virus children's relationship to their world.

Bear's two Darwin novels were not written just to entertain. He also seeks to teach readers about science, to highlight our utilitarian politics and our inability to get along with each other, and to provide a quasi-rational basis for theology and morality. He advances a world view in which we are all part of the vast neural network of life, cutting across ethnic borders, species divides and the chasms between taxonomic kingdoms, in balance, and in two-way communication, with the ecosystem. Bear might be off the mark, or he might just be anticipating the next giant leap in our understanding of evolution and ourselves. ■

Michael A. Goldman is in the Department of Biology, San Francisco State University, San Francisco, California 94132-1722, USA.

The last of its kind?

Pheidole in the New World: A Dominant, Hyperdiverse Ant Genus
by Edward O. Wilson
Harvard University Press: 2003. 818 pp. $125.00, £83.50, €125.00

Donat Agosti

"Everything goes." Philosopher Paul Feyerabend's statement of anarchy in scientific method — that you can research however you like — might well hold for taxonomic monographing. The field is plagued by an increasing shortage of specialists, despite the ever-growing pressure to complete the 'catalogue of life' with descriptions of new species and revisions of known species. Pheidole *in the New World* makes a sizeable advance, describing 624 species of ant, of which 337 are new to science. It was written by Harvard University biologist E. O. Wilson, one of the world's leading biologists and environmentalists, and published by Harvard University Press, which has a much higher profile than most of the 500-plus journals in which ant descriptions usually appear.

This important book is modelled on the highly successful Peterson's field guides. Each species is given one page, of which half is covered by lavish line drawings with very helpful indicators marking the diagnostic characters. The rest of the page contains a short description (including a series of standard measurements), a handy indication of closely related species, a summary of key biological features and the distribution range. Unfortunately, details of the biological materials examined are either missing or incomplete.

The book's introduction includes some notes on the ecology of the genus *Pheidole*, some generalities on hyperdiversity, an illustrated glossary, and an uninspiring, unillustrated key to species. The *pièce de résistance* is an accompanying CD-ROM, which comprises fantastic colour images of about half of the species and a simple search engine.

Adding ants: *Pheidole subsphaerica* (top), *P. cursor* and *P. lupus* are three of 337 new ant species described by E. O. Wilson.

Ant taxonomy is at a vibrant stage of development, with more than 130 active scientific contributors, all but two of whom are connected over the Internet. Since the last catalogue of the world's ants was published — Barry Bolton's *A New General Catalogue of the Ants of the World* (Harvard University Press, 1995) — 1,630 new ant species, including those in this book, have been described. A database (www.antbase.org) with a single web page for each species provides links to an increasing number of extraordinary websites, organized by region (such as www.antweb.org) or theme (GenBank).

The entire 3,500 taxonomic publications covering the non-copyrighted systematics of the 11,574 known species of ant will be available online this autumn, providing an enormous free resource. Wilson's Pheidole *in the New World* will not be part of this system, as the book is copyrighted: as a result, apart from the unprotected nomenclatorial information and links to those images available at Harvard's online Primary Type Specimen Database, its 624 descriptions cannot be readily integrated into the world-wide biodiversity knowledge base. This raises serious issues about an academic publisher's obligations to make biodiversity data freely available for non-commercial research, education and conservation.

The inaccessibility of published records frustrates efforts to compile lists of the world's living species, and to develop the next generation of tools and data repositories that can be seamlessly woven into systems such as GenBank, biodiversity monitoring systems, or the fledgling Global Biodiversity Information Facility. Records are hidden in thousands of journals and books, and access to new work is increasingly restricted by an ever more proprietary copyright environment. Money aside, even password protection impedes the building of information networks.

Most of the species described in Pheidole *in the New World* are based on material collected in the tropics, where most of the world's species live and vanish. The Convention on Biological Diversity, sadly still not ratified by the United States, calls for the exchange of scientific information and repatriation of data to the place of origin. Selling expensive books doesn't aid this process.

Wilson isn't just a taxonomist — he is a prominent biologist and an outspoken environmentalist. His style of science and his involvement with conservation set precedents far beyond taxonomy. He espouses the development of an Internet-based 'encyclopaedia of life', stresses the virtue of the biodiversity commons — a movement to make biodiversity information freely accessible for non-commercial use — and would like to see taxonomy follow the DNA revolution (*Trends Ecol. Evol.* **18,** 77–80; 2003), but his book on *Pheidole* doesn't reflect these ideals.

In these days of biodiversity crises, taxonomy isn't just a science where "everything goes". It has the potential to play a pivotal role in quantifying changes in biodiversity. It is not enough to talk about the biodiversity crisis; action is required. It is a pity that Wilson, with his ingenuity and access to resources, did not grasp the opportunity to present these important data in a more novel and useful way, but instead preferred to produce, in his own words, the "last of its kind": another visually appealing monograph. ■

Donat Agosti is in the Division of Invertebrate Zoology, American Museum of Natural History, Central Park West at 79th Street, New York, New York 10024-5192, USA.