

Preserving Northern Thailand's Botanical Diversity

The Biology Department of Chiang Mai University (CMU) recently opened a new, purpose-built facility to house its rapidly expanding herbarium and botanical database. The three-story building, financed by the Thai Government budget, has 432 m² of floor space. The main collection of dried plant specimens is kept in rows of cabinets on the third floor, along with the botanical library. The second floor has staff offices, a study and display room, a room for specimen preparation and a computer lab for the botanical database.

Plant specimens are collected from all over northern Thailand, dried in ovens, treated with chemicals to prevent attack by fungi and insects, then glued and sown onto paper sheets and stored in cabinets. The herbarium technician, Ms. Pranee Pralee, carries out most of the preparatory work. The collection includes weeds, forest plants, medicinal plants and introduced species. According to the co-ordinator of the herbarium, Dr. Vilaiwan Anusarnsunthorn, the collection serves four main functions:

- 1) It is a reference collection for indentifying newly collected plants. University staff and students as well as NGO staff and other researchers, involved in conservation and rural development projects all over northern Thailand, consult the herbarium specimens to identify the flora in their project sites.
- 2) It is a valuable teaching aid for students studying plant taxonomy, morphology and ecology.
- 3) It provides a body of data for research. The herbarium labels contain notes, not only on taxonomy, but also on ecology, habit, habitat etc. These notes are of great value to researchers and currently provide the main input into the botanical database project.
- 4) The library, an essential part of all herbaria, includes manuals, floras, revisions and other relevant books on agroforestry and conservation.

"The herbarium is part of the Biology Department, which provides institutional support and a limited budget, but it relies heavily on sponsorship from the public and private sectors for much of its running costs", said Dr. Vilaiwan. Sponsors, so far, have included World Wildlife Fund (US) and Wildlife Conservation International.

The curator of the herbarium, J.F. Maxwell, who has been working on Thailand's flora for more than 25 years, says that it now contains well over 6,000 dried specimens of vascular plants, mostly from northern Thailand. "The collections from Doi Suthep–Pui (2,114 species) and Doi Khun Tan (1,285 species) National Parks are more or less complete, but Doi Chiang Dao, the Mae Soi conservation area in Obluang National Park and parts of Thung Yai Naresuan have also been partially covered. Current field work is concentrating on completing the flora of Doi Chiang Dao and doing a general survey of bamboos and rattans in northern Thailand."

Work on the botanical database originally started in 1993, based on information accumulated since July 1987. It provides a body of taxonomic and ecological knowledge about the plant species of northern Thailand, from previous and ongoing research projects at CMU's Biology Department, in an easily accessible form. Data on more than 3,000 plant species, including habit, habitat, altitude range and notes on flowering, fruiting and

leafing phenology have been computerized so far. Since 1994, World Wildlife Fund (US) has provided sponsorship to employ a database technician, Mr. Greuk Pakaad, to enter data into the system and generate reports. The system can produce lists of plant species matching various combinations of criteria, for example all orchids found between 1,000 and 1,500 m above sea level flowering in May. It can help ecologists plan research projects and the managers of protected areas devise vegetation management strategies to maintain biodiversity and prevent extinction of endangered plant species.

Access to the herbarium and database is free for non-profit-making purposes and anyone wishing to use the facilities should contact the Head of the Department of Biology, Dr. Pantawee Mapairoje.

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