

Director's Note: Mission to Planet Earth

At this time of year a walk around the UBC Asian Garden is poignant. It is easy to see the cycles of nature as the leaves colour and drop, and as minerals and carbon enter the earth maintaining the health of the system. It is the thin skin of life on our planet that, by cycling gases and minerals, alters atmosphere, climate and global geochemistry to keep Earth habitable while Venus and Mars are not. As the future and quality of human life depend on the careful management of this thin skin, it would seem sensible to learn all we can about it. However, although we know that there are approximately 1.0111×10^{15} billion stars in the Milky Way (the rather ordinary galaxy in which we live), estimates of how many species there are on Earth vary typically from about 2 million to 20 million. Biological science has got so far behind with the Linnean mission that many people think that drastic action is needed: a mission to Planet Earth.

In September 2000 a group of scientists, thinkers and do-ers met at the California Academy of Science to form the "All Species Foundation". ALL is a non-profit organization dedicated to finishing the basic inventory of all life on earth in a single generation, twenty-five years. As habitats continue to be sacrificed to service the needs of an expanding human population, this is none too soon. ALL is a very new type of fund-raising and action body. It describes itself as "science driven, pan-national, decentralized, open-source, lean and nimble at the top, promiscuous (i.e. all embracing in its allies), and temporary (all its efforts will be channelled into work not monuments)". Its luminaries include Stewart Brand (managing director of Global Business Network), Kevin Kelly (co-founder of Wired magazine) and Sir Ghillean Prance (formerly Director of the Royal Botanic Gardens, Kew and currently at the National Tropical Botanic Garden, Hawaii). ALL estimates that its mission can be accomplished for between one and three billion dollars.

ALL hopes that recent advances in technology (for instance new internet tools, GPS for geolocation and DNA analysis) coupled with global collaboration, will make the project achievable. How should the University

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of British Columbia react to the challenge thrown down by ALL? First, UBC has two important plant collections, the dried collections of the Herbarium (a major North American herbarium with more than 600 000 specimens) and the living plant collections of the Botanical Garden and Centre for Plant Research (including several possible new species brought back by UBC expeditions). If these collections can be more effectively databased and made accessible to the World Wide Web, then they become part of the “globalocal” network of biological resources envisioned as so important by ALL. The ALL website (www.all-species.org) currently features a “species toolkit” of hyperlinks to various databases containing nearly 1 million species names. However, providing lists is not enough, we also need to encourage the primary taxonomic work to complete the inventory and conduct expeditions to biodiversity “hotspots” where new or poorly known species are found in greatest numbers. Peter Wharton of the UBC Botanical Garden and Centre for Plant Research has conducted two important expeditions to China recently - work which will contribute to our understanding of the rich flora of southern China (see **Davidsonia** 13: 7-13, 2002). Second, we need to promote the use of our collections for research so that they can better contribute to the world’s knowledge of plant species.

It is so much more satisfying, walking around a Botanical Garden in the quietness of autumn, knowing that the plants are not just providing beauty and interest, but that they are also driving a research engine helping to ensure the future of life on earth.

Postscript: At press time, I learned that ALL has announced it will close its office in the San Francisco Praesidio on December 1, 2002 due to lack of general operational funding. However, the Foundation and the concept will continue. There is now an even greater need for smaller organisations to play a global role in biodiversity issues. The downscaling of ALL will place extra pressure on governmental and institutional-level initiatives such as the Global Taxonomy Initiative of the Convention on Biological Diversity (GTI) and the Global Biodiversity Information Facility (GBIF).

Select bibliography

- S.L. Pimm et al. (2001) Can we defy nature’s end? *Science* 293: 2207-2208.
- Smith, G.F. (2002) A southern perspective on the All Species Project and the Global Taxonomic Imperative. *Taxon* 51: 359-361.