Thesis Title : The Study on Ecology and Model Development of Wildlife's Food Plants in the Mixed Deciduous Forest Using Wildbirds as Bioindicators : A Case Study of Fruiting and Flowering Plants in Erawan National Park, Kanchaburi Province.

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Abstract

This was a study on ecology and model development of wildlife's food plants in the mixed deciduous forest using wildbirds as bioindicators about fruiting and flowering plants in Erawan NP. The study was based on twelve months of intensive fieldwork during the period of October 1993 to September 1994. It was researched for the purpose of collecting ecological data on both. Fruiting and flowering plants, birds' food plants growing on different elevations in order to gain information on species of birds that feed on fruits and flowers and find out the relationship between the birds' feed plants and species of birds that feed on such plant food at the different elevations. After this research, a model of mixed deciduous forest that serves as birds' plant food source will be developed in the natural distribution of food plant in order to be used as a guideline to develop birds' food plant forest in the protected areas.

Under this research, were 8 sample square plots of 40x40 metre (1 rai) were laid out, and within these square plotsthere were many small square plots of different sizes, 10x10, 20 x20, 30x30 and 40x40 metre. Data, quantitative and qualitative, on phenology, feeding habits of birds and birds ecological niche were collected about 10 -15 days per month throughout 1 year. Models of upper and lower mixed deciduous forest were madewhich consist of 30 food plant species.

After the quantitative research of birds' food plant in the lower, 68 species were found. 2 species were the most frequent; 2 species were the most abundant; 3 species were the most dense and 5 species had the most important value index. In the upper, 47 species were found. 2 species were the most frequent; 4 species were the most abundant; 5 species were the most dense and 6 species had the most important value index. Quantitatively, birds' food plants in the lower shed leaves mostly in January and less in July; leaf budding mostly in April and less in July; fruiting and flowering mostly in July and less in January and densely leafing mostly in July and less in February. In the upper, leave shedding takes place in January and less in August and September,

leaf budding mostly in March and less in October; fruiting and flowering mostly in March and July and less in November and densely leafing mostly in September and less in January.

Regarding the diversity of bird species in Erawan NP., 49 families, 139 generas and 244 species were recorded. Of these, 27 families, 54 generas and 101 species were recorded as birds feeding on plant food, and of these 101 species were recorded in the lower and 68 species in the upper mixed deciduous forest.

After the above research, 4 alternative models in the lower and 4 alternative models in the upper can be developed. The selected food plant species in both lower and upper suggest the plants of *Eugenia cumini* Druce, *Grewia eriocarpa* Juss, *Bischofia javanica* Bl, *Ficus spp.* and *Lannea coromandelica* Merr in protected areas .