

Bromeliads and Biodiversity

The family of the bromeliads comprises about 3,000 species within 56 genera. In many Neotropical countries they represent an important component of the ecosystems. If you want to learn about the ecoregions where bromeliads occur try the [Wild World page](#) and have a look at the [interactive map](#) of the world's ecoregions, both provided by WWF and National Geographic.

In addition to their ecological importance, as well as their intrinsic value, bromeliads are important both as a trade commodity and as ornamental plants. Talking about the conservation of bromeliads it is crucial to recognize that they are part of our world's biological diversity, part of complex and interwoven ecological systems.

The invention of the term and concept of biodiversity, in the 1980s, has been highly important. Today, biodiversity is a buzz word that achieved a deep "market penetration" Biodiversity became a key topic of social and political concern when, in September 1986, Washington, D.C., the term was introduced by the National Research Council staff at the first National Forum on BioDiversity (published 1988). It is not surprising that at the same time conservation was 'reinvented' by Michael Soulé (Soulé 1985; compare the book "Conservation Biology", Soulé 1986; the foundation of the Society for Conservation Biology and the journal with the same name: "It was decided to found a new journal, *Conservation Biology*. That a successful European journal, *Biological Conservation*, devoted to the same topic, had been in existence since 1968 apparently went unnoticed" (Sarkar 2004)). Hence, between 1985 and 1987, conservation biology emerged in USA as an organized academic discipline and its focus became biodiversity.

Biodiversity is much better defined than the diffuse 'nature' and it describes the object of modern conservation. Probably the most widely and officially accepted definition has been provided by the [Convention on Biological Diversity](#) (UN, Rio de Janeiro, CBD, 1992) as follows:

“Biological diversity means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes the diversity within species [genetic diversity], between species [species diversity] and of ecosystems“ and diversity of biological interactions.

For a general introduction to the field of biodiversity conservation and its current trends and challenges see a contribution provided for an UNESCO online encyclopaedia on the Earth's life-supporting systems: [Halting Biodiversity Loss](#).

Biodiversity: a unique natural resource providing basic goods and services for humans

Within the last decades the topic of biodiversity has become more and more of a central focus for discussions within all sectors of society. It is no longer just an issue of some visionary people or defenders of specific sites or species. In fact the ongoing loss of

biodiversity has already had a negative impact on the quality of life of millions of people. Biodiversity is a unique natural resource that provides basic goods and services upon which human well-being depends such as:

- **Ecological services:** climate regulation, purification of air and water, soil protection, decomposition and conversion of waste, circulation of nutrients and carbons, biological disease control
- **Socio-economic benefits:** food, energy sources, generating jobs, construction material, fibre, raw materials for pharmacy and cosmetic products. There is still an enormous unknown potential since a lot of species (estimates range between 10-30 million) remain undiscovered, and a lot of known species have not yet been examined for their current or future value. The translated monetary benefit of the world ecosystem according to Robert Costanza (University of Maryland) could be as much as about 30 Billion Euro/ year!
- **Scientific and educational function:** research, knowledge
- **Recreational function:** tourism, sports, recovery
- **Cultural importance:** intrinsic and aesthetic value, sacred sites and monuments, traditional indigenous knowledge.

For further information on the world's status of resources and its relationship to human well-being, please see [The Millennium Ecosystem Assessment](#) created by the United Nations Environmental Program (2001- 2005).

International efforts of biodiversity conservation

The understanding and support of biodiversity and its conservation is essential for the effective and sustainable management of our natural resources. The [Convention on Biological Diversity](#) (CBD) provides an action frame in order to preserve major ecosystem functions and services all over the world, formulating the following three major objectives:

1. Conservation of biological diversity
2. Sustainable use of its components
3. Fair and equitable share of its benefits

This international agreement was ratified by 189 countries (CBD, www.biodiv.org, 10/19/2006), obligating them to develop action steps according to the CBD and to implement its principles into national policy and legislation.

Bromeliads encompass multiple interests, being of economic importance as a trade good, as well as being a genetic resource, meaning “genetic material of actual or potential value” (CBD). Especially economic endeavours concerning bromeliads in the countries of origin are embedded within the CBD's agreement.

The convention's Art. 8(j) and Art.15 define the access to genetic resources and benefit sharing. An international working group was also formed in order to monitor their progress. This form of international policy is implemented differently in every country so

that trade and all commercial use of bromeliad species, or their parts, are coordinated differently. Licences for harvesting and permits for import/export of biological goods must be regulated and applied by the relative national authority. The benefits have to be equally and fairly distributed for current and future generations as they are vital for human health, security, and livelihood. Unfortunately, in many cases, the new regulations are hampering biodiversity research and action (see e.g. [ABS Regulations Bolivia](#)).

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