

Book Review

Hawksworth, D. L., ed. (1994). *Ascomycete systematics: Problems and perspectives in the Nineties*. – Plenum Press, New York – London – Moscow, 453 pp. ISBN 0-306-44882-3. List price: £ 96.—

In May 1993 a NATO Advanced Research Workshop on Ascomycete Systematics was held in Paris, France. The meeting was attended by 140 researchers from 24 countries. The workshop consisted, on the one hand, of authoritative reviews of topics related to methodological issues in fungal systematics or to problems encountered in the taxonomy of the Ascomycetes and of their anamorphs. A second part of the meeting was reserved to structured discussions on changes proposed in the classification of the Ascomycota. I was unable to attend the workshop, but I recall hearing contradictory opinions by the attendees on the contents of the meeting. It was thus with interest and some curiosity that I undertook the reading of this book, which incorporates all communications and debates of the Workshop.

The effort very soon turned into an enjoyable task. I am by no means an expert on all the aspects discussed during the Workshop, but I definitely found all 31 chapters very interesting, even if some of them were perhaps controversial. I was able to appreciate only a limited part of the specialised discussions and I am certainly not knowledgeable enough to criticise the "Outline of the Ascomycetes" proposed by Dr. Eriksson and Dr. Hawksworth. I am convinced, however, that both the discussions and outline will be extremely helpful to specialists working with genera or higher taxonomic ranks in the Ascomycetes.

The book is divided into ten sections, each dedicated to either methodological problems or practical issues of Ascomycete taxonomy.

The first two chapters present provocative and partly controversial opinions on the use of methods and terminology in fungal systematics. In particular, the discussion following the contribution by Dr. Reynolds highlights the resistance by mycologists to abandon well established terms such as anamorph and teleomorph. All researchers who have to deal with practical identification tasks, including myself, will feel sympathetic to Dr.s Gams, Hennebert and Kendrick who still feel the need for the Deuteromycetes and the terms "Anamorph" and "Teleomorph".

The following four chapters are dedicated to ascoma and thallus structure and ontogeny and summarise the present knowledge on this fascinating aspect of ascomycete taxonomy.

Two chapters by Dr.s Hennebert and Sutton, which discuss parameters to be used in the description of conidiogenesis and their use to describe anamorphs are the main contribution of the next section on conidiomata and mitosporic states. I was impressed by the clear, comprehensive, yet easily understandable presentation of new and old terminology and the clever use by the authors of both new and old terms to describe anamorphs and anamorphic groups. In my opinion both chapters will soon become a standard reference in Deuteromycete classification, even if open to discussion.

The ultrastructure of asci, ascospores and septal pores is the topic of the next section, while the secondary chemistry of non-lichenised ascomycetes and of

lichenised fungi are presented in section five. Even if some conclusions may be debatable, nevertheless the ideas put forward by the authors will foster new research, be it only to reject some hypotheses!

I enjoyed reading the concise, yet very clear argumentation by Dr. Tehler on the use of cladistics in fungal taxonomy. Even if this will not replace more exhaustive reviews on the same subjects, it will certainly be of great help to researchers new to this kind of data analysis. The chapter on biogeography by Dr. Galloway is a nice summary of basic issues in biogeography. The interested reader, however, will still have to refer to the authoritative book by Humphries & Parenti (1986) to really get a grasp on this fascinating and exciting discipline.

As expected, the description of, and results from molecular biology methods have the lion's share in this book. In fact, it is probably impossible to do comprehensive fungal taxonomy research without using biochemical and molecular methods. I found the section on molecular systematics particularly informative, even if, in my opinion, some results presented have to be interpreted with caution. In the discussion following Dr. Berbee's contribution, several problems linked to the choice of strains to be investigated have been highlighted, as have the hazards of over-interpreting cladistic trees originating from datasets not completely appropriate. I wholeheartedly agree with some participants that more attention should be given to the choice of organisms to be tested, not only of the molecules to be sequenced. As Dr. J. Taylor pointed out in a discussion, research teams should include both molecular biologists and "classical" taxonomists. The meeting in Paris clearly detected such a need and produced a most appropriate dialogue between morphologists and molecular biologists.

The last two sections of the book, which precede the discussion on the outline of the Ascomycetes, are more conventional in their approach, yet they provide much needed updates on specialised topics of fungal taxonomy. The chapters by Rogers on Eupyrenomyces, by Wingfield & al. on ophiostomatoid fungi, and by Eriksson on fissitunicate ascomycetes are welcome syntheses of the present knowledge on these groups.

The ten discussion sessions reported in the last section of the book ought to become a standard reference in future specialised taxonomic work.

The second Kananaskis meeting (Kendrick, 1979) has become a landmark in fungal taxonomy, because it has set a novel framework in fungal taxonomic research. Whilst these proceedings will probably not have the same impact on fungal taxonomy, nevertheless they will define future research directions in this discipline, even if only by stimulating discussions among morphologists, molecular biologists and ecologists. "Ascomycete systematics: problems and perspectives in the Nineties" is compulsory reading for all researchers in fungal taxonomy and ought to be on all mycologists' bookshelves. Even at £ 96.00 it is good value for the money.

Orlando Petrini
Comano, Switzerland

References

- Humphries, C. J. & L. Parenti (1986). Cladistic biogeography. – Clarendon Press, Oxford.
- Kendrick, W. B. (ed.) (1979). The whole fungus. 2 Vols. – National Museum of Natural Sciences, Ottawa.

ZOBODAT - www.zobodat.at

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Sydowia](#)

Jahr/Year: 1996

Band/Volume: [48](#)

Autor(en)/Author(s): Anonymus

Artikel/Article: [Book Review. 161-162](#)