

Buying land for biodiversity



In a recent speech, Harvard University-biologist Edward O. Wilson proposed a radical departure from the notion that governments should be largely responsible for protecting lands of high value for biodiversity. Citing a study by Conservation International that suggested that a mere 25 biodiversity 'hotspots' contain a large fraction of the species on Earth, Wilson argued that large-scale private investment was also needed to ensure that such rapidly disappearing lands were protected (National Geographic News, 3 May 2001).

Speaking at the US National Science Foundation (Arlington, VA, USA), Wilson cited recent estimates that an investment of just US\$28 billion would be sufficient to protect up to 70% of the species on Earth. Protected lands would be largely concentrated in threatened tropical areas, such as Madagascar, Brazil's Atlantic forest, and archipelagos in Southeast Asia and the South Pacific.

Traditional strategies for biodiversity protection have often involved urging governments to set aside new parks and nature reserves. Private initiatives to acquire land for biodiversity, such as those of the Nature Conservancy and other non-governmental organizations (NGOs), have been very limited in scope.

According to Wilson, however, large areas could and should be protected with private funding, which could be used for outright land purchases, as well as innovative approaches such as 'conservation concessions', whereby NGOs purchase logging leases to safeguard important ecosystems. Because logging companies often have low profit margins, Wilson maintained, many lands in developing countries could be protected for as little as US\$25 per hectare. *WFL*

Renowned ecology and evolution group under siege at Leiden

Budget pressures at the University of Leiden (The Netherlands) have caused administrators to threaten to eliminate anywhere from three to five research groups in the Institute of Evolutionary and Ecological Sciences. Prominent ecologists and evolutionary biologists world wide have expressed shock at this cost-cutting move. Cuts might be a fact-of-life in modern academia, but they are not normally aimed at a research group that is as strong as the ecology and evolution faculty of Leiden, which includes the renowned groups led by Professor J.A.J. Metz and Professor J.J.M. van Alphen (<http://www.bio.leidenuniv.nl/~eew/index.html>).

The most disturbing feature of the assault on this group is that it appears to be part of a national trend towards reductions in these branches of biology throughout The Netherlands, and that it is without regard to quality. Many of us have seen similar cuts at other universities world wide, often so that the remaining monies can be invested in the 'hard sciences' and molecular-based technologies. This myopic vision has a history of failing, leading to reduced student enrolments in biology, and less vigorous rather than more vigorous molecular research. The forward-looking vision of biology embraces a melding of molecular functional genomics and evolutionary biology, rather than a dismemberment of organismal and population biology. *PK*

Assembling the great 'Tree of Life'

Capitalizing on new computational and genetic technologies, consortiums of biologists are mobilizing to construct what Charles Darwin referred to as 'the great Tree of Life, which...covers the surface [of the earth] with its ever branching and beautiful ramifications'. The ambition of this project is staggering – it seeks to establish the evolutionary relationship among all 1.7 million named species of living organisms, including microbes, fungi, protists, animals and plants (<http://www.biosci.utexas.edu/treeoflife/>).

At present, with only 50 000 species placed in some form of phylogenetic tree, surprisingly little is known about the phylogenetic relationships of most species on Earth, or even among the major branches of evolution. The project is being pushed by the US Department of Energy, the National Science Foundation, National Institutes of Health and the US Department of Agriculture; to succeed it will need to become international, and will require innovative computer-based systems for information management. The benefits of a comprehensive Tree of Life range from opportunities to establish the origin of emerging diseases to an enhanced ability to reconstruct the history of functional changes in genes (with implications for understanding development and gene malfunction). *PK*

New pipeline threatens Ecuadorian rainforest



Biologists, conservationists and indigenous-rights organizations are alarmed about a plan to construct a 500 km-long oil pipeline across the Amazonian rainforest in Ecuador. The proposed pipeline would carry heavy crude oil from the remote eastern Amazon, over the Andes mountains, to the Pacific coast.

The pipeline, known as OCP (Oleoducto de Crudo Pesado), is being financially backed by US and German banks (Citigroup, J.P. Morgan Chase Bank and Deutsche Bank) and a consortium of transnational corporations, including Alberta Energy (Canada), Kerr McGee (USA) and Occidental Petroleum (USA).

Over the past 30 years, oil development has been the main driver of forest