

Biodiversity
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Biodiversity preservation concerns Post-Rio
Background

Most species may become extinct before researchers become aware of the .
Appreciation of biodiversity preservation problems comes too late, why it is
vitaly important to preserve biodiversity.

Biodiversity issues have several aspects:

1. Biodiversity is the key to eco-system sustainability.
2. Species diversity of the Earth must be maintained as the unique outcome of the multi-million year evolution, as the genofond for biotechnology, medicine, selection, distant hybridisation, new plants, animals and micro-organisms for use by the human.
3. Species diversity cannot be safeguarded without ensuring the inner - and inter populational changeableness of each species.
4. Preservation of rare species listed in Red Books does not assure life of unique eco-system.
5. A unique eco-system may consist of ordinary species that form an extraordinary mosaic. Experience of Ukraine on the creation of the first Green Book of unique eco-systems clears the way for the establishment of sanctuaries.
6. Preservation o eco-systems, species and population diversity requires knowledge of species composition of flora and fauna, as well as genetic structure of populations.

The scarce knowledge of biodiversity

Two million animal, plant, mushroom and micro-organism species have been researched to date. Conservative estimates put the world's biodiversity at 10-20 million species; some estimates it to include 100 million species, i.e. 1-2 or 10% of the biodiversity potential have been studied. Destruction of 1000 square kilometres of rain forests (the eco-system with small environmental niches and habitats of species, most of which are endemic) accounts for no less than 10.000 plant, animal and micro-organism species, including 9.000 - 9.900 left non-researched.

- in the 1950s a new type of ocean animals was discovered - *Pogonophora*
- in the 50-70s 2 mollusc classes were discovered
- in 1973 a section of the animal kingdom was opened - *Phagocytellozoa*
- In the 1980s in the course of research on hot water in oceanic troughs and "black pipers", new animal and micro-organism eco-systems were established
- in the 1980s a new micro-organism kingdom was discovered - *Archaeobacteria*
- a new class of invertebrate established - *Vestimentiphoria*

Applying genetic, molecular and biological methods to systematisation of groups, previously considered well studied, allows to establish identical species, something that could not be done using traditional methods. In the former Soviet Union, for instance, 296 mammal species had been know by the late 1950s; the new methods helped broaden that list to no fewer than 400 species. It should be noted that the species increase in this well researched territory is due not only to the discovery of small and poorly-know animal

species, but also to the establishment of identical large animal species, such as mountain sheep, mooses and roes.

Research into biodiversity (and its preservation) is hampered by a lack of investment into traditional fields of natural science, such as zoology, botany and microbiology all round the world. Special programs are needed to support herbariums and zoological collations kept by museums, botanical and zoological gardens, as well as life micro-organism collection. National biodiversity departments and an international Biodiversity data computer network need to be created. The status of the world's largest herbariums and zoological collections, such as the British Museum of Natural History, Kew Garden, Musee Nationale d'Histoire Naturelle (Paris), Smithsonian Museum of Natural History (Washington D.C.), American Museum of Natural History (New York), Botanical Institutes of the Russian Academy of Sciences (Moscow, St. Petersburg), Museum fur Naturkunde (Berlin), Zoological Museum of the Moscow University, Field Museum of Natural History (Chicago), Museum of Comparative Zoology (Harvard University, Mass.), Museum of Vertebrate Zoology (Berkeley, CA), Missouri Botanical Garden (St. Louis), etc., should be equal to that of the largest national libraries and repositories. Citizens, parliamentarians and governments must be proud of their countries' biodiversity collections, just as the are of the Louvre, the Hermitage, Prado and the Metropolitan Museum...

Developing countries do not usually have large zoological botanical museums, herbariums and micro biological collections. Absence of collections makes professional training impossible.

Action Agenda

GLOBE urges the creation of an international program calling for:

1. Sharply increased funding for systematic zoological botanical and micro biological studies to maintain the global importance of biodiversity collection repositories.
2. Local staff training and PhD and post-PhD programs for young people from the developing world in Washington, New York, St. Louis and Berkeley for Latin America, London , Kew, Paris and Berlin for African, Caribbean and Pacific countries and for tropical Asia, St. Petersburg, Moscow, Kiev, Ekaterinburg and Novosibirsk for non-tropical Eurasia.
3. Promotion of international expeditions to study biodiversity and ways of preserving it (establishment of nature reserves, nature parks, botanical and zoological gardens and life micro-organism collection).
4. Creation of national biodiversity departments. Establishment of International Biodiversity Data Base in contact with national departments via a computer network.
5. Establishment, following biodiversity-oriented training for developing countries, of large regional herbariums an zoological museums.
6. Encouraging support for publications on the world's flora and fauna and, regionally, for biodiversity reports and assessments. Besides, support for journals on biodiversity, animal, plant and micro-organism systematisation.

Note: according to the Soros Biodiversity Foundation, in the former USSR no less than 7.000 specialists study the issue. The country's flora and fauna account for 10-20% of global biodiversity.