

CHAPTER I



INTRODUCTION

It is generally known that plants provide us with useful agricultural products, industrial materials and medicines. At present, plant diversity is crucial to the rural economy, since it fills the basic needs for the development of society. Thus, the botanical researches are important to a developing country which is rich in indigenous species.

As a tropical country, Thailand is rich in biological resources; so far 15,000-20,000 species of plants are known. There are some 1,000 species of orchids, some 2,000 species of fungi and some 500 species of large trees, of which 633 species of pteridophytes were included (see เพ็งกล้าข, 2532). From the last forty years, bio-resources have been rapidly decreasing mainly by human activities. Especially, during the course of modern development, and the future global climatic change may reversibly affect plant communities and ecosystems. So the remaining bio-resources require good management and conservation for our sustainable development and for the benefit of mankind.

It is noted that northern Thailand possesses floristic elements mainly from two biogeographic regions namely :- Indo-Burmese and Sino-Himalayan. But, only 20% of the national botanical inventory has been published (Suntisuk et al., 1991). Thus botanical researches in some specific areas of Thailand are really needed so as to add new knowledge to Flora of Thailand Project. Chiang Rai is rather suited for this purpose because it is situated in northernmost Thailand. This province is still rich in plant diversity because plants thrive well in protected areas. However, Chiang Rai is one of the provinces that encounters the problem of deforestation.

Botanical expedition in this province is also rather poor as compared with the neighboring province Chiang Mai. Therefore, Khunkorn Waterfall Forest Park (Fig. 1) is selected for plant-diversity study.

This Forest Park is situated in Muang District, Chiang Rai Province. About 70% of the park consists of mountainous areas, and its elevation ranges from 625 to 1,600 meters above sea level. Generally, the northern forest is characterized by a cool dry season with much precipitation and dew. The main distribution of this kind of forest is in Arunachal Pradesh, northern Myanmar, south China and Tonkin (Ashton, 2532). The preliminary observation of the park discovers an endemic species of ferns, *Lomagramma grossoserrata* Holttum. This fern species is known only from the type collection in Phrae Province (Tagawa & Iwatsuki, 1988). It is believed that this park also houses other endemic species, i.e. *Antrophyum winitti* Tagawa & K. Iwats. that is only found once in Chiang Rai. As a result, this research project is aimed to explore plant diversity at Khunkorn Waterfall Forest Park with specially reference to diversity of ferns and fern allies.

Aims of this thesis

The aims of the thesis are to :

1. Collect ferns and fern allies growing in Khunkorn Waterfall Forest Park.
2. Taxonomic study : identify and construct the key to genera and species; record ecological data and their uses.

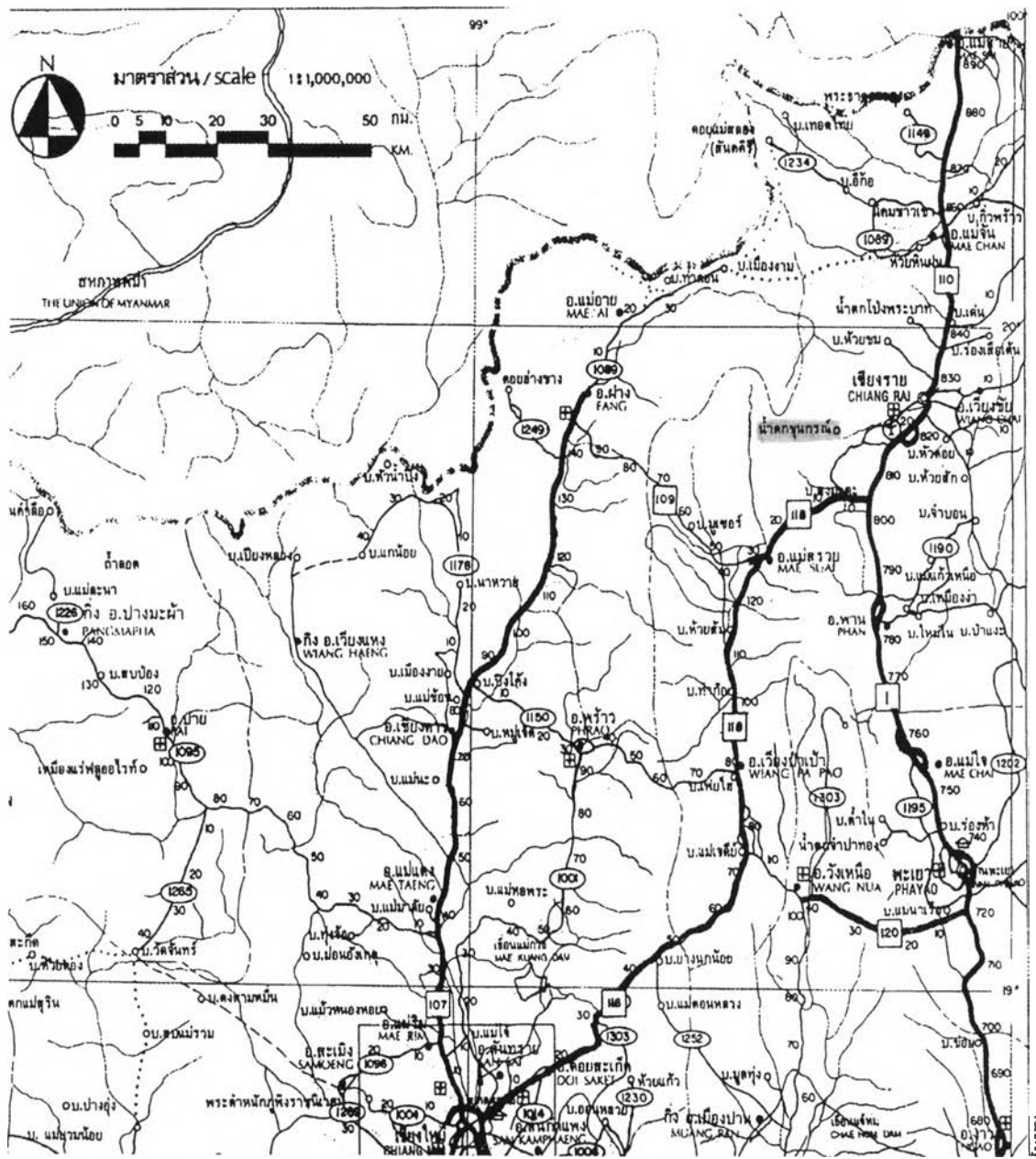


Fig. 1.1 Map of approximate location of Khunkorn Waterfall Forest Park