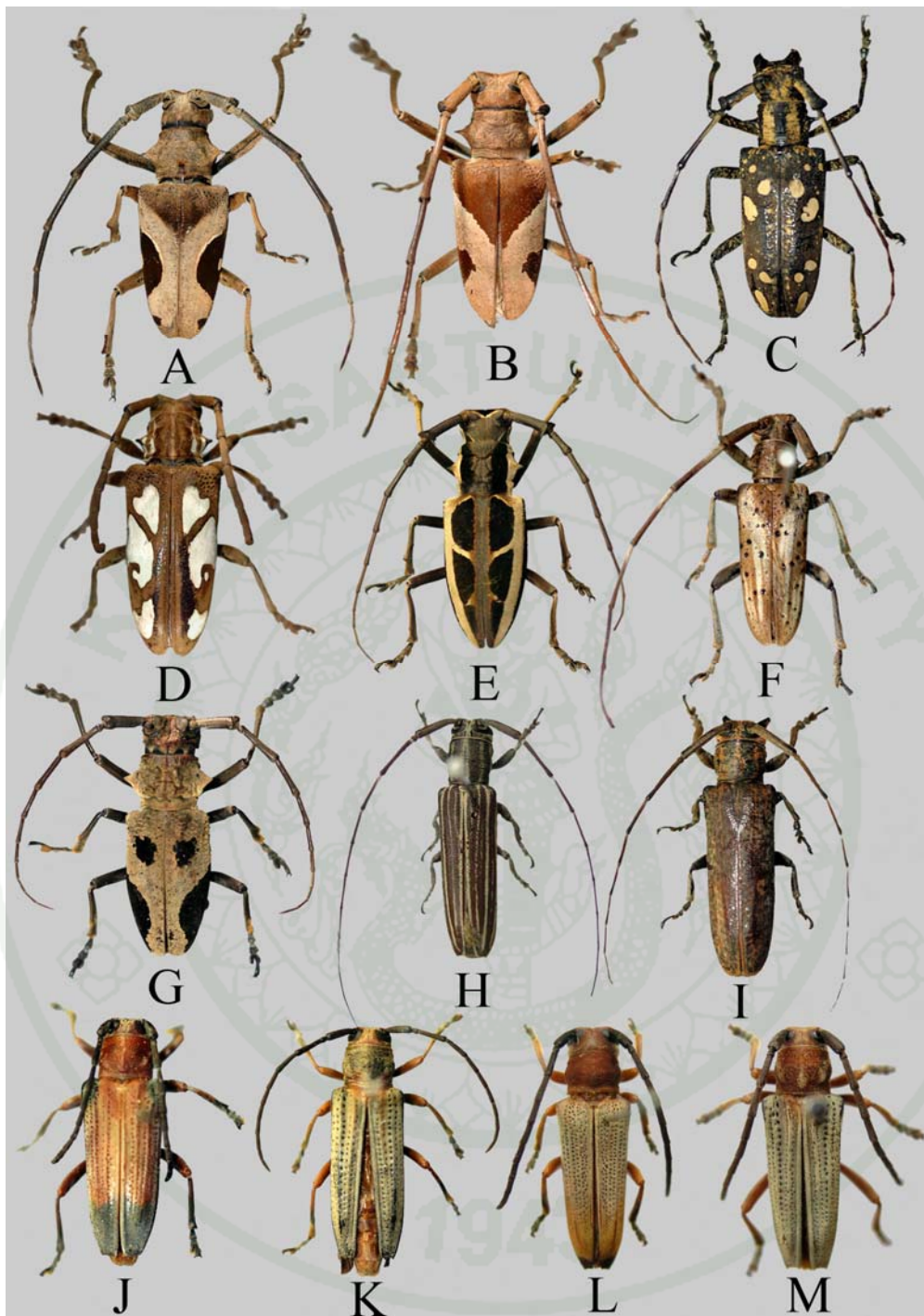


Figure 68 Adults. A. *Paraleprodera crucifera*, ♂. B. *P. cordifera saigonensis*, ♂. C. *P. laosensis*, ♀. D. *Calothyrsa margaitifera*, ♀. E. *Stratioceros princeps*, ♂. F. *Hoplothrix rivulosus*, ♂. G. *Epicedia maculatrix*, ♀. H. *Pothyne septemvittipennis*, ♀. I. *P. variegata*, ♂. J. *Stibara humeralis*, ♀. K. *S. rufina*, ♀. L. *S. subpunctata*, ♀. M. *S. tricolor*, ♂.

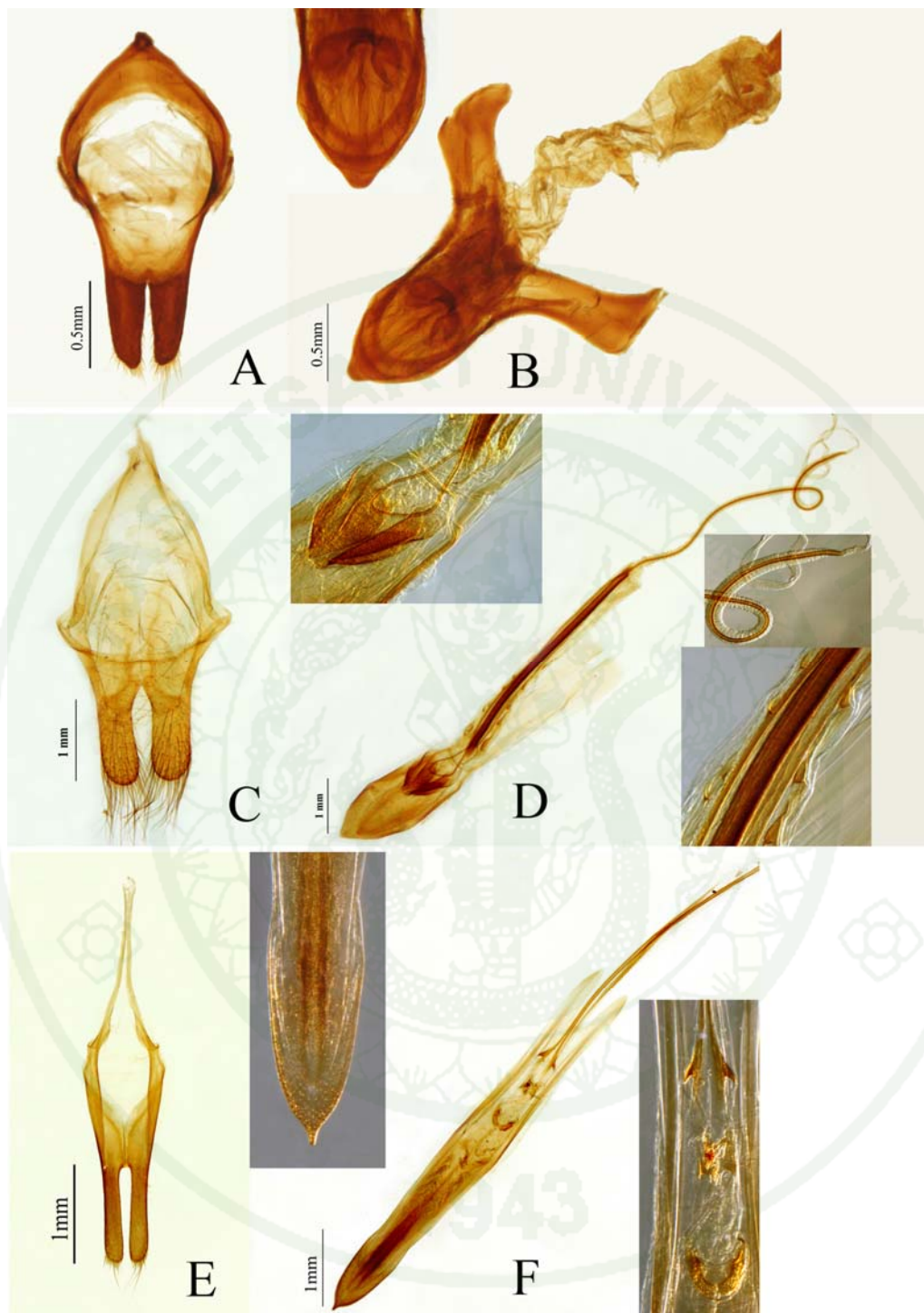


Figure 69 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Spondylis buprestoides*

C-D. *Cyrtonops punctipennis*

E-F. *Distenia fulvipennis*

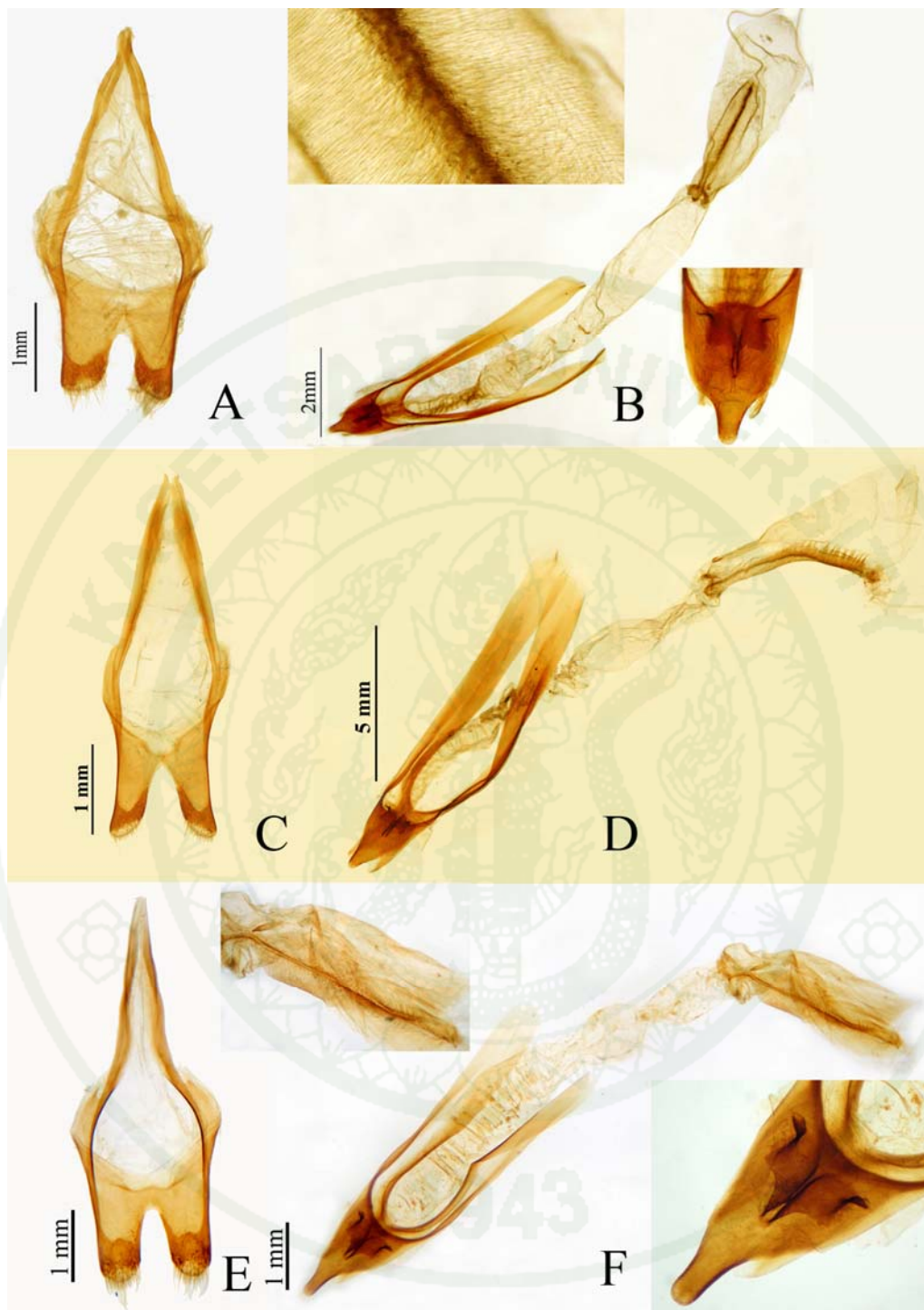


Figure 70 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Anomophysis spinosa*

C-D. *A. elongata*

E-F. *A. ellioti*



Figure 71 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Dorysthenes walkeri*

C-D. *D. buqueti*

E-F. *Bandar pascoei*

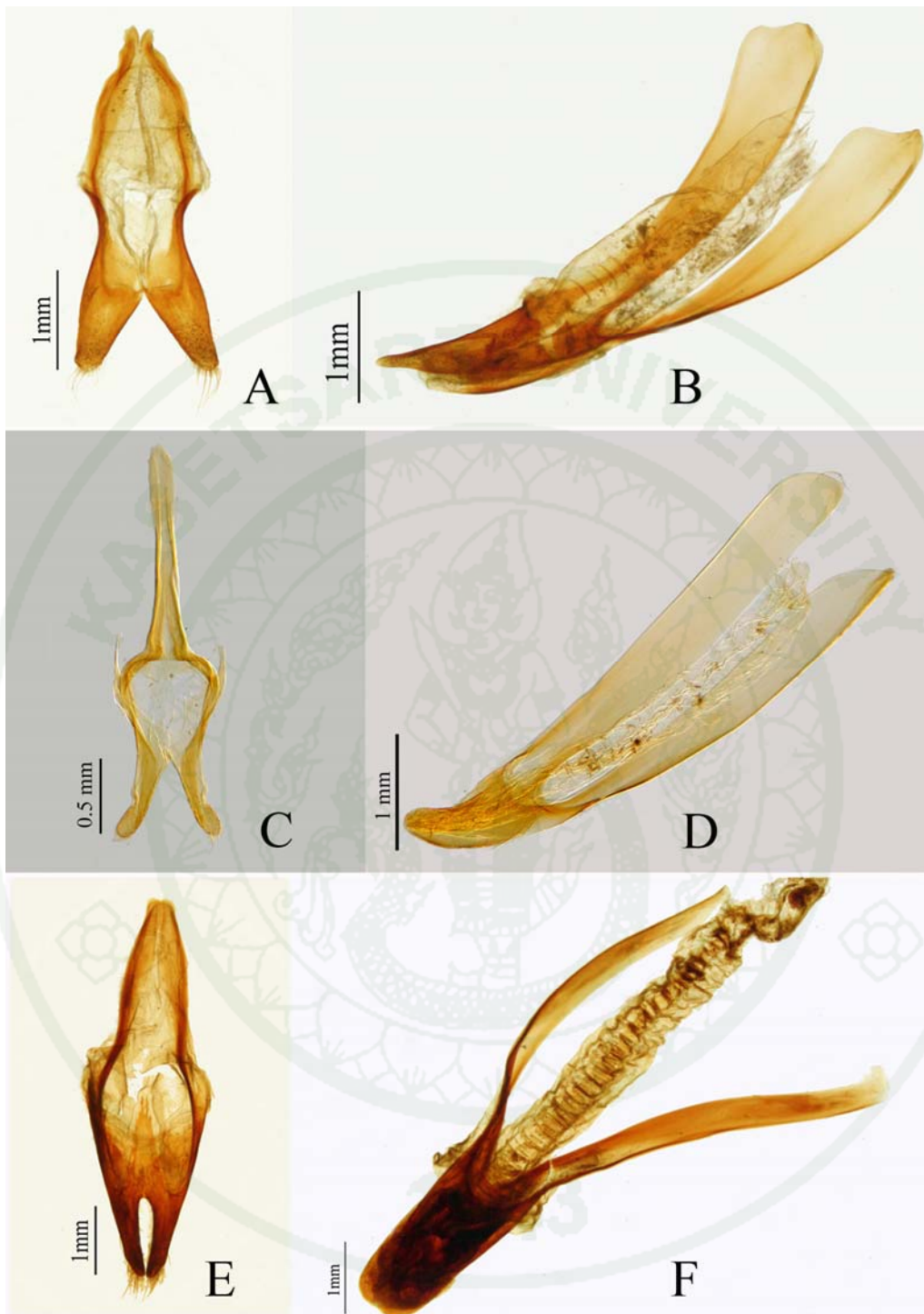


Figure 72 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Eurypoda batesi*

C-D. *E. nigrita*

E-F. *Rhaphipodus hopei*

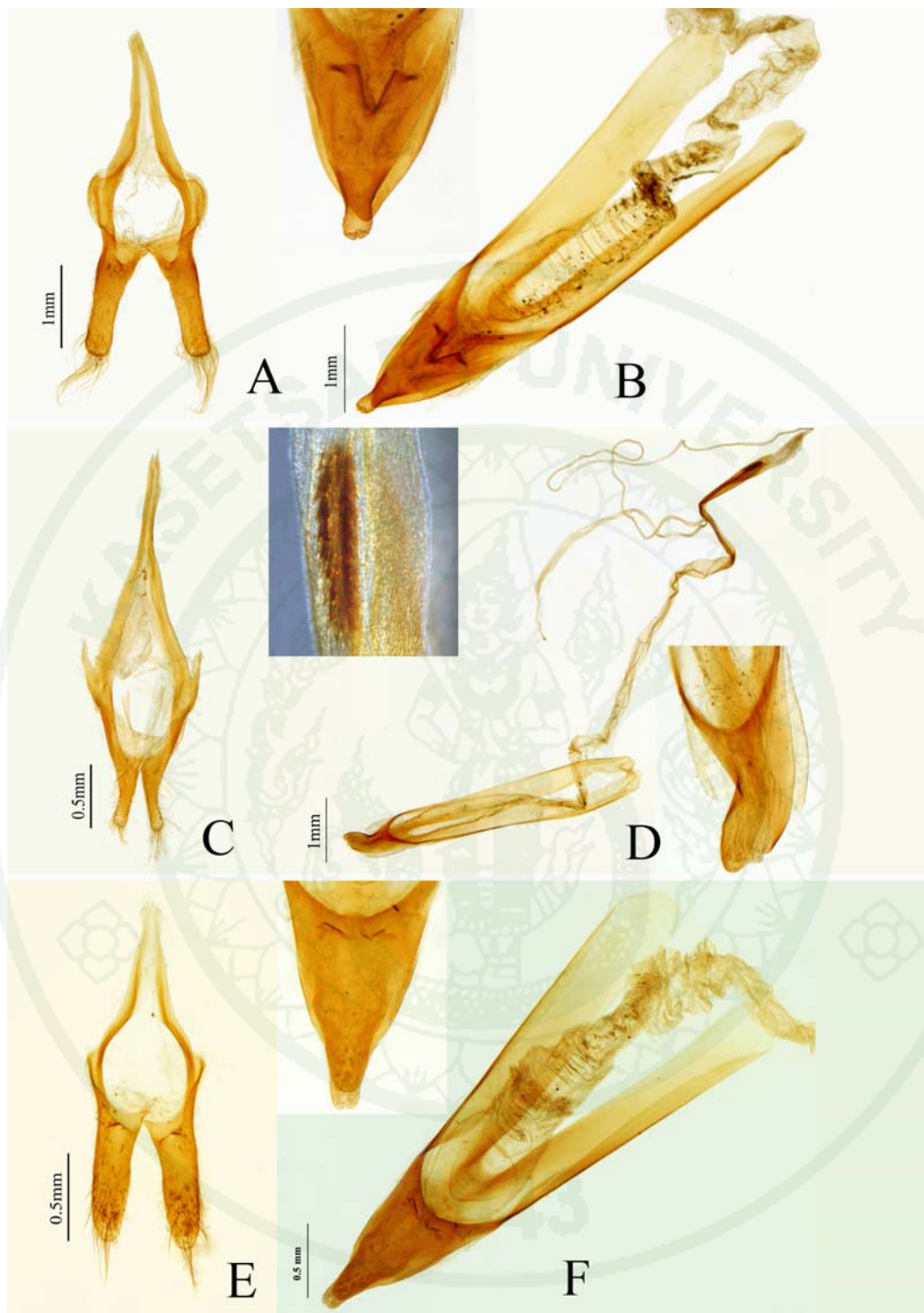


Figure 73 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Baralipion maculosa*

C-D. *Megopsis marginalis*

E-F. *M. procera*

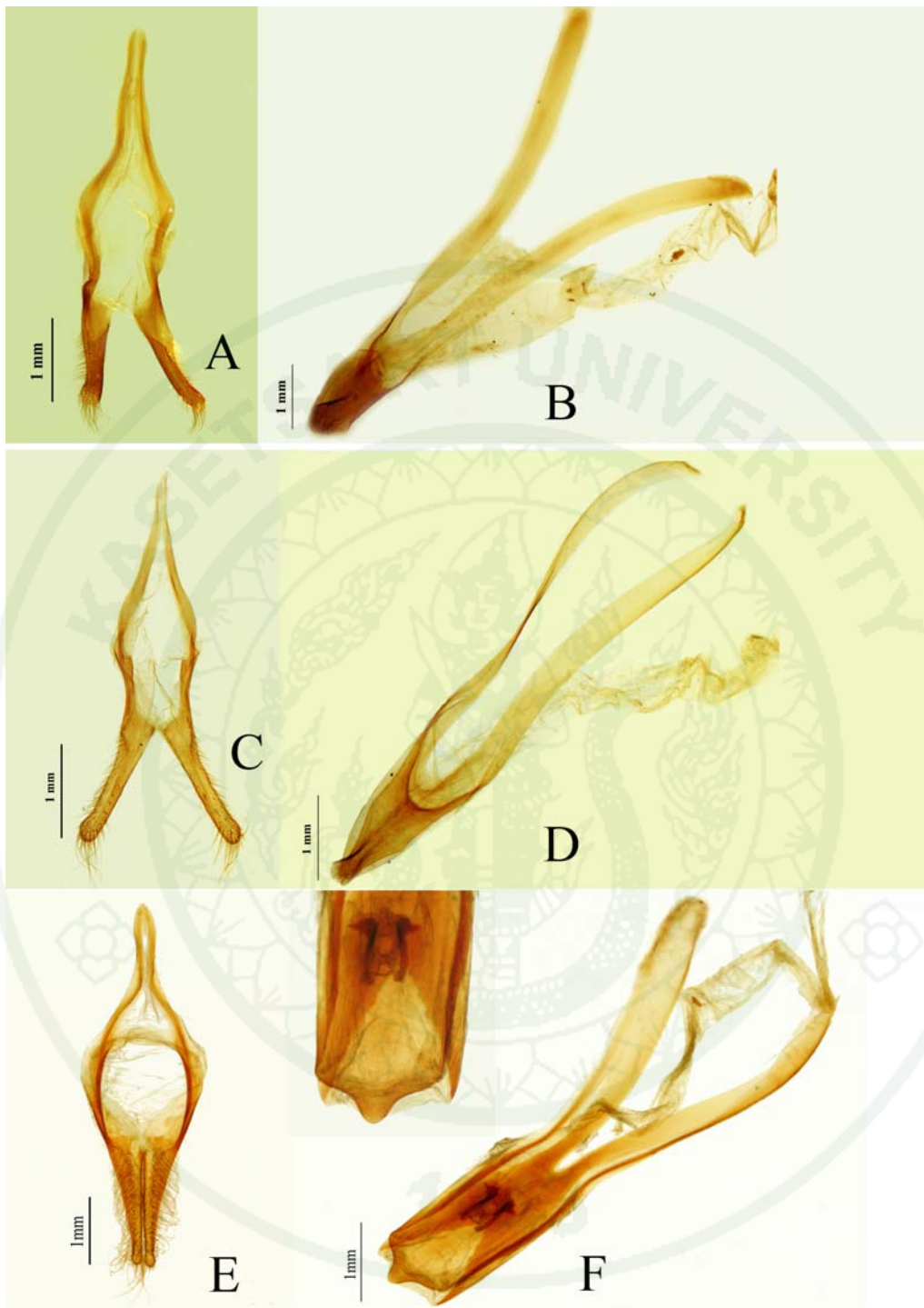


Figure 74 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Megopsis sinica ornaticollis*

C-D. *M. sinica sinica*

E-F. *Prionomma bigibbosus*

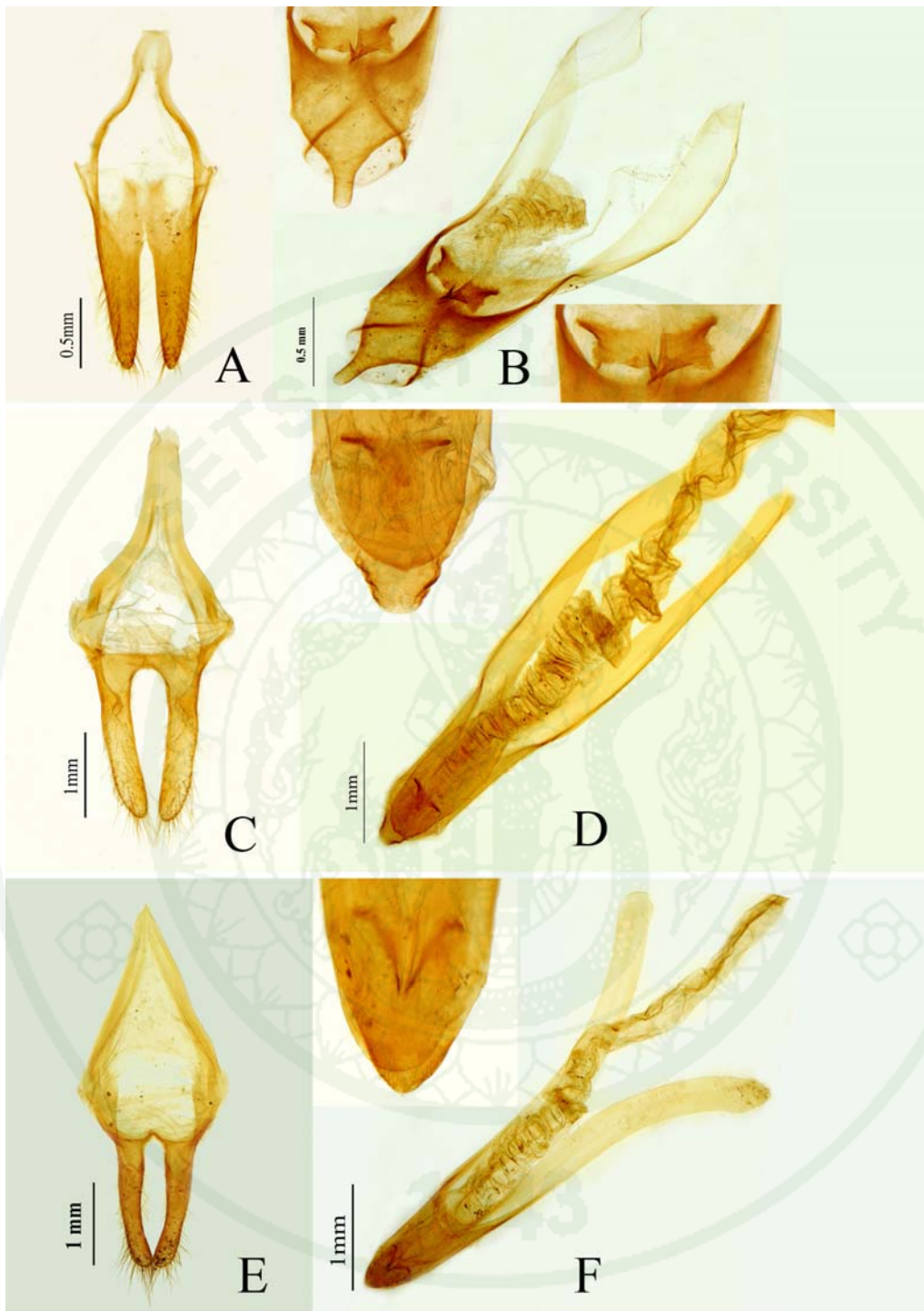


Figure 75 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Sarmyodus antennatus*

C-D. *Spinimegopsis lividipennis*

E-F. *S. piliventris antennalis*

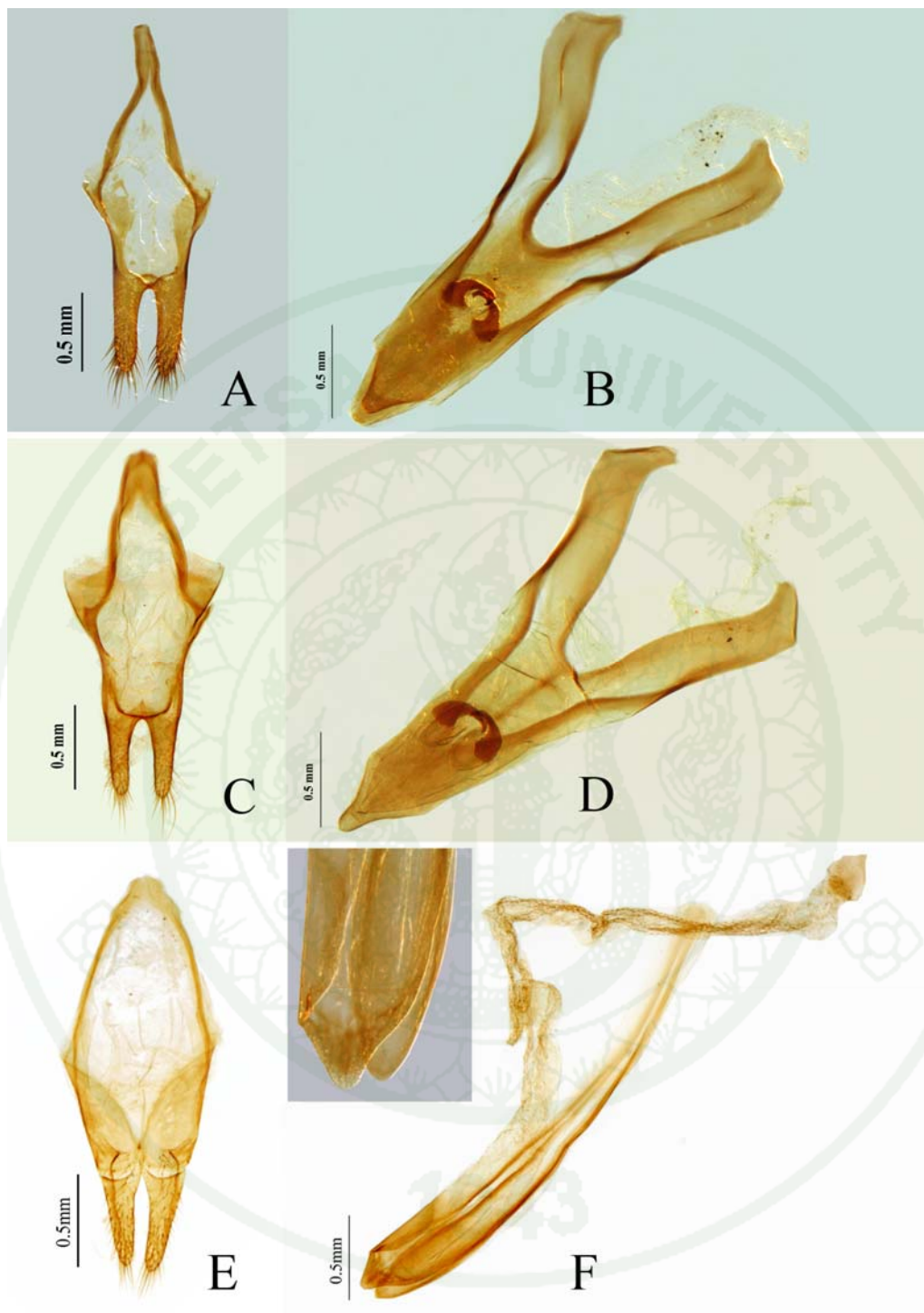


Figure 76 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Arhopalus exoticus*

C-D. *A. unicolor*

E-F. *Philus costatus*

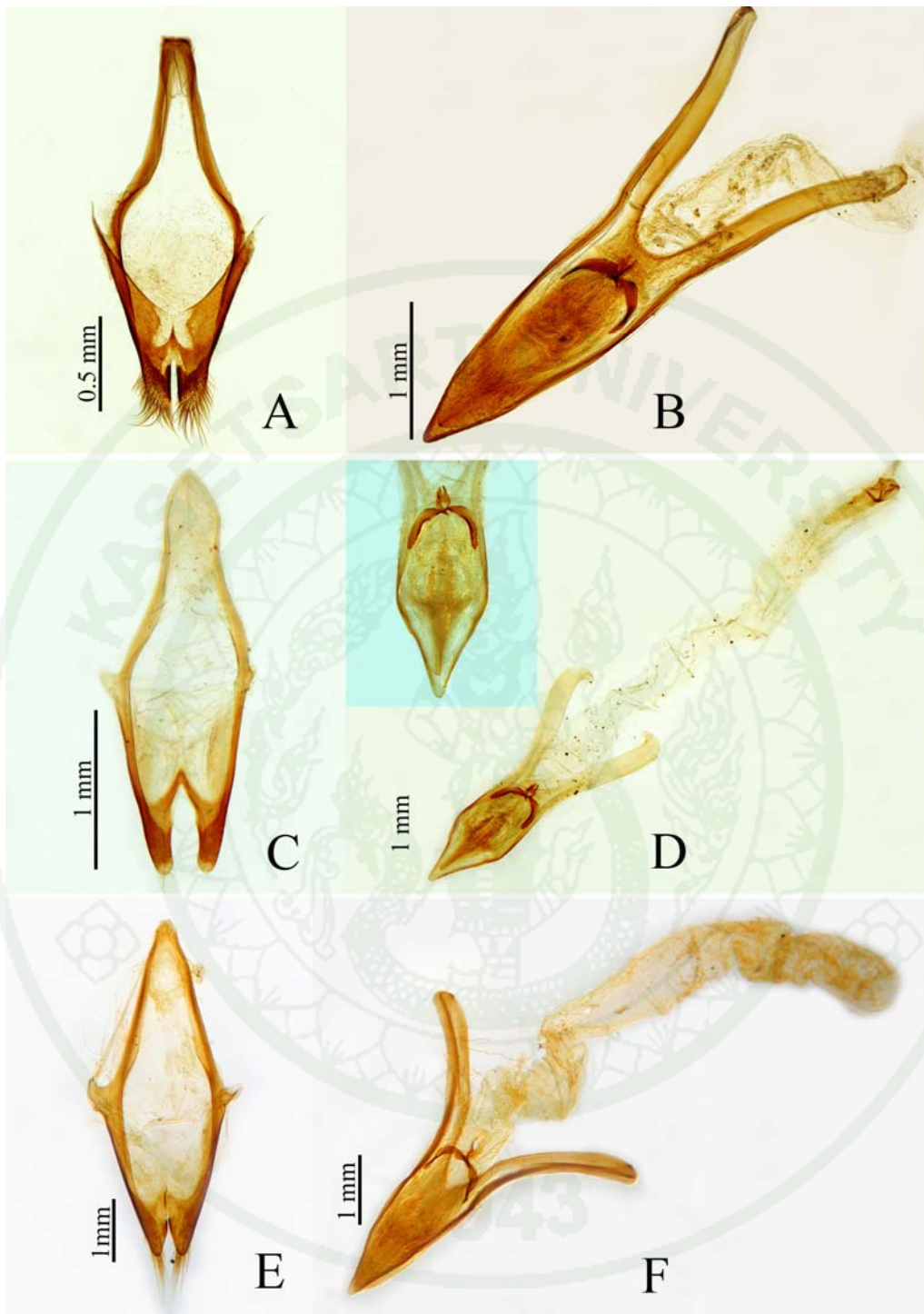


Figure 77 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Aeolesthes arurifaber*

C-D. *Dialeges pauper*

E-F. *Cyriopalus wallacei*



Figure 78 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Aphrodisium gibbicolle*

C-D. *A. neoxenum*

E-F. *A. cantori*

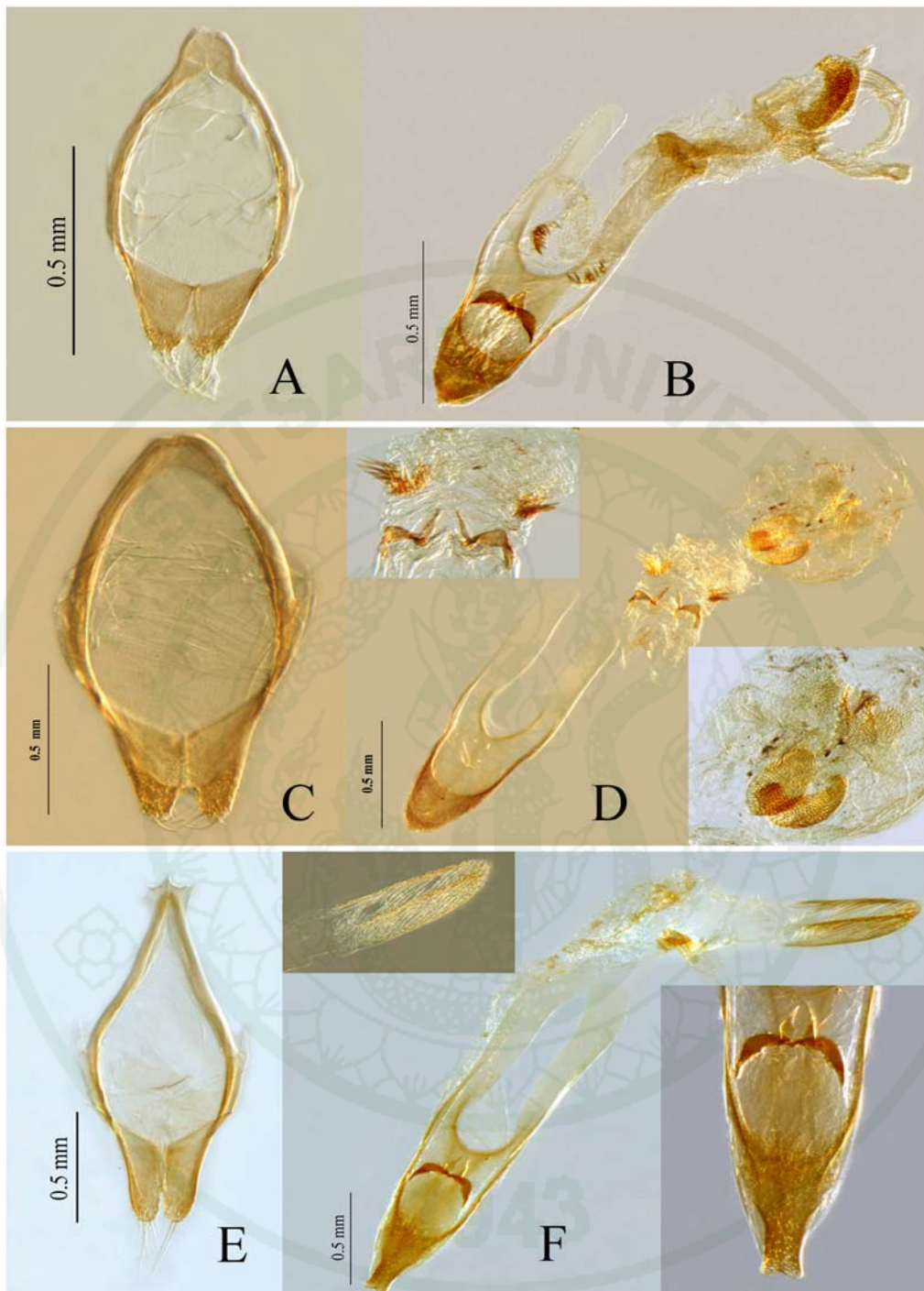


Figure 79 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Artimpaza lineata*

C-D. *A. argentinotata*

E-F. *A. colorata*

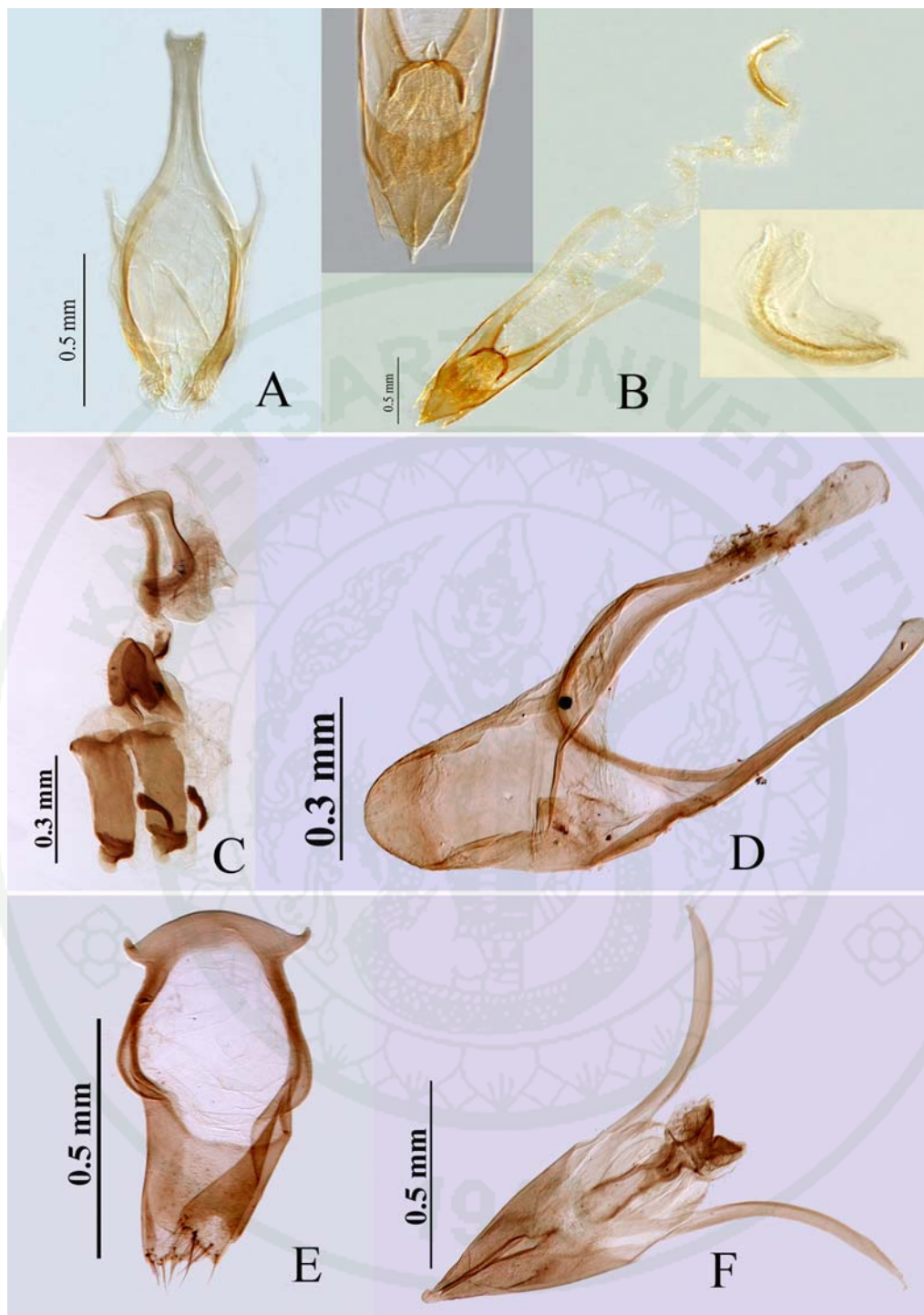


Figure 80 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Camelocerambyx singularis*

C-D. *Kunbir atriapicalis*

E-F. *Merionoea fusca*

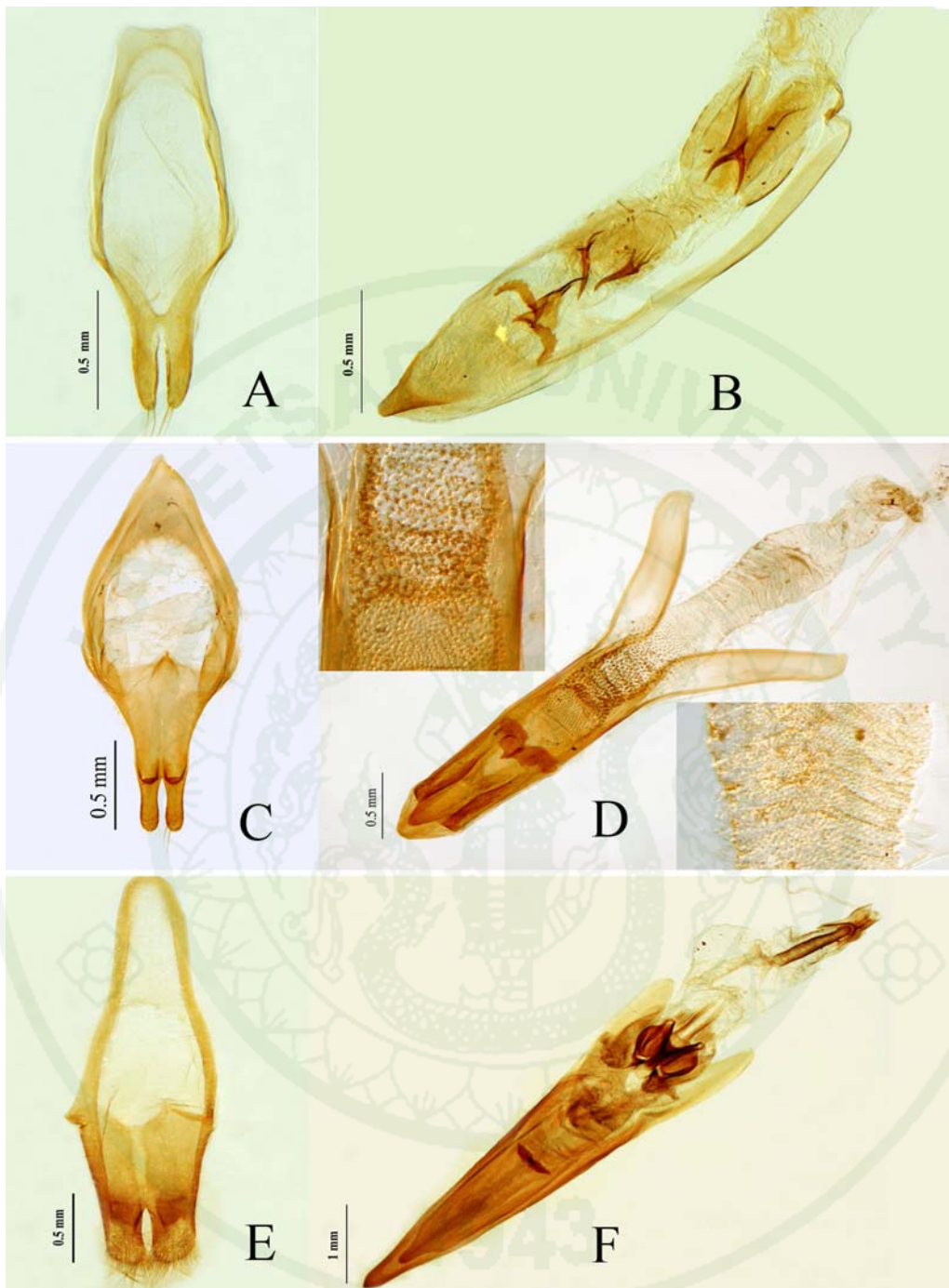


Figure 81 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Cleomenes micarius*

C-D. *Clytosaurus siamensis*

E-F. *Chelidonium venereum*

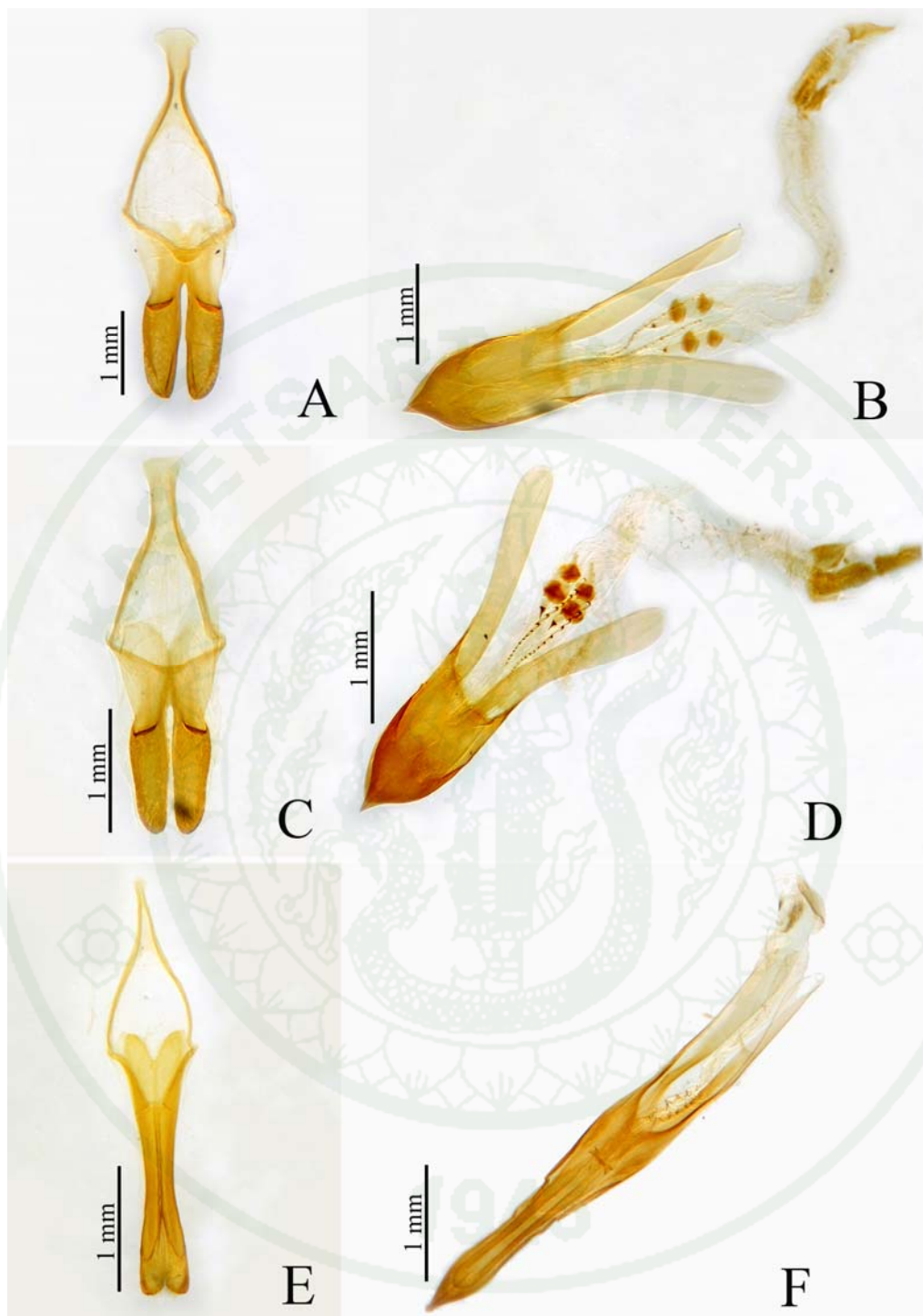


Figure 82 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Chlorophorus punctiger*

C-D. *C. ictericus*

E-F. *C. copiosus*

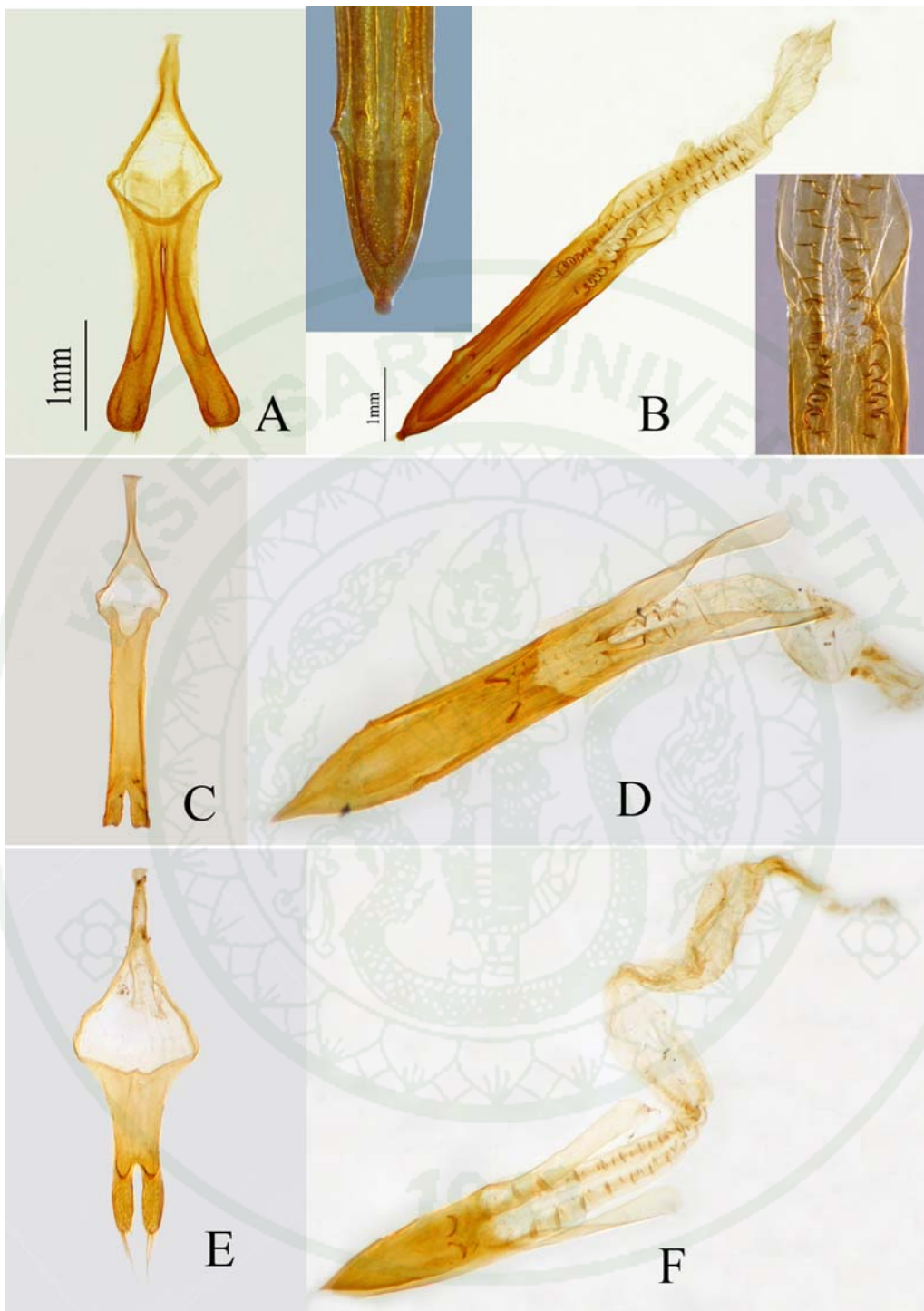


Figure 83 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Chlorophorus annularis*

C-D. *C. hederatus*

E-F. *C. rubricollis*

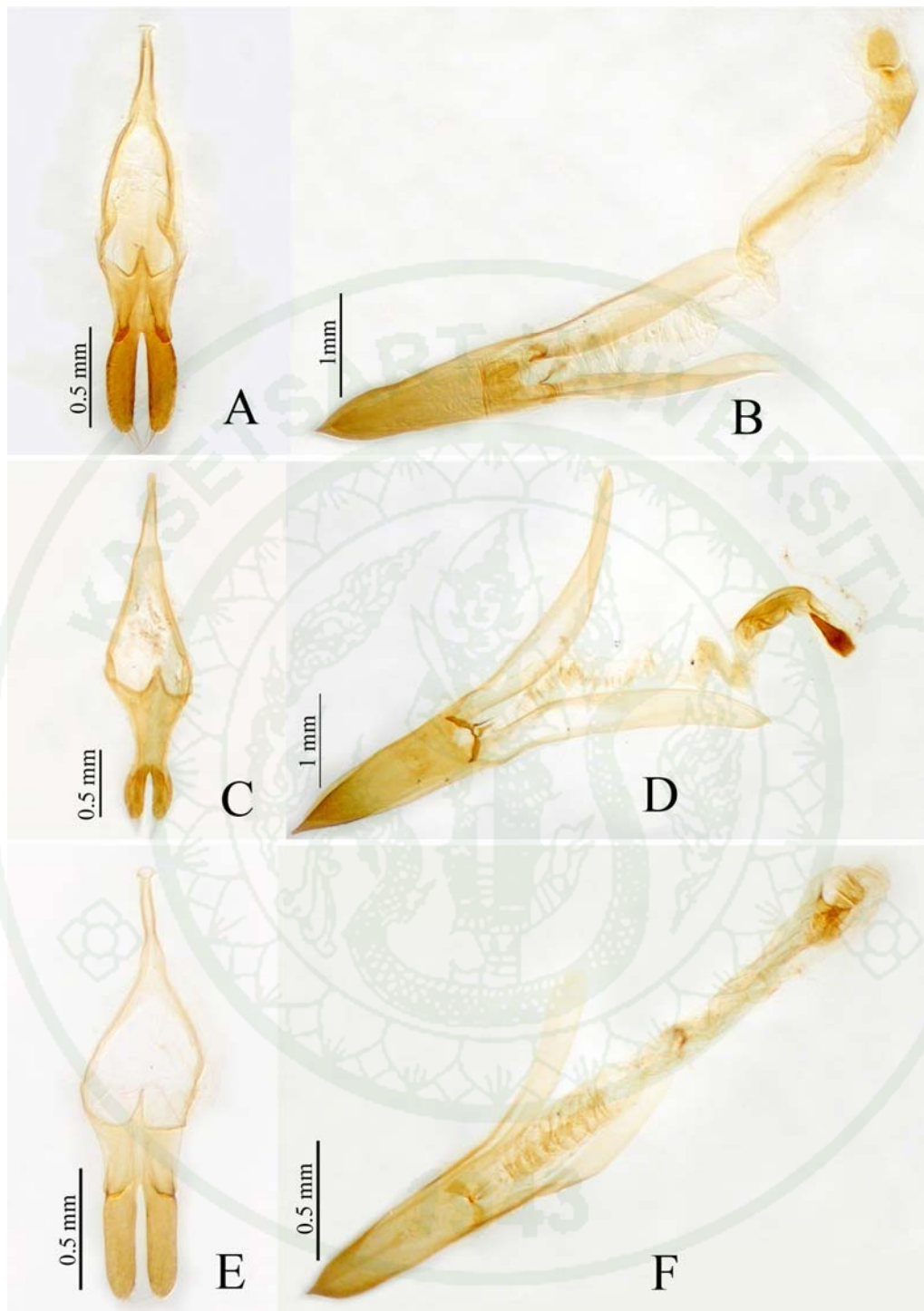


Figure 84 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Demonax dignus*

C-D. *D. albidofasciatus*

E-F. *D. semiluctuosus*

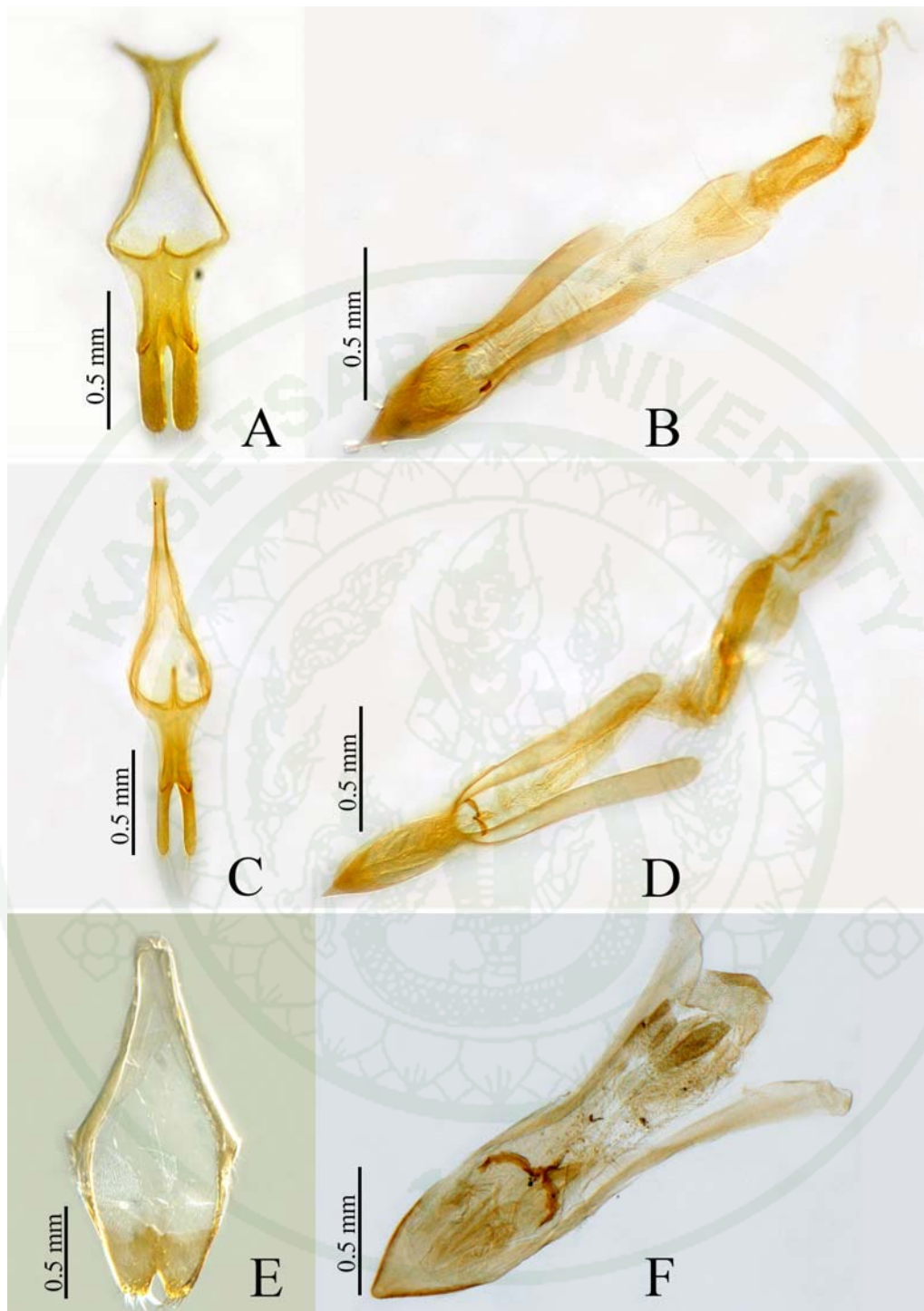


Figure 85 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Demonax vilis*

C-D. *D. alboantennatus*

E-F. *Pyrestes bicolor*

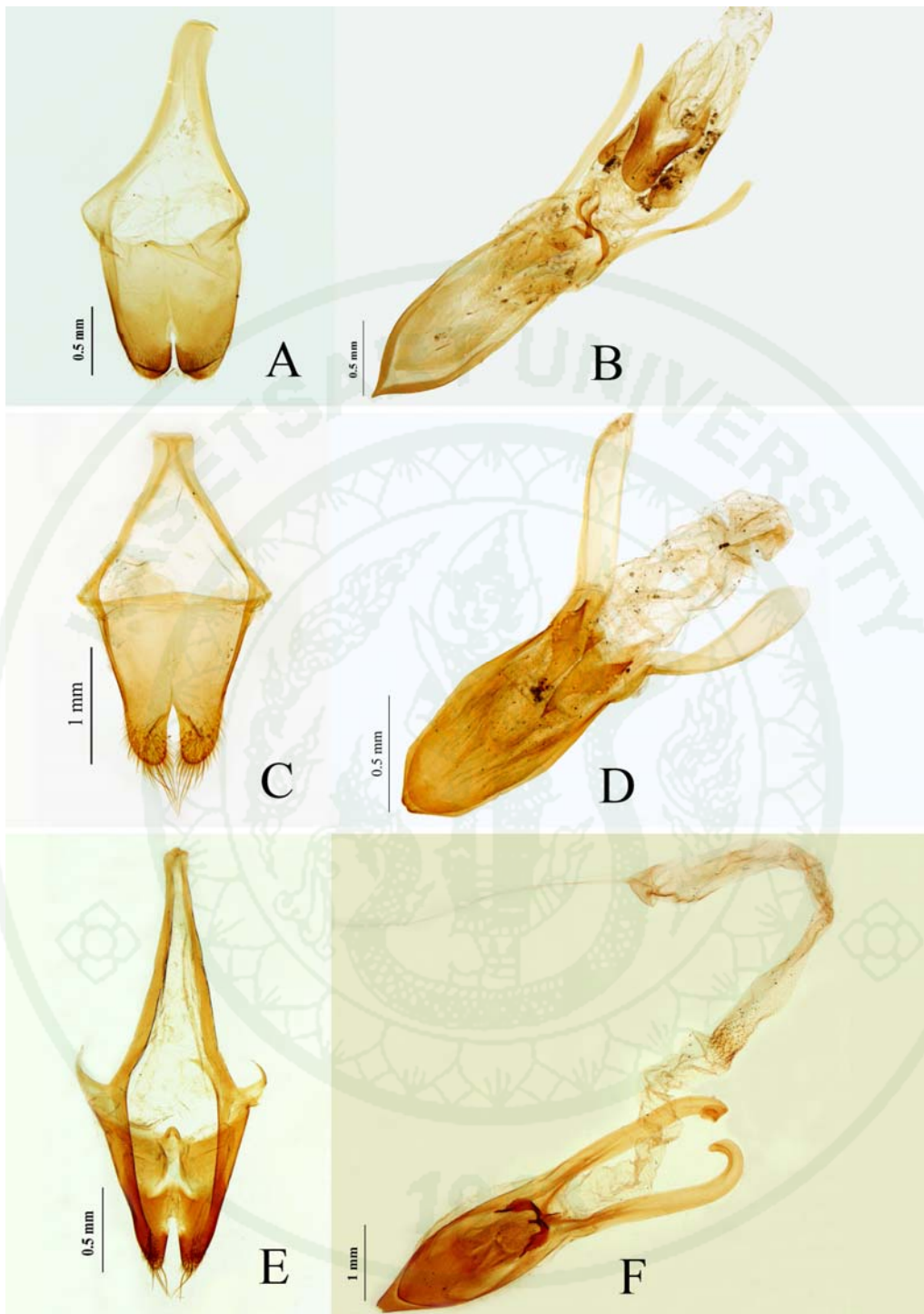


Figure 86 Male genitalia. Tegmen Median lobe and internal sac:

A-B. *Erythrus laticornis*

C-D. *Euryphagus lundii*

E-F. *Hoplocerambyx spinicornis*

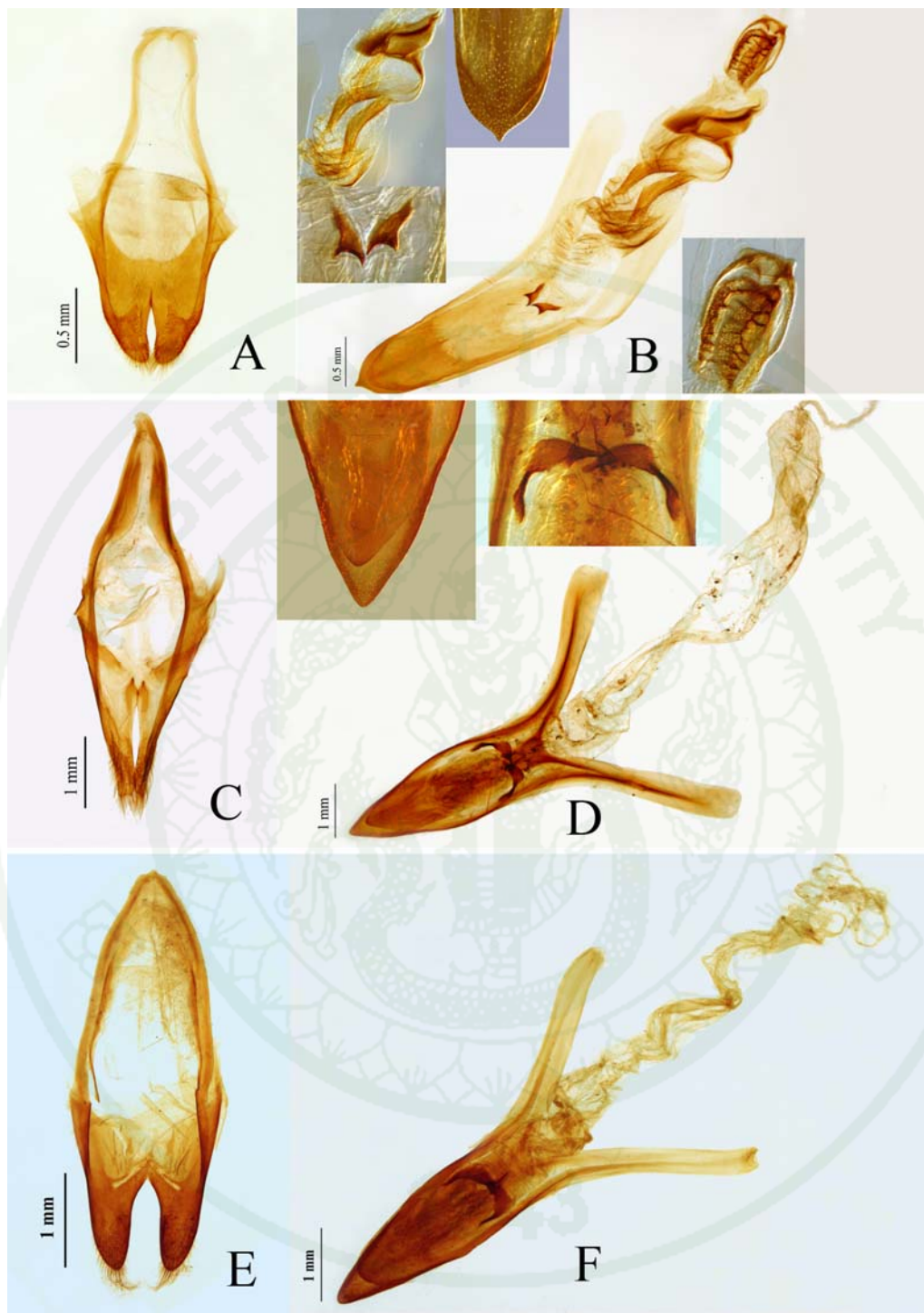


Figure 87 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Ipothalia pyrrha*

C-D. *Neocerambyx gigas*

E-F. *N. grandis*

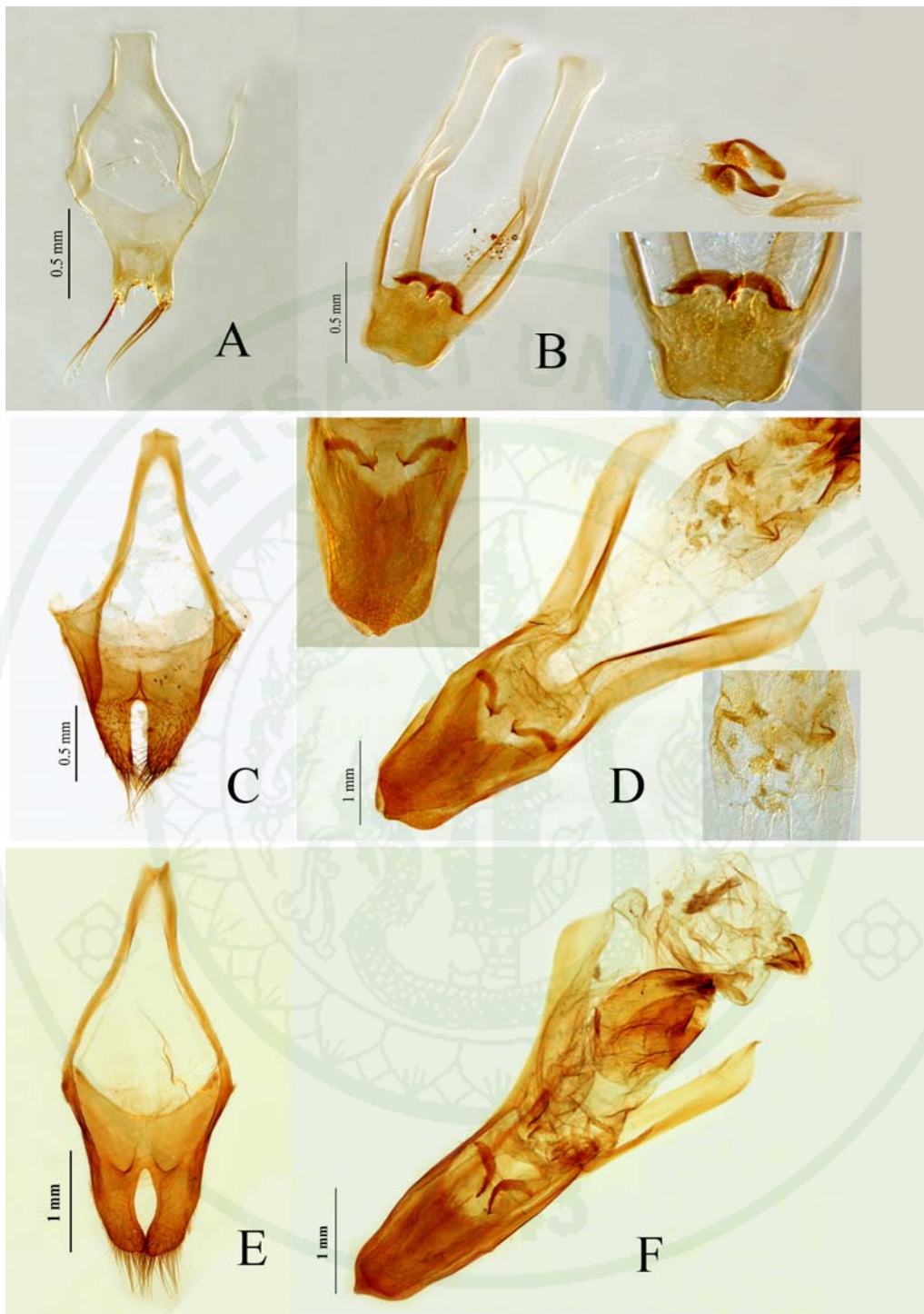


Figure 88 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Noserius tibialis*

C-D. *Scalenus hemipterus*

E-F. *S. drescheri*

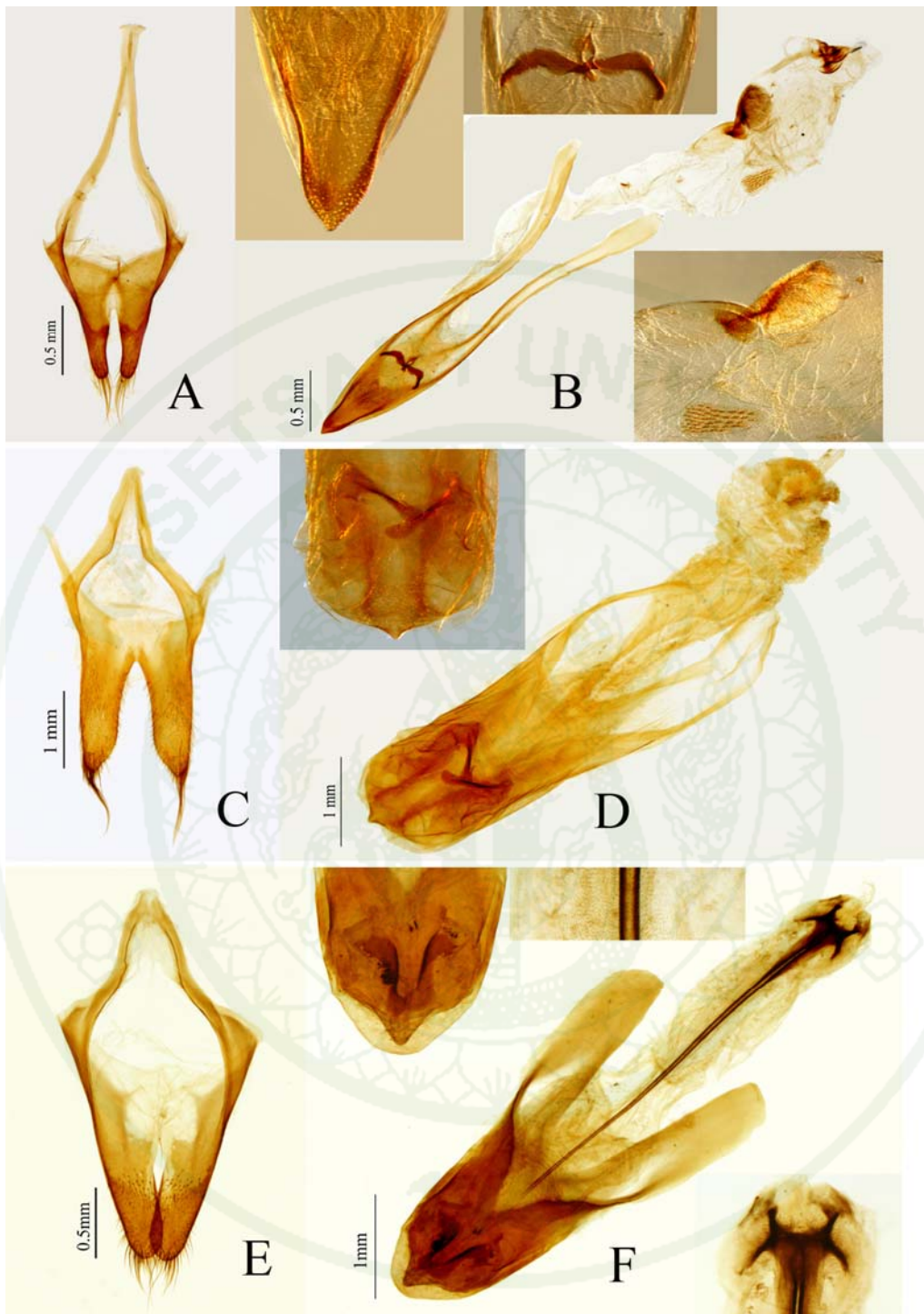


Figure 89 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Nyphasia pascoei*

C-D. *Oplatocera callidioides*

E-F. *O. oberthuri*

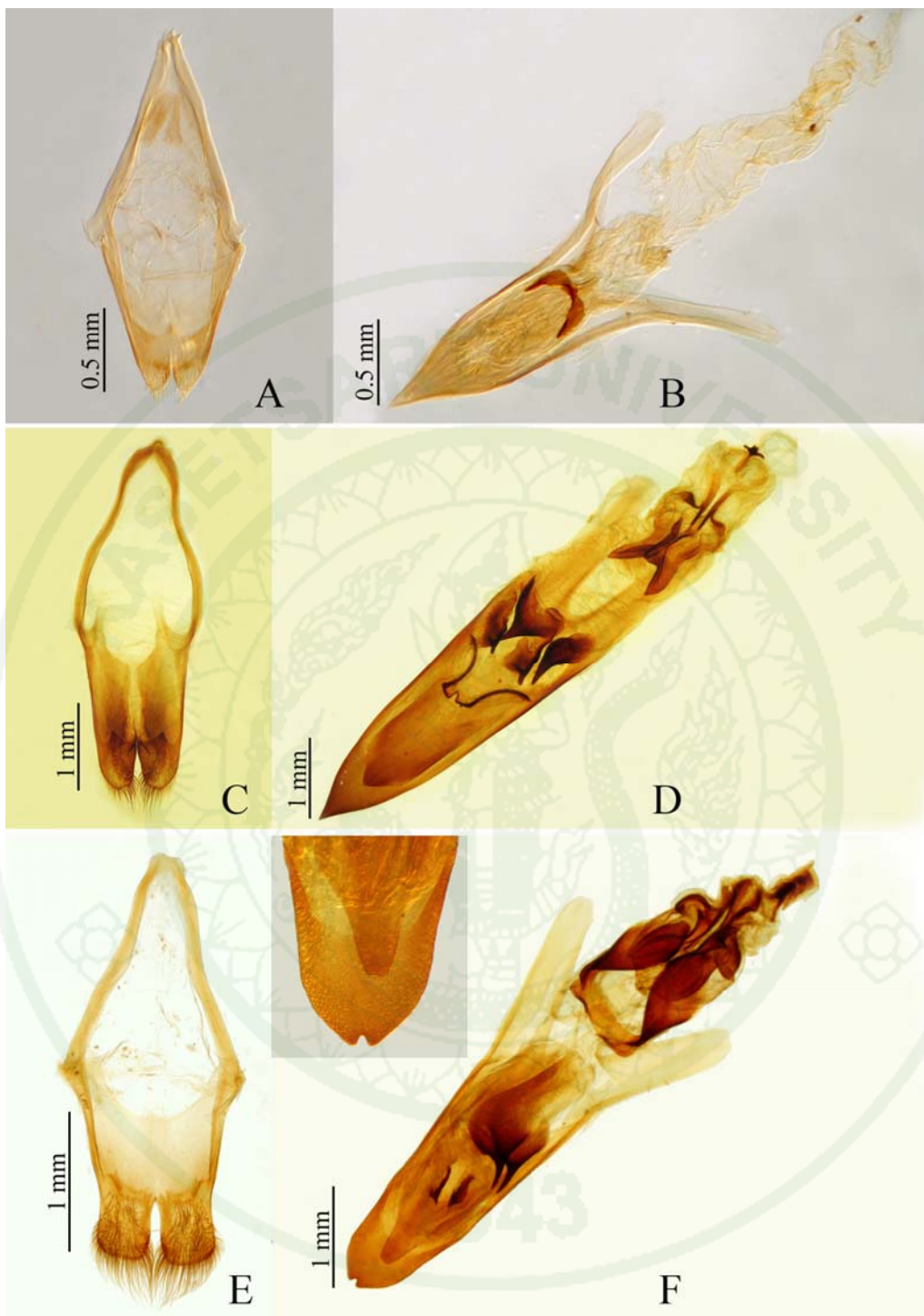


Figure 90 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Pachylocerus sulcatus*

C-D. *Pachyteria dimidiata*

E-F. *P. equestris*

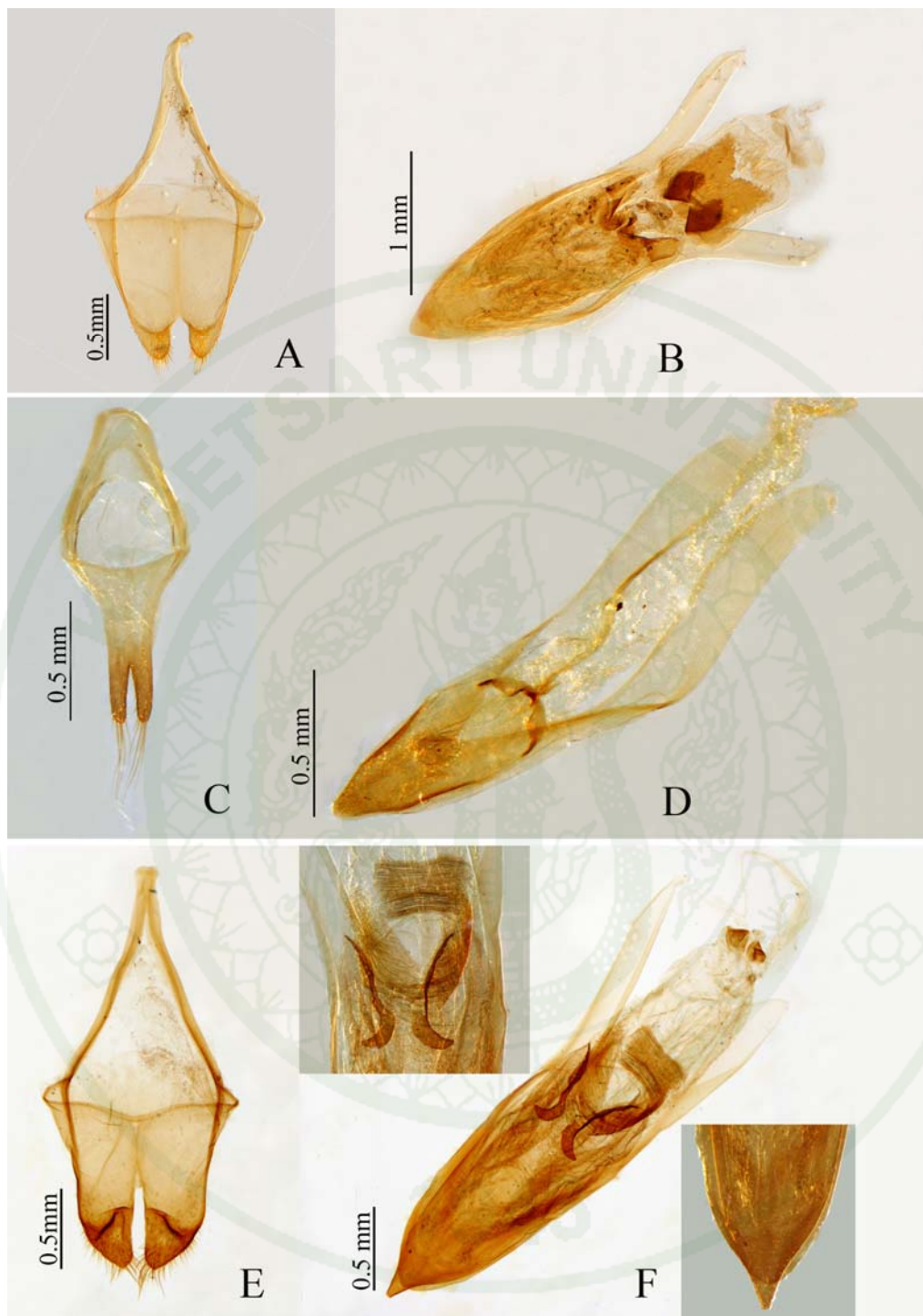


Figure 91 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Pavieia superba*

C-D. *Perissus mutabilis*

E-F. *Purpuricenus malaccensis*

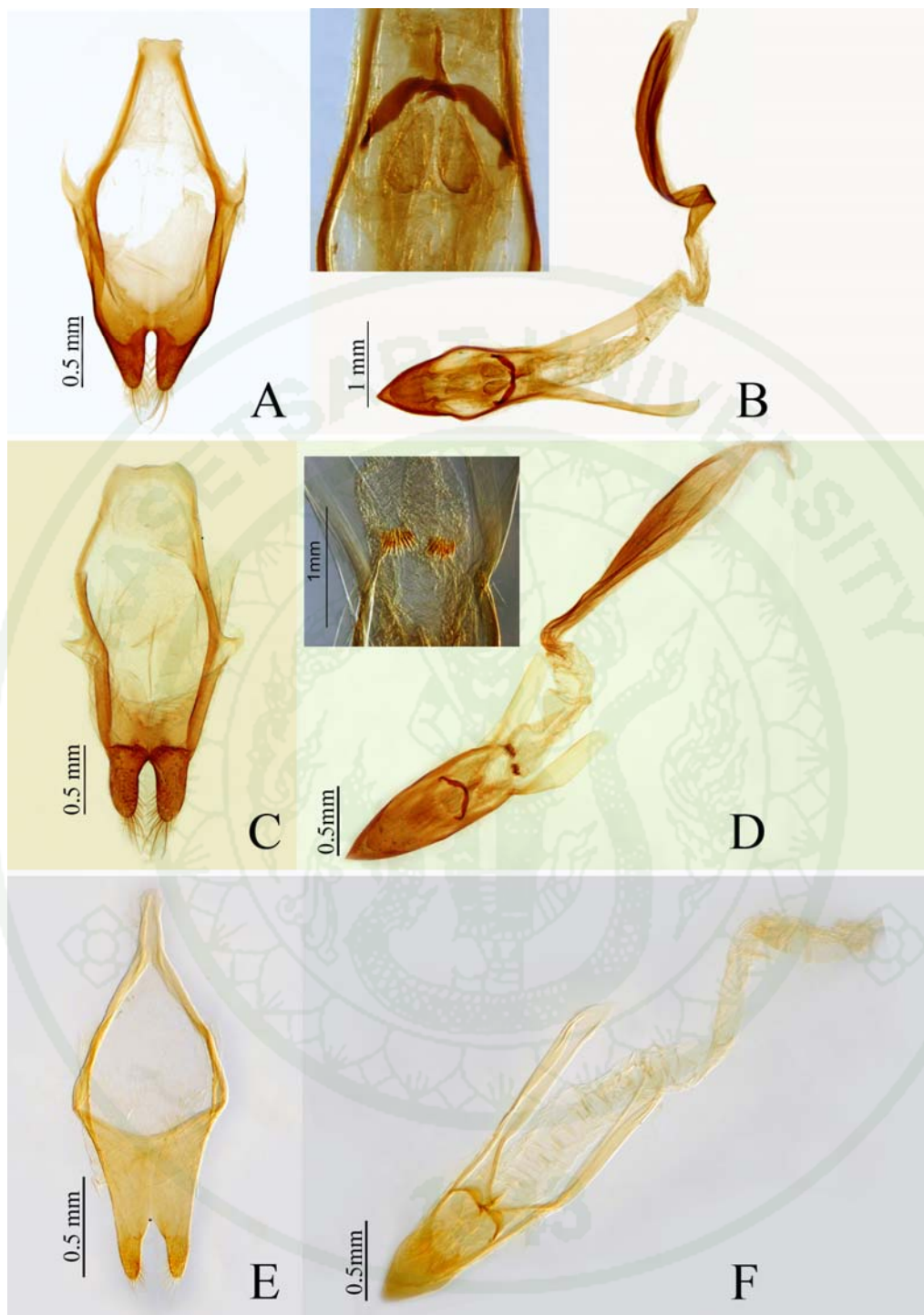


Figure 92 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Neoplocaederus obesus*

C-D. *N. ruficornis*

E-F. *Stromatium longicorne*

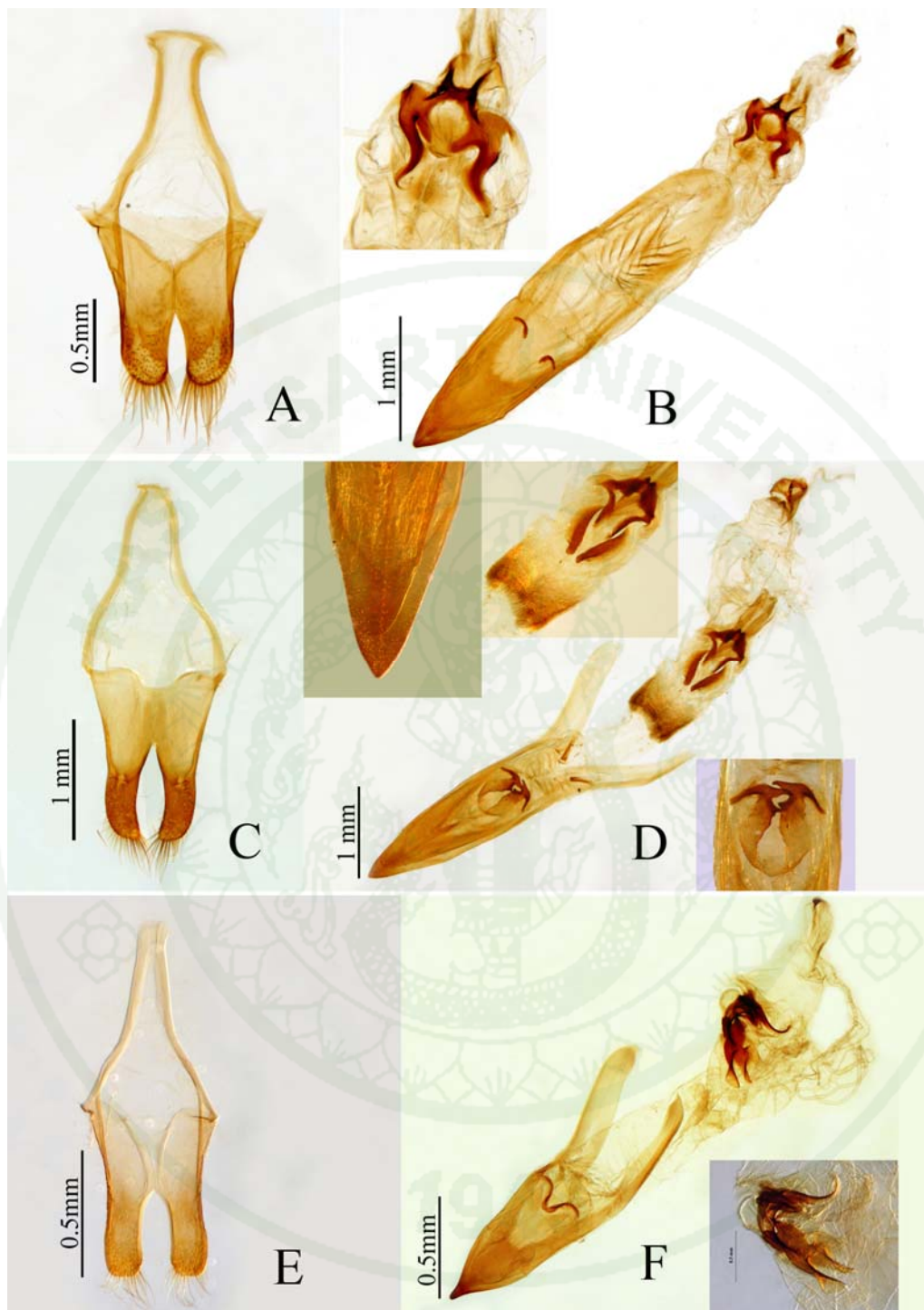


Figure 93 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Polyzonus flavocinctus*

C-D. *P. watosoni*

E-F. *P. subotusus*

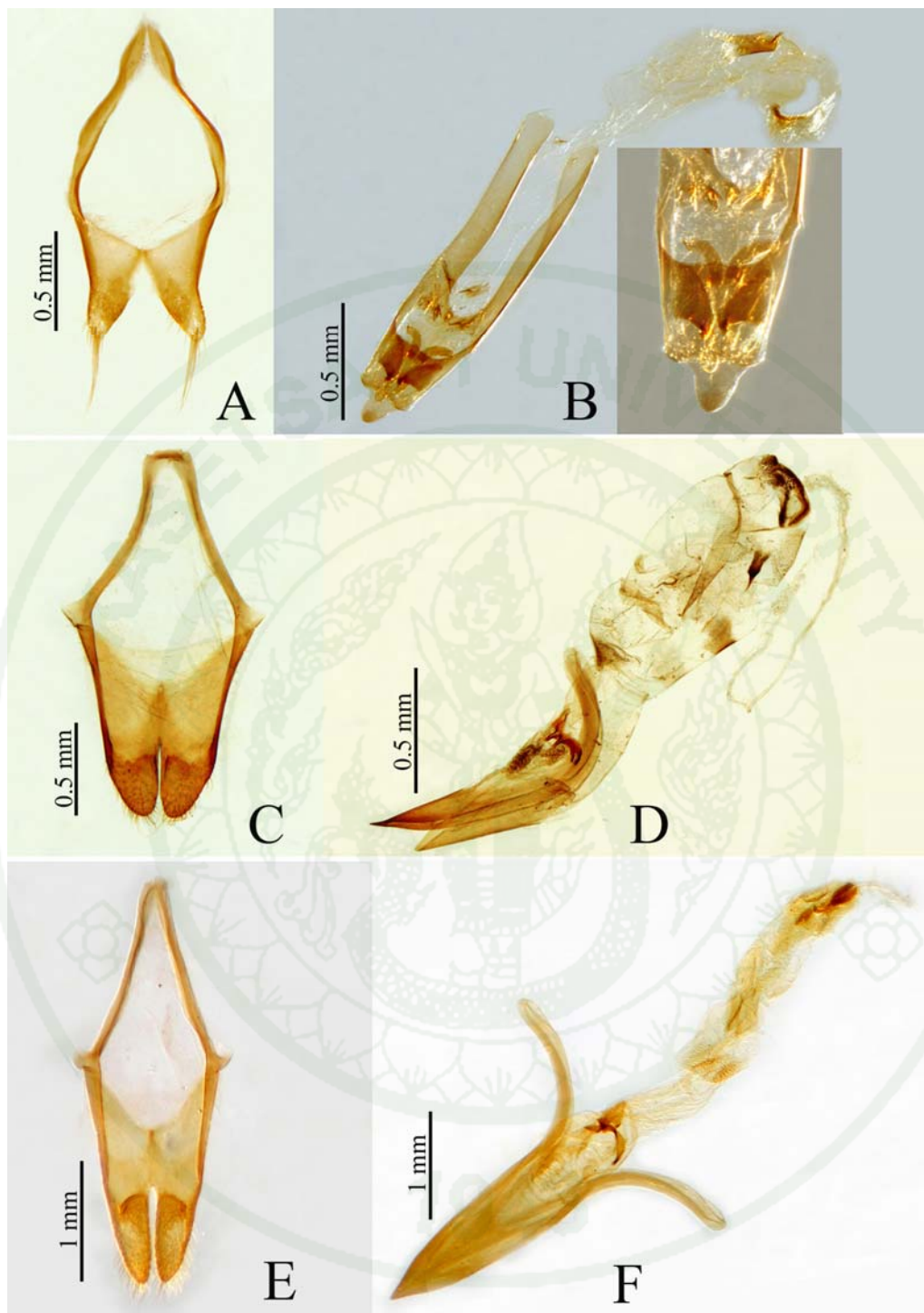


Figure 94 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Polyphida metallica*

C-D. *Prothema aurata*

E-F. *P. laosensis*

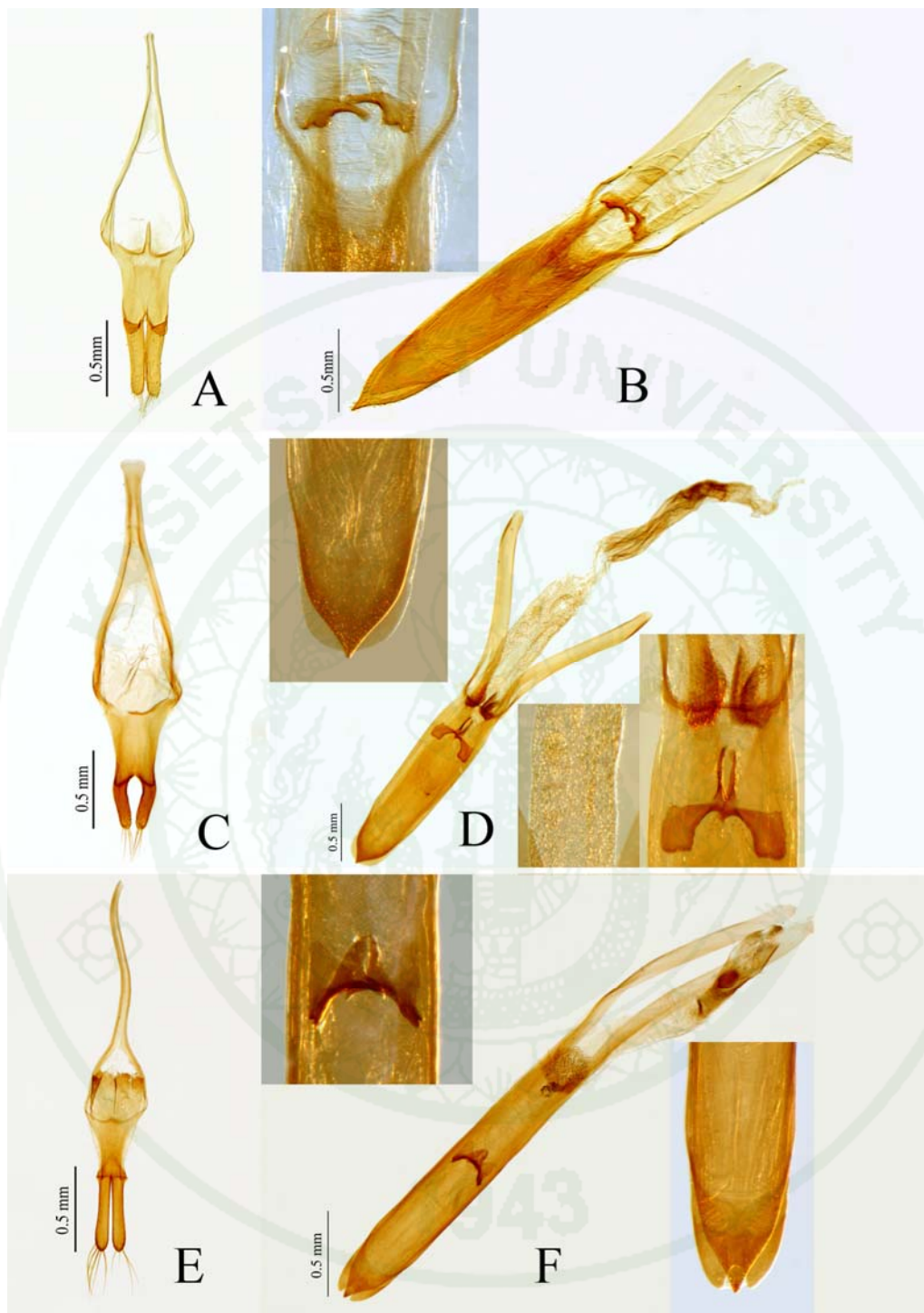


Figure 95 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Rhabdophaga binhensis*

C-D. *R. clarina*

E-F. *R. diana*



Figure 96 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Rhipidura falx*

C-D. *R. mekongae*

E-F. *R. pseudobinhensis*

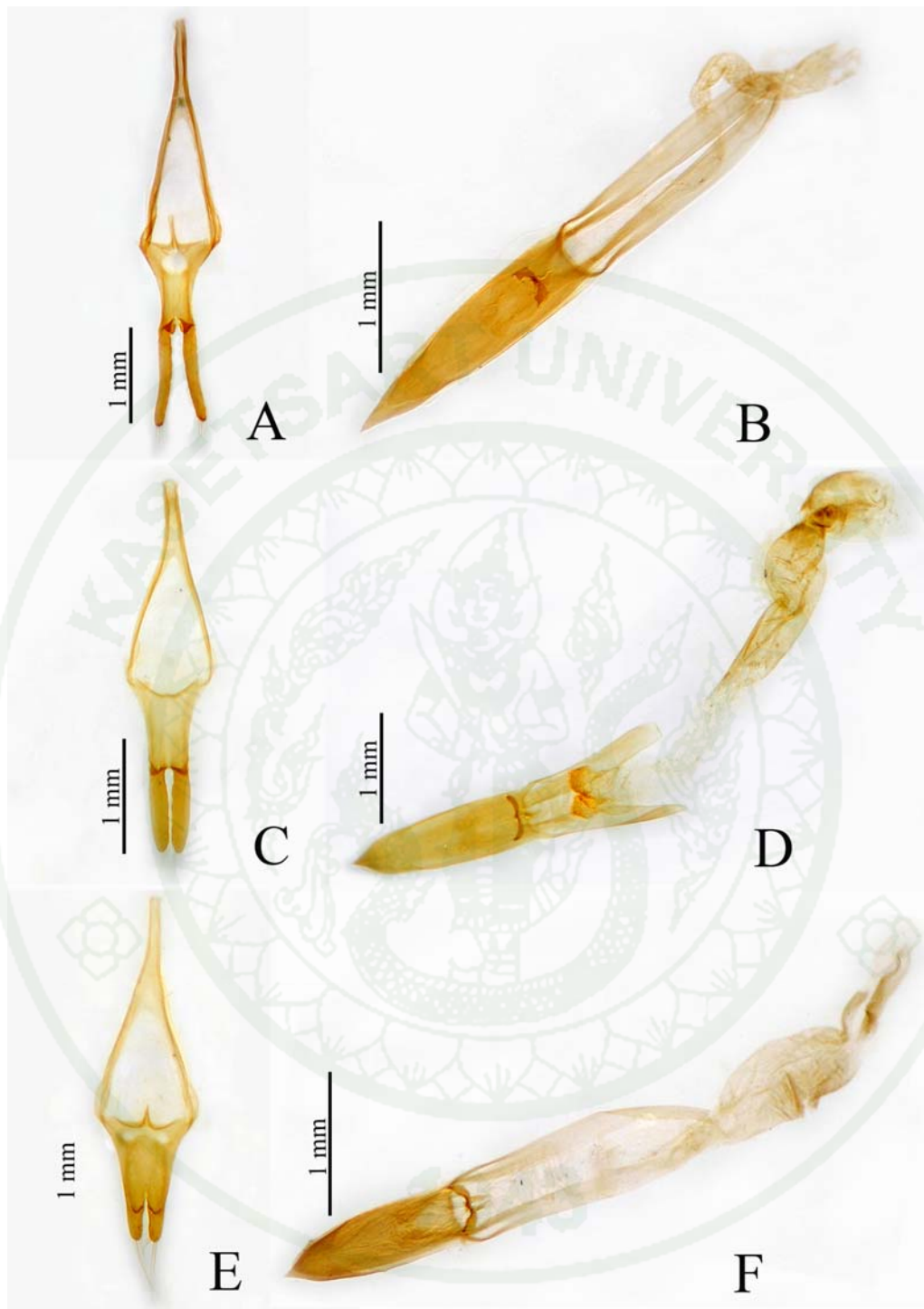


Figure 97 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Rhaphuma indifferens*

C-D. *R. aequalis*

E-F. *R. gilvitaris*

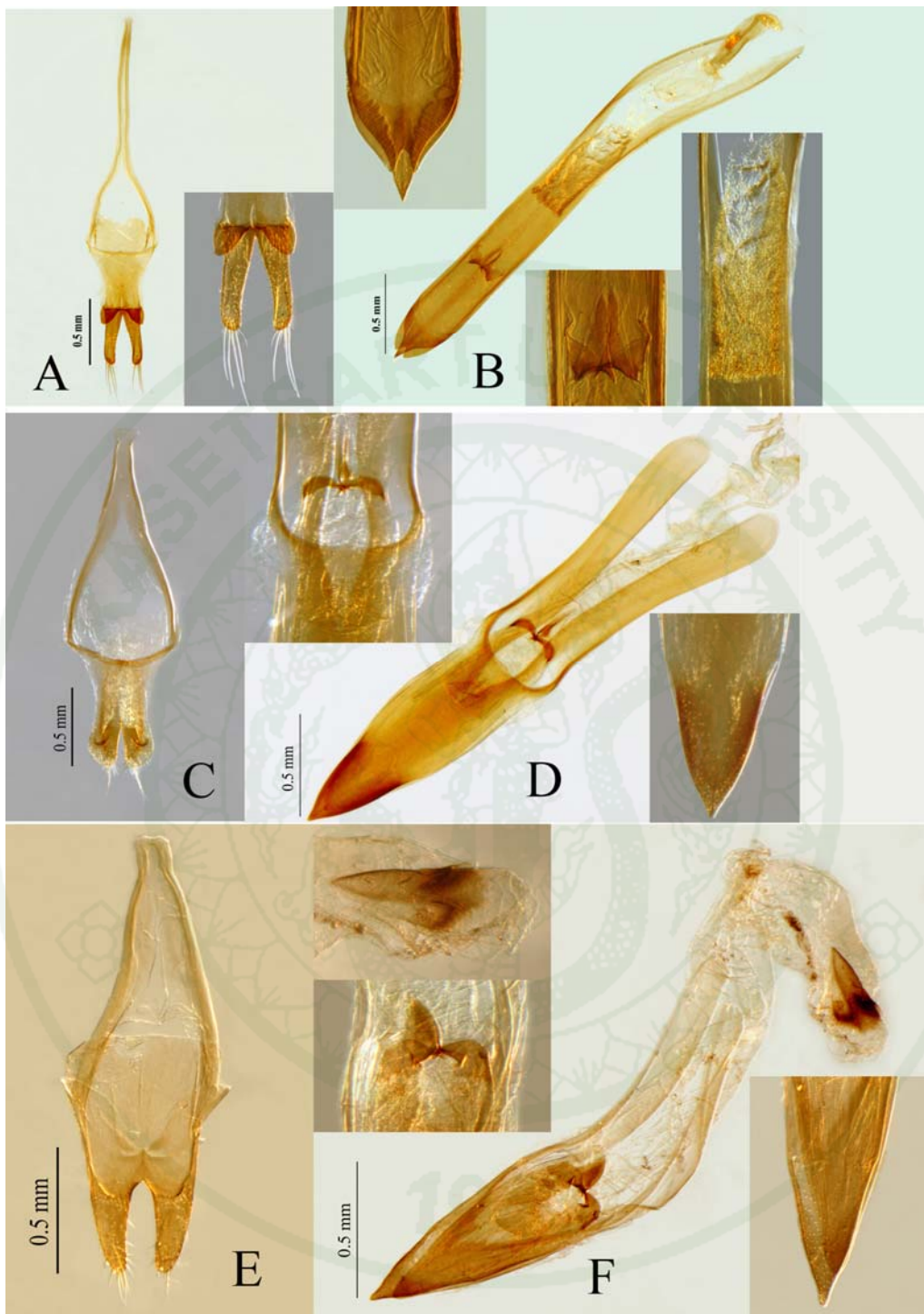


Figure 98 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Raphuma patkaina*

C-D. *R. tricolor*

E-F. *Ceresium leucosticticum*

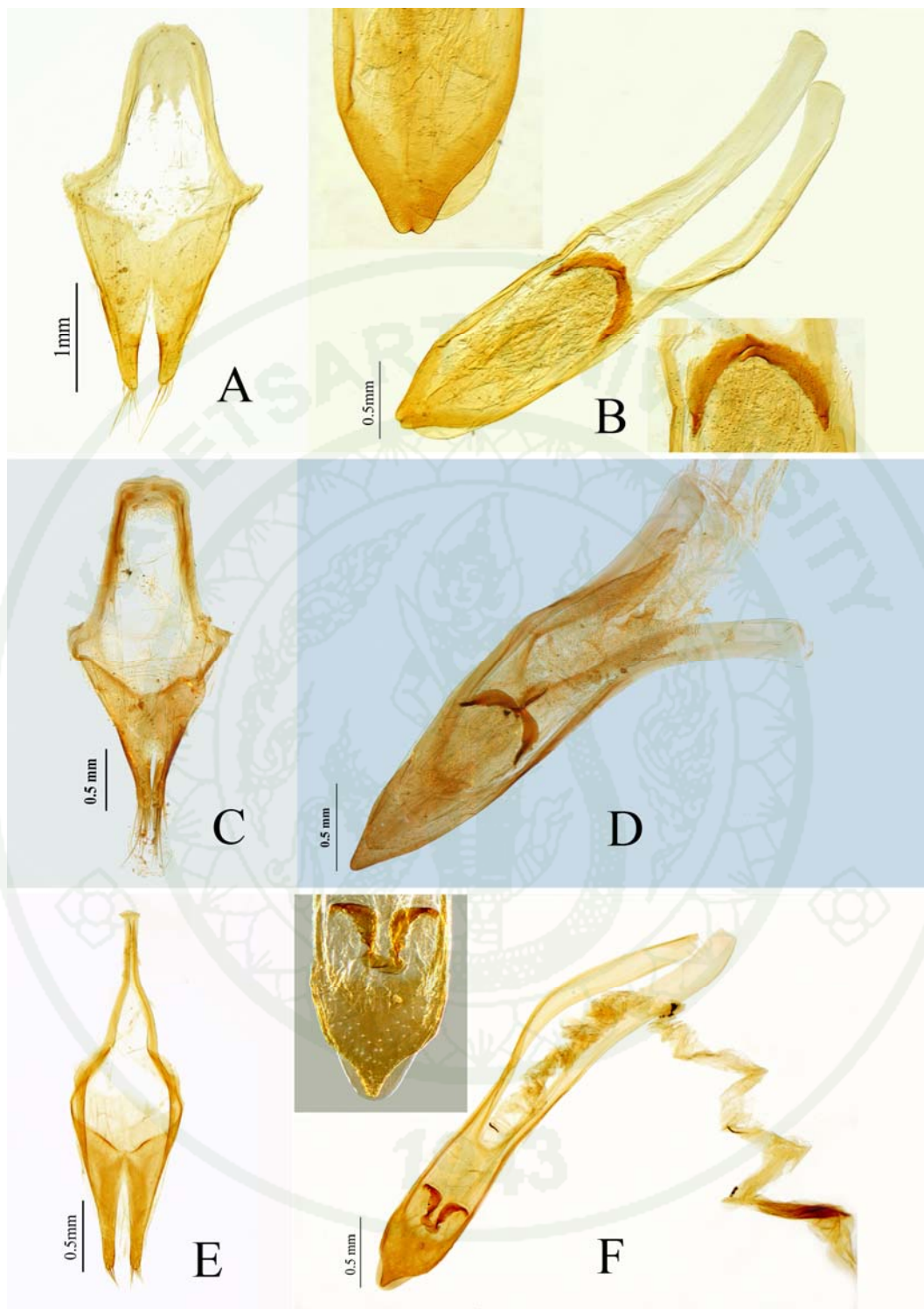


Figure 99 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Rhytidodera grandis*

C-D. *R. integra*

E-F. *Zoodes fulguratus*



Figure 100 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Rosalia decempunctata*

C-D. *R. formosa*

E-F. *R. lameerei*

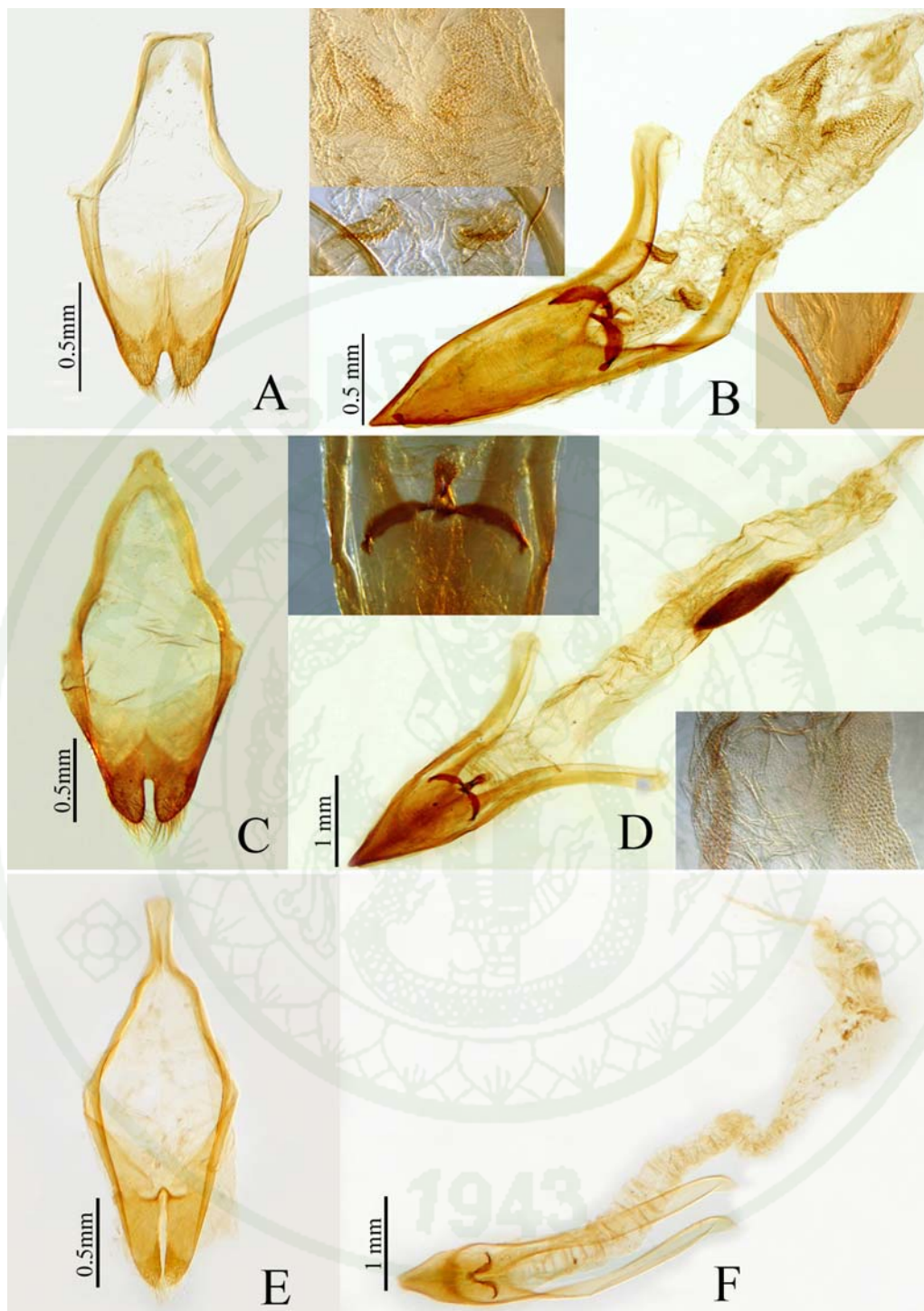


Figure 101 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Xoanoderes regularis*

C-D. *X. striata*

E-F. *Gnatholea eburifera*

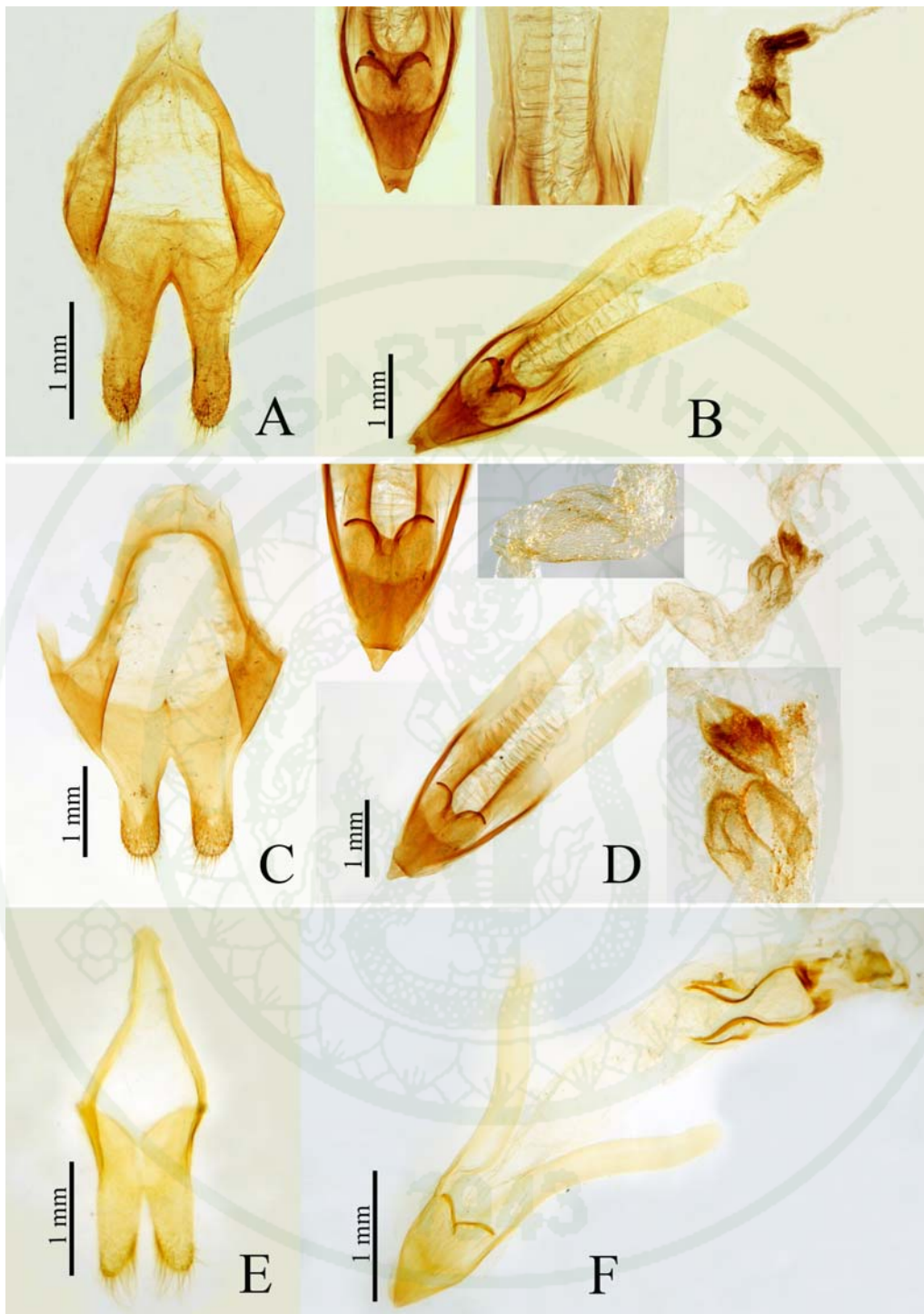


Figure 102 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Xystrocera festiva*

C-D. *X. globosa*

E-F. *Anubis bipustulatus*

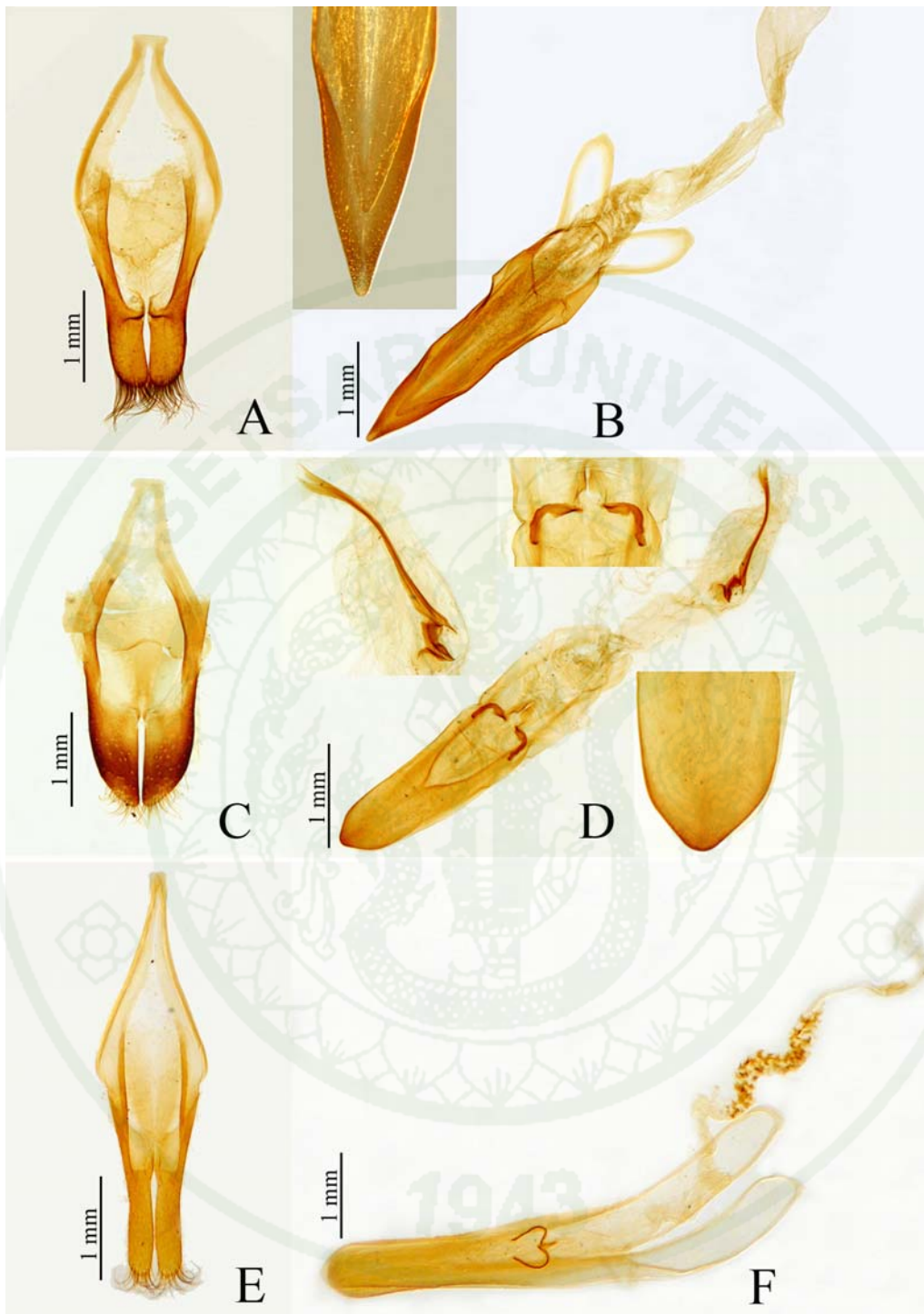


Figure 103 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Abryna regispetri*

C-D. *Alidus biplagiatus*

E-F. *Leptomesosa cephalotes*



Figure 104 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Agelasta mouhoti*

C-D. *A. bifasciana*

E-F. *A. birmanica*

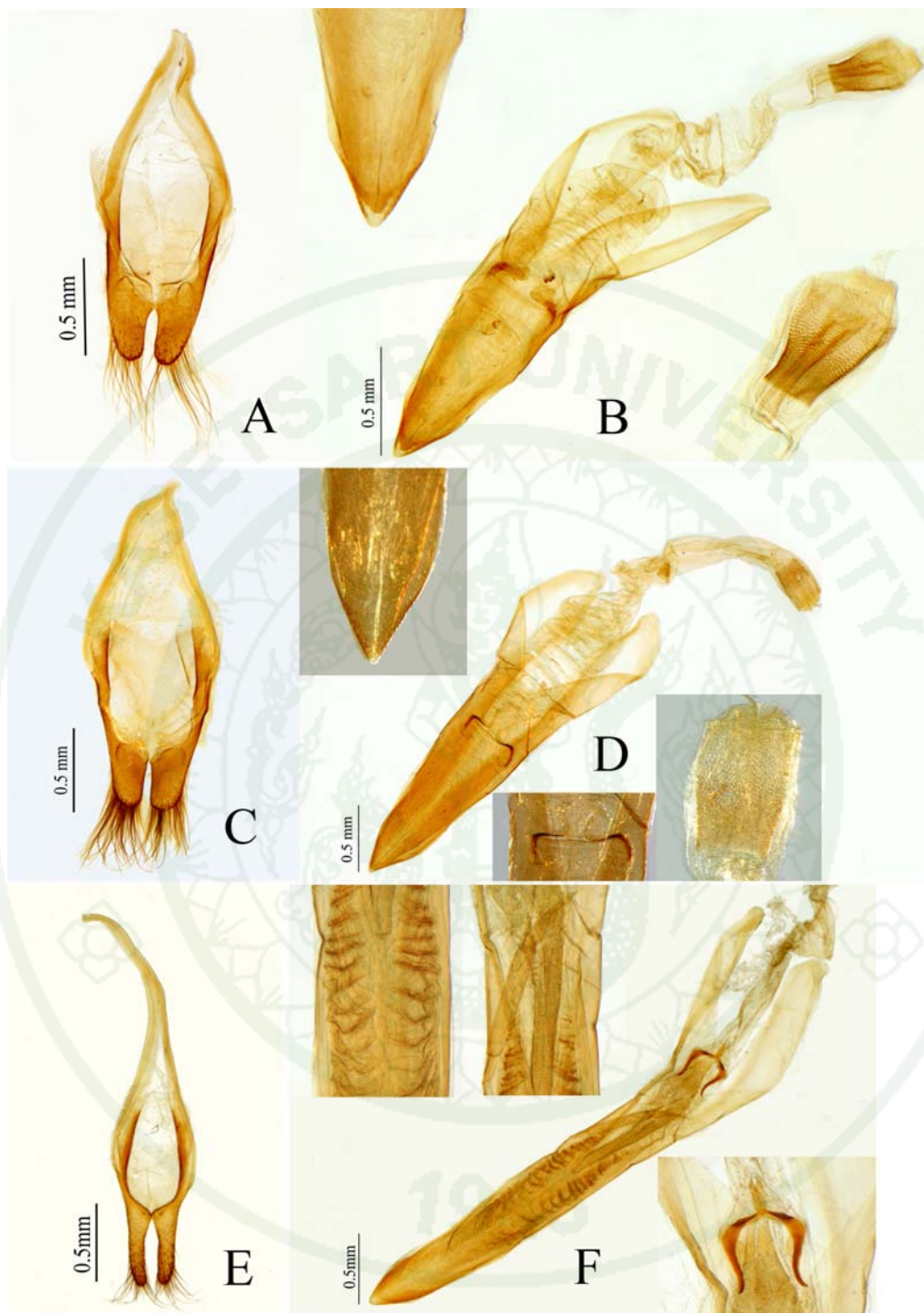


Figure 105 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Anamera alboguttata*

C-D. *A. desemaculata*

E-F. *Microlenecamptus signatus*

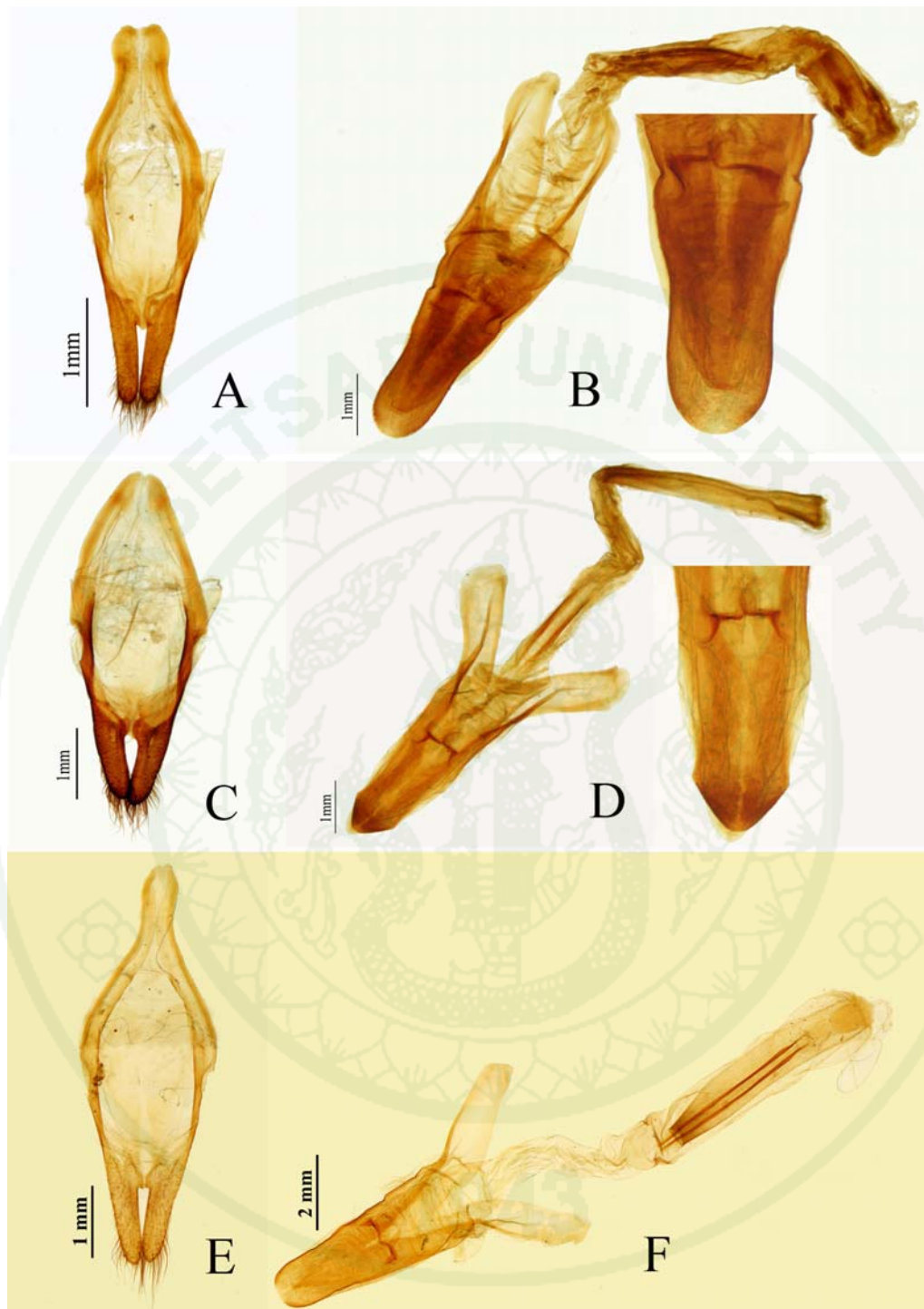


Figure 106 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Anoplophora elegans*

C-D. *A. horsfieldii*

E-F. *A. medenbachii*

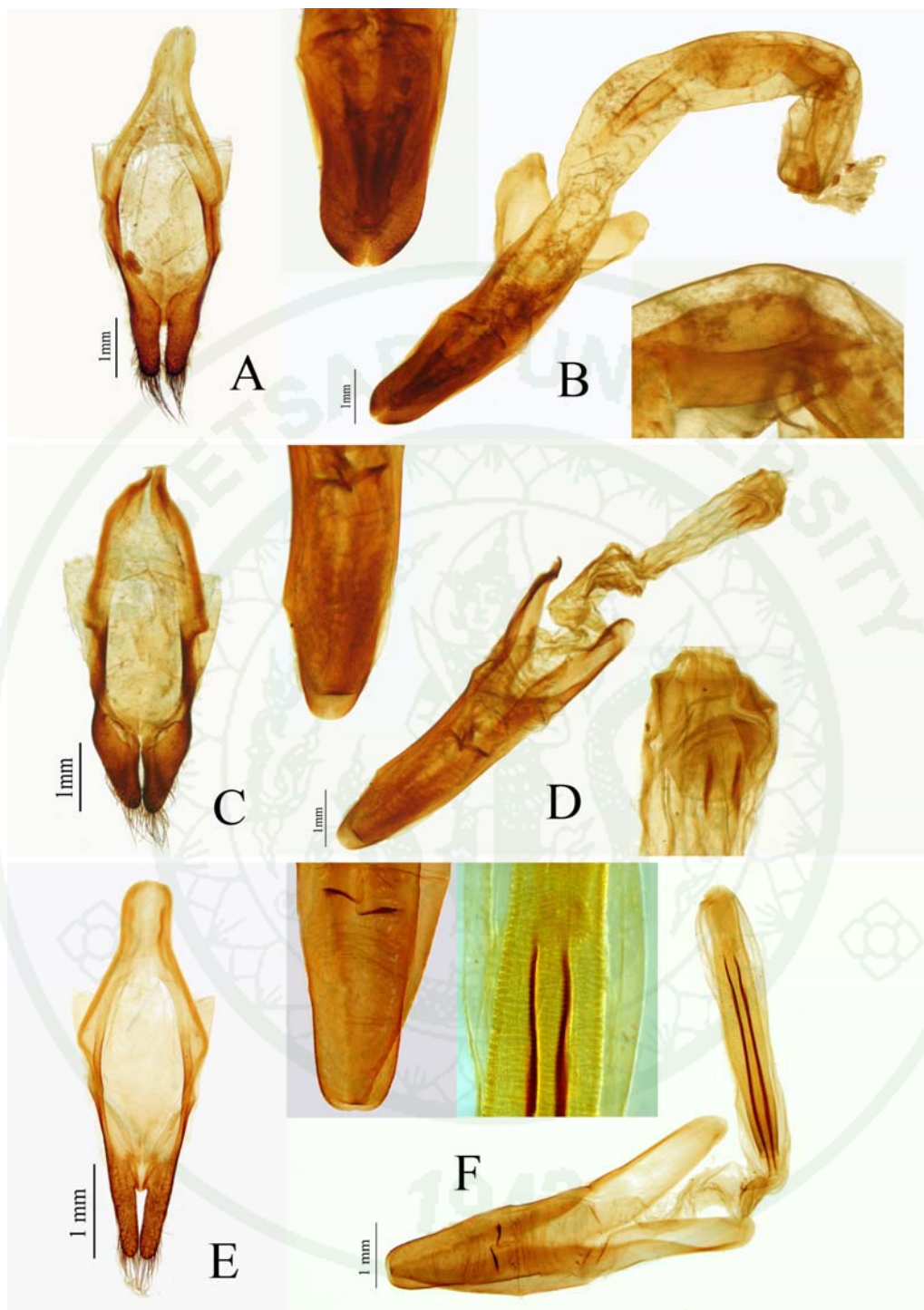


Figure 107 Male genitalia. Tegmen, nedian lobe and internal sac:

A-B. *Anoplophora longehirsuta*

C-D. *A. solii*

E-F. *A. zonator*

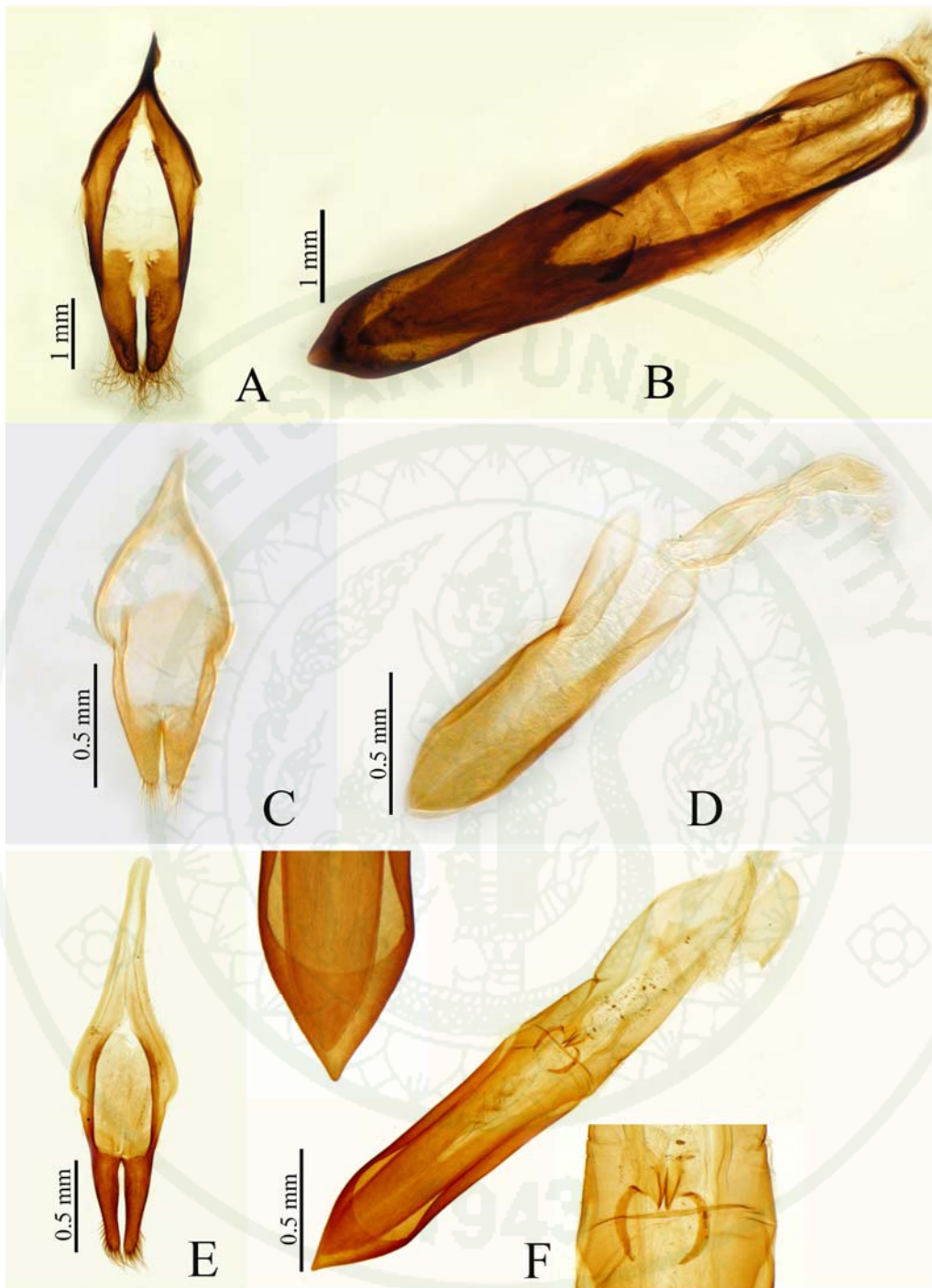


Figure 108 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Xylorhiza adusta*

C-D. *Apomecyna cretacea*

E-F. *Cacia cretifera luteofasciata*

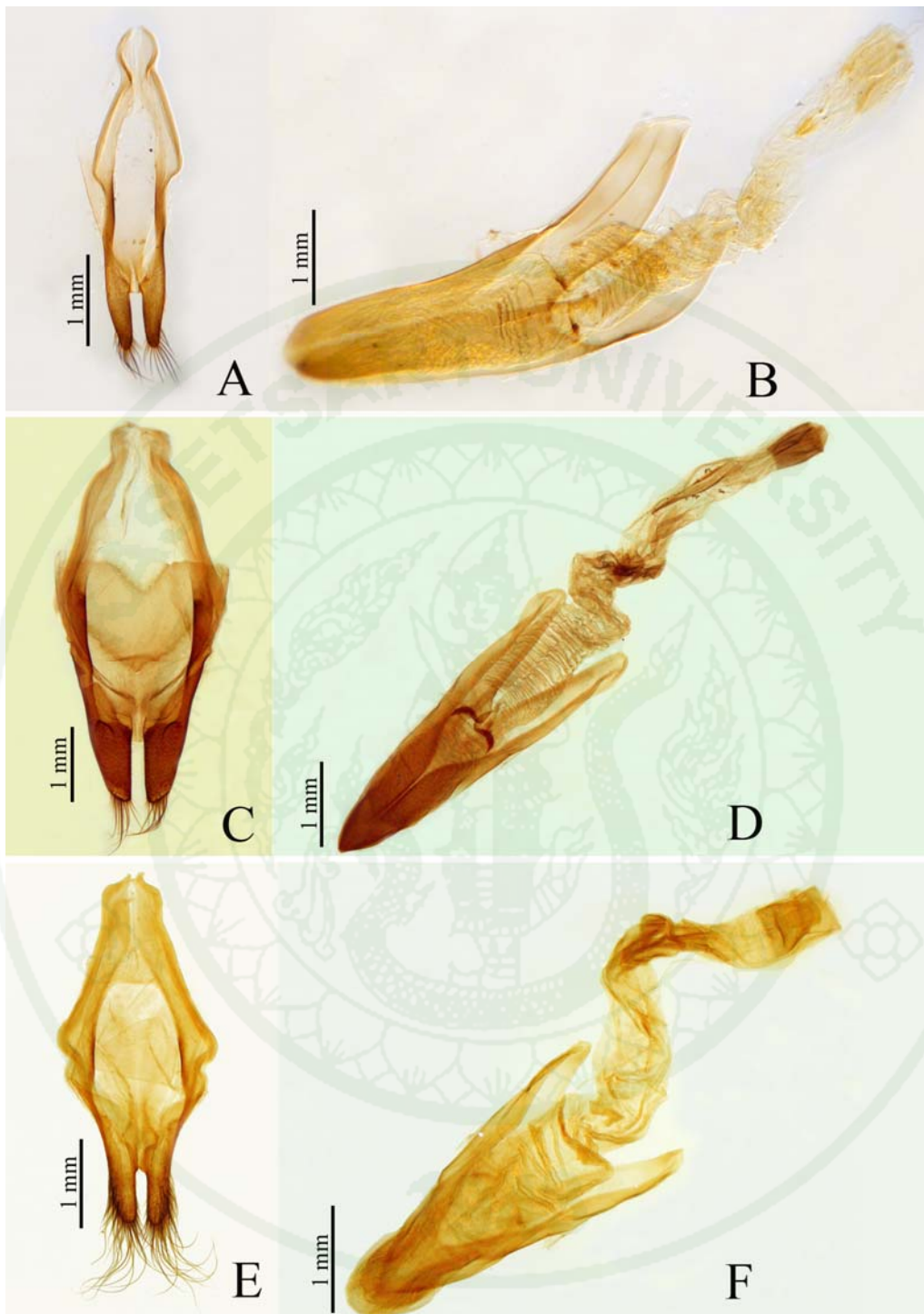


Figure 109 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Aristobia approximator*

C-D. *A. horridula*

E-F. *A. voeti*

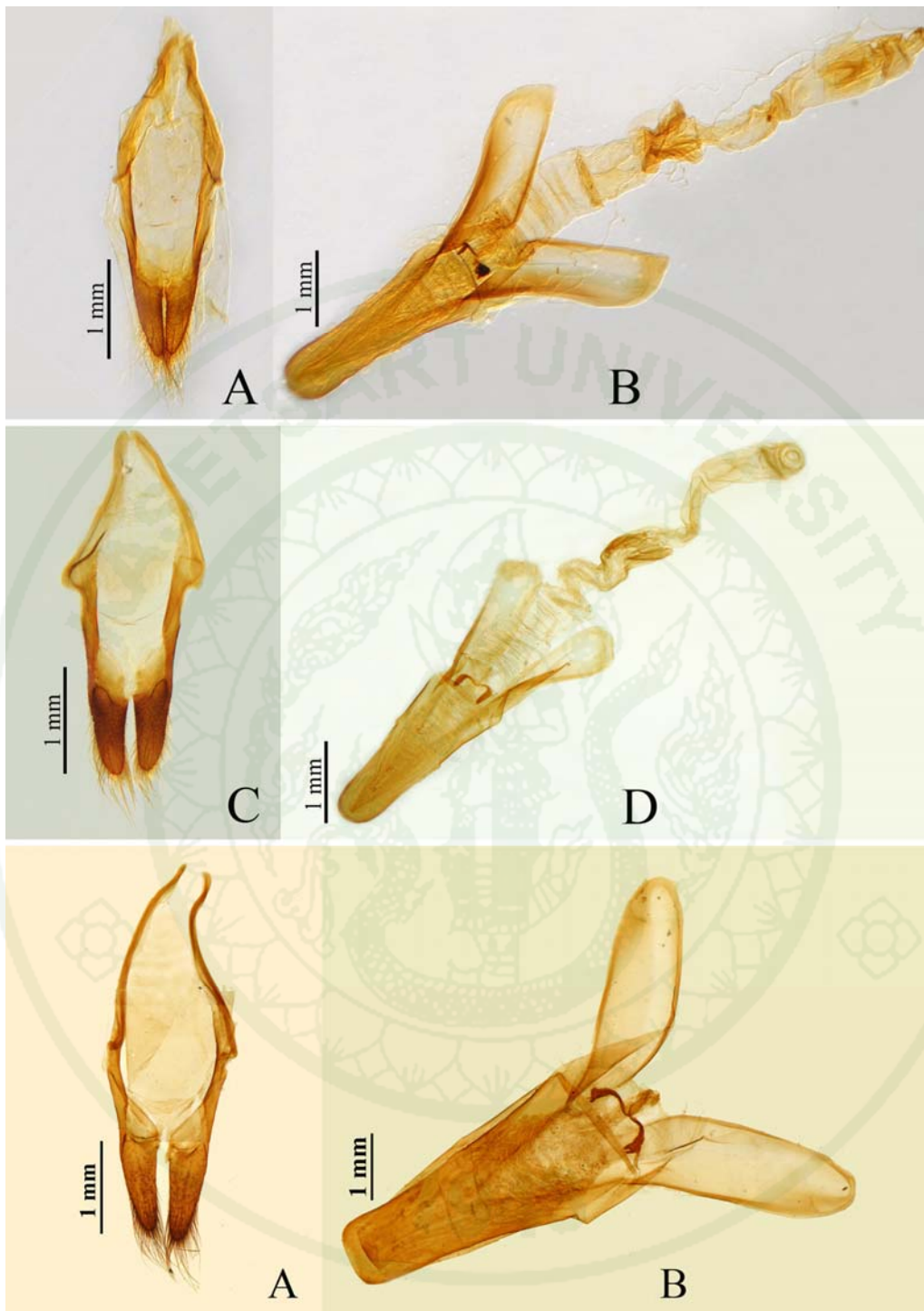


Figure 110 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Arctolamia cruciatus*

C-D. *A. fasciata*

E-F. *A. fruhstorferi*

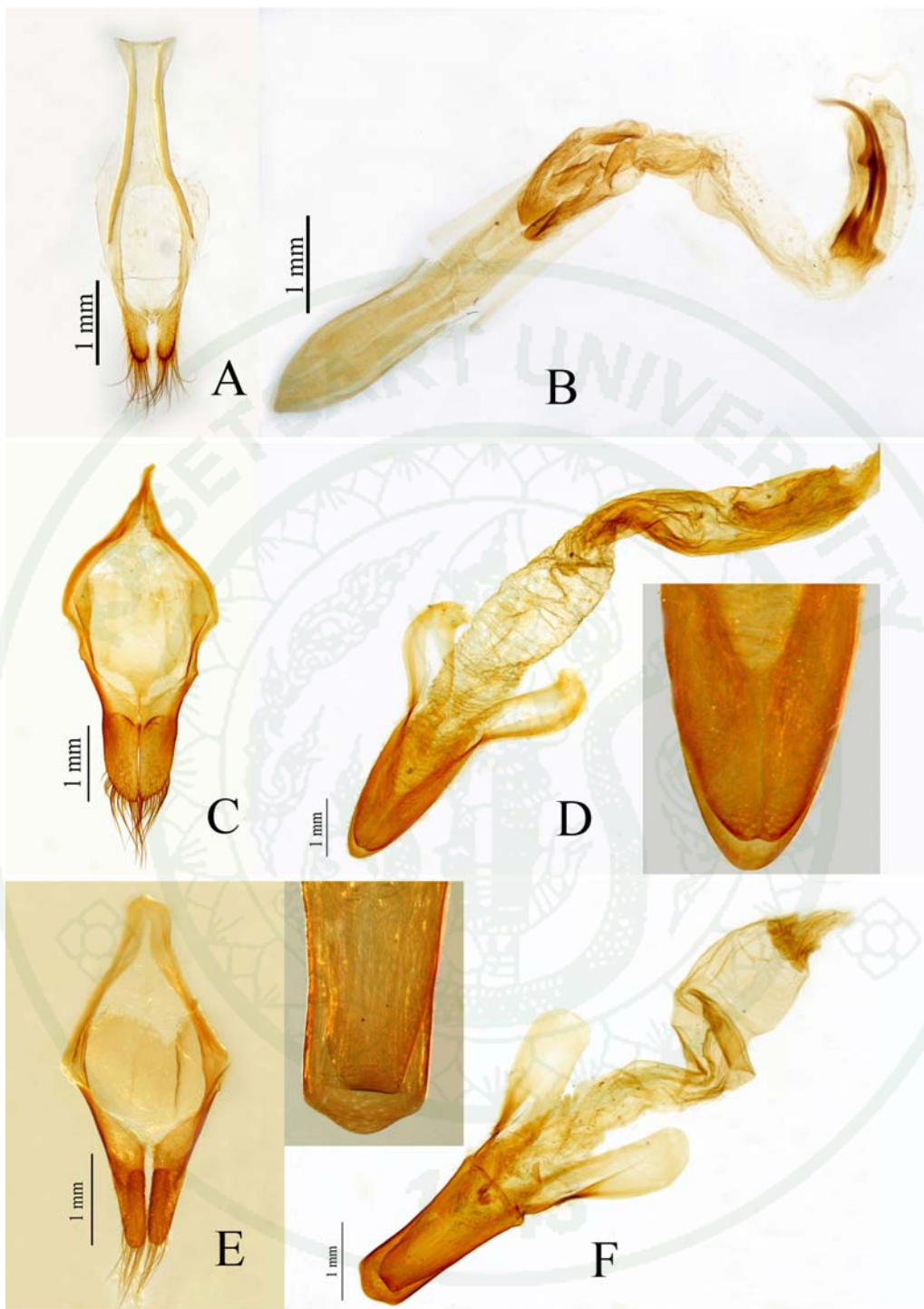


Figure 111 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Stibara tricolor*

C-D. *Apriona germari*

E-F. *A. swainsoni*

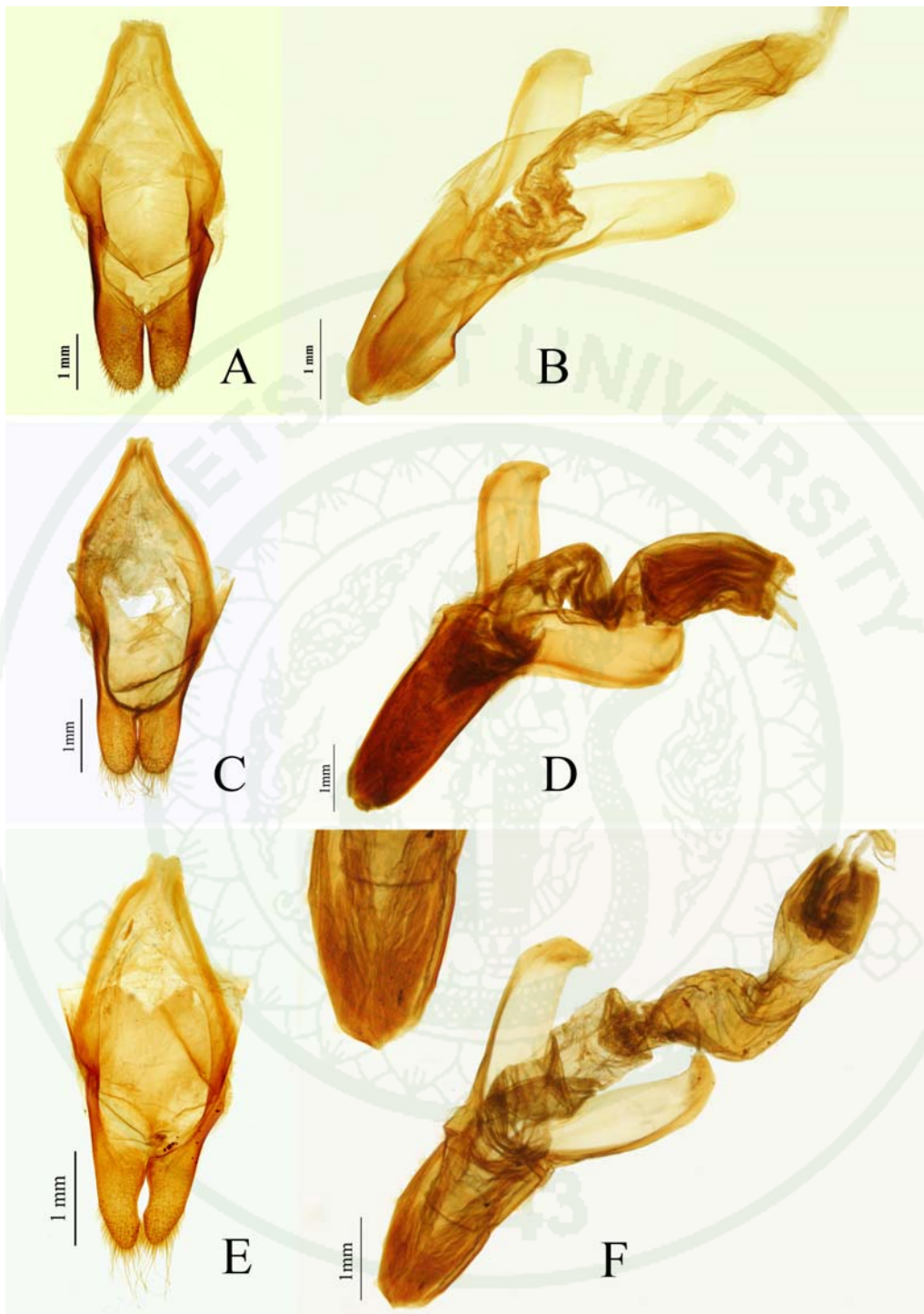


Figure 112 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Batocera parryi*

C-D. *B. roylei*

E-F. *B. rubus*

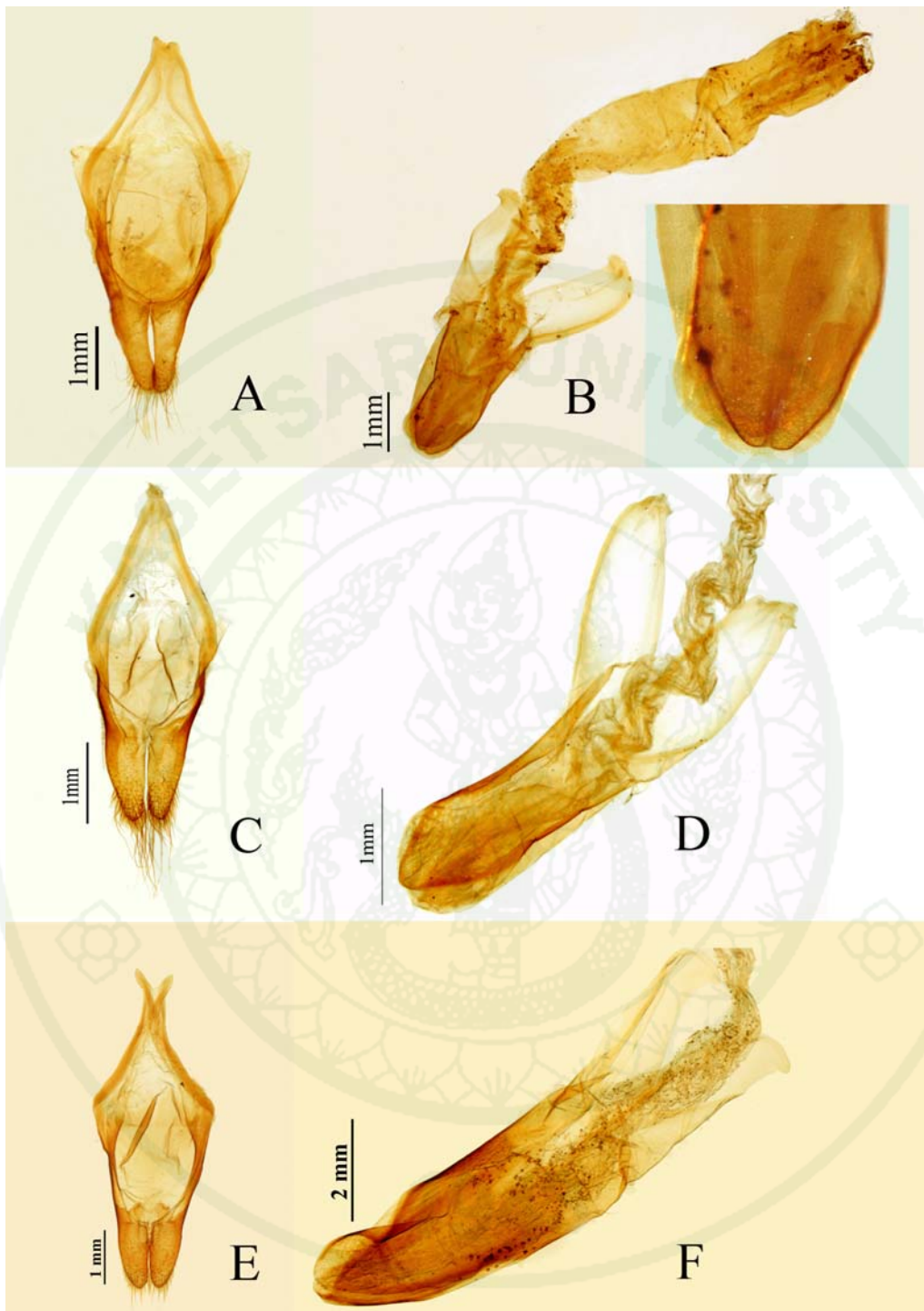


Figure 113 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Batocera rufomaculata*

C-D. *B. davidis*

E-F. *B. lineolata*

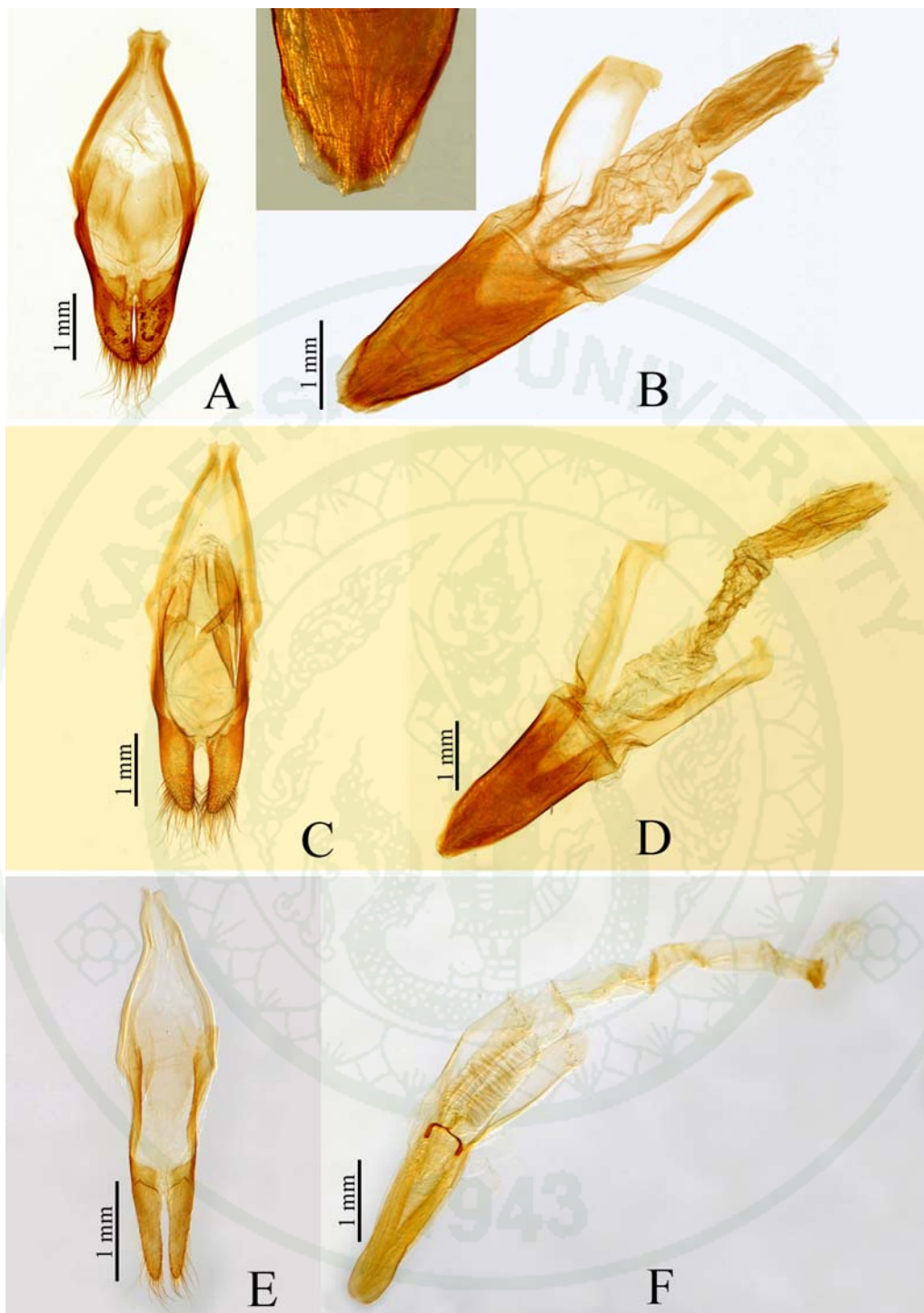


Figure 114 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Batocera thomsonii*

C-D. *B. numitor*

E-F. *Acalolepta pseudospeciosa*

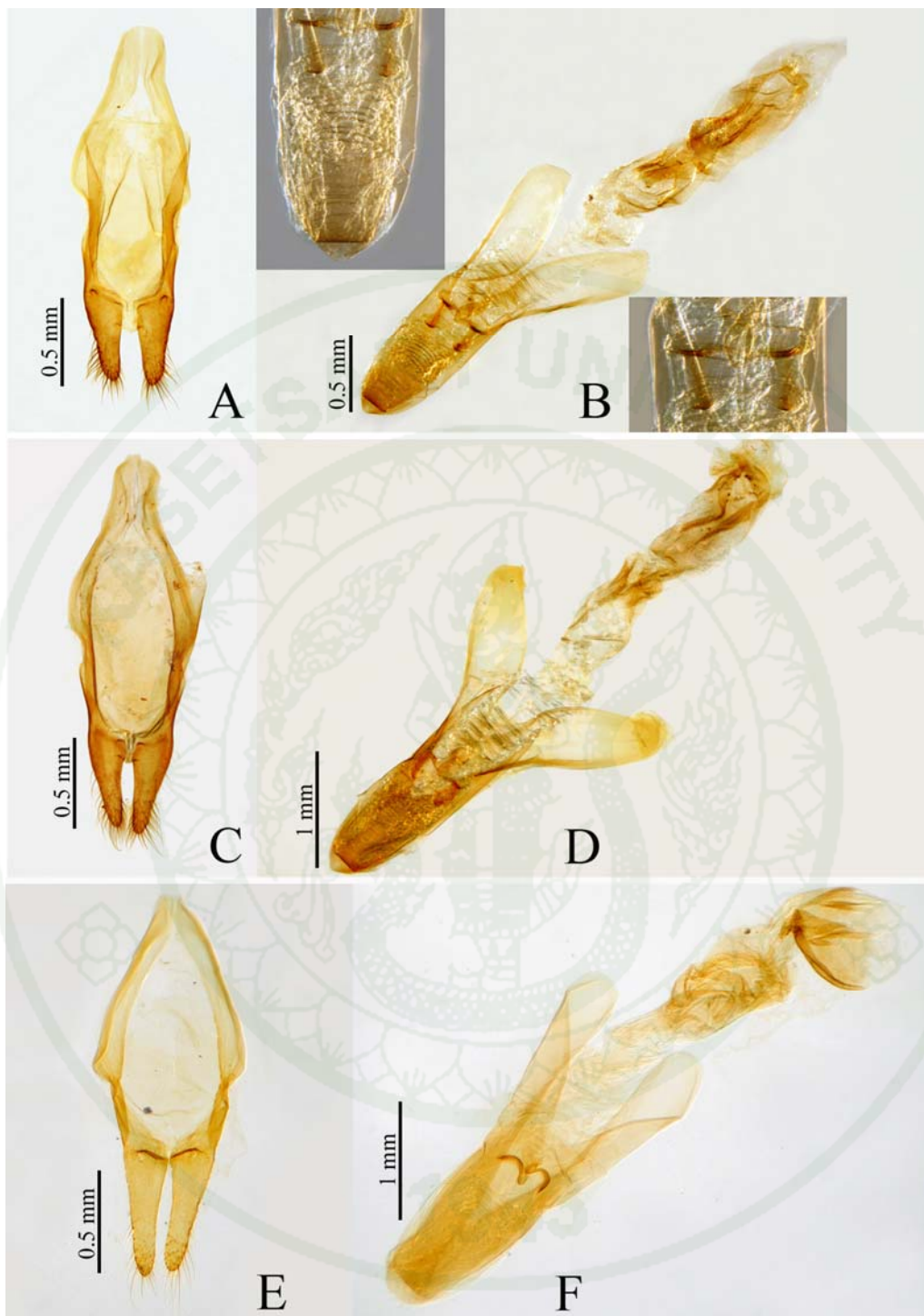


Figure 115 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Blepephaeus ocellatus*

C-D. *B. succinator*

E-F. *Hoplothrix ruvulosus*

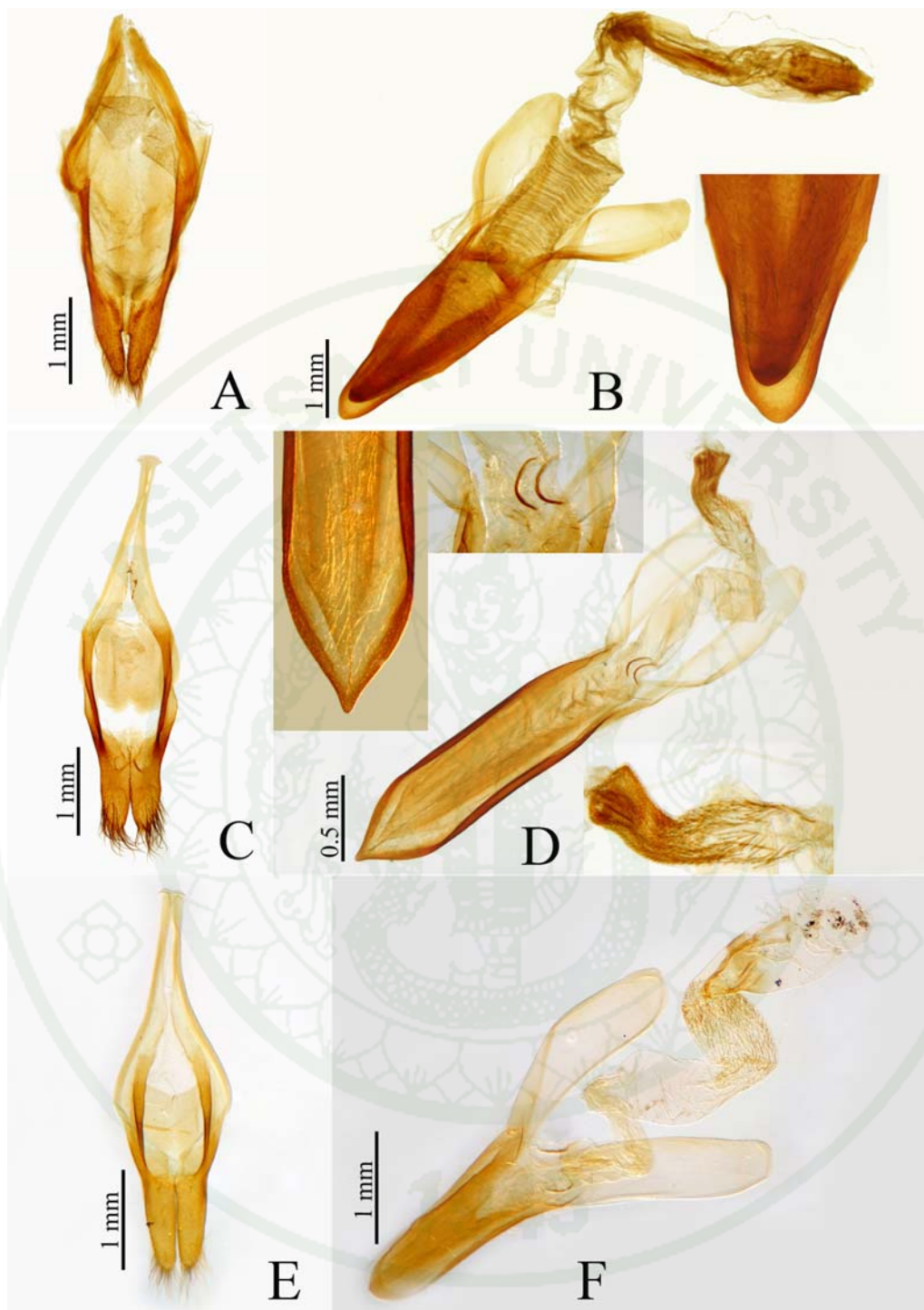


Figure 116 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Celosterna pollinosa sulphurea*

C-D. *Coptops annulipes*

E-F. *C. pascoei*

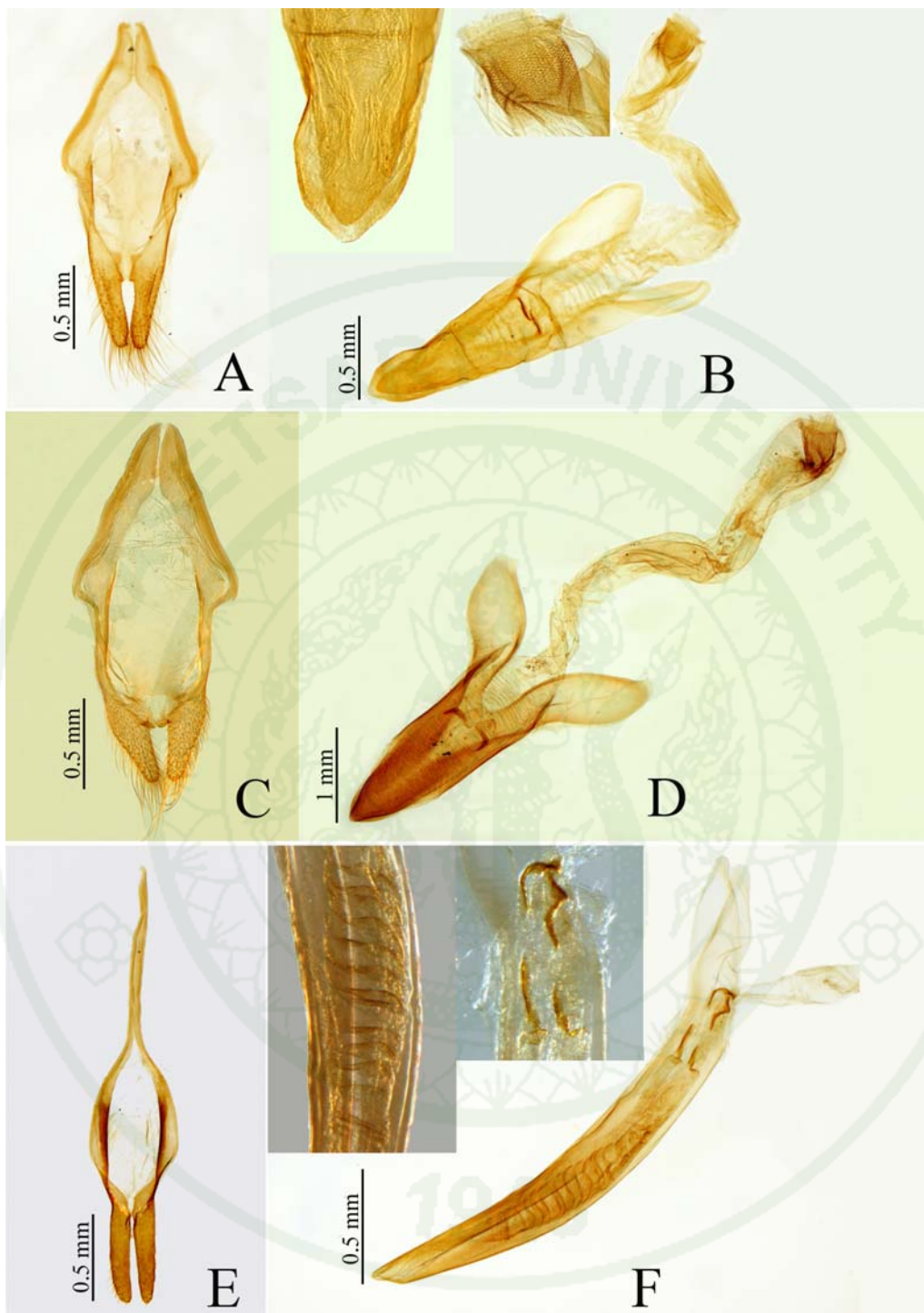


Figure 117 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Cremnosterna plagiata*

C-D. *C. carrisima*

E-F. *Cylandrecamptus lineatus*

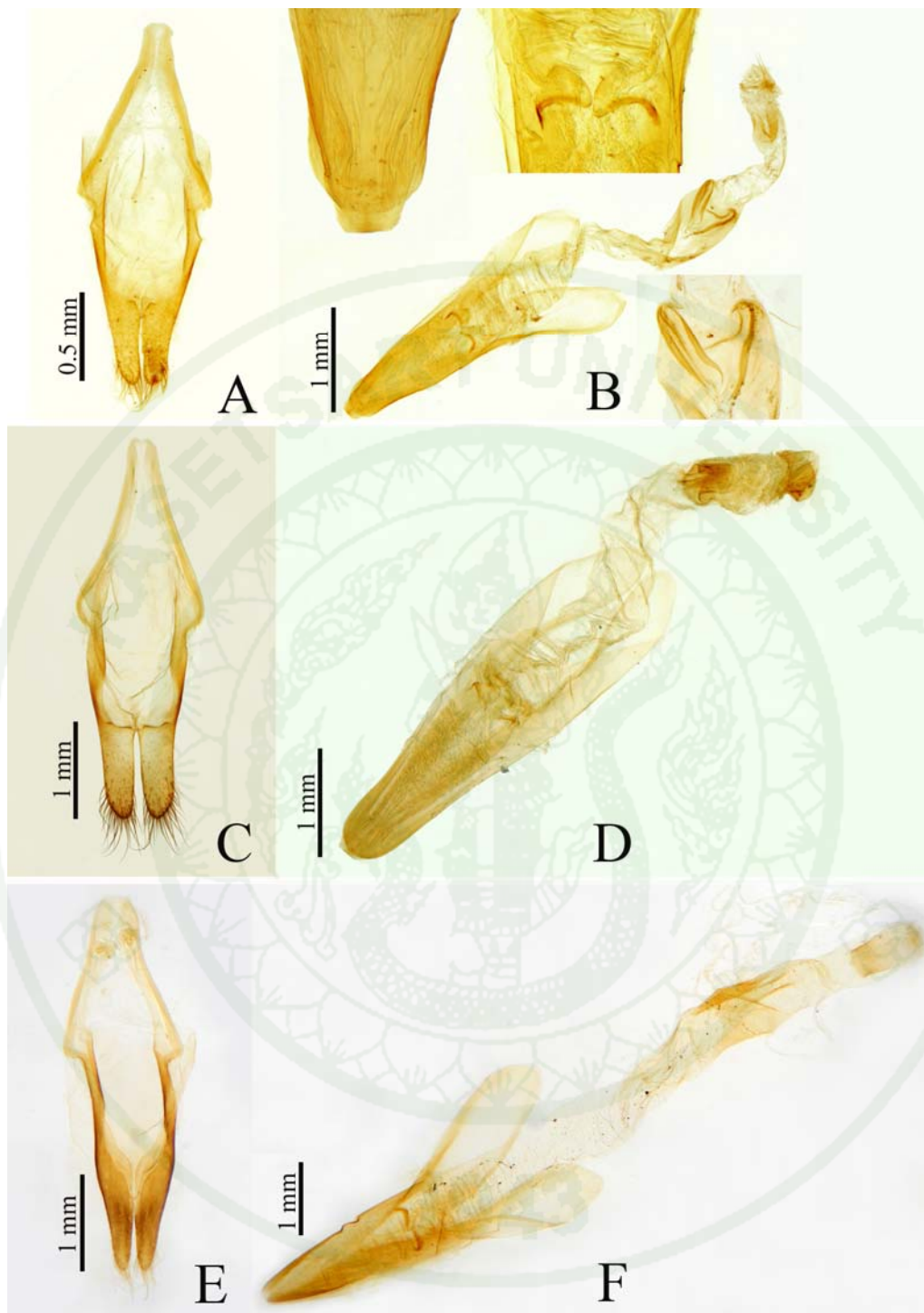


Figure 118 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Epepeotes luscus densemaculatus*

C-D. *Macrochenus isabellinus*

E-F. *Monochamus guerrii*

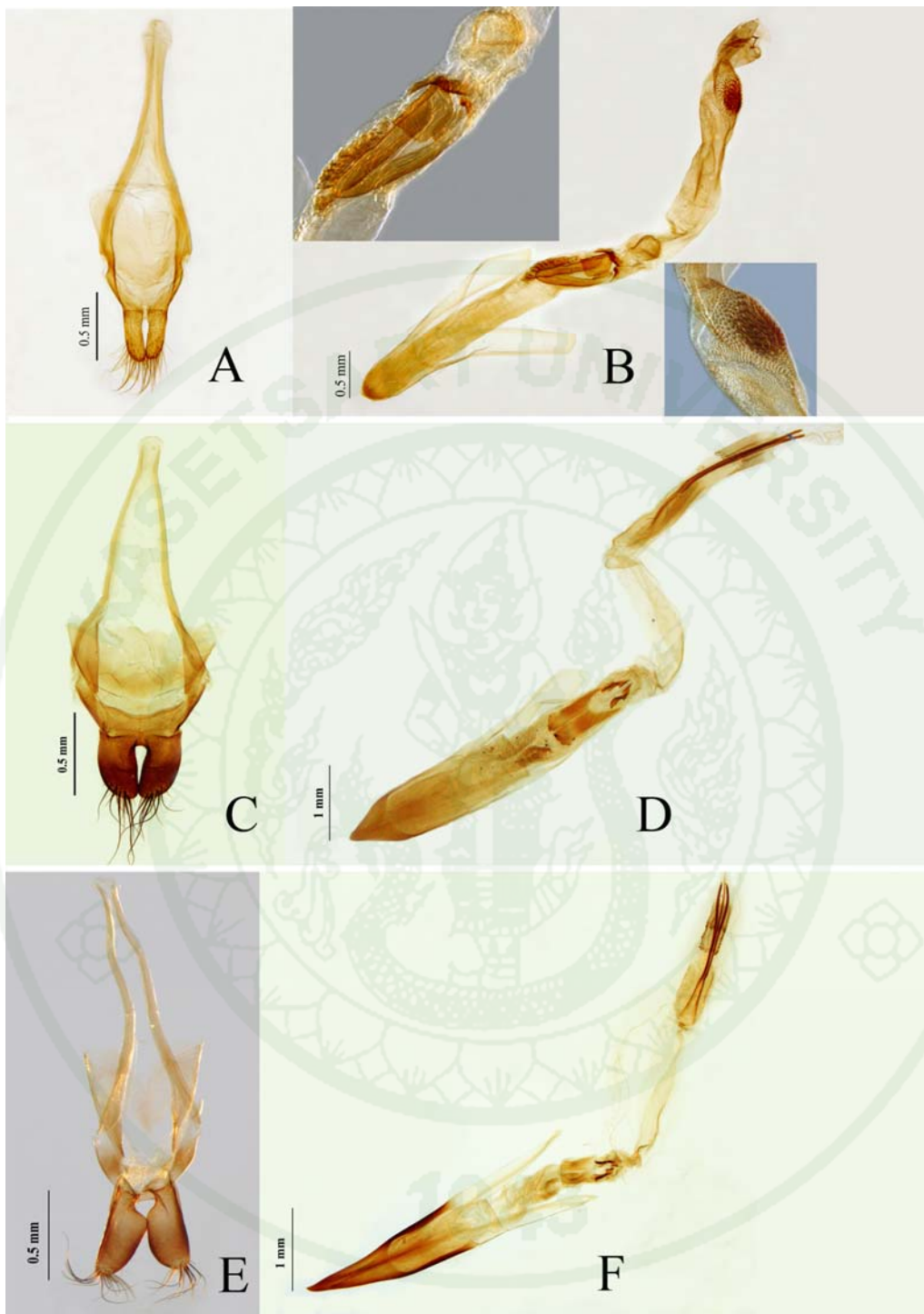


Figure 119 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Glenea cantor*

C-D. *G. mouhoti*

E-F. *G. laoensis*

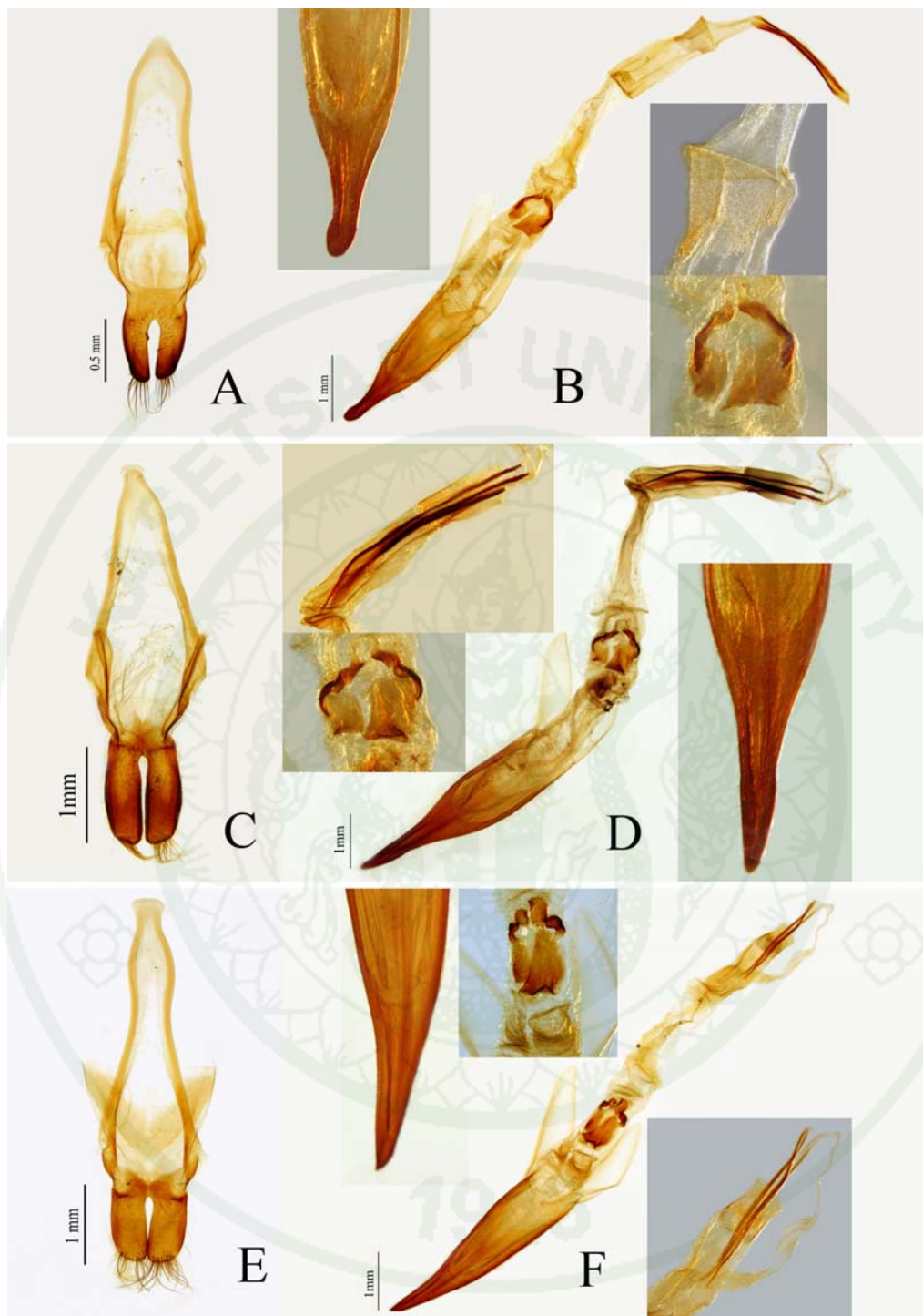


Figure 120 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Glenea elegans*

C-D. *G. proserpina*

E-F. *G. pulchra*



Figure 121 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Glenea subviridescens*

C-D. *Ioesse sanguinolenta*

E-F. *Imantocera penicillata*

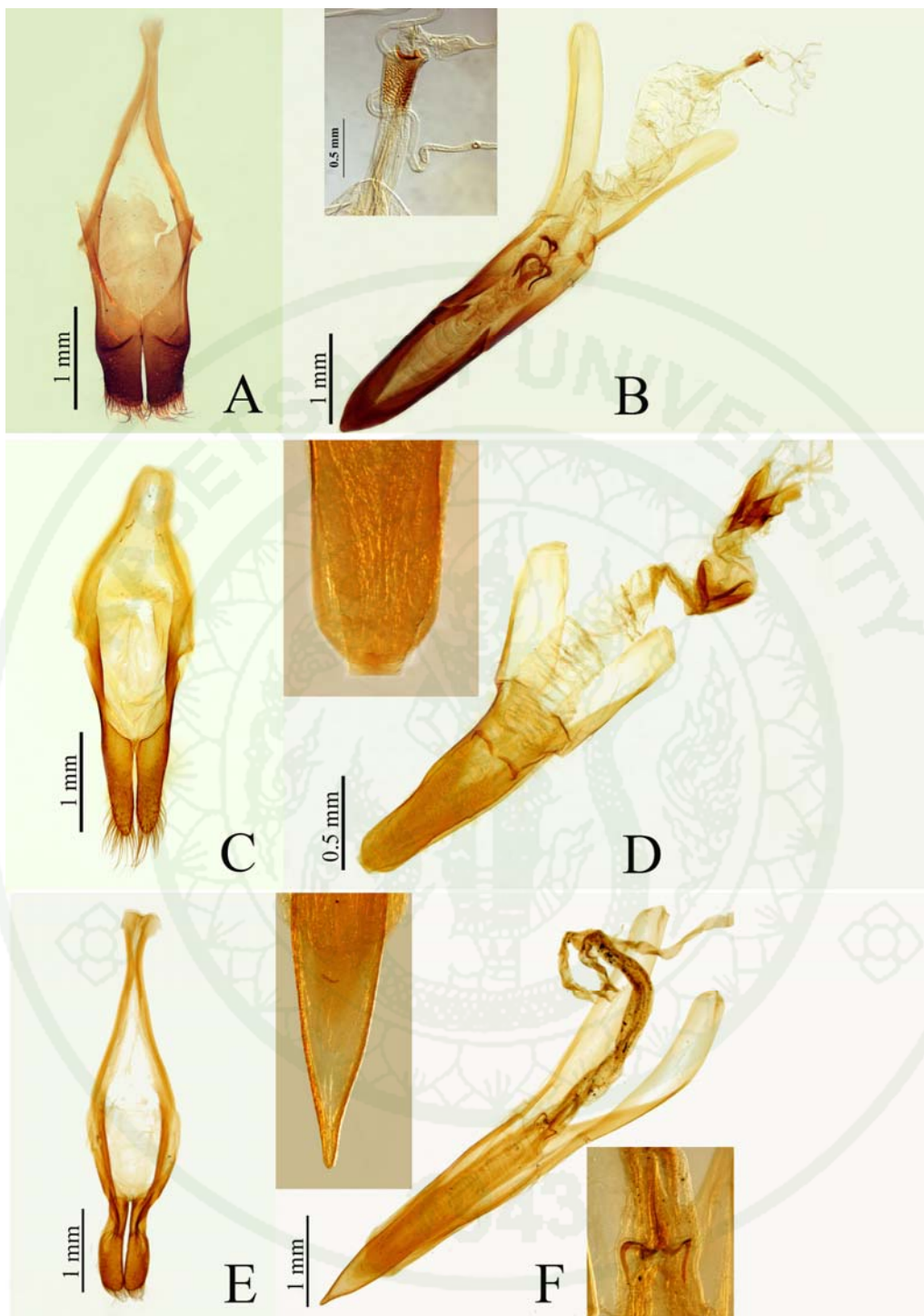


Figure 122 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Palimma annulata*

C-D. *Parepepeotes breuningi*

E-F. *Diastocera wallichi tonkinensis*

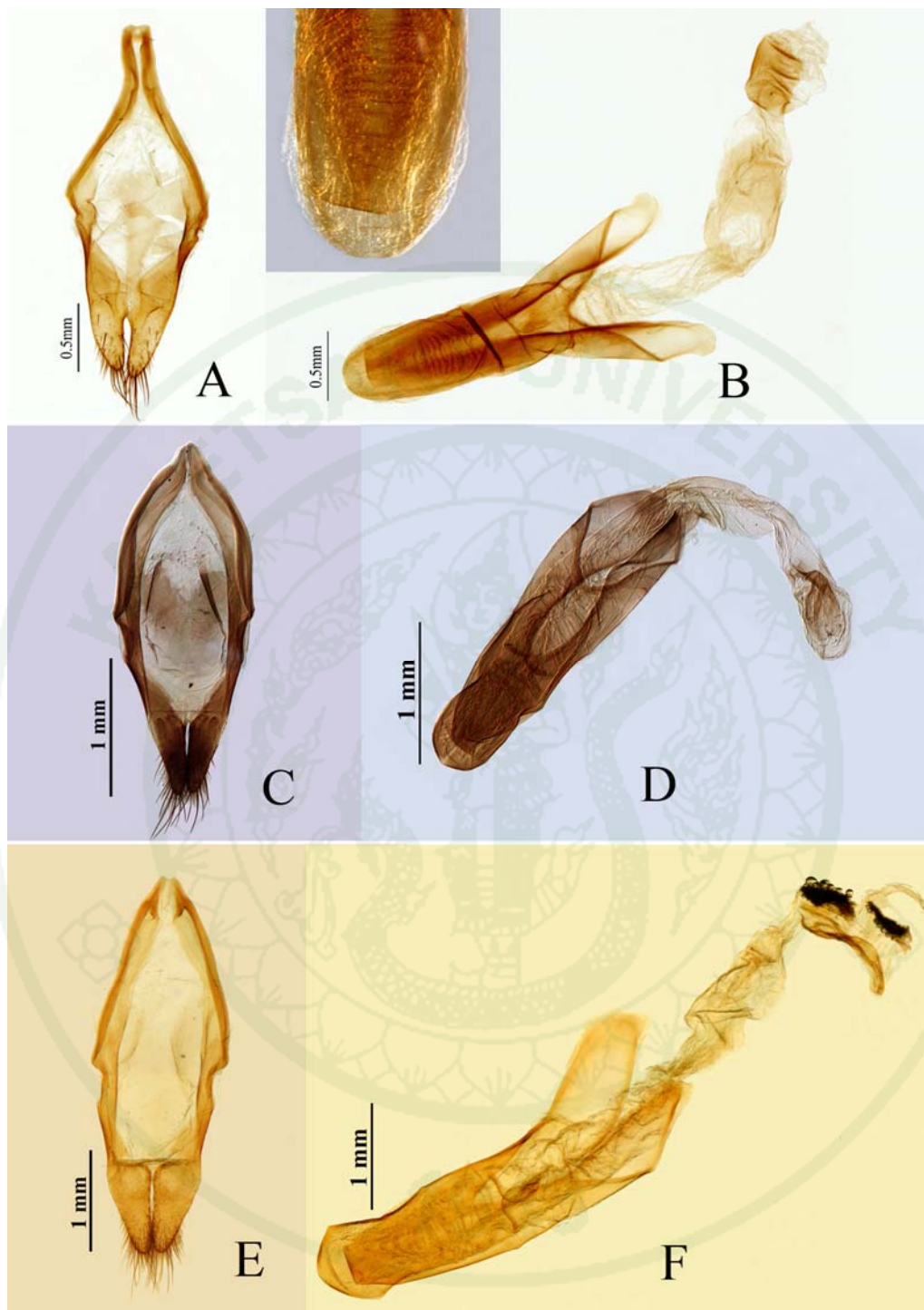


Figure 123 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Eutaenia albomaculata*

C-D. *E. trifasciella*

E-F. *E. corbetti*

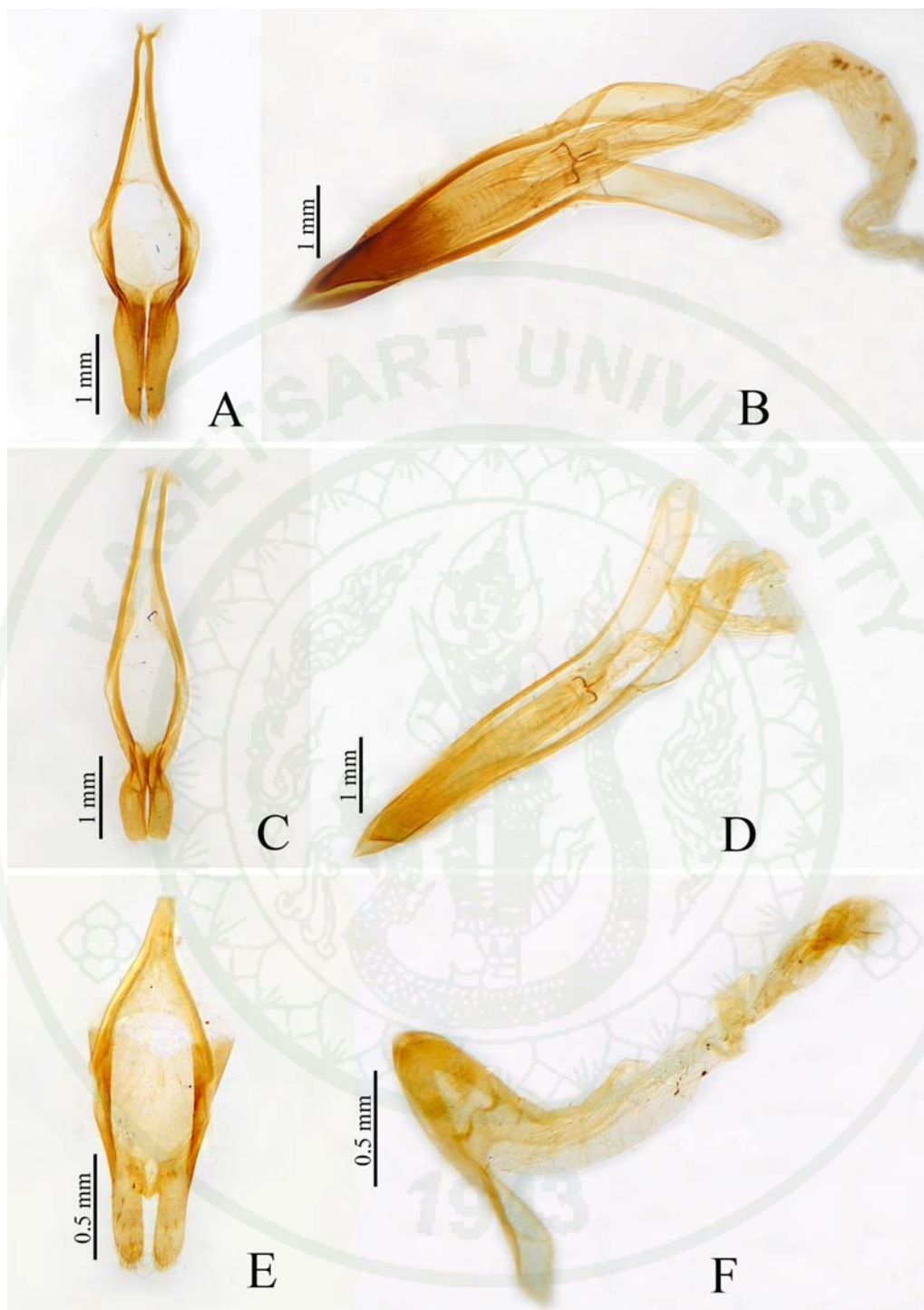


Figure 124 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Moechotypa coomani*

C-D. *M. suffusa*

E-F. *Monochanus dubius*



Figure 125 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Niphona falaizei*

C-D. *N. malaccensis*

E-F. *N. rondoni*

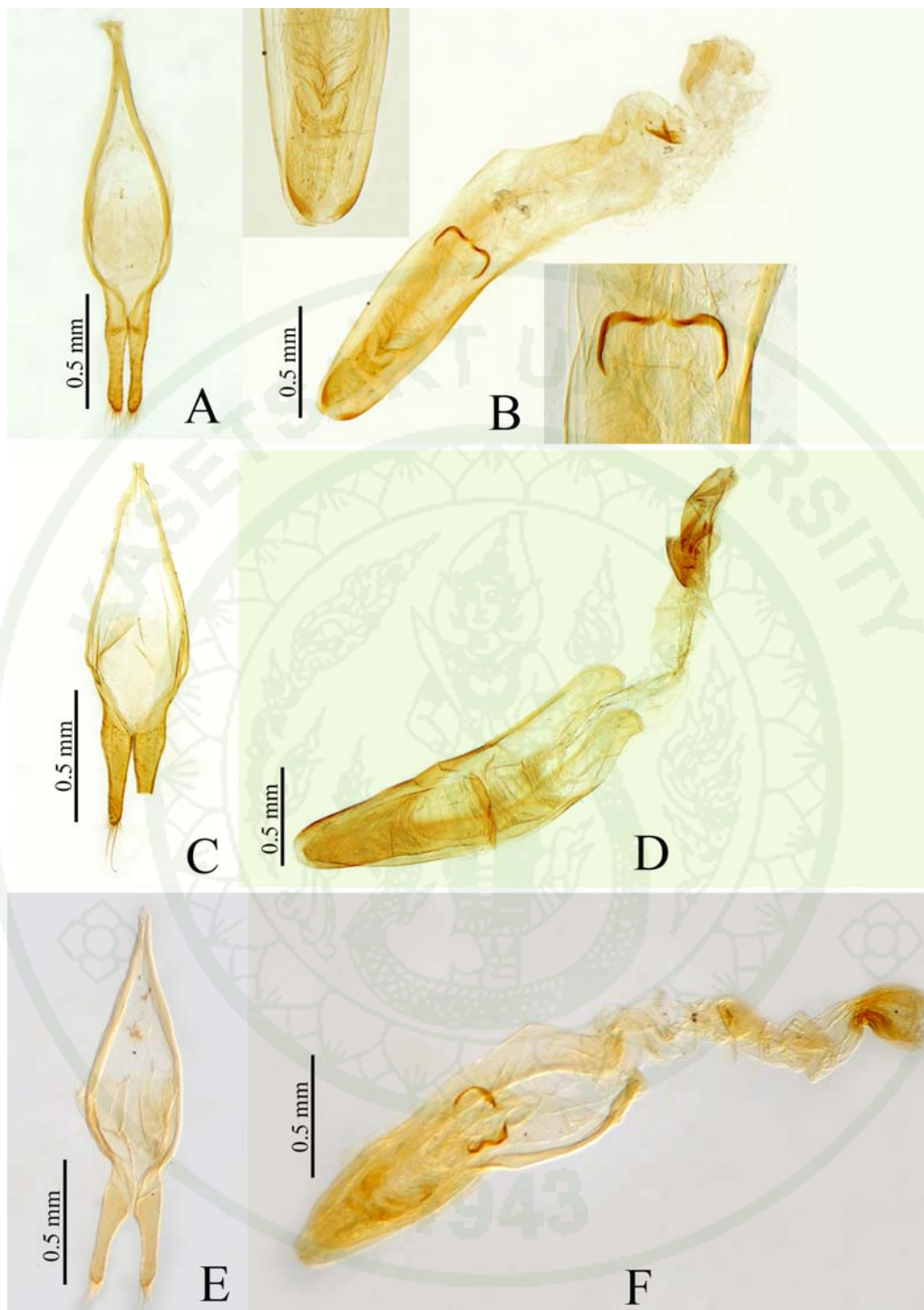


Figure 126 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Olenecamptus bilobus*

C-D. *O. dominus*

E-F. *O. siamensis*

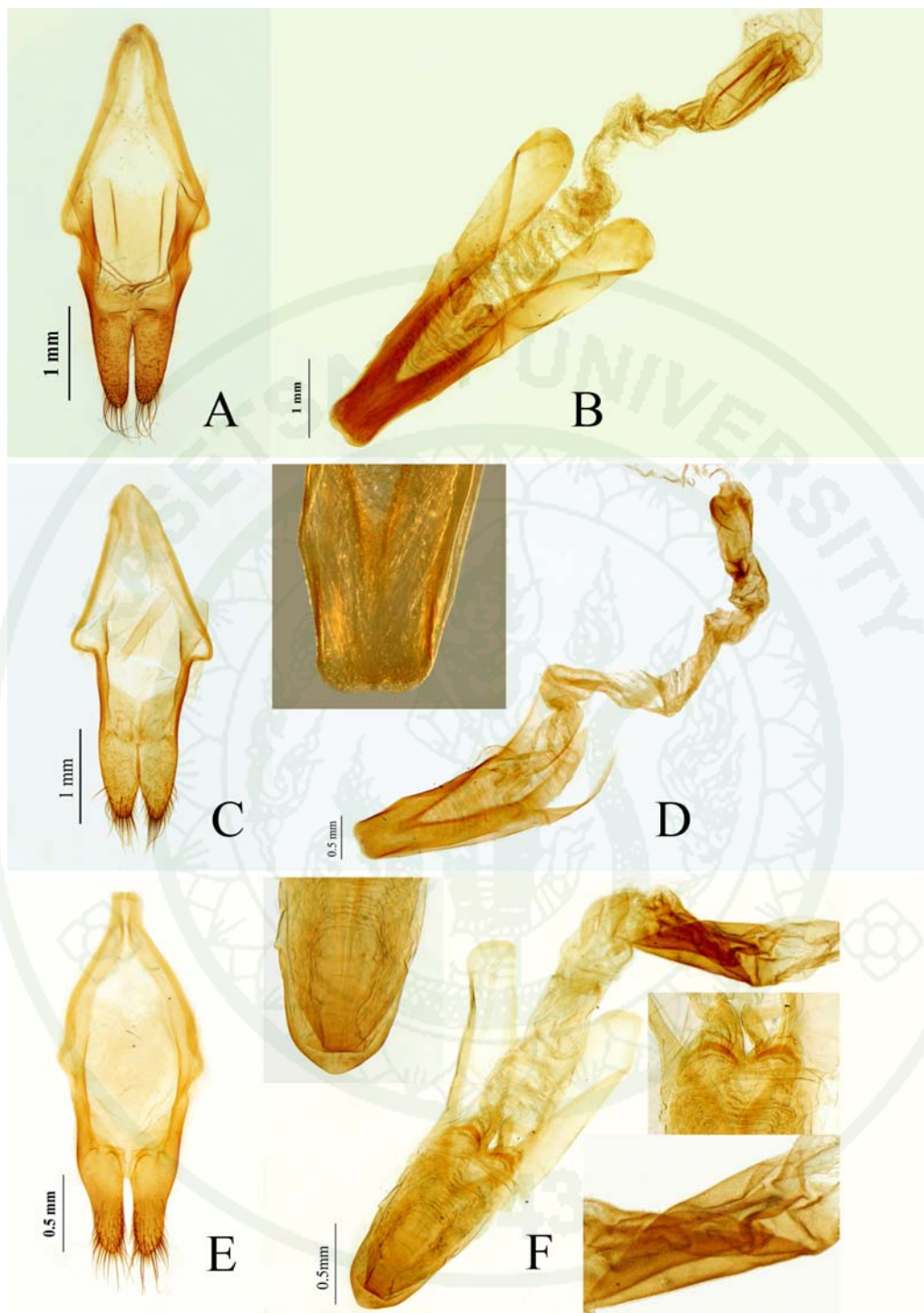


Figure 127 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Paraleprodera crucifera*

C-D. *P. cordifera saigonensis*

E-F. *Perihammus lemoulti*

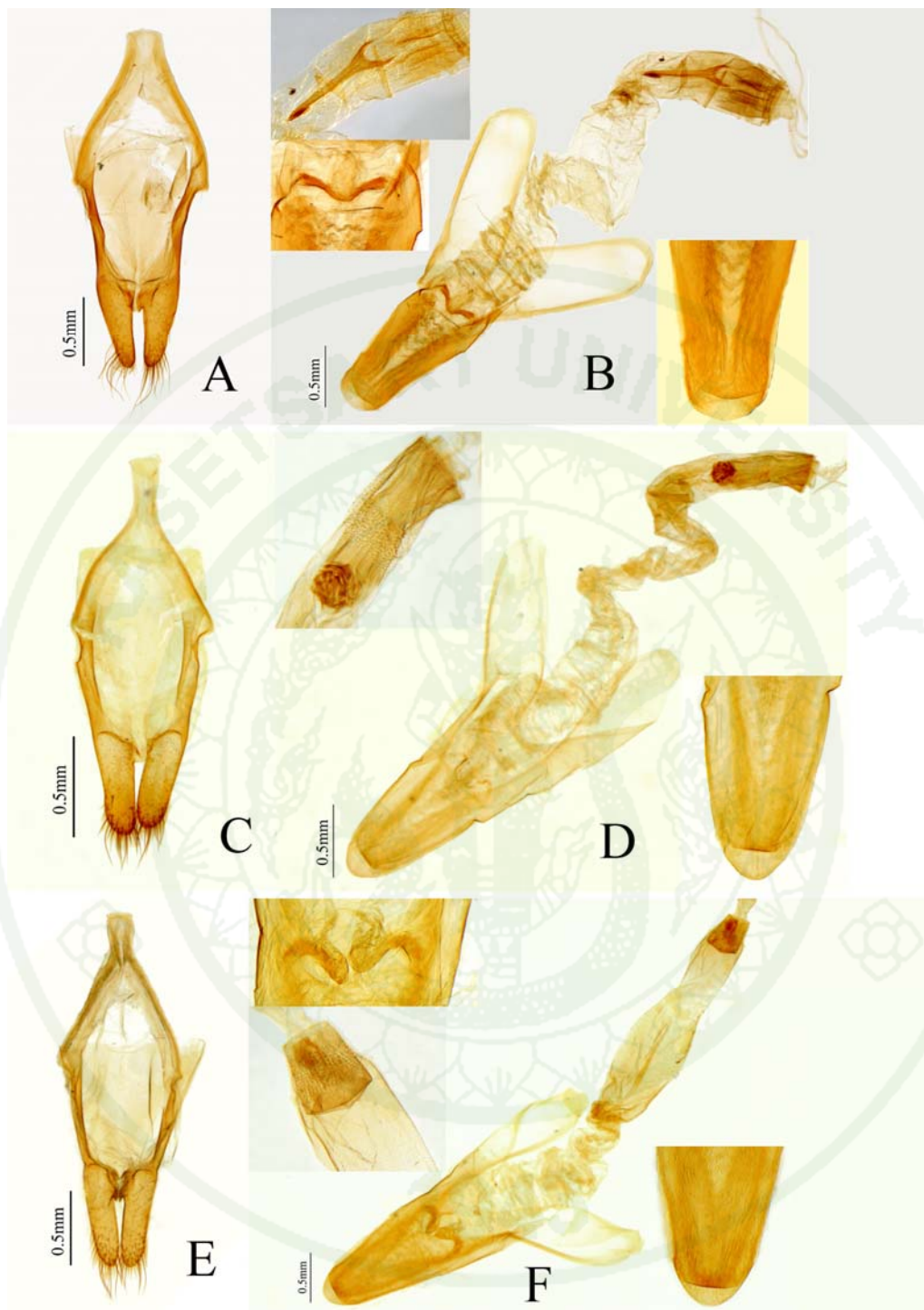


Figure 128 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Phasalia subgemmata*

C-D. *P. duplicata*

E-F. *P. pulchroides*

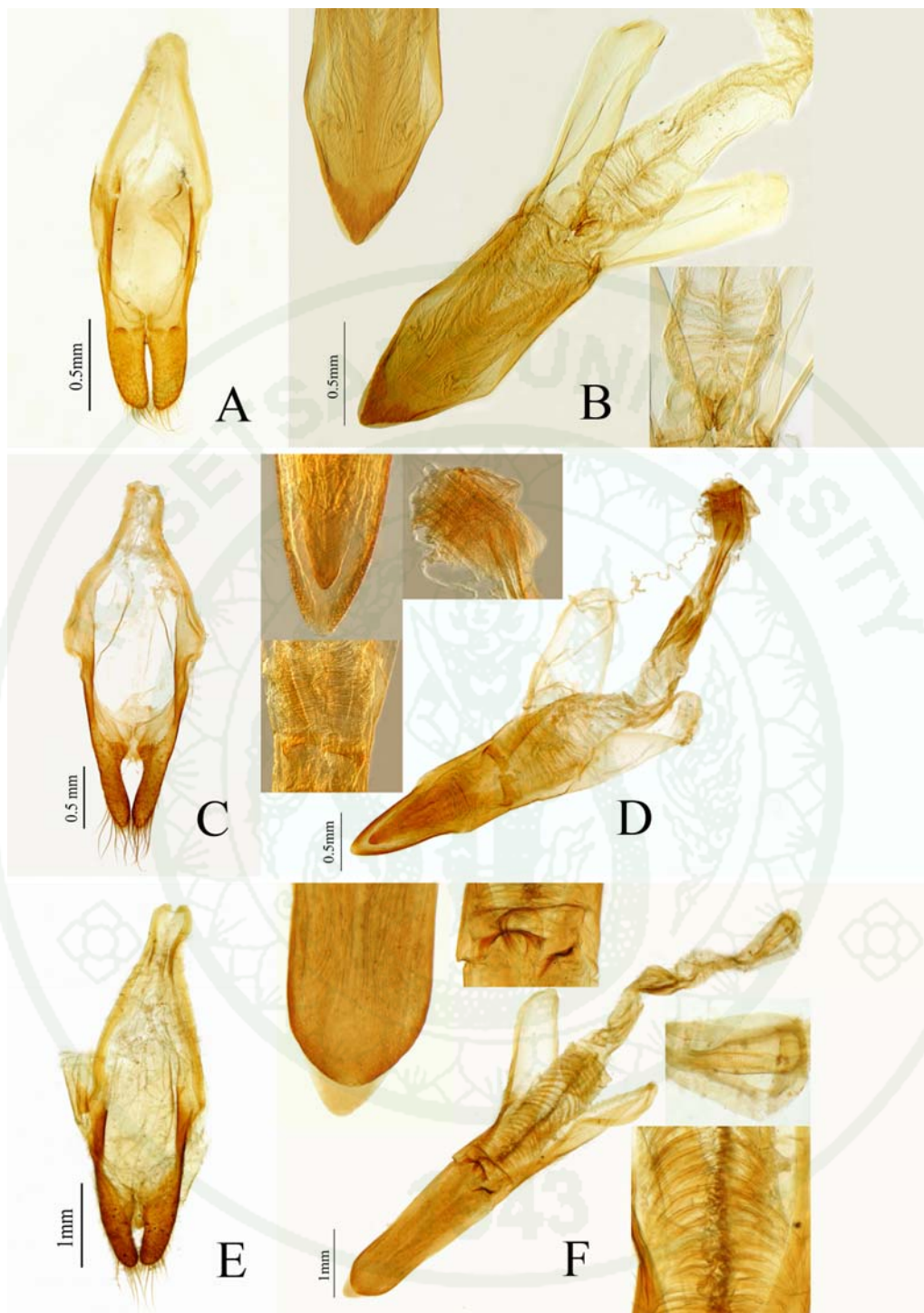


Figure 129 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Phrissomorimus brunneus*

C-D. *Pseudomyagrus waterhousei*

E-F. *Pseudonemophas versteegii*

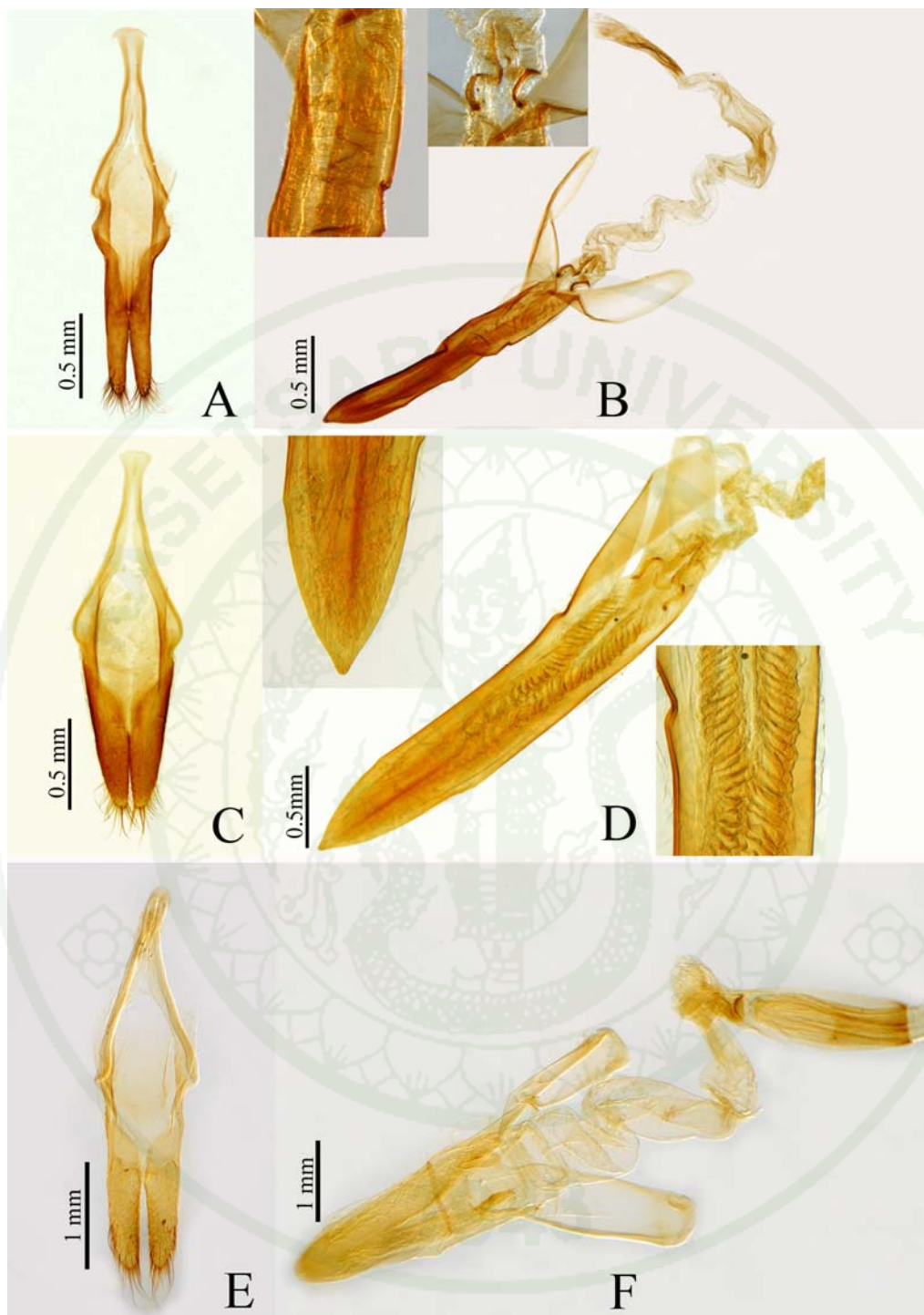


Figure 130 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Pterolophia lateralis*

C-D. *P. zebrina*

E-F. *Pseudomacrochenus antennatus*

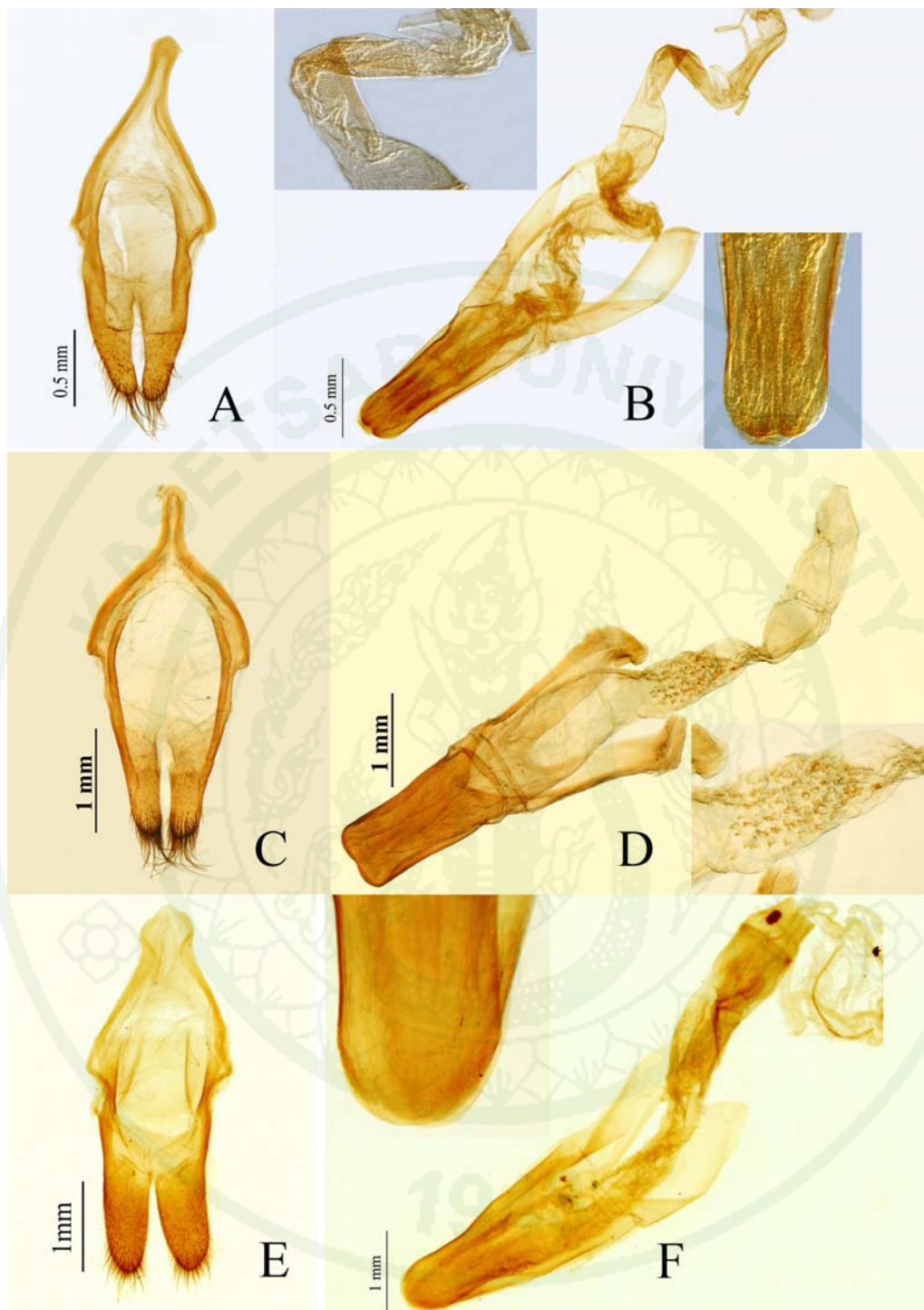


Figure 131 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Sthenias pascoei*

C-D. *S. franciscanus*

E-F. *Stratioceros princeps*

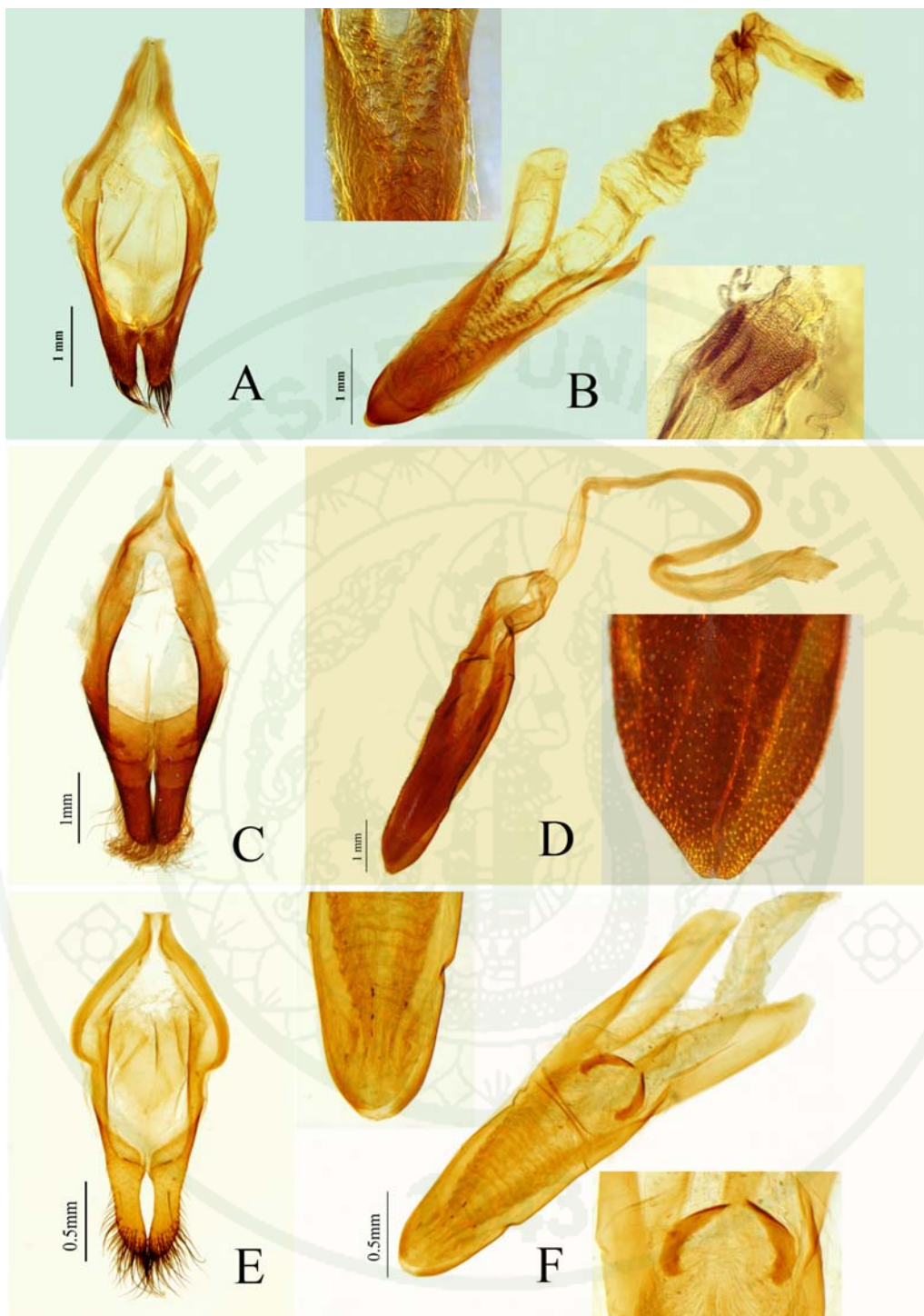


Figure 132 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Threnetica lacrymans*

C-D. *Thylactus simulans*

E-F. *Pothyne variegata*

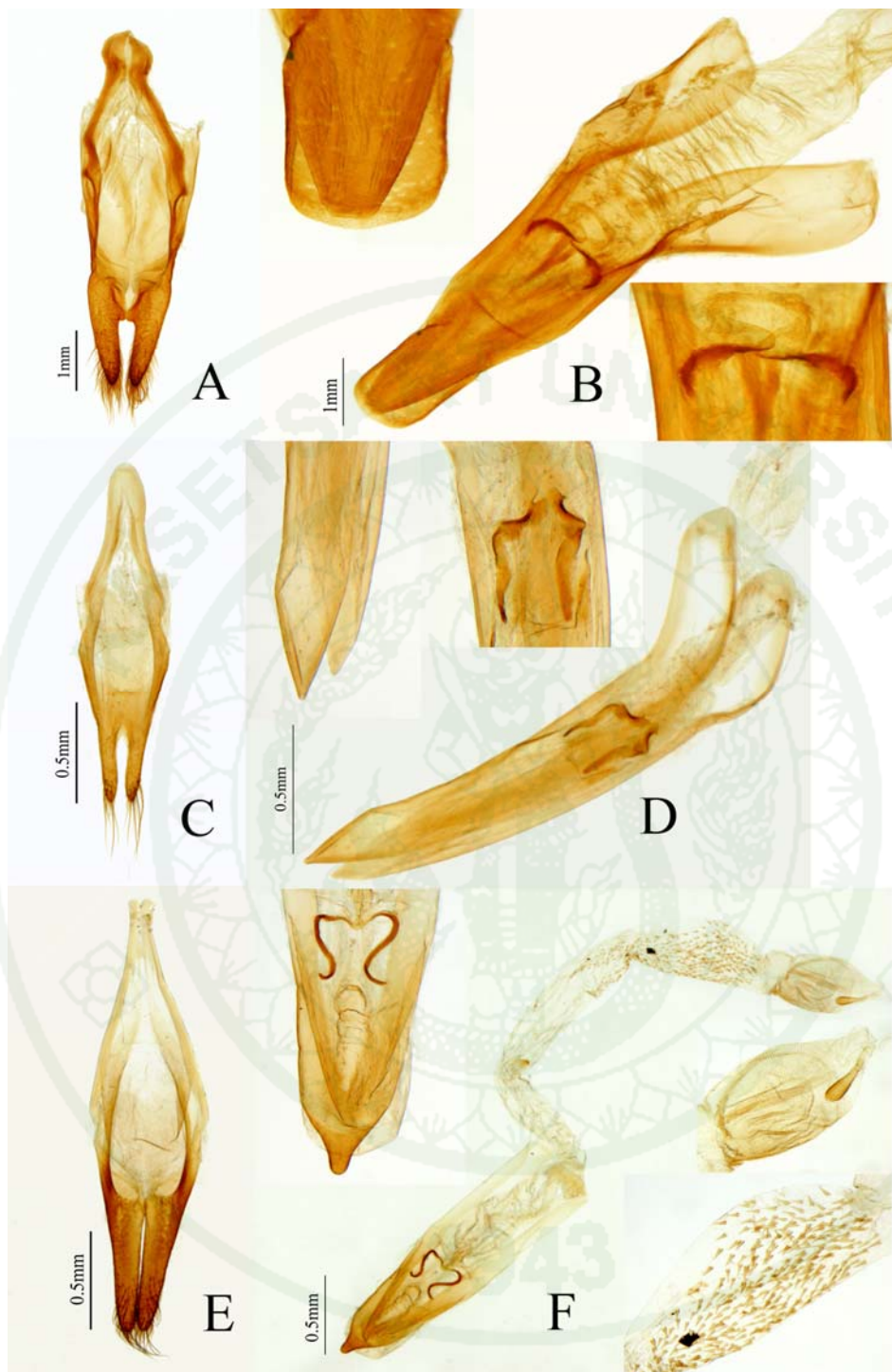


Figure 133 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Sarothrocera lowi*

C-D. *Eucomatocera vittata*

E-F. *Mesocacia mutimaculata*

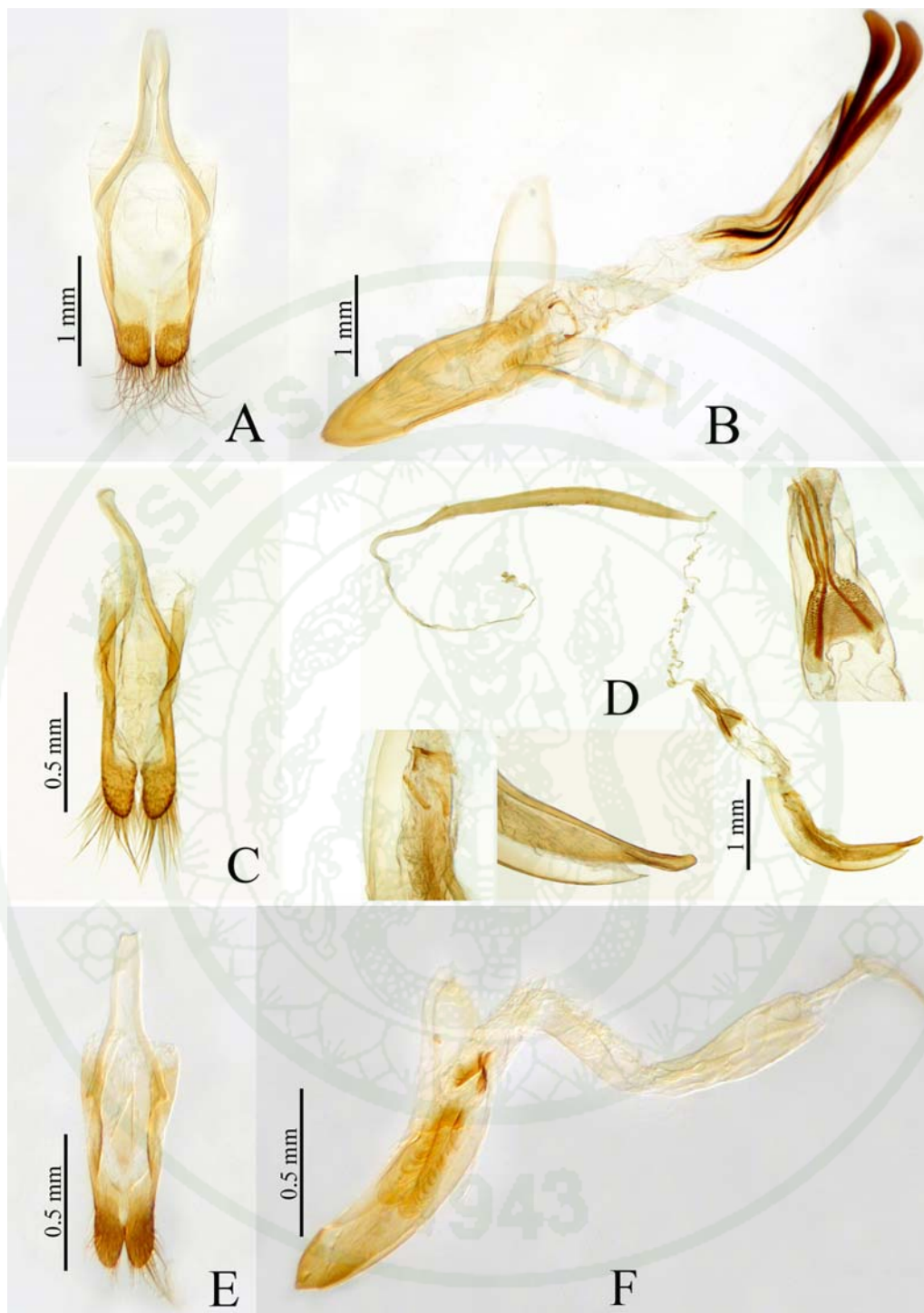


Figure 134 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Nupserha variabilis*

C-D. *N. quadrioculata*

E-F. *N. fricator*

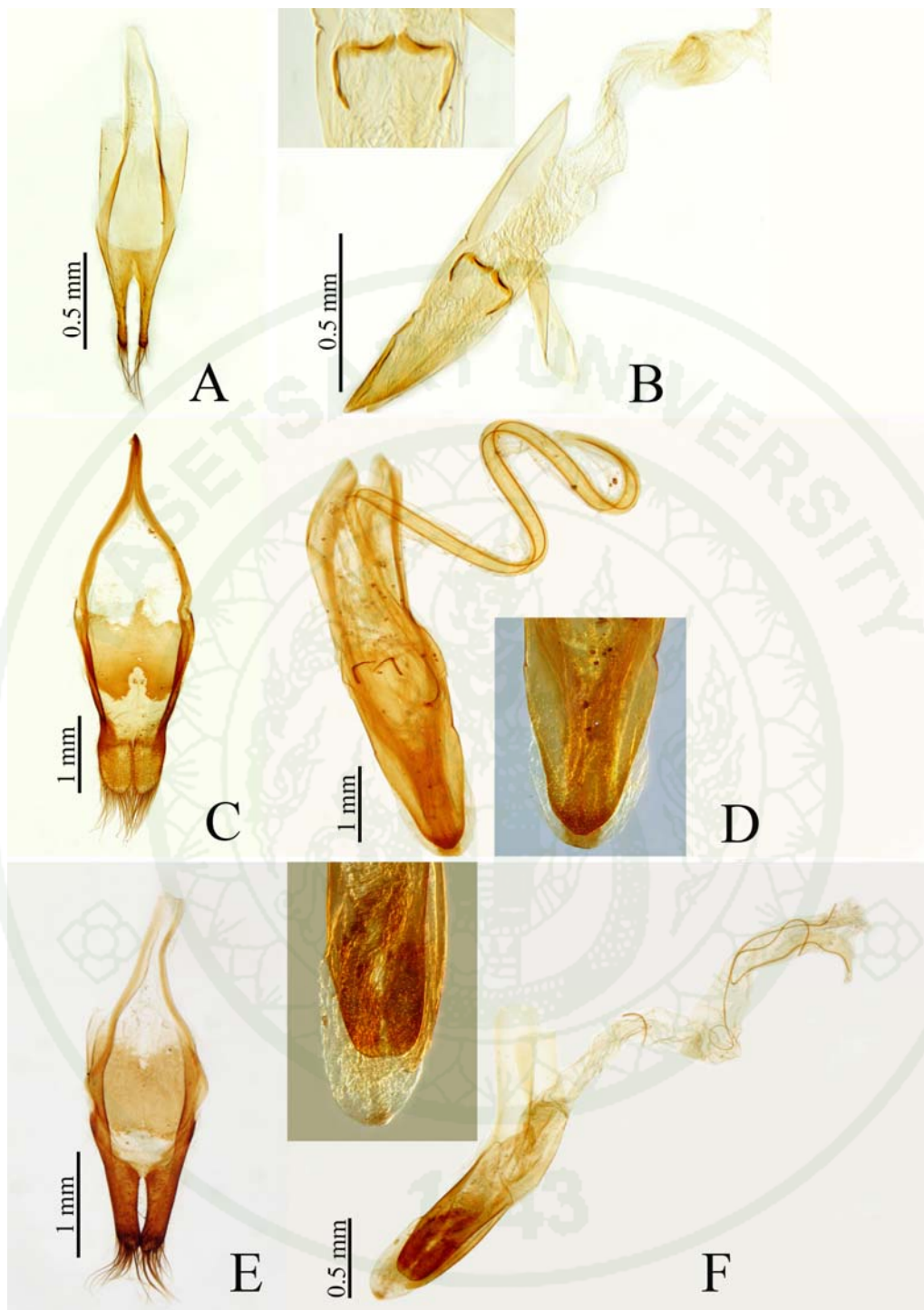


Figure 135 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Tetraglenes hirticornis*

C-D. *Calothyrsa margaritifera*

E-F. *Gerania bosci bosci*



Figure 136 Male genitalia. Tegmen, median lobe and internal sac:

A-B. *Oberea ferruginea*

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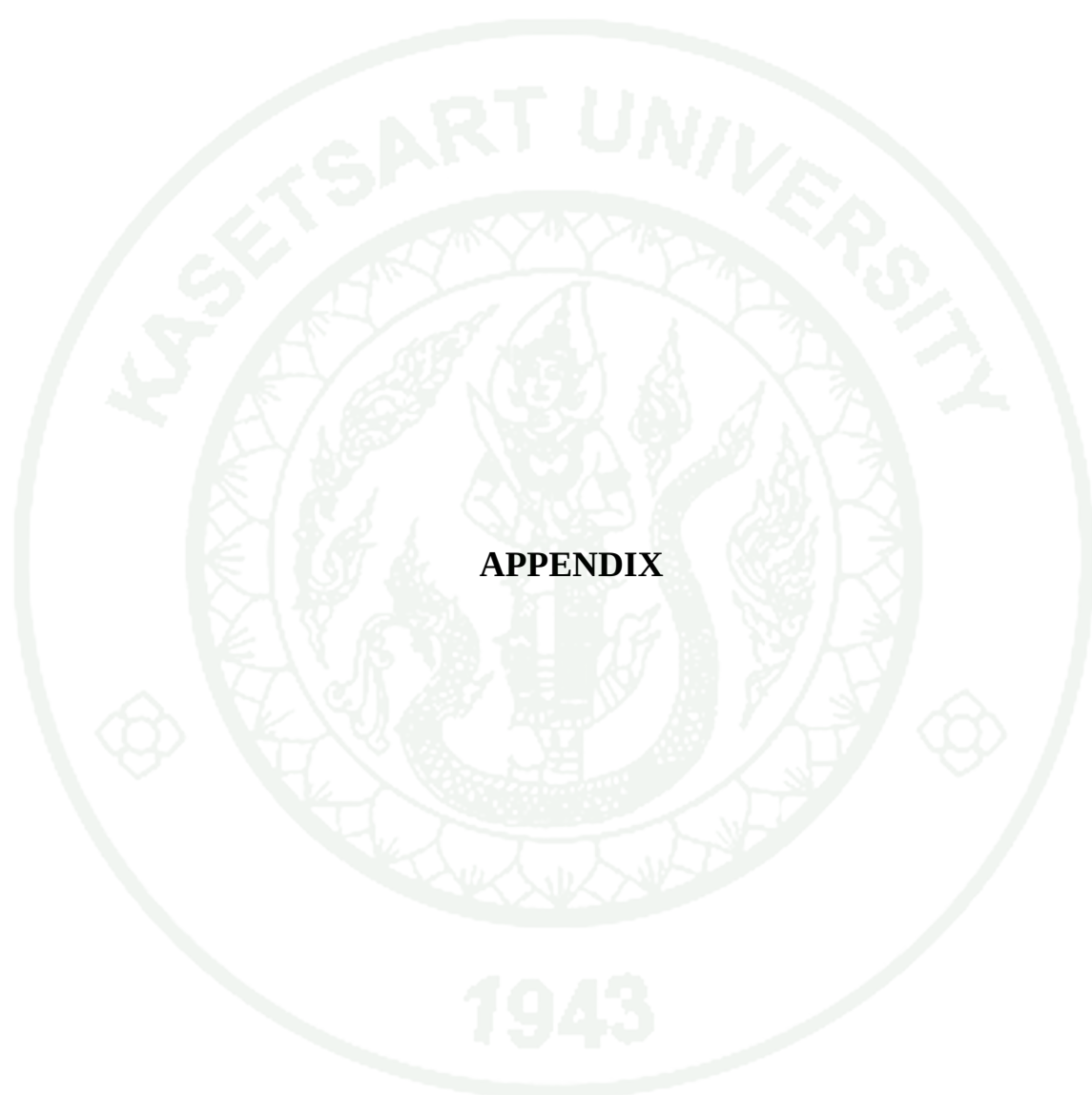
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APPENDIX

Table 1 Species list of Longhorn beetles associated with seasons.

Species	Seasons											
	summer			rainy						winter		
	0	0	0	0	0	0	0	0	1	1	1	0
	2	3	4	5	6	7	8	9	0	1	2	1
Subfamily DISTENIINAE												
1. <i>Cyrtanops punctipennis</i>		√										
2. <i>Distenia fulvipennis</i>					√	√						
*3. <i>Typodryas callichromoides</i>		√										
4. <i>Typodryas cambodianus</i>				√								√
Subfamily PRIONINAE												
*1. <i>Anomophysis ellioti</i>									√	√		
*2. <i>Anomophysis elongata</i>			√		√	√	√	√			√	
3. <i>Anomophysis spinosa</i>						√					√	√
4. <i>Baralipton maculosa</i>		√					√	√	√	√		
5. <i>Bandar pascoei</i>	√		√		√	√	√	√	√	√	√	√
6. <i>Dorysthenes buqueti</i>	√		√	√		√				√		
7. <i>Dorysthenes walkeri</i>		√	√	√	√		√				√	
8. <i>Eurypoda batesi</i>		√					√					
9. <i>Eurypoda nigrita</i>		√	√		√	√	√	√			√	
10. <i>Megopis marginalis</i>			√			√	√		√			
11. <i>Megopis procera</i>			√					√	√	√		
12. <i>Megopis sinica ornaticollis</i>						√						
13. <i>Megopis sinica sinica</i>					√	√	√					
14. <i>Prionoma bigibbosus</i>		√				√		√	√			
15. <i>Rhaphipodus fetalis</i>	√										√	
16. <i>Rhaphipodus frushstorferi</i>			√									
17. <i>Rhaphipodus hopei</i>		√	√			√	√	√				√
18. <i>Rhineimegopis rugicollis</i>								√				

Table 1 (continued)

Species	Seasons											
	summer			rainy						winter		
	0	0	0	0	0	0	0	0	1	1	1	0
	2	3	4	5	6	7	8	9	0	1	2	1
19. <i>Sarmyds antennatus</i>	√		√							√		
20. <i>Spinimegopsis lividipennis</i>		√	√			√	√		√	√		
*21. <i>Spinimegopsis piliventris antennalis</i>	√				√	√						
Subfamily PHILINAE												
1. <i>Philus costatus</i>	√		√	√	√		√					
Subfamily SPONDYLIDINAE												
*1. <i>Spondylis buprestoides</i>								√				
Subfamily ASEMINEAE												
*1. <i>Arhopalus exoticus</i>			√					√				
*2. <i>Arhopalus unicolor</i>			√					√				
Subfamily LEPTURINAE												
1. <i>Ephies coccineus</i>						√						
2. <i>Metalloleptura aureoviridis</i>						√						
*3. <i>Strangalia fluvialis</i>						√		√				
Subfamily CERAMBYCINAE												
1. <i>Acrocyrtidus avarus</i>						√						√
2. <i>Aeolesthes aurifaber</i>		√	√	√	√	√	√	√	√	√		
3. <i>Anubis bipustulatus</i>		√			√	√		√	√			
*4. <i>Aphrodisium cantori</i>		√										
5. <i>Aphrodisium gibbicolle</i>		√	√		√		√		√		√	
6. <i>Aphrodisium neoxenum</i>	√	√	√		√	√	√	√	√			√
7. <i>Artimpaza argenteonotata</i>		√			√	√	√		√		√	
*8. <i>Artimpaza colorata</i>		√			√	√	√					√
*9. <i>Artimpaza lineata</i>		√	√		√		√		√		√	
*10. <i>Artimpaza paksensis</i>		√			√		√					

Table 1 (continued)

Species	Seasons											
	summer			rainy						winter		
	0	0	0	0	0	0	0	0	1	1	1	0
	2	3	4	5	6	7	8	9	0	1	2	1
*11. <i>Camelocerambyx semiruber</i>							√					
12. <i>Camelocerambyx singularis</i>	√		√	√	√		√				√	√
13. <i>Ceresium elatum</i>					√				√		√	
14. <i>Ceresium fallaciosum</i>					√	√						
15. <i>Ceresium geniculatum</i>			√		√		√	√				√
16. <i>Ceresium leucosticticum</i>		√				√						
17. <i>Chelidonium venereum</i>		√	√				√				√	
18. <i>Chlorophorus annularis</i>		√	√		√	√	√	√	√	√		
19. <i>Chlorophorus copiosus</i>	√	√	√	√	√		√		√	√	√	√
20. <i>Chlorophorus hederatus</i>		√					√	√				
21. <i>Chlorophorus ictericus</i>	√	√	√	√		√		√	√	√	√	√
22. <i>Chlorophorus punctiger</i>	√											
23. <i>Chlorophorus rubricollis</i>		√			√				√		√	
24. <i>Chlorophorus sappho</i>		√										
25. <i>Cleomenes micarius</i>	√	√	√	√	√	√	√	√	√	√	√	√
26. <i>Clytosaurus siamensis</i>			√	√						√		
27. <i>Cyriopalus wallacei</i>		√	√	√			√	√		√		
*28. <i>Demonax albidofasciatus</i>					√	√	√					
29. <i>Demonax alboantennatus</i>							√					
30. <i>Demonax alcanor</i>						√						
*31. <i>Demonax dignus</i>			√				√	√				
32. <i>Demonax elongatus</i>					√		√	√			√	
*33. <i>Demonax semiluctuosus</i>			√		√	√	√	√				

Table 1 (continued)

Species	Seasons											
	summer			rainy						winter		
	0 2	0 3	0 4	0 5	0 6	0 7	0 8	0 9	1 0	1 1	1 2	0 1
34. <i>Demonax tenuiculus</i>					√							
35. <i>Demonax vilis</i>					√		√					
36. <i>Dere adelpha</i>								√				
*37. <i>Dere affinis</i>							√					
38. <i>Dialeges pauper</i>		√	√		√		√		√	√		
39. <i>Epania ruficollis</i>							√					
*40. <i>Epipedocera laticollis</i>		√		√	√	√	√	√	√	√	√	
*41. <i>Epipedocera subatra</i>											√	
*42. <i>Epipedocera vitalisi</i>		√	√		√					√		
43. <i>Erythresthes shimomurai</i>					√							
44. <i>Erythrurus championi</i>		√	√			√	√		√	√		
*45. <i>Erythrurus laosensis</i>					√	√						
46. <i>Erythrurus laticornis</i>	√	√			√	√	√	√	√		√	
*47. <i>Euryarthrum lambii</i>	√											
48. <i>Euryphagus lundii</i>	√		√			√		√				√
49. <i>Gnatholea eburifera</i>								√				
*50. <i>Hesperophanes erosus</i>			√									
51. <i>Hoplocerambyx spinicornis</i>	√		√				√		√		√	
*52. <i>Hyphus apicalis</i>									√			
53. <i>Ibidionidum corbetti obscuripes</i>								√				
*54. <i>Ipothalia pyrrha</i>									√			
55. <i>Kunbir atriapicalis</i>					√		√					
56. <i>Merionoeda aglaospadix</i>					√							
57. <i>Merionoeda fusca</i>		√					√	√				

Table 1 (continued)

Species	Seasons											
	summer			rainy						winter		
	0	0	0	0	0	0	0	0	1	1	1	0
	2	3	4	5	6	7	8	9	0	1	2	1
58. <i>Neocerambyx gigas</i>		√			√	√	√					
59. <i>Neocerambyx grandis</i>		√	√			√			√		√	√
60. <i>Neoplocaederus obesus</i>		√	√		√	√	√				√	√
61. <i>Neoplocaederus ruficornis</i>		√	√		√		√		√		√	√
62. <i>Nida flavovittata</i>					√							
63. <i>Noserius tibialis</i>		√				√					√	
64. <i>Nyphasia pascoei</i>		√			√		√			√		
65. <i>Oplatocera callidioides</i>										√		
*66. <i>Oplatocera oberthuri</i>		√			√	√	√					
67. <i>Pachylocerus sulcatus</i>		√					√		√			
68. <i>Pachyteria dimidiata</i>	√		√	√		√	√		√			√
*69. <i>Pachyteria equestris</i>												√
70. <i>Pavieia superba</i>		√		√	√	√	√	√				√
71. <i>Perissus mutabilis</i>			√		√		√			√		
*72. <i>Phyodexia concinna</i>				√								
73. <i>Polyphida metallica</i>						√					√	
*74. <i>Polyzonus flavocinctus</i>									√			
75. <i>Polyzonus saigonensis</i>	√	√	√	√			√	√		√		
76. <i>Polyzonus subotusus</i>		√		√	√				√	√		
*77. <i>Polyzonus watosoni</i>								√				
78. <i>Prothema aurata</i>	√	√	√	√	√	√	√	√	√	√	√	√
*79. <i>Prothema cakli</i>								√				
*80. <i>Prothema laosensis</i>			√	√					√	√		√
81. <i>Purpuricenys malaccensis</i>		√	√			√		√	√		√	√
*82. <i>Pyrestes bicolor</i>	√	√			√	√	√		√		√	√

Table 1 (continued)

Species	Seasons											
	summer			rainy						winter		
	0 2	0 3	0 4	0 5	0 6	0 7	0 8	0 9	1 0	1 1	1 2	0 1
*83. <i>Pyrestes dohertii</i>									√			
84. <i>Rhaphuma aequalis</i>	√	√	√			√	√		√		√	√
85. <i>Rhaphuma binhensis</i>	√	√	√	√	√	√	√	√			√	
*86. <i>Rhaphuma clarina</i>	√			√		√	√	√	√		√	√
87. <i>Rhaphuma diana</i>					√	√	√		√		√	√
*88. <i>Rhaphuma elongata</i>							√					
89. <i>Rhaphuma falx</i>		√			√							
90. <i>Rhaphuma gilvitaris</i>			√	√	√		√	√	√		√	√
91. <i>Rhaphuma horsfieldi</i>					√							
92. <i>Rhaphuma indifferens</i>		√				√	√					
*93. <i>Rhaphuma mekongae</i>	√		√				√					
94. <i>Rhaphuma patkaina</i>	√	√	√	√	√	√	√	√	√		√	√
*95. <i>Rhaphuma pseudobinhensis</i>			√				√	√	√			
*96. <i>Rhaphuma tricolor</i>					√		√					
97. <i>Rhytidodera grandis</i>					√	√						
98. <i>Rhytidodera integra</i>	√	√	√			√	√	√	√		√	√
99. <i>Rhytidodera mutabilis</i>		√										
100. <i>Rosalia decempunctata</i>		√	√		√	√	√			√		
101. <i>Rosalia formosa</i>		√			√		√					
102. <i>Rosalia lameerei</i>							√	√				
103. <i>Scalenus drescheri</i>	√	√		√	√	√	√	√		√	√	√
104. <i>Scalenus hemipterus</i>								√				
105. <i>Sclethrurus amoenus</i>							√					
106. <i>Stromatium longicorne</i>		√	√	√			√	√	√	√	√	
107. <i>Xoanodera regularis</i>									√			

Table 1 (continued)

Species	Seasons											
	summer			rainy						winter		
	0	0	0	0	0	0	0	0	1	1	1	0
	2	3	4	5	6	7	8	9	0	1	2	1
108. <i>Xoanoderma striata</i>	√			√					√			
109. <i>Xoanoderma vitticollis</i>			√									
110. <i>Xylotrechus buqueti</i>		√										
111. <i>Xylotrechus chinensis</i>							√					
112. <i>Xylotrechus unicarinatus</i>							√					
113. <i>Xystrocera festiva</i>			√	√		√		√	√			√
114. <i>Xystrocera globosa</i>								√	√		√	√
115. <i>Zoodes fulguratus</i>		√	√		√	√		√				
Subfamily LAMIINAE												
1. <i>Abryna regispetri</i>							√					
2. <i>Acalolepta pseudospeciosa</i>		√	√				√		√			√
3. <i>Aesopida malasiaca</i>							√					
*4. <i>Agelasta bifasciana</i>									√			
5. <i>Agelasta birmanica</i>									√			
6. <i>Agelasta mouhoti</i>					√	√			√			
7. <i>Alidus biplagiatus</i>	√	√	√							√		
8. <i>Anamera alboguttata</i>							√		√			
9. <i>Anamera concolor</i>								√	√			
*10. <i>Anamera desемaculata</i>			√									
11. <i>Anamera harmandi</i>							√					√
*12. <i>Anamera obesa</i>								√				
*13. <i>Anamera strandi</i>						√						
*14. <i>Anameromorpha metallica</i>								√				

Table 1 (continued)

Species	Seasons											
	summer			rainy						winter		
	0 2	0 3	0 4	0 5	0 6	0 7	0 8	0 9	1 0	1 1	1 2	0 1
*15. <i>Annamanum chebanum</i>									√			
*16. <i>Anoplophora birmanica</i>						√						
17. <i>Anoplophora elegans</i>		√	√				√	√			√	
18. <i>Anoplophora horsfieldii</i>	√	√			√	√	√	√				
19. <i>Anoplophora longehirsuta</i>		√	√		√	√	√	√				√
*20. <i>Anoplophora medenbachii</i>	√	√										
21. <i>Anoplophora sollii</i>		√				√		√				
*22. <i>Anoplophora stanleyana</i>	√											
23. <i>Anoplophora zonator</i>		√	√			√	√	√		√	√	
24. <i>Apomecyna cretacea</i>			√						√		√	√
25. <i>Apomecyna sultator niveosparsa</i>			√						√		√	√
26. <i>Apriona germari</i>	√	√	√			√	√		√			
27. <i>Apriona swainsoni</i>		√				√						
28. <i>Arctolamia cruciatus</i>		√			√			√				
29. <i>Arctolamia fasciata</i>		√			√	√	√	√			√	
30. <i>Arctolamia fruhstorferi</i>		√	√									
31. <i>Arctolamia villosa</i>										√		
32. <i>Aristobia approximator</i>		√	√		√		√				√	
33. <i>Aristobia horridula</i>		√	√		√		√		√			
34. <i>Aristobia voeti</i>		√	√	√		√	√	√	√		√	
35. <i>Astathes dimidiata</i>		√										
36. <i>Astathes gibbicollis</i>									√			
*37. <i>Astathes violaceipennis</i>	√				√							

Table 1 (continued)

Species	Seasons											
	summer			rainy						winter		
	0	0	0	0	0	0	0	0	1	1	1	0
	2	3	4	5	6	7	8	9	0	1	2	1
38. <i>Batocera davidis</i>			√	√				√				
39. <i>Batocera lineolata</i>		√							√	√		
40. <i>Batocera numitor</i>										√		
41. <i>Batocera parryi</i>	√			√		√		√	√			
42. <i>Batocera roylei</i>	√	√				√	√	√	√		√	√
43. <i>Batocera rubus</i>		√	√	√								√
44. <i>Batocera rufomaculata</i>		√	√		√	√	√	√	√		√	√
*45. <i>Batocera thomsonii</i>		√		√			√					
*46. <i>Blepephaeus ocellatus</i>					√		√					
47. <i>Blepephaeus succinator</i>									√			
48. <i>Cacia cretifera</i> <i>luteofasciata</i>		√		√			√					√
49. <i>Calothyrsa margaritifera</i>		√			√							
50. <i>Celosterna pollinosa</i> <i>sulphurea</i>	√	√	√	√			√	√			√	
*51. <i>Choeromorpha</i> <i>subfasciata</i>									√			
*52. <i>Cleptometopus similis</i>			√									
53. <i>Coptops annulipes</i>	√	√		√			√	√			√	
54. <i>Coptops pascoei</i>					√							√
55. <i>Cremnosterna carrisima</i>	√	√	√	√	√	√	√		√	√		√
56. <i>Cremnosterna plagiata</i>		√										
57. <i>Cylindrecampus</i> <i>lineatus</i>								√				
*58. <i>Cylindrepomus</i> <i>viridipennis</i>			√		√							

Table 1 (continued)

Species	Seasons											
	summer			rainy						winter		
	0	0	0	0	0	0	0	0	1	1	1	0
	2	3	4	5	6	7	8	9	0	1	2	1
59. <i>Diastocera wallichii tonkinensis</i>		√	√		√	√						
60. <i>Diboma posticata</i>								√				
*61. <i>Driopea luteolineata</i>					√							
62. <i>Epepeotes luscus densemaculatus</i>						√						
*63. <i>Epicedia maculatrix</i>							√					
64. <i>Eucomatocera vittata</i>	√	√	√		√	√				√	√	
65. <i>Eunidia lateralis</i>				√								√
66. <i>Eunidia rondoni</i>		√					√	√			√	
*67. <i>Eutaenia albomaculata</i>		√							√			
68. <i>Eutaenia corbetti</i>	√	√	√		√	√		√		√	√	
69. <i>Eutaenia trifasciella</i>		√			√	√		√			√	
70. <i>Exocentrus pelidnus</i>	√	√	√	√			√					
71. <i>Exocentrus respersus</i>								√				√
72. <i>Gerania bosci bosci</i>		√	√					√	√			√
73. <i>Glenea cantor</i>				√			√	√	√		√	
74. <i>Glenea elegans</i>					√							
75. <i>Glenea laoensis</i>							√	√				
*76. <i>Glenea mathematica</i>								√				
77. <i>Glenea mouhoti</i>			√		√	√	√					√
78. <i>Glenea proserpina</i>	√					√					√	
79. <i>Glenea pulchra</i>	√	√	√			√	√				√	√
80. <i>Glenea quadrinotata</i>						√						
*81. <i>Glenea subviridescens</i>	√	√	√					√				
*82. <i>Glenea vaga</i>						√						
*83. <i>Gnoma gilmouri</i>											√	

Table 1 (continued)

Species	Seasons											
	summer			rainy						winter		
	0	0	0	0	0	0	0	0	1	1	1	0
	2	3	4	5	6	7	8	9	0	1	2	1
84. <i>Golsinda basicornis</i>								√	√			
*85. <i>Hirtaeschopalaea fasciculata</i>											√	
*86. <i>Hoplothrix rivulosus</i>			√									
87. <i>Imantocera penicillata</i>		√			√							
88. <i>Ioessa sanguinolenta</i>							√					
89. <i>Leptomesosa cephalotes</i>				√		√	√				√	√
90. <i>Macrochenus isabellinus</i>			√					√				√
91. <i>Mesocacia multimaculata</i>		√	√						√			
92. <i>Microlenecamptus signatus</i>		√				√						√
93. <i>Mispila curvilinear</i>									√			
*94. <i>Mispila kamvengal</i>		√					√					
95. <i>Moechothypa coomani</i>		√										√
96. <i>Moechothypa suffusa</i>				√	√		√	√				
97. <i>Monochamus bimaculatus</i>			√				√					
98. <i>Monochamus dubius</i>									√			
*99. <i>Monochamus guerryi</i>		√			√	√	√					
*100. <i>Nipholophia chujoi</i>								√				
101. <i>Niphona falaize</i>		√			√		√					√
102. <i>Niphona hookeri</i>							√					
103. <i>Niphona longesignata</i>		√						√				
104. <i>Niphona malaccensis</i>		√			√				√	√		
105. <i>Niphona rondoni</i>		√			√		√	√				
106. <i>Nupserha fricator</i>	√										√	√
107. <i>Nupserha quadrioculata</i>						√	√		√			

Table 1 (continued)

Species	Seasons											
	summer			rainy						winter		
	0	0	0	0	0	0	0	0	1	1	1	0
	2	3	4	5	6	7	8	9	0	1	2	1
*108. <i>Nupserha spinifera</i>			√		√		√					
109. <i>Nupserha variabilis</i>					√			√				√
110. <i>Oberea ferruginea</i>							√					
111. <i>Olenecamptus bilobus</i>		√					√		√			√
112. <i>Olenecamptus dominus</i>	√	√	√			√				√	√	√
*113. <i>Olenecamptus fouqueti</i>		√			√		√				√	
114. <i>Olenecamptus siamensis</i>		√						√	√		√	
115. <i>Palimna annulata</i>	√	√					√	√	√			√
*116. <i>Parachydaeopsis laosica</i>				√								
117. <i>Paraleprodera cordifera saigonensis</i>					√							
118. <i>Paraleprodera crucifera</i>		√	√		√		√	√		√		
119. <i>Paraleprodera laosensis</i>											√	
120. <i>Paraphemone multimaculata</i>			√									
121. <i>Parepepeotes breuningi</i>			√									
122. <i>Perihammus lemoulti</i>		√	√	√			√			√		
*123. <i>Pharsalia duplicata</i>				√				√				
*124. <i>Pharsalia pulchroides</i>		√					√			√		
125. <i>Pharsalia subgemma</i>	√	√		√		√		√		√	√	√
*126. <i>Phrissomorimus brunneus</i>		√				√		√			√	

Table 1 (continued)

Species	Seasons											
	summer			rainy						winter		
	0 2	0 3	0 4	0 5	0 6	0 7	0 8	0 9	1 0	1 1	1 2	0 1
127. <i>Pothyne septemvittipennis</i>									√			
128. <i>Pothyne variegata</i>		√	√		√	√	√		√	√		√
129. <i>Pseudanaesthetis langana</i>											√	
130. <i>Pseudomacrochenus antennatus</i>							√			√		
131. <i>Pseudomeges marmoratus</i>		√				√		√				
132. <i>Pseudomyagrus waterhousei</i>		√							√			
133. <i>Pseudonemophas versteegii</i>	√	√		√	√	√	√	√				√
*134. <i>Pterolophia bituberculatithorax</i>	√	√		√		√	√	√			√	
135. <i>Pterolophia consularis</i>											√	
136. <i>Pterolophia dorsalis</i>				√								
*137. <i>Pterolophia humerosa</i>					√							
138. <i>Pterolophia lateralis</i>		√						√				
*139. <i>Pterolophia mimoconsularis</i>			√									
*140. <i>Pterolophia paralaosensis</i>			√									
*141. <i>Pterolophia partealbicollis</i>						√						
142. <i>Pterolophia zebrina</i>	√	√	√	√	√	√	√	√	√	√	√	√

Table 1 (continued)

Species	Seasons											
	summer			rainy						winter		
	0	0	0	0	0	0	0	0	1	1	1	0
	2	3	4	5	6	7	8	9	0	1	2	1
143. <i>Pterolophia zebrina reductesignata</i>						√						
*144. <i>Rhodopina griseipes</i>								√				
145. <i>Sarothroceria lowi</i>		√										
*146. <i>Serixia apicefusicipennis</i>						√						
*147. <i>Sthenias franciscana</i>											√	
148. <i>Sthenias pascoei</i>								√	√			
*149. <i>Stibara humeralis</i>						√						
150. <i>Stibara rufina</i>								√				
*151. <i>Stibara subpunctata</i>							√			√		
152. <i>Stibara tricolor</i>									√			
153. <i>Stratioceros princeps</i>		√	√					√	√			
154. <i>Tetraglenes hirticornis</i>		√						√	√			
155. <i>Thermonotus nigripes</i>									√			
156. <i>Threnetica lacrymans</i>		√	√		√	√	√	√	√	√	√	
157. <i>Thylactus simulans</i>								√				
*158. <i>Thylactus uniformis</i>			√									
*159. <i>Trachystohammus subelongatus</i>				√								
*160. <i>Xenolea asiatica</i>									√			
161. <i>Xylorhiza adusta</i>	√		√		√				√		√	

*new record in Thailand

Codens of months referred to in this table are as follows:

01=January 02=February 03=March 04=April 05=May 06=June 07=July

08=August 09=September 10=October 11=November 12=December

Table 2 Species list of Longhorn beetles associated with locations.

species	Provinces																
	C M	C R	M H S	K P	L P	L P h	N K S	N N	P Y	P B	P C	P S L	P h	S T	T K	U T T	U D
Subfamily DISTENIINAE																	
1. <i>Cyrtonops punctipennis</i>	√																
2. <i>Distenia fulvipennis</i>	√																
*3. <i>Typodryas callichromoides</i>	√																
4. <i>Typodryas cambodianus</i>												√					
Subfamily PRIONINAE																	
*1. <i>Anomophysis ellioti</i>	√																
*2. <i>Anomophysis elongata</i>	√	√	√		√					√							
3. <i>Anomophysis spinosa</i>	√								√								
4. <i>Baralipton maculosa</i>	√		√									√					
5. <i>Bandar pascoei</i>	√	√							√	√			√		√	√	
6. <i>Dorysthenes buqueti</i>	√		√														√
7. <i>Dorysthenes walkeri</i>	√	√	√										√				
8. <i>Eurypoda batesi</i>	√																
9. <i>Eurypoda nigrita</i>	√	√	√	√	√							√					
10. <i>Megopis marginalis</i>	√																
11. <i>Megopis procera</i>	√		√														
12. <i>Megopis sinica ornaticollis</i>	√																
13. <i>Megopis sinica sinica</i>	√		√												√	√	
14. <i>Prionoma bigibbosus</i>	√							√									
15. <i>Rhaphipodus fetalis</i>	√								√								
16. <i>Rhaphipodus frushstorferi</i>	√									√							
17. <i>Rhaphipodus hopei</i>	√	√											√				
18. <i>Rhineimegopis rugicollis</i>										√							

Table 2 (continued)

species	Provinces																	
	C M	C R	M H S	K P	L P	L P h	N K S	N N	P Y	P B	P C	P S L	P h	S T	T K	U T	U T D	
19. <i>Sarmyds antennatus</i>	√		√												√	√		
20. <i>Spinimegopsis lividipennis</i>	√	√																
*21. <i>Spinimegopsis piliventris antennalis</i>	√														√			
Subfamily PHILINAE																		
1. <i>Philus costatus</i>	√		√			√		√									√	
Subfamily SPONDYLIDINAE																		
*1. <i>Spondylis buprestoides</i>	√																	
Subfamily ASEMINEAE																		
*1. <i>Arhopalus exoticus</i>	√																	
*2. <i>Arhopalus unicolor</i>	√																	
Subfamily LEPTURINAE																		
1. <i>Ephies coccineus</i>	√																	
2. <i>Metalloleptura aureoviridis</i>	√																	
*3. <i>Strangalia fluvialis</i>	√																	
Subfamily CERAMBYCINAE																		
1. <i>Acrocyrtidus avarus</i>	√												√					
2. <i>Aeolesthes aurifaber</i>	√	√		√				√		√			√		√	√		
3. <i>Anubis bipustulatus</i>	√																	
*4. <i>Aphrodisium cantori</i>	√																	
5. <i>Aphrodisium gibbicolle</i>	√	√	√										√					
6. <i>Aphrodisium neoxenum</i>	√	√							√									
7. <i>Artimpaza argenteonotata</i>	√	√	√							√			√		√			
*8. <i>Artimpaza colorata</i>	√	√	√							√			√		√			
*9. <i>Artimpaza lineata</i>	√	√											√					
*10. <i>Artimpaza paksensis</i>		√	√							√					√			

Table 2 (continued)

species	Provinces																
	C M	C R	M H S	K P	L P	L P h	N K S	N N	P Y	P B	P C	P S L	P h	S T	T K	U T T	U D
*11. <i>Camelocerambyx semiruber</i>		√															
12. <i>Camelocerambyx singularis</i>	√	√											√		√		
13. <i>Ceresium elatum</i>												√	√		√		
14. <i>Ceresium fallaciosum</i>	√																
15. <i>Ceresium geniculatum</i>	√					√							√				
16. <i>Ceresium leucosticticum</i>	√																
17. <i>Chelidonium venereum</i>	√	√	√		√												
18. <i>Chlorophorus annularis</i>	√	√						√		√			√	√			
19. <i>Chlorophorus copiosus</i>	√	√			√			√	√				√				
20. <i>Chlorophorus hederatus</i>	√	√															
21. <i>Chlorophorus ictericus</i>	√	√	√	√				√	√				√				
22. <i>Chlorophorus punctiger</i>								√									
23. <i>Chlorophorus rubricollis</i>	√		√										√				
24. <i>Chlorophorus sappho</i>		√															
25. <i>Cleomenes micarius</i>	√	√										√					
26. <i>Clytosaurus siamensis</i>						√							√				
27. <i>Cyriopalus wallacei</i>	√	√	√	√													
*28. <i>Demonax albidofasciatus</i>	√	√						√									
29. <i>Demonax alboantennatus</i>			√														
30. <i>Demonax alcanor</i>		√															
*31. <i>Demonax dignus</i>	√	√															
32. <i>Demonax elongatus</i>	√			√													
*33. <i>Demonax semiluctuosus</i>	√				√												

Table 2 (continued)

species	Provincs																	
	C M	C R	M H S	K P	L P	L P h	N K S	N N	P Y	P B	P C	P S L	P h T	S T	T K	U T T	U D	
34. <i>Demonax tenuiculus</i>															√			
35. <i>Demonax vilis</i>	√									√								
36. <i>Dere adelpha</i>	√																	
*37. <i>Dere affinis</i>	√																	
38. <i>Dialeges pauper</i>	√					√				√		√	√					
39. <i>Epania ruficollis</i>			√															
*40. <i>Epipedocera laticollis</i>	√	√	√	√	√	√			√			√						
*41. <i>Epipedocera subatra</i>					√													
*42. <i>Epipedocera vitalisi</i>	√	√																
43. <i>Erythresthes shimomurai</i>		√																
44. <i>Erythrus championi</i>	√	√							√									
*45. <i>Erythrus laosensis</i>	√	√																
46. <i>Erythrus laticornis</i>	√	√	√						√									
*47. <i>Euryarthrum lambii</i>	√																	
48. <i>Euryphagus lundii</i>	√					√									√	√		
49. <i>Gnatholea eburifera</i>	√				√													
*50. <i>Hesperophanes erosus</i>	√																	
51. <i>Hoplocerambyx spinicornis</i>	√			√						√								
*52. <i>Hyphus apicalis</i>												√						
53. <i>Ibidionidum corbetti obscuripes</i>	√																	
*54. <i>Ipothalia pyrrha</i>	√																	
55. <i>Kunbir atriapicalis</i>			√												√			
56. <i>Merionoeda aglaospadix</i>	√																	
57. <i>Merionoeda catoxelytra</i>	√	√																
58. <i>Merionoeda fusca</i>	√																	

Table 2 (continued)

species	Provinces																
	C M	C R	M H S	K P	L P	L P h	N K S	N N	P Y	P B	P C	P S L	P h T	S T	T K	U T T	U D
59. <i>Neocerambyx gigas</i>	√	√	√														
60. <i>Neocerambyx grandis</i>	√	√		√					√								
61. <i>Neoplocaederus obesus</i>	√		√	√		√							√				√
62. <i>Neoplocaederus ruficornis</i>	√			√		√		√		√			√				√
63. <i>Nida flavovittata</i>										√					√		
64. <i>Noserius tibialis</i>	√		√		√												
65. <i>Nyphasia pascoei</i>	√												√		√		
66. <i>Oplatocera callidioides</i>			√														
*67. <i>Oplatocera oberthuri</i>	√	√															
68. <i>Pachylocerus sulcatus</i>	√	√										√					
69. <i>Pachyteria dimidiata</i>	√				√								√		√	√	
*70. <i>Pachyteria equestris</i>	√																
71. <i>Pavieia superba</i>	√	√							√								
72. <i>Perissus mutabilis</i>		√			√												
*73. <i>Phyodexia concinna</i>													√				
74. <i>Polyphida metallica</i>	√												√				
*75. <i>Polyzonus flavocinctus</i>	√																
76. <i>Polyzonus saigonensis</i>	√		√												√		
77. <i>Polyzonus subotusus</i>	√	√							√			√					
*78. <i>Polyzonus watosoni</i>	√																
79. <i>Prothema aurata</i>	√	√	√		√		√				√		√		√	√	√
*80. <i>Prothema laosensis</i>	√	√		√						√		√					
*81. <i>Prothema cakli</i>	√																
82. <i>Purpuricenys malaccensis</i>	√				√	√		√		√		√	√				

Table 2 (continued)

species	Provinces															
	C M	C R	M H S	K P	L P	L P h	N K S	N N	P Y	P B	P C	P S L	P h T	S T	T K	U T T
*83. <i>Pyrestes bicolor</i>	√	√	√	√			√	√		√		√		√		
*84. <i>Pyrestes dohertii</i>												√				
85. <i>Rhaphuma aequalis</i>	√			√	√			√	√			√	√	√		
86. <i>Rhaphuma binhensis</i>	√		√							√		√			√	
*87. <i>Rhaphuma clarina</i>	√			√	√			√		√		√	√			
88. <i>Rhaphuma diana</i>	√	√		√				√				√				
*89. <i>Rhaphuma elongata</i>													√			
90. <i>Rhaphuma falx</i>		√														
91. <i>Rhaphuma gilvitaris</i>	√		√					√	√			√			√	
92. <i>Rhaphuma horsfieldi</i>		√													√	
93. <i>Rhaphuma indifferens</i>	√	√						√					√			
*94. <i>Rhaphuma mekong</i>	√	√	√					√		√						
95. <i>Rhaphuma patkaina</i>	√	√		√	√	√			√				√		√	
*96. <i>Rhaphuma pseudobinhensis</i>	√													√		
*97. <i>Rhaphuma tricolor</i>		√													√	
98. <i>Rhytidodera grandis</i>		√	√													
99. <i>Rhytidodera integra</i>	√	√		√	√	√			√				√			
100. <i>Rhytidodera mutabilis</i>		√														
101. <i>Rosalia decempunctata</i>	√	√			√											
102. <i>Rosalia formosa</i>	√	√														
103. <i>Rosalia lameerei</i>	√															
104. <i>Scalenus drescheri</i>	√	√	√		√	√		√				√	√		√	√
105. <i>Scalenus hemipterus</i>	√															
106. <i>Sclethrus amoenus</i>		√														
107. <i>Stromatium longicorne</i>	√	√			√	√		√				√		√	√	

Table 2 (continued)

species	Provinces																
	C M	C R	M H S	K P	L P	L P h	N K S	N N	P Y	P B	P C	P S L	P h T	S T	T K	U T T	U D
108. <i>Xoanodera regularis</i>	√																
109. <i>Xoanodera striata</i>	√																√
110. <i>Xoanodera vitticollis</i>	√																
111. <i>Xylotrechus buqueti</i>		√															
112. <i>Xylotrechus chinensis</i>	√																
113. <i>Xylotrechus unicarinatus</i>	√																
114. <i>Xystrocera festiva</i>	√			√					√			√					√
115. <i>Xystrocera globosa</i>	√								√				√				
116. <i>Zoodes fulguratus</i>	√	√			√	√											
Subfamily LAMIINAE																	
1. <i>Abryna regispetri</i>	√																
2. <i>Acalolepta pseudospeciosa</i>	√	√															
*3. <i>Agelasta bifasciana</i>	√																
4. <i>Agelasta birmanica</i>	√																
5. <i>Agelasta mouhoti</i>	√									√							
6. <i>Aesopida malasiaca</i>	√																
7. <i>Alidus biplagiatus</i>	√	√					√			√					√		
8. <i>Anamera alboguttata</i>	√	√															
9. <i>Anamera concolor</i>	√											√					
*10. <i>Anamera desемaculata</i>	√																
11. <i>Anamera harmandi</i>	√																
*12. <i>Anamera obesa</i>	√																
*13. <i>Anamera strandi</i>	√																
*14. <i>Anameromorpha metallica</i>	√																

Table 2 (continued)

species	Provinces																	
	C M	C R	M H S	K P	L P	L P h	N K S	N N	P Y	P B	P C	P S L	P h	S T	T K	U T T	U D	
*15. <i>Annamanum chebanum</i>	√																	
*16. <i>Anoplophora birmanica</i>	√																	
17. <i>Anoplophora elegan</i>	√	√											√					
18. <i>Anoplophora horsfieldii</i>	√	√																
19. <i>Anoplophora longehirsuta</i>	√	√																
*20. <i>Anoplophora medenbachii</i>	√	√																
21. <i>Anoplophora sollii</i>	√																	
*22. <i>Anoplophora stanleyana</i>								√										
23. <i>Anoplophora zonator</i>	√	√											√					
24. <i>Apomecyna cretacea</i>				√					√			√	√					
25. <i>Apomecyna sultator niveosparsa</i>				√					√			√	√					
26. <i>Apriona germari</i>	√		√			√		√									√	
27. <i>Apriona swainsoni</i>	√																	
28. <i>Arctolamia cruciatus</i>	√	√																
29. <i>Arctolamia fasciata</i>	√	√																
30. <i>Arctolamia fruhstorferi</i>	√																	
31. <i>Arctolamia villosa</i>	√																	
32. <i>Aristobia approximator</i>				√		√	√	√					√				√	
33. <i>Aristobia horridula</i>				√		√		√			√		√				√	
34. <i>Aristobia voeti</i>	√	√			√	√		√	√	√		√		√			√	
35. <i>Astathes dimidiata</i>	√																	
36. <i>Astathes gibbicollis</i>	√																	
*37. <i>Astathes violaceipennis</i>	√	√																

Table 2 (continued)

species	Provinces																
	C M	C R	M H S	K P	L P	L P h	N K S	N N	P Y	P B	P C	P S L	P h T	S T	T K	U T T	U D
38. <i>Batocera davidis</i>	√																√
39. <i>Batocera lineolata</i>	√																
40. <i>Batocera numitor</i>	√																
41. <i>Batocera parryi</i>	√							√									√
42. <i>Batocera roylei</i>	√					√		√	√	√		√	√				
43. <i>Batocera rubus</i>	√								√								√
44. <i>Batocera rufomaculata</i>		√	√	√	√	√	√	√			√	√	√		√		√
*45. <i>Batocera thomsonii</i>	√			√													
*46. <i>Blepephaeus ocellatus</i>	√	√															
47. <i>Blepephaeus succinator</i>	√																
48. <i>Cacia cretifera</i> <i>luteofasciata</i>				√					√			√					√
49. <i>Calothyrsa margaritifera</i>	√						√										
50. <i>Celosterna pollinosa</i> <i>sulphurea</i>	√	√	√		√			√		√					√		√
*51. <i>Choeromorpha</i> <i>subfasciata</i>									√								
*52. <i>Cleptometopus similis</i>	√																
53. <i>Coptops annulipes</i>	√				√			√				√					
54. <i>Coptops pascoei</i>													√		√		
55. <i>Cremnosterna carrisima</i>	√	√			√	√			√			√	√				
56. <i>Cremnosterna plagiata</i>	√																
57. <i>Cylindrecampus</i> <i>lineatus</i>	√																
*58. <i>Cylindrepomus</i> <i>viridipennis</i>	√																

Table 2 (continued)

species	Provinces																
	C M	C R	M H S	K P	L P	L P h	N K S	N N	P Y	P B	P C	P S L	P h T	S T	T K	U T T	U D
59. <i>Diastocera wallichi tonkinensis</i>	√																
60. <i>Diboma posticata</i>	√																
*61. <i>Drioepa luteolineata</i>	√																
62. <i>Epepeotes luscus densemaculatus</i>			√														
*63. <i>Epicedia maculatrix</i>	√																
64. <i>Eucomatocera vittata</i>	√	√	√									√					
65. <i>Eunidia lateralis</i>												√					
66. <i>Eunidia rondoni</i>	√	√	√														
*67. <i>Eutaenia albomaculata</i>	√																
68. <i>Eutaenia corbetti</i>	√	√	√			√	√					√		√			
69. <i>Eutaenia trifasciella</i>	√			√			√					√		√			
70. <i>Exocentrus respersus</i>				√											√		
71. <i>Exocentrus pelidnus</i>	√	√										√			√		
72. <i>Gerania bosci bosci</i>	√					√	√				√				√		
73. <i>Glenea cantor</i>		√							√					√	√		√
74. <i>Glenea elegans</i>															√		
75. <i>Glenea mouhoti</i>	√	√			√			√	√								
76. <i>Glenea laoensis</i>	√																
*77. <i>Glenea mathemalica</i>	√																
78. <i>Glenea proserpina</i>		√	√												√		
79. <i>Glenea pulchra</i>	√		√		√			√	√						√		
*80. <i>Glenea quadrinotata</i>			√														
*81. <i>Glenea subviridescens</i>	√	√							√								
*82. <i>Glenea vaga</i>	√																
*83. <i>Gnoma gilmouri</i>			√														

Table 2 (continued)

Species	Provinces																
	C M	C R	M H S	K P	L P	L P h	N K S	N N	P Y	P B	P C	P S L	P h T	S T	T K	U T T	U D
84. <i>Golsinda basicornis</i>	√																
*85. <i>Hirtaeschopalaea fasciculata</i>				√													
*86. <i>Hoplothrix rivulosus</i>	√																
87. <i>Imantocera penicillata</i>	√											√					
88. <i>Ioesse sanguinolenta</i>	√																
89. <i>Leptomesosa cephalotes</i>	√			√				√	√								
90. <i>Macrochemus isabellinus</i>	√																
91. <i>Mesocacia multimaculata</i>	√			√								√					
92. <i>Microlenecamptus signatus</i>	√				√	√			√								
93. <i>Mispila curvilinear</i>	√																
*94. <i>Mispila kamvengal</i>					√								√				
95. <i>Moechotypa coomani</i>	√				√												
96. <i>Moechotypa suffusa</i>	√		√	√						√					√		
97. <i>Monochamus bimaculatus</i>		√				√											
98. <i>Monochamus dubius</i>	√																
*99. <i>Monochamus guerryi</i>	√	√															
*100. <i>Nipholophia chujoi</i>	√																
101. <i>Niphona falaize</i>	√														√		
102. <i>Niphona hookeri</i>	√																
103. <i>Niphona longesignata</i>	√																
104. <i>Niphona malaccensis</i>	√					√		√									
105. <i>Niphona rondoni</i>	√		√							√					√		
106. <i>Nupserha fricator</i>	√									√		√	√				
107. <i>Nupserha quadrioculata</i>	√																

Table 2 (continued)

species	Provinces															
	C M	C R	M H S	K P	L P	L P h	N K S	N N	P Y	P B	P C	P S L	P h	S T	T K	U T T
*108. <i>Nupserha spinifera</i>	√									√					√	
109. <i>Nupserha variabilis</i>	√											√				
110. <i>Oberea ferruginea</i>	√															
111. <i>Olenecamptus bilobus</i>	√								√		√					
112. <i>Olenecamptus dominus</i>	√	√			√	√			√			√			√	
*113. <i>Olenecamptus fouqueti</i>	√			√											√	
114. <i>Olenecamptus siamensis</i>	√				√				√			√			√	
115. <i>Palimna annulata</i>	√											√	√		√	
*116. <i>Parachydaeopsis laosica</i>												√				
117. <i>Paraleprodera cordifera saigonensis</i>															√	
118. <i>Paraleprodera crucifera</i>	√	√	√	√		√				√		√				√
119. <i>Paraleprodera laosensis</i>			√													
120. <i>Paraphemone multimaculata</i>	√															
121. <i>Parepepeotes breuningi</i>	√															
122. <i>Perihammus lemoulti</i>	√	√				√						√				
*123. <i>Pharsalia duplicata</i>												√			√	
*124. <i>Pharsalia pulchroides</i>		√														
125. <i>Pharsalia subgemma</i>	√	√	√	√	√	√	√					√			√	√
*126. <i>Phrissomorimus brunneus</i>	√	√			√											

Table 2 (continued)

species	Provinces															
	C M	C R	M H S	K P	L P	L P h	N K S	N N	P Y	P B	P C	P S L	P h	S T	T K	U T T
127. <i>Pothyne septemvittipennis</i>	√															
128. <i>Pothyne variegata</i>	√	√	√			√						√	√			
129. <i>Pseudanaesthetis langana</i>				√												
130. <i>Pseudomacrochenus antennatus</i>	√															
131. <i>Pseudomeges marmoratus</i>	√															
132. <i>Pseudomyagrus waterhousei</i>	√		√													
133. <i>Pseudonemophas versteegii</i>	√	√			√			√	√			√			√	
*134. <i>Pterolophia bituberculatithorax</i>	√	√	√							√					√	
135. <i>Pterolophia consularis</i>			√													
136. <i>Pterolophia dorsalis</i>	√															
*137. <i>Pterolophia humerosa</i>	√															
138. <i>Pterolophia lateralis</i>	√															
*139. <i>Pterolophia mimoconsularis</i>										√						
*140. <i>Pterolophia paralaosensis</i>	√															
*141. <i>Pterolophia partealbicollis</i>					√											
142. <i>Pterolophia zebrina</i>	√	√	√		√	√		√	√		√	√		√	√	√
143. <i>Pterolophia zebrina reductesignata</i>			√													

Table 2 (continued)

species	Provinces																	
	C M	C R	M H S	K P	L P	L P h	N K S	N N	P Y	P B	P C	P S L	P h	S T	T K	U T T	U D	
*144. <i>Rhodopina griseipes</i>	√																	
145. <i>Sarothrocera lowi</i>		√																
*146. <i>Serixia apicefuscipennis</i>	√																	
*147. <i>Sthenias franciscana</i>													√					
148. <i>Sthenias pascoei</i>	√																	
*149. <i>Stibara humeralis</i>	√																	
150. <i>Stibara rufina</i>	√																	
*151. <i>Stibara subpunctata</i>	√																	
152. <i>Stibara tricolor</i>	√																	
153. <i>Stratioceros princes</i>	√				√							√						
154. <i>Tetraglenes hirticornis</i>	√																	
155. <i>Thermonotus nigripes</i>	√																	
156. <i>Threnetica lacrymans</i>	√	√	√	√		√			√									
157. <i>Thylactus simulans</i>	√				√													
*158. <i>Thylactus uniformis</i>						√												
*159. <i>Trachystohammus subelongatus</i>															√			
*160. <i>Xenolea asiatica</i>	√																	
161. <i>Xylorhiza adusta</i>	√					√		√	√	√								

*new record in Thailand

Codens of locations referred to in this table are as follows:

CM=Chiang Mai CR=Chiang Rai MHS=Mae Hong Son KP=Kamphaeng Phet

LP=Lampang LPh=Lamphun NKS= Nakhonsawan NN=Nan Ph=Phrae

PB=Phetchabun PC= Phichit PSL=Phitsanulok PY=Phayao ST=Sukhothai

TK=Tak UTT=Uthai thani UTD=Uttaradit

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