

Hall G. S. (ed.) (1996). *Methods for the examination of organismal diversity in soils and sediments*. CAB International, 307 pp., illustrated, softcover, £ 25,00, ISBN 0-85199-149-1.

Biological diversity, or biodiversity for short, refers primarily to the multiplicity of life forms that the earth harbours, possibly more than 10 millions. Only about 2 millions of these have already been described. In June 1992, the "Earth Summit" took place in Rio de Janeiro. Officially titled the *United Nations Conference on Environment and Development* (UNCED), it marked a milestone as the first-ever international attempt to ward off the threats to life on our planet. Among its important results was the Convention on Biological Diversity ("Agenda 2000"), which has meanwhile been signed by about 170 countries.

Finding and isolating soil and sediment organisms, many of which are rare and small, requires not only considerable man-power and expertise but also appropriate methods. This book claims to provide such a methodological guide. It has been developed within the DIVERSITAS programme as part of a project initiated by the International Union of Biological Sciences (IUBS, Coordinator: David L. Hawksworth), supported by UNESCO (Coordinator: Pierre Lasserre). The guide covers both soil organisms and those inhabiting freshwater and marine sediments, from microbes (bacteria, fungi, protozoa, algae) to macrofauna (earthworms, nematodes, molluscs, etc.). There are 22 chapters arranged by organismal groups and written by recognized specialists from the USA and Europe.

Obviously, a very broad range of habitats and organisms is covered on 307 pages. Thus, only about 14 pages (12 for protozoa) each were available for the individual contributions, and hence the authors usually could not provide detailed protocols for the methods mentioned. Rather, the overall procedures are described, and thus the user will often have to consult the original references for details. Furthermore, many of the less common methods could not be covered, and the limitations of the particular techniques are often discussed rather generally, if at all. The protozoa (by J. F. Darbyshire, O. R. Anderson and A. Rogerson) are, unfortunately, a representative example for these shortcomings: neither the limitations of the culture and MPN methods were discussed in sufficient detail nor was the gas bubble method mentioned, with which Bonnet discovered so many new soil testate amoebae. Direct sorting of organisms from soil and sediment suspensions, which is often the most effective method in terms of organismal diversity, not only in the protozoan but, e.g., also in the nematode protocols, is rarely mentioned.

The lack of methods and literature for preparation and identification of the organisms is another serious shortcoming in most contributions, including the protozoa. However, this lack is understandable considering the limited space available, and thus the authors should not be blamed. Rather, it is a misconception of the book itself: simply, it is impossible to successfully cover such a broad range of habitats and organisms on 307 pages. Dunger and Fiedler, who edited "Methods in soil biology", needed 432 closely printed pages to cover soil, and even this voluminous collection is sometimes not as detailed as it should be.

In conclusion, this book hardly complies with its goal, and beginners will find it difficult to work with the protocols provided.