IV. RESEARCH AND PUBLICATIONS

(continued from page 369)

Bibliographie botanique indochinoise de 1986 à 1993 by J.E. Vidal, H. Falaise, Phan Ke Loc and Nguyen Thi Ky makes this serial now as up to date as possible. The entrees are arranged alphabetically by author, with cross indexes on subjects, taxonomic names, and periodicals.

Botanical inventory of Mount Kinabalu — The project to inventory the flora of Mount Kinabalu has been in progress for nine years, during which time enumerations of the pteridophytes, gymnosperms, and orchids, about two-fifths of the flora of c. 4,500 species, have been published. The north side of the mountain has received scant botanical attention, as noted by Van Steenis over 30 years ago, and native collectors are now being employed to obtain specimens from that area. A specimen database of over 20,000 records has been developed and made available on the Internet. Other relational speci-

men and taxon files will be prepared, from which a camera-ready copy of the remaining segments of the enumeration will be produced. Dr. C. Anderson (MICH) is providing extensive help in the project by preparing treatments for various dicot families. About 40 other collaborators are contributing data for taxa in their area of expertise.

A geographic information system (GIS) for Mt Kinabalu is in preparation by Mr. R. Beaman. This includes coverage of the topography, hydrography, species distributions, satellite imagery, vegetation, geographic locations, geology, and land use.

Eight collaborators will use morphological and molecular data to test biogeographic and evolutionary hypotheses and to examine evolution and speciation on Kinabalu in nine well-represented exemplar genera in eight families.

An associated ethnobotanical project (Projek Etnobotani Kinabalu: PEK) employs native collectors from communities around the mountain to collect useful plants in their areas and gather information about plant names and uses. Mr. G. Martin (Paris) is helping directly with this project, which is under the supervision of Ms. L. Majuakim, Sabah Parks ethnobotanist. More than 3,500 ethnobotanical collections thus far have been obtained and the data entered into a database. This research focuses on the value of and sustainability of non-timber forest products, including biochemical prospecting for medicinal plants, assessment of the impact of harvesting on selected commercial species such as rattan palms, and the role of non-marketed useful plants in the health care and diet of local communities. One ultimate objective of PEK will be the analysis of Dusun botanical classification and its correspondence to scientific classification. — J.H. Beaman, Institute of biodiversity and Environmental Conservation (IBEC), Universiti Malaysia Sarawak (UNIMAS), 94300 Kota Samarahan, Sarawak.

The **'A First Look At ...'** series published by Tahanan Books for Young Readers, Inc., Metro Manila, the Philippines, has two clear goals, to help children wake up to the wonderful diversity of the world around them and to help them to understand basic classification in biology.

The volumes are beautifully executed in full-colour and include glossaries and endnotes on the importance of environmental conservation. Published so far are:

Bulalacao, L.J. 1994. A First Look at Philippine Flowers. — Benguet Lily, Bougainvillea, Gumamela, Ilang-ilang, Jade vine, Kalachuchi, Kamia, Sampaguita, Santan, Waling-waling.

Bulalacao, L.J. 1994. A First Look at Philippine Fruits. — Atis, Banana, Calamansi, Coconut, Lansones, Mango, Mangosteen, Papaya, Pineapple, Rambutan.

Bulalacao, L.J. 1994. A First Look at Philippine Trees. — Acacia, Agoho, Almaciga, Bakawan, Balete, Benguet Pine, Dap-dap, Molave, Narra.

Flore de la Nouvelle-Calédonie — Dr. J.J. Jérémie (P) studies the plants of rivers, lakes, and pools of New Caledonia in the field and the herbarium. A special volume is anticipated for strictly aquatic families.

The volume for 1995 will contain *Celastraceae* (I.H. Müller), *Loranthaceae*, and *Viscaceae* (B.A. Barlow). Manuscripts of *Cruciferae* (B. Jonsell) and *Tiliaceae* (C. Tirel) have been submitted.

A computerized floristic data bank of the Neocaledonean archipelago is in progress. The program aims to make available all useful botanical data (number, identity, distribution, status, abundance or rarity) to the scientific community (botanists, taxonomists) as well as potential users as administrators concerned with the protection of the environment, agronomists, foresters, teachers. The project is supported by the Museum of Natural History in Paris and ORSTOM.

Malvaceae of the Philippines — Thirty medicinal *Malvaceae* were botanically described and compiled. Twenty-one cultivars of *Abelmoschus moschatus* were found in the Burham Park of Baguio, Benguet. Members of this family usually serve as ornamentals and medicinals. — W.F. Vendivil.

Medicinal plants of Ilocos Norte, Luzon, Philippines — Eight municipalities were explored: Carasi, Currimao, Dumalueg, Espiritu, Nueva Era, Paoay, Pasciquin, and Rangi. One hundred and forty-one species belonging to 56 families of flowering plants were described botanically with their corresponding treatments of different ailments and diseases. Fifty-four species (38.3%) of trees were found to be important medicinal plants. The *Leguminosae* contributed the greatest number of species: 14 (0.93%). Among the ailments or diseases for which the greatest number of medicinal plants were used, wounds obtained the highest rate (19 spp or 8.3%) and fever or flu followed with 18 spp (7.9%). It is recommended that all medicinal plants mentioned in the research should be cultivated and maintained in a centralized plantation. — W.F. Vendivil.

Orchids of the Singapore Botanic Gardens by Dr. T.W. Yam was released in June 1995 by the National Parks Board, Singapore. With more than 150 colour plates, the 152-page book aims to illustrate the rich orchid collection, both species and hybrids, of the Singapore Botanic Gardens.

An introductory historical overview will enable readers to understand the founding of the orchid programme in the Singapore Botanic Gardens. The sections that follow catalogue the Gardens' collection of species of orchids as well as vandaceous, *Dendrobium*, and other generic hybrids. The book contains descriptions of some of the earliest hybrids as well as the most recent ones created by the Gardens. Use of technical terms has been kept to a minimum for the sake of the non-specialist reader.

For the expert orchidologists the text aims to recall past achievements and provide an up-to-date record of the hybrids and species. For new enthusiasts it documents the history of the orchid programme and reveals the richness and beauty of the orchids on display at the Singapore Botanic Gardens.

Philippine Biodiversity Information Center, Plants Unit, Newsletter — A semi-annual newsletter, published at PNH. The first issue (1994) includes articles on the aims of the Biodiversity Information Center (BIC), courses given, field trips made, meetings, list of status reports of rare, endemic, and endangered Philippine plants, the conservation status of Mt Sto Tomas FR, recent publications.

Philippine cave vegetation analysis — Sagada, Mountain Province, was selected as the initial phase of the study. The place lies some six to seven hours drive north from Baguio City, c. 18 km from the capital town of Bontoc, and 50 km from the famous terraces of Banaue. Sagada is endowed with a cool and invigorating climate much like that of Baguio City. Thirty-two caves were discovered. Three caves were transected: Sumaging Cave, Crystal Cave, and Lumiang Cave, all at barangay Ambasing. *Lantana camara* was observed as the most dominant among the shrubs, *Pinus insularis* among the trees. Two hundred duplicated specimens were collected as part of the scientific documentation. The three caves have a pH of 6.8 and a temperature of 19°C. Sophisticated analysis of their vegetation is still in progress. *Medinilla amplifolia*, an exotic plant and scarce and difficult to find, was collected at Lumiang Cave. — W.F. Vendivil.

Plant Checklist of Bangi Permanent Forest Reserve, Selangor Project — The forest (c. 700 ha), part of the main Campus of Universiti Kebangsaan Malaysia, has now become an island surrounded by oil palm estates and the built-up environment. A total of 572 species in 330 genera and 90 families has been enumerated from the above twice-logged lowland dipterocarp forest, representing c. 10% of the Peninsular Malaysian flora. In another study the species composition of a 1 ha plot was determined. A total of 877 individuals of 5 cm or more dbh were enumerated, belonging to 167 species and 41 families.

Plant Checklist of Langkawi Archipelago Project — By the end of 1993 a total of 1,150 species belonging to 598 genera and 144 families were enumerated from the 104 islands of Langkawi, Kedah. The study was based on the herbarium collections in Malaysia (KEP, KLU, UKMB, UPM) including that of Singapore (SING) and some from Kew (K) and Leiden (L) as well as fresh field collections. Additional lists were obtained from Dr. M.M.J. van Balgooy (L) in May 1994 and it is now assumed the number of taxa would increase a little. (See Bibliography.)

Resource ecological assessment of San Pedro Bay: mangroves, beach and cliffs vegetation studies. II — Three municipalities were explored: Tacloban and Tanauan, Leyte, and Marabut, Western Samar; 455,569 ha were found occupied by mangroves and *Nypa* swamps. For mangrove species zonation and density samplings three stations were established on: Capuntusan Island, Basey, Samar, which was found dominated with *Nypa fruticans*; Cagutian, Marabut, Western Samar, with as the dominant species *Rhizophora apiculata*; and Upong, Veloso, Western Samar, which was dominated by the same species. The beach and cliffs vegetations of San Pedro Bay was found to consist of 42% trees and 36% herbs; 17% were shrubs and vines 4.5%. Dominant flowering plant families were the *Leguminosae* (15.2%), *Gramineae* (14.1%), *Moraceae* and *Verbenaceae* (5.4%, each), *Euphorbiaceae* (4.3%), and *Apocynaceae* (3.3%). — W.F. Vendivil.

Species composition in a plot at Bukit Fraser, Pahang Project — In a 1 ha plot at Bukit Fraser (altitude c. 1200 m) 1,032 individual trees of 5 cm or more dbh were enumerated belonging to 228 species, 113 genera, and 53 families. The most dominant family is *Lauraceae* with 12 genera and 38 species; *Litsea* has 15 species. The most

dominant species is *Quercus oocarpus* (*Fagaceae*) with 31 individuals. A new record of *Mastixia rostrata* subsp. *caudatifolia* (*Cornaceae*) for Peninsular Malaysia was made. This taxon was formerly known from Sumatra and Borneo. The project was supervised by Dr. A. Latiff (UKMB).

The **Tree Flora of Sabah and Sarawak Newsletter** issue 2/1 (August 1994) is available at the Secretariat. The next issue is distributed free of charge: The Secretariat, Tree Flora of Sabah and Sarawak Project, Forest Research Institute of Malaysia, Kepong, 52109 Kuala Lumpur, Malaysia. Fax: 603-6367753, e-mail: soepadmo@frim.gov.my. The first volume of the TFSS is expected to appear by the end of 1995.