

Siwachate Chairote 2012: Morphology, Ecology and Anatomy of Dok Din (Orobanchaceae) in Thailand. Master of Science (Botany), Major Field: Botany, Department of Botany. Thesis Advisor: Associate Professor Prasart Kermanee, Ph.D. 102 pages.

Morphology, ecology and anatomy of the family Orobanchaceae were studied by surveying from the reported sources in Thailand and explants of every developmental stages were collected. Specimens of the host plants also were collected for species identification. Three species of the family Orobanchaceae were found. *Aeginetia indica* L. was found in dry evergreen forest, dipterocarp forest and occasionally might be found in limestone areas at 0 – 1,800 m above sea level. *A. pedunculata* Wall. was found in grassland at 50 – 1,000 m above sea level. Whilst *Christisonia siamensis* Craib was found in bamboo forest only at 300-800 m above sea level. All species bloom in rainy season during July to October. *A. indica* distributes in all parts of the country and *A. pedunculata* was found in northern, central, western and west part of north-eastern regions. Whereas *C. siamensis* was found in northern, western, Loei province in north-eastern and Chumporn province in southern. The life cycle of all species is similar, starting from preconditioning of seed, attachment of seed on the host root, germinates and penetrates a haustorium to connect the host vascular tissue, development of a tubercle, growth of shoot, flowering and seed setting, respectively. The ripening fruit dehisces and disperses numerous seeds onto the soil. The seeds maintain dormancy overyear. Anatomical characteristic of all species is similar compose of parenchyma cells. Specific parenchymatous cells were found in tubercle of *A. indica* and *A. pedunculata* but were not found in *C. siamensis*. The haustorium of *A. indica* developed many adventitious root from epidermal layer. Stem and peduncle of all species have similar anatomical characteristics. The capitates glands, mucilage secreting glands were found on corolla epidermis. Ovule of all species is numerous. Pollen of all species is a small size (less than 25 µm) with tricolpate aperture, scabrate or finely scabrate sculpturing. Loculicidal capsule fruit containing numerous seeds was found in *A. indica* and *C. siamensis*. Seed of all species is alveolate type. Seedcoat of *A. indica* is reticulately-thickened secondary wall whereas the seedcoat of *C. siamensis* is brachysclereid. Embryo of all species is a solanad type and endosperm of all species is a cellular type. The study on seed germination of *A. indica* in *in vitro* on MS medium without plant growth regulator in dark condition was investigated. It was found that the mulberry shaped embryo was observed often two months of culture. Shoot developed at the forth month. The further development was not observed often sixth month of culture.

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Student's signature

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Thesis Advisor's signature