

XII. BASIC CONCEPTS FOR A FLORA OF THE PHILIPPINES PROJECT

S. H. SOHMER

Bishop Museum, POB 19000-A, Honolulu, Hawai'i 96817-0916, U.S.A.

INTRODUCTION

There has never been a good, comprehensive Flora of the Philippines. It is difficult to understand how an archipelago of such innate phytogeographical significance and with so many, important natural resources has never had a comprehensive published flora other than the incomplete and outdated 3 editions of Fr. Manuel Blanco's *Flora de Filipinos* (1837, 1845, 1877-1883). During the first two decades of this century Dr. E.D. Merrill and his associates performed a magnificent job, which might well have led to a Flora had he stayed longer in the Philippines. At this time, the flora of the Philippines is probably the least known of any major tropical country in Southeast Asia. The reasons for this are: (1) the present extent of relatively undisturbed forest ecosystems is probably less than 10% of the forested areas in 1925, (2) present and future population growth will continue the relentless assaults upon what is left of natural ecosystems, (3) the entire collection of what is now the Philippine National Herbarium was totally obliterated at the end of World War II, and (4) there has been little support within the country for active floristic work (other than an emphasis on some field work) and for the people capable of doing such work for the past 20-30 years. Yet, at this time, the need for a decent understanding of what is left of the flora has never been greater, for the support of both conservation activities and resource management planning.

I became increasingly disturbed and alarmed over what I began to perceive as the 'circularity' of information regarding the native flora of the Philippines during my periodic visits there over the past 7 years. Information has often been passed from botanist to botanist in the Philippines that, when investigated, turns out to be based upon the work of E.D. Merrill, which culminated in his Enumeration of the Philippine Flowering Plants (1923-26). My own work with the genus *Psychotria* in the Philippines has shown that of the 113 species treated, over 40% have not been collected since 1925. Many of these are presumed extinct because their habitats have been altered or destroyed. This kind of extinction can probably be extrapolated for the flora as a whole. For these reasons, this proposed flora project is timely.

OBJECTIVES

The production of a usable, practical, comprehensive manuscript of the flora of the Philippine in 10 years is the primary tangible goal. The emphasis throughout will be to document the flora of the Philippines with major efforts expended to determine present abundance and distribution of the components of that flora. This project is not meant to displace the concept of the Flora Malesiana project, which is an exhaustive account of the entire Malesian region of which the Philippines is a part.

However, as significant as the production of the actual flora will be, the most important role for this project will be to serve as a basic source of information for conservation planning. For this reason there will be a sharp focus on endangered and threatened plants with

strong links with IUCN, as well as with botanical gardens and arboreta, both within and without the Philippines.

BACKGROUND

The first major step, after preliminary meetings and discussions, was to obtain the support with which to assemble in Honolulu for a workshop. A number of individuals who have contributed to knowledge of the Philippine flora and/or who have a good understanding of the nature of floristic work were invited, and provided input into the planning process. The workshop occurred while Dr. Domingo Madulid, Botany Section, National Museum, Manila, was in residence under an NSF Science in Developing Countries Program grant (1 November 1987–30 January 1988). The next major step in the planning process was to follow-up on the workshop with what was called a 'working visit' to the Philippines in November 1988. During this visit we were able to finalize concepts of the organization and methodology as well as obtain commitments from the proposed centers in the Philippines.

ORGANIZATION

In order to prepare a flora of this magnitude – approximately 10,000 species (the manuscript of the Flora of Hawai'i that has been produced in record time in 5 years has less than 2,000 species) – there are now three proposed working centres: the University of the Philippines – Los Baños, where the writing and documentation for the flora will be organized, the Philippine National Museum, where the logistics for field work and collections management will be organized, and the Bishop Museum in Honolulu, where oversight and overall management can take place.

It is proposed that a Principal Investigator and two Co-Principal Investigators direct the project and guide it through the vicissitudes inherent in such a large-scale endeavour over the proposed time period. They will be responsible for establishing goals and priorities and providing oversight as well as monitoring the progress made. An Administrative Assistant will assist them. An International Scientific Advisory Committee, at this point consisting of Drs. Peter Ashton, John Beaman, Cees Kalkman, Ghilleen Prance, and Peter Raven, is providing overall advice on direction and progress. In addition, a Philippine Advisory Committee is being established for the same purposes in the Philippines.

The operational components of the project are conceived as consisting of three units: Plant Inventory, Collections Management, and Writing/Documentation.

Plant Inventory — This unit will be charged with the responsibility of assessing the priorities of collecting in the Philippines. The unit will have to be headed by someone who can take such priority decisions and oversee the coordination of the collections activities. Emphasis will have to be placed on the utilization of the results of aerial reconnaissance and data generated by the Remote Sensing Division of the National Resource Management Center in Manila. This unit will also be charged with the responsibility of assessing the status of the remaining natural areas in the Philippines and will interact with private and government agencies interested in the same data for conservation purposes. This part of the project will benefit greatly from the recent inventory supported by the West German government of the 20 most common timber trees of the Philippines. This unit will also be charged with coordinating the field work of specialists collaborating with the Flora Project.

Four-wheel drive vehicles hired as needed from the Manila Museum or purchased will be used by members of the unit and collaborators for botanical exploration. The unit will be responsible for maintaining field equipment, supplies, and materials. Guides, porters, and tree climbers will be hired in the field when necessary.

Collections Management — This unit will be responsible for processing the collections generated by the Plant Inventory Unit. One of the significant by-products of this project should be that the record of Philippine plant diversity will be distributed widely to the world's major herbaria and to cooperating plant specialists in the Philippines and abroad. This unit should be supervised by a Collections Manager who will be supported by staff hired by the project. All of the normal procedures for drying, processing, and distributing duplicate specimens will be done at the Philippine National Herbarium. The unit will respond to requests for shipping of loans by the Writing/Documentation Unit. Pre-identification of material will be done by hiring a specialist for this function.

To summarize, this unit will be responsible for the following:

1. Processing collections (i. e. drying, mounting, labeling, distributing).
2. Sorting collections to be distributed.
3. Sending specimens on loan to collaborating botanists.
4. Generating databases such as specimens lists, loan lists, etc.

This unit will be centered at the Philippine National Museum, Manila, where space will be allotted for it in addition to the present space allocated to the Division of Botany. As implied above, some of the existing PNH staff will be seconded to this unit.

Writing/Documentation — This unit will be responsible for writing the flora itself and for the gathering of publications, manuscripts, and other references pertaining to Philippine flowering plants. This could be the most important and difficult part of the project. By its success hangs the success or failure of the entire project.

The important by-products of this effort will be the creation of databases such as a computerized list of Philippine flowering plants which identifies those that are endangered, rare, or vulnerable, and a Philippine botanical bibliography, also computerized. One of the botanists will be the Principal Author. He/she will work closely with a Technical Editor. This unit could be located at the University of the Philippines - Los Baños. The Botanists will be responsible for writing many of the treatments, as well as coordinating collaborators' contributions. The Technical Editor will be responsible for physically structuring the manuscript in a consistent manner and keeping the treatments uniform. The subcomponents of Writing/Documentation are:

1. Library survey.
2. Herbarium study.
3. Typification (and nomenclature).
4. Plant description.
5. Illustration.
6. Production of regional checklists.

It is obvious that a flora of this magnitude will require input from many collaborators. As soon as possible a list of collaborators will be constructed.

OTHER GOALS

Philippine Manpower Development — This involves the on-job training of several members of the Philippine National Museum staff in order to acquaint them with the latest trends in Collections Management as well as training indigenous systematic botanists. The project can be designed to include numerous training opportunities for Philippine botany students and young graduates. Opportunities will constantly be sought to further the training of young Philippine botanists in dealing with issues relevant to Philippine plant diversity.

Relevant Publications — It is absolutely essential that this project, and the results of the labour performed, can be translated into efforts to preserve, conserve, and manage the diversity of the Philippine life forms. Interim publications are planned to report on the progress of the project as well as to produce local checklists and inventories that would be of immediate use to government and non-government organizations in their efforts to deal with issues concerning the diversity of life forms.