

Surapon Saensouk. 2000. *A study on morphology, chromosome and pollen of the family Zingiberaceae in Phu Phan National Park*. Master of Science Thesis in Biology, Graduate School, Khon Kaen University. [ISBN 974-678-100-6]

THESIS ADVISORY COMMITTEE : Assoc.Prof.Dr. Pranom Chantaranothai, Asst.Prof.Dr. Achra Thammathaworn, Assoc.Prof.Dr. Sumonthip Bunnag

Abstract

Four tribes, nine genera and 45 species are found in Phu Phan National Park. *Boesenbergia baimaii* is new to science. The description of the family, genera and species are provided together with keys to genera and species, illustrations, distributional maps and ecological data.

Chromosome numbers of 42 species were determined with Feulgen squash technique. Somatic numbers counted are between 20 and 92. The species in *Boesenbergia* and *Curcuma* can be classified by chromosome number. Counts for 21 taxa are recorded for the first time.

The external pollen morphology has been investigated in 10 species of the family, by mean of light microscopy and scanning electron microscopy. Pollen grains of all taxa examined are more or less spheroidal, inaperturate, five exine sculpturing patterns are psilate, short spinate, long spinate, rugulate and micro-rugulate. Pollen sizes have been proved to be a useful tool in clarifying taxonomic boundaries of the taxa studies.