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Book Reviews

***Radical Mycology: A Treatise On Seeing And Working With Fungi*. By Peter McCoy.** 2016. Portland, Oregon: Chthaeus Press. Pp. xx + 646 and numerous illustrations. Page size 253 mm × 208 mm, weight 2 kg. ISBN 978-0-9863996-0-2. Paperback $49.95.
doi:10.1017/S0024282916000657

Described as "The most comprehensive book on DIY mycology ever written", this book is on first impression unusual. It is in reality a traditional style American text book in appearance, size and weight. In the Preface under "How to read this book", the author writes, "it is meant to be read from cover to cover"! I wonder how many people read text books from cover to cover? He doesn't, however, say who this book is aimed at. The publisher's reference to "DIY mycology" could imply that it is aimed at the layman. This publication is a laudable attempt at addressing the lamentable lack of mycology in the teaching of biology at all levels. The term radical mycology arose from the author's involvement in conferences which brought together people from very diverse walks of life such as industry, politics, philosophy, teaching, the food industry, agriculture, brewing etc. There is a strong practical thread throughout this book which I think is has something to offer to a large and diverse audience including amateur mycologists. It includes the usual topics such as classification, structure and reproduction but also the range of activities involving fungi.

As for lichenology, it is a great disappointment. There is just one short chapter of less than 30 pages written by Nastassja Noell. It is a very traditional account that could have been written years ago. There is nothing wrong or radical about this. However, my feeling is that considering the huge diversity and abundance of lichen-forming fungal taxa, this is a travesty. A few years ago, it was pointed out to me by the mycologist John Burnett that lichens represent one of the best and most useful sources of experimental material for the study of mycology. They are very diverse and, unlike other fungi, they occur everywhere, are easily collected and present without fail at all times of the year. He said that mycologists should make much more use of lichens. Why are they so ignored!

To recommend this book, I would have to do so on the grounds that many mycologists are unfamiliar with lichens but also that lichenologists are often unfamiliar with very useful and essential mycology. So, I would suggest that if someone interested in lichens is looking for a book on mycology and finds most other mycology books too intimidating, it would be worth looking at this one to see if it is more suitable. It is practical and addressed to a wide enough audience for it to be useful.

David Hill

***Syllabus of Plant Families - Adolf Engler's Syllabus der Pflanzenfamilien. Part 1/2. Ascomycota*. By Walter Jaklitsch, Hans-Otto Baral, Robert Lücking and H. Thorsten Lumbsch. Edited by Wolfgang Frey.** Thirteenth Edition. 2016. Borntraeger Science Publishers. Pp. 322, 24 figures/plates. 24 × 17 cm size. ISBN 978-3-443-01089-8. Hardback. Price €119.
doi:10.1017/S0024282916000669

My first challenge in reviewing this book was moving beyond the outer cover. I appreciate that this book is the latest output in a long series of textbooks that is both scientifically and historically important, but perpetuating the myth that fungi (lichenized or not) are plants for the sake of historical precedent confuses students and does no credit to the memory of the great German biologist, Adolf Engler. Nevertheless, I gritted my teeth and opened the volume, and was much rewarded by the content if not the title.

The book contains, in order of appearance: a (rather too) brief list of abbreviations, a short and lucid account of the characteristics of the phylum along with key references and a synopsis of the classification. The systematic arrangement takes up by far the bulk of the volume and is divided into three subphyla, 18 classes, 97 orders (along with miscellaneous lineages given similar if unofficial rank) and 406 families. Each family treatment receives a description, a list of significant constituent genera and a paragraph of taxonomic notes.

An index to taxa completes the volume. The systematic arrangement is based on an updated version of that presented in 2010 in the online publication Myconet (https://www.fieldmuseum.org/myconet).

Compressing the current knowledge of the taxonomy and phylogenetics of the Ascomycota into three hundred or so pages is an enormous achievement. In the early days of fungal taxonomy, where the major taxa were defined using a small suite of artificial characters (including the lichenized condition), it was straightforward to write such an account, though the results are now recognized as rudimentary. In the last twenty years, however, our understanding of fungal evolution and phylogenetics has undergone a revolution that continues with little sign of abatement. New orders and families are recognized on an almost weekly basis, complicating immensely the task of compiling this book. Not all will survive the test of time (I rather liked the comment on page 47 that the number of families and orders appear hypertrophic) but the broad structure of the new phylogenetic system will remain for some while.

Perhaps the biggest challenge in compiling a volume such as this is to reflect the most modern phylogenetic thinking, while at the same time rejecting trivial changes and linking back to more familiar classifications. Broadly speaking the authors have done an admirable job here, though with occasional aberrations (e.g. the inclusion of the *Geoglossaceae* within the *Leotiales* (Leotiomycetes) rather than in the phylogenetically and phenotypically distinct Geoglossomycetes). Reflecting evolutionary realities, lichenized taxa are spread throughout the subphylum Pezizomycotina, within six of the twelve classes and occupying around a quarter of the main body of text.

What's not to like? The slavish inclusion of "authors" for all names, without providing references to the publications, makes the text difficult to read, wastes space and does not properly credit the originators of taxa. Other abbreviations irritate also, especially when contained within sentences that are otherwise plain English. The text lurches in and out of what might be described as Germanglish in places. The coloured illustrations are too small, and are almost exclusively of external appearance rather than diagnostic features. They are quite beautiful but decorate rather than inform. But all of these are minor criticisms and should not detract from the overall picture.

The pace of progress is such that this book is already out of date (and will probably become even more so in the interval between writing this review and it appearing in print). We are currently in the throes of a second revolution with the abandonment of the dual nomenclatural system for fungi. This will have a very limited effect for lichenized groups, but the full integration of anamorph taxa into the system of the Ascomycota will result in further seismic changes. Perhaps the whole content of this volume is better suited to publication as an online database and I hope that after a suitable interval its contents will be included in a future edition of *Myconet*. In the meantime, we must all be most grateful to the authors and publisher, and those with large pockets will not be disappointed.

Paul Cannon

***Lichens of the Falkland Islands*. By Alan Orange.** First edition. 2016. Falklands Conservation. Pp. 120, 232 colour photographs. Size 250 × 175 mm. ISBN 978-1-5262-0151-5. Paperback. www.falklandsconservation.com. £12.00.
doi:10.1017/S0024282916000670

Lichens are a conspicuous part of biodiversity in boreal regions. The Falkland Islands are no exception and lichens are noticed by almost all visitors to this archipelago. Over 400 species have been recorded but this information is scattered in scientific papers. This flora contains both widespread species as well as some endemics and species with a (sub)antarctic or southern temperate distribution.

The field guide describes and illustrates 94 species which include most of the abundant or conspicuous macrolichens, some of which are locally rare, and a few conspicuous crustose lichens (mainly *Pertusaria* species). Future visitors may now be able to record rarities without the necessity for collecting specimens, especially when populations are small.

The book starts with a well-illustrated introduction to lichen morphology and an overview of lichen habitats on the Falkland Islands. There are four identification keys: to brown fruticose lichens, yellow fruticose lichens, *Lobariaceae* (treating 15 species, 8 of which are treated in full in the book) and *Pertusaria*. One of the intentions of this publication is to raise local awareness of the lichen flora. Terminology is kept to a minimum with no author names given. Unfortunately, there are no references which would have been useful for further reading. A map giving altitudes, vegetation types and some geographical names would have been welcome. Here or elsewhere in the book, it could have been pointed out that these islands are also known as Las Malvinas.

The species treated are usually illustrated with two magnificent colour photographs; the whole lichen and a detail. This includes many interesting species (e.g. the enigmatic *Bartletiella fragilis*) for which these are the first published illustrations. A short description is given with field characters, and occasionally spot chemical reactions together with the distribution and habitat of each lichen species. In many instances there is a note about similar species on the island. It would have been useful to give an indication of the worldwide distribution of these lichens. For instance, both *Alectoria sarmentosa* and *Bartletiella fragilis* are equally noted as "rare", which is doubtlessly true on the Falkland Islands, but the first is a widespread alpine-arctic species in both hemispheres, while the latter is additionally only known from New Zealand and is so