



Across the world, more than 90 research and education projects are taking part in the International Biodiversity Observation Year (IBOY) 2001-2002 to find answers to such questions as:

What biodiversity do we have and where is it?

Dr. Tom Iliffe of Texas A&M University, USA, and Dr. Geoff Boxshall of The Natural History Museum, UK, are leading an international team of scientists to explore life *anchialine caves* (inland caves flooded with saltwater). Unusual and uniquely adapted animals abound in these caves, many of which have never been discovered. Since 2000 the project has found more than 50 new species, and more are being revealed. As well as discovering new species, the scientists will examine whether the caves' biodiversity is under threat from pollution and development. <http://www.cavebiology.com/>



Dr. Neville Winchester from the University of Victoria, Canada, and his colleagues are searching the *canopies of old growth temperate rainforests for microscopic arthropod species* (mites). Dr. Winchester and his colleagues have found that predator mites are the most abundant group in old growth forest canopies and by feeding on plant-eating mites, they control damage done to the trees. The research is revealing that these ancient forests may be essential for the long-term presence of these mites, and that mite and forest interactions may be crucial for the health of the forest. This information on the role of species interactions in maintaining forest health will be important for conservationists and for the timber industry. <http://web.uvic.ca/~canopy/>

How is biodiversity changing?

Since 1989, scientists have seen alarming declines in populations of amphibians (frogs, toads and salamanders). They are concerned that amphibians may be a 'miner's canary', warning of declining ecosystem health. Dr. Tim Halliday from The Open University, UK, and Dr. Jim Hanken from Harvard University, USA are leading an international network of over 3000 scientists, called the *Declining Amphibian Population Task Force*, to find out why amphibian populations are declining and how we can conserve them. At the end of 2002 they will publish a book on the status of the world's amphibians. <http://www.open.ac.uk/daptf/>



The *Millennium Ecosystem Assessment*, directed by Dr. Walter Reid of the World Resources Institute, USA, is the first ever assessment of the capacity of the world's ecosystems to continue to provide the goods and services we need. This 'health-check' for the planet was launched on the World Environment Day 2001. Over the next four years, the *Millennium Ecosystem Assessment* will provide scientific information on the condition of the world's ecosystems, scenarios of how ecosystems may change over the next decades and options to cope with that change. This information will help conserve the goods and services from biodiversity and ecosystems that we depend on. <http://www.ma-secretariat.org/>

How can we conserve biodiversity?

Loss of biodiversity is not only happening in wild lands, but also in agriculture as *crop species are neglected and under-utilized* by research and development. The loss of these crops threatens the diet and incomes of millions of poor rural communities around the world, and reduces the stock of genetic material available to plant breeders. Diverse crop species provide important vitamins, minerals and incomes to local communities and play important roles in local ecosystems. Dr. Stefano Padulosi, of the International Plant Genetic Resource Institute, based in Rome, Italy, is leading a global project that unites researchers, plant breeders and farmers to increase use and conservation of neglected and under-utilised crops. Listen to Dr. Stefano Padulosi describe this project on NPR's *Living on Earth* <http://www.loe.org/archives/010622.htm>



Future generations may only be able to see and hear many species through photographs, films, videos and sound recordings. **ARKive**, coordinated by Harriett Nimmo of WildScreen, UK, is working to safeguard these images and sounds, which are currently scattered across photo-libraries and private collections throughout the world, and make them available to the public. ARKive's first priority is to save images and sounds of the world's critically endangered species, those "last chance to see" animals and plants. ARKive's kids' webpages explain biodiversity, extinction and conservation

issues interactively and star the world's rarest snake. <http://www.arkive.org.uk/>

High-tech reproductive techniques may be an important tool for conserving some species in the future, but will depend on scientists having genetic material from endangered species. Dr. Oliver Ryder from San Diego Zoo, USA, and Dr. Anne MacLaren from University of Cambridge, UK are spearheading a global effort to archive these threatened genes

in **DNA Banks for Endangered Species**. The first steps are to find and catalog existing stores of DNA of endangered species. This will

help scientists safeguard those stores, and identify which species' DNA is not saved and should be a priority for collecting. http://www.sandiegozoo.org/cres/frozen_initiative.html



For more information on these, and the many other projects participating in the IBOY go to

<http://www.nrel.colostate.edu/IBOY/projects.html>