

Global Mountain Biodiversity Assessment: A Report on the First International Conference on Mountain Biodiversity

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Global Mountain Biodiversity Assessment: A Report on the First International Conference on Mountain Biodiversity

The first International Conference on Global Mountain Biodiversity took place on the Rigi, "queen of the mountains," in Switzerland in September 2000. More than 120 experts from 34 nations made presentations on their research on biodiversity in all major mountain ranges of the world.

Steep terrain and mountain climate in combination with severe land use pressure cause mountain ecosystems to rank among the most endangered landscapes in the world (Chapter 13 of *Agenda 21* of the Rio Protocol). Until now, the problems of sustainable biological diversity in mountains have never been taken up as part of a globally coordinated scientific initiative. Consequently, the international program DIVERSITAS and the Swiss Academy of Sciences (SAS), together with Professors Christian Körner and Bruno Messerli, initiated a global mountain biodiversity network that was inaugurated at the conference. The Global Mountain Biodiversity Assessment (GMBA) is one of the 12 STAR (Special Target Areas of Research) projects of DIVERSITAS (Paris). GMBA focuses on the biodiversity of the upper montane zone, the treeline ecotone, and treeless alpine regions worldwide. A central network office will be established in Switzerland, with members of the steering committee organizing projects and meetings on a continental scale. GMBA aims to synthesize available evidence and initiate new research activities with a comparative emphasis (elevational transects as well as cross-/inter-continental comparisons).

This important process of assessing and evaluating current knowledge about mountain biodiversity (and also identifying gaps in understanding) started at the Rigi conference. The conference was led by Professor Christian Körner (Basle) and was jointly organized by the Swiss

Academy of Sciences, the Basle Institute of Botany, the University of Basle, and the Swiss Biodiversity Forum under the patronage of DIVERSITAS, IUCN, UNU, FAO, and IGBP/GCTE. Delegates from international organizations (IUCN, UNEP, FAO) and the Swiss funding agencies (the Swiss Federal Office for Agriculture and the Swiss Agency for the Environment, Forests, and Landscape) contributed expertise on incorporating scientific knowledge about biodiversity in political processes. Other delegates shared their expertise on national action plans (M. Chakraborty, UNEP) and protected area management (D. Williamson, FAO). Maritta R. von Biberstein Koch-Weser, the director general of IUCN, expressed her sympathy with this global undertaking, which will assist scientifically based conservation plans. Many researchers from poor and developing countries were able to participate, thanks to financial support from the Swiss Agency for Development and Cooperation (SDC) and the Swiss National Science Foundation's SCOPES program for Eastern Europe.

The peer-selected contributions (60 plenary presentations and 40 posters) illustrated current knowledge about the diversity of bacteria, plants, animals, and humans in the mountain regions of the world. The first part of the conference was dominated by reports on inventories (how much mountain biodiversity is there?), including examples from the Himalayas, Andes, Rocky Mountains, Alps, and alpine zones of New Zealand and Australia. The second part of the conference focused on changes in mountain biodiversity due to long-term climatic change and land use. The climatic component was covered by a special session of GLORIA (Global Observation Research Initiative in Alpine environments). GLORIA aims to

establish a long-term observation network, using a monitoring method (the multisummit approach) to compare high mountain biocoenoses and their climate-induced changes along altitudinal as well as horizontal gradients. The multisummit approach and the draft of a field manual for this initiative were discussed. (For more information on GLORIA, see www.pph.univie.ac.at/gloria/gloria.html.)

The session on the land use component of global change underlined that, in some areas of the globe, change in the social climate is likely to affect mountain biota more heavily and more rapidly than change in the physical climate. On the other hand, it was also shown that adequate traditional land use of mountain biota might even increase their biodiversity and preserve their functional integrity, so that the presence of people may improve ecosystem values.

In order to illustrate the problem of mountain biodiversity for a broad audience, many participants agreed to contribute to a synthesis on Global Mountain Biodiversity, which should be available as a book in the year 2002, the International Year of Mountains. A short executive summary of the results of the conference will be published soon with the financial support of the United Nations University in Tokyo. Information on the new GMBA network and the results of the conference can be obtained from the GMBA web site (www.unibas.ch/gmba/) or by subscribing to the information bulletin to regularly receive information on the activities of the GMBA network (please write a brief request to gmba@ubaclu.unibas.ch).

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