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KEY WORD: *Pyrrosia eberhardtii* / BIOSYSTEMATICS/ FERN/ NUMERICAL TAXONOMYROSSARIN POLLAWAT : BIOSYSTEMATICS OF *Pyrrosia eberhardtii* (Christ) Ching
POPULATIONS IN THAILAND. THESIS ADVISOR : ASSOC. PROF.
THAWEESAKDI BOONKERD, Ph.D. 167 pp. ISBN 974-635-909-6.

Due to morphological plasticity in the natural populations of *Pyrrosia eberhardtii* (Christ) Ching in different geographical regions of Thailand, biosystematic study of 7 populations was carried out to investigate the variations within and between populations which will be determined that a variant of the species existed or not existed by using Numerical Taxonomy. The multivariate analyses include factor analysis, cluster analysis and discriminant analysis of the morphology and anatomy of rhizome, frond and scale, as well as reproductive structure. Nine morphological characters, 10 anatomical characters and 7 reproductive characters were analyzed. It is found that no significant difference in size and number of the morphology of frond, rhizome, scale and reproductive structure within and between populations. Dimorphic hairs covering the sori were also observed in all populations. The anatomy of frond and rhizome show high variation within population, but however no statistical difference between populations. The probable factors for the variations of all populations are the variations in environmental factors of each natural habitat, i.e. light, total rainfall, as well as edaphic factors.

In conclusion, it was found that the variations within and between 7 populations of *Pyrrosia eberhardtii* (Christ) Ching are inadequate to distinguish any population as an infraspecific taxon or a new separated species.

ภาควิชา.....พฤกษศาสตร์

สาขาวิชา.....พฤกษศาสตร์

ปีการศึกษา.....2539

ลายมือชื่อนิสิต.....เสาวนีย์ ทวีวัฒน์

ลายมือชื่ออาจารย์ที่ปรึกษา.....ดร.เสาวนีย์ ทวีวัฒน์

ลายมือชื่ออาจารย์ที่ปรึกษาร่วม.....