

## Summary of the Central African Herbarium Directors Workshop

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The Central Africa Herbaria Workshop was held March 11-13, 1996 at the *Centre National de Recherche Scientifique et Technologique* (CENAREST) in Libreville, Gabon. This MBG-led workshop brought together twenty-nine professionals, including herbarium directors, botanists, foresters, phytochemists, and educators from Cameroon, Congo, Zaire, Gabon, the Netherlands, and the USA. This was the first time since the 1956 Yangambi Conference that the region's leading botanists had an opportunity to meet within Central Africa and to focus solely on botanical issues within their region.

The workshop served to establish links among the region's botanists which will encourage the exchange of information and plant materials. The objectives of the workshop were to learn about herbaria in the region and foreign herbaria that collaborate with them, discuss the possible roles of herbaria, identify training and research needs, and discuss the possible adaptation of MBG's integrated botanical training program from Madagascar to Central Africa.

Central African Herbaria. During the workshop each of the herbarium representatives gave a short presentation on the history and activities of their herbarium.

The **Limbe Botanical Garden Herbarium** in Limbe, Cameroon, directed by Pegay Tchouto, was renovated in 1988 and has received substantial technical support from the Royal Botanical Garden, Kew, England as well as financial support from the British Overseas Development Administration (ODA) and World Bank. The Herbarium staff consists of one research botanist, one assistant and four technicians/collectors who work in collaboration with eight experienced foresters and forest ecologists. Information on the herbarium collection is stored in the BRAHMS database. The herbarium houses 8,000 specimens from the Mount Cameroon region representing 1860 species, 952 genera and 168 families.

The **National Herbarium of Cameroon**, established in the 1950s, is currently directed by Dr. Benoît Satabié. The collection contains approximately 70,000 specimens, 1750 genera and 232 families. The entire collection of plants is estimated at 7500-8000 species. The Herbarium produced the first volume of the *Flore du Cameroun* in 1963. Thirty-three additional volumes have been printed since then, and another six are ready to be printed as soon as funds are available. The volumes which are about to be printed include 109 families, 609 genera and 2100 species. The staff currently consists of three researchers and one technician. The Cameroon World Bank Global Environmental Facility (GEF) project includes a component that will revitalize the herbarium. Current operating expenses are covered by the income from selling copies of the "*Flore du Cameroun*".

The **National Herbarium of Gabon**, located in Libreville was established in 1982, with the assistance of Wageningen Agricultural University (WAU) in the Netherlands. The herbarium originally served as a reference herbarium for the *Institut de Pharmacopée et de Médecine Traditionnelles* (IPHAMETRA). It was established in temporary quarters, where it still resides, in a classroom at the *Centre National de Recherche Scientifique et Technologique* (CENAREST), situated on the campus of the *Université Omar Bongo*. The herbarium, managed by H. Bourobou Bourobou, has approximately 18,000 specimens. Half of the collection is the result of cooperative efforts with WAU and MBG which have greatly contributed to the development of the herbarium

The **National Herbarium of Congo** is located at the *Centre d'Etudes sur les Ressources Vegetales* (CERVE) in Brazzaville, Congo. It is directed by Dr. Jean-Marie Moutsamboté who took over management of the collection in 1985. CERVE conducts plant research in botany, ecology, pharmacology and phytochemistry. The herbarium houses 40,000 specimens. About 800 specimens were lost in the civil uprising in 1991. Damage to the herbarium has recently been repaired with the assistance of MBG and a grant from the World Bank GEF Project. A new library will be in place shortly thanks to donations from botanists around the world.

The herbarium at the *Centre de Formation et de Recherche en Conservation Forestière* (CEFRECOF), Epulu, Zaire was developed as part of an active research and training center in the Réserve de Faune à Okapis. The plant collection is primarily from the Ituri Forest of Zaire. There are approximately 3500 fertile collections in the herbarium and three staff botanists are employed by CEFRECOF. Dr. Terese Hart is the director of the Center and Ewango Ndomba is the lead botanist. Collecting has been greatly reduced in all of Zaire and research stations have been abandoned since the Belgians ceased their botanical exploration in 1970. What remains is a small herbarium at the University of Kisangani, and two government run herbaria at Yangambi and Lwiro. None of these, however has had an operating budget or active management of their collections for over a decade.

The herbarium collection of the Central African Republic, which was assembled with the assistance of ORSTOM and formerly kept in Boukoko, was sent to Paris in 1970.

Collaboration of Foreign Institutions with Central African Herbaria. Until recently, nearly all of the plant collecting activities in Central Africa were initiated by foreign botanists. The level of foreign involvement has varied depending on the political situation, but in general one or two foreign herbaria are associated with each of the Central African herbaria. Recent problems in Zaire have drastically altered the situation there, and decreasing support from French institutions has also had a serious impact. Plants are almost always collected in several duplicates so that the associated herbaria overseas also receive a specimen. Most foreign herbaria contribute to the development of national herbaria by paying for collecting expeditions as well as mounting and shipping costs.

The **MBG Africa Program**, headed by Dr. Porter P. Lowry II has been working in Central Africa since 1991 in several different capacities which include:

- A contract with the National Cancer Institute (NCI) to collect plants in Cameroon and Gabon to be screened by NCI for potential anti-cancer and anti-HIV properties.
- A partnership with the National Herbarium of Gabon and a private forest inventory company, Africa Forest, to conduct botanical inventory of the central lowland forest of the Lopé-Okanda Reserve with support from the US National Science Foundation.
- Collaboration with CERVE in the Congo to collect and document the under-explored flora of the Congo.
- Collaboration with Wildlife Conservation Society to conduct a floristic inventory of the Ituri Forest in northeastern Zaire and train Zairian students in techniques for plant identification and setting up and sampling ecological plots.

Botanists from the **Herbarium Vadense** at Wageningen Agricultural University (WAU) in the Netherlands have been collecting plants in Gabon since 1968. In 1978 WAU began collaborating with CENAREST and an official cooperative agreement was established in 1983. The collaboration includes co-developing annual work plans and providing training opportunities for the Gabonese herbaria staff. The primary contact at WAU is Dr. F.J. Breteler.

The **Royal Botanical Garden** (RBG) at Kew works closely with the Mt. Cameroon Project and Limbe Botanical Garden, as well as the National Herbarium of Cameroon. In 1988 a Britano-Cameroonian partnership was initiated, which involves the Government of Cameroon, the British Overseas Development Administration and RBG. RBG support to the herbarium has included joint field trips, assistance with the installation of new facilities, training for Limbe staff, and the development of a computerized database. The Director of the Africa Program is Roger Polhill.

Roles of Herbaria. During the workshop participants identified the following as roles which herbaria could play in each country:

- Serve as sites for deposit of specimens of all of the plant species found within a country.
- Serve as training sites in plant taxonomy, dendrology, and vegetation ecology.
- Encourage interdisciplinary and international research to more efficiently gather information on the plant species of the region.
- Assist in mapping the vegetation types of the region.
- Provide data needed for developing sound policies related to the conservation and management of natural resources.
- Serve a larger role in educating the public on the importance of protecting plant biodiversity.

Training and Research Needs. Workshop participants agreed that there are insufficient opportunities for botanical training at all levels in Central Africa. Field botanists, local collectors, natural resource management agents (government or private), and herbarium

staff are all essential components in conducting botanical research and inventories and managing plant collections. Some of the most pressing needs in Central Africa are to:

- Increase the rate of plant collection and botanical exploration.
- Train more botanists to collect and identify specimens.
- Provide funding to support collecting expeditions and purchase materials for mounting specimens.
- Improve the quality of specimens being brought to the herbaria so that they are intact and fertile (having flower or fruit) so that identification is possible.
- Conduct training in plant identification for herbaria staff.

Workshop participants talked about adapting MBG's Madagascar training model to Central Africa and were very enthusiastic about having a training program that could create a much larger network of persons capable of building up the knowledge of Central African plant species. The proposed regional botanical training program discussed in the following section incorporates suggestions made at the herbarium directors workshop.