

William L. Brown Center for Plant Genetic Resources

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“To study, characterise and conserve useful plants and associated traditional knowledge for a sustainable future”



Orchid. Photo: Marianne Heredge

Plants provide humankind with our most basic resources – food, medicines, fibre, and a whole array of other useful products. Relatives of wild crops and traditional varieties– the repository of genetic diversity within and among food plants – have been the foundation of crop domestication, plant breeding, and indeed the modern agriculture that feeds the earth’s 6 billion people. Plants provide the molecular basis of many pharmaceuticals, as direct compounds or molecular blueprints. Modern science begins to confirm that the distinction between nutrition and medicine is blurred.

With economic development empowering a greater percentage of the world’s people, urban areas continuing to expand, and human populations projected to double in the next 50 years, it seems certain that natural resources will face increasing threat. Habitat loss, unsustainable extraction of plants, spread of invasive species, climate change, and other human activities will have tremendous impact. Plant species will be lost, genetic diversity of surviving species will be diminished, and traditional knowledge associated with plant use will be eroded. Perhaps never before in human history has there been a more pressing need to discover, understand, conserve and sustainably use the plant resources that are essential for the benefit of humanity.

The William L. Brown Center for Plant Genetic Resources is uniquely positioned to respond to these issues and to play a leading role in addressing the problems outlined above. The Center is located in one of the largest herbaria in the world, making a wealth of plant data available from collections. Access to advanced scientific methodologies allows more rapid characterisation of useful species, chemicals or genes that lead to new nutritional and pharmaceutical products. The Center has access to improved information technologies that facilitate the rapid communication of data, and allow repatriation of data to the countries where it is needed to make intelligent decisions about the use of natural resources. Appropriate partnerships between the Center and collaborators in developing countries enable capacity building to ensure that countries have the infrastructure to make sound development and conservation plans. Finally, partnerships between the Center and both national institutions and local communities permit the implementation of integrated conservation and sustainable development programs.

With the William L. Brown Center for Plant Genetic Resources, Missouri Botanical Garden is a global leader in discovering, explaining, and disseminating information about the diverse and dynamic relationships between people and plants throughout the world -: www.wlbcenter.org

Existing Areas of Programmatic Strength

Mountain systems are highly bio-diverse, they are the most important sources of crop species and medicinal plants, and are heavily affected by climate-change. The programs of the WLBC concentrate on medicinal and food species in mountain regions, especially the Andes, the Himalayas and the African Highlands. This allows WLBC to fill a critical gap, while focusing on the core areas targeted by the research programs of the Missouri Botanical Garden, namely the Andean Region, Indo-China and Madagascar.

- **Discovery:** The Center has extensive partnerships aimed at the discovery and sustainable use of natural products. The Center is perhaps the world's most active group in the collection, identification, and supply of plant samples, development of strategies for the selection of species for research, and other aspects of collaborative natural products work.
- **Ethnobotany:** Numerous projects utilise information from local people to better understand how communities rely on locally available natural resources and to design solutions so that they can be used sustainably. Jan Salick's and Rainer Bussmann's ethnobotany programs are internationally recognised as leading scientific efforts to understand the relationship between plants, people, the environment, and associated traditional knowledge.
- **Useful plants:** WLBC is a leader in the compilation of databases on traditional medicinal and food species. The center plays a leading role in the preservation of traditional knowledge for indigenous and local communities, and in the production of useful plant volumes for ongoing floristic projects of MBG.
- **Communication:** The Center plays a leading role organising symposia, meetings, and workshops to facilitate scientific exchange. The Garden is an international leader in developing the legal and ethical frameworks for conducting international programs in natural products discovery, medicinal plant research, and ethnobotany. These frameworks ensure compliance with the Convention on Biological Diversity and equitable distribution of benefits that arise from such research, including efforts to value, acknowledge and equitably compensate traditional knowledge.
- **Conservation and capacity building:** Projects conducted by the WLB Center include training programs ranging from botanical field techniques and ethnobotanical research to collections management, market development, sustainable production and public health. Projects have significant conservation components and these activities include programs aimed at medicinal and other useful plants as well as those that incorporate traditional knowledge in the conservation of natural resources.

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