

CHAPTER V

CONCLUSION

Seventy-one isolines of *Anopheles campestris*-like were established from wild-caught females collected from human-biting and animal-biting traps at 12 populations in Thailand. All isolines had average branch summation of seta 2-VI pupal skins ranging from 20.3-30.0 branches. Three different karyotypic forms, *i.e.*, Form B was found only in Chaing Mai and Kamphaeng Phet populations, while Form E and F were widely distributed throughout the species range.

An isoline colony of *An. campestris*-like Form E was successfully established under laboratory conditions for more than 40 generations. The present rearing procedure was also proven to be promising system for obtaining high yield of brain mitotic and salivary gland polytene chromosomes.

Crossing studies among 12 isoline strains of *An. campestris*-like Form B, E and F revealed genetic compatibility by yielding viable F₁- and/or F₂ progeny, suggesting a conspecific relationship in nature. These results find support from the very low intraspecific variation (genetic distance < 0.005) of ITS2, COI and COII from genomic DNA of the 3 karyotypic forms.

Comparative morphological studies of egg, larva, pupa and adult under light microscope, and egg topography under scanning electron microscopy (SEM) among

71 isoline strains of *An. campestris*-like Form B, E and F indicated that they were morphologically indistinguishable.

Comparative banding of X chromosome and autosomes of polytene chromosomes among 12 isoline strains of *An. campestris*-like Form B, E and F revealed no major chromosomal rearrangement that related to karyotypic forms.

Laboratory experiments to determine the vector potential of *An. campestris*-like Form B, E and F to *Plasmodium vivax* and *P. falciparum* indicated that only *An. campestris*-like strain from Chiang Mai yielded promising susceptibility to *P. vivax* but refractory to *P. falciparum*, whereas the remaining strains were completely refractory to both *P. vivax* and *P. falciparum*.