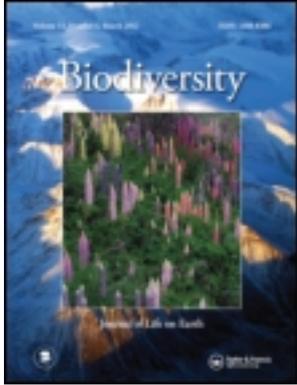


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### The value of diversity

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## EDITOR'S CORNER

### The value of diversity

It took the whole of human history until the start of the twentieth century for the global population to reach 1.6 billion people. Incredibly, in just 100 years it leaped to over 6 billion. Is it any wonder that human needs and desires are stripping the planet of its resources and that global biodiversity is plummeting?

Without agriculture it is estimated that only 20% of the world's population would have enough food to eat. In developing countries three of every four people live in rural areas, many depending on agriculture for their livelihoods. More than half of the world's wetlands and almost half of the temperate deciduous forests have been transformed into agricultural land, literally 'eating up' a third of the land on Earth. It is no surprise that there is a constant conflict between the expansion of agriculture and the need to conserve natural areas as habitat for wild animals and plants.

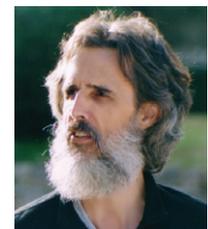
But wait, isn't there room for common ground here? The biodiversity of a region is not only valuable in its own right, it also benefits agriculture. Disease and pest resistance in crops is often achieved by hybridisation with wild relatives. Forest soil provides clean water for farmers, along with soil organisms that help to detoxify the land. Local crops benefit from bees and other pollinators that thrive in a biodiverse region, providing a free reproduction service to nearby agriculture.

The inherent diversity of crop varieties is also extremely valuable, as those who work the land for their livelihoods know full well. The article *Genetic enrichment, a new concept in genetic resource management: the case of sorghum (Sorghum bicolor (L.) Moench) in Ethiopia* identifies a unique means of balancing genetic erosion and the loss of varieties. The importance of maintaining and conserving genetic resources around the world is a well-established fact. So valued are these varieties that a vault, nicknamed the Doomsday Vault, has been tunnelled into a mountainside in the Norwegian Svalbard Archipelago. The Svalbard Global Seed Vault is an insurance policy against the incremental and possible catastrophic loss of crop diversity, offering fail-safe protection for some of the most important natural

resources on Earth. The vault holds over 500,000 samples of unique crop varieties. The genetic variability of cultivated species and their wild relatives constitute a supply of traits for breeding new and improved varieties.

The Himalayas have long been known to the local people, and increasingly to the world at large, as a treasury of natural medicine. The article entitled *Vulnerability assessment of high-valued medicinal plants in Langtang National Park, Central Nepal* exposes the precarious nature of many of these wild medicinal resources. The main threats are unsustainable over-harvesting and environmental change, both of which have largely anthropogenic causes. *Assessment of genetic variability in the Asoka Tree of India* explores the genetic diversity of this medicinal plant endemic to India concluding that there is a great need for the tree's genetic conservation and management due to limited gene flow and isolated populations, again largely because of human impact.

These are all life-sustaining resources, and yet we are failing to conserve them. The majority of species on Earth (as much as 95%) are, as yet, undiscovered so the question of their value and whether they should be conserved has not even been raised. We are afloat in space in a new *Noah's Ark*, the most valuable vessel in the known universe, and yet we are failing to even plug the leaks.



Stephen Aitken  
Managing Editor