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BOOK REVIEWS AND NOTICES

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INTRODUCTION

Many new mycological taxonomic publications have seen the light this year, with only a handful of them reviewed in this installment and some more mentioned under BOOK ANNOUNCEMENTS. Several issues of the series STUDIES IN MYCOLOGY are presented here, followed by books on lichens, and studies of various genera in the *Agaricales*. For two books, updated second editions came out, which are discussed.

ASCOMYCETES

***Colletotrichum*: complex species or species complexes?** By U. Damm, P.F. Cannon & P.W. Crous (eds). 2012. STUDIES IN MYCOLOGY no. 73. CBS-KNAW Fungal Biodiversity Centre, P.O. Box 85176, 3508 AD Utrecht, The Netherlands. <info@cbs.knaw.nl>. Pp. 215, illustr. ISBN 978-90-70351-92-2. Price: 65 € (paper copy, download free)

Getting to grips with species concepts in large and complex groups of fungi remains a major challenge, even with the advantages now available through molecular phylogenetics. It is also incumbent upon mycologists to generate taxonomies that will be meaningful to the users of names, such as plant pathologists in the case of *Colletotrichum*. A step-wise approach is therefore both essential and appropriate, and this number of STUDIES IN MYCOLOGY does just that, with in-depth studies of three species complexes: those of *C. boninense* (Damm et al., pp. 1–36), *C. acutatum* (Damm et al., pp. 37–113), and *C. gloeosporioides* (Weir et al., pp. 115–180).

* Books for consideration for coverage in this column should be mailed to the Book Review Editor at the address above. All unsigned entries are by the Book Review Editor.

Colletotrichum boninense proved to comprise 18 clades, recognized as separate species, and necessitating the description of 12 new species, seven of which were from New Zealand. A parallel situation was revealed in *C. acutatum* where 31 species were distinguished, of which 21 were new. Further, 22 species and one subspecies were recognized in *C. gloeosporioides*, seven species being new to science. ITS sequences alone were unable to differentiate some species in the last complex, and there multi-gene diagnostics will be essential, as several taxa are of biosecurity significance. In all three groups, the generic name *Colletotrichum* is adopted, rather than *Glomerella*, whether or not a sexual state is known.

In a final contribution, Cannon et al. (pp. 181–123) provide a perspective of the current state of the taxonomy of the genus, and indications of future directions. Notes are provided on the situation in other clades not treated in the earlier contributions, and an eventual infrageneric classification is seen as highly desirable. They recognize that a suitable barcode will be needed, and that in such a complex and economically important group a consensus approach should be sought. In order to progress that vision, a subcommission of the International Commission on the Taxonomy of Fungi on *Colletotrichum* is being established.

The standards of the presentation and the photographs are superb, and it was especially pleasing to see the appressoria of so many species so well illustrated.

The issue is dedicated to Brian C. Sutton, who served as a mycologist at the former International Mycological Institute (Kew and Egham) from 1959–1965 and 1969–1995. Brian, doyen of the coelomycetes, had a particular interest in the genus on which he published several seminal papers between 1962 and 1992. In common with many who have struggled to identify these fungi, I am sure that he will have been amazed to see how complex some of these fungi are, at last understood why some seemed so variable and difficult to resolve by morphology alone, and pleased to see a new taxonomy emerging.

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The genus *Cladosporium*. By K. Bensch, U. Braun, J.Z. Groenewald & P.W. Crous. 2012. STUDIES IN MYCOLOGY no. 72. CBS-KNAW Fungal Biodiversity Centre, P.O. Box 85176, 3508 AD Utrecht, The Netherlands. <info@cbs.knaw.nl>. Pp. 401, illustr. ISBN 978-90-70351-91-5. Price: 70 € (paper copy, download free)

A comprehensive revision of *Cladosporium* has been desperately required for over 50 years, and at last it is here. Important contributions clarifying

the generic circumscription or providing critical molecular phylogenetic treatments of particular groups have appeared during the last 15 years, most notably by David (1997) and the present authors, especially in earlier numbers of *STUDIES IN MYCOLOGY* (see *MYCOTAXON* 107: 507–509, 2009; 114: 487–500, 2010). This new monographic treatment brings all this information together and so will be the key work on the genus for decades to come. The now 993 species names in *Cladosporium* (and its synonym *Heterosporium*) result in 169 accepted species. The sexually typified *Davidiella* is wisely treated as a synonym in accordance with the demise of dual nomenclature in pleomorphic fungi (on 30 July 2011—not from 1 January 2013 as mentioned on pp. 10–11). The genus is monophyletic, with the asexual states characterized by coronate hila formed at conidiogenesis and the sexual states differing from *Mycosphaerella*, as the ascospores, where known, have characteristic irregular inclusions.

Following an historical introduction and description of the diagnostically important characters are a series of nine keys, which have been pragmatically produced. These include ones based on host and substrate and also separate keys to the main complexes, *C. cladosporioides* and *C. herbarum*. The *C. cladosporioides* complex, so important in indoor environments, has swelled to 46 species that can be more-or-less separated morphologically, but they note that there are further cryptic species that may merit recognition in future.

The accepted species are arranged alphabetically, and for each there are superb illustrations, both photomicrographs and line drawings, some accompanied also by photographs of infections on host plants or scanning electron micrographs. Careful attention is paid to the nomenclature, synonymy, and typifications, and in addition to the expected detailed descriptions there are also references to previously published illustrations, exsiccates, and information on host ranges and distributions. Contrary to common misconceptions, only a limited number of species are plurivorous or widely distributed.

Excluded species are discussed in detail, and new combinations made for several into other genera, especially *Zasmidium*. Uncertain and doubtful species are discussed in a separate section, often with illustrations even though the current placements are unsure. In such a complex work, I was pleased to find comprehensive indices to both hosts and fungal names.

This will be a key work for plant pathologists and mycologists concerned with indoor moulds and spoilage who must have it to hand. No longer will it be precise enough to just use names such as '*C. cladosporioides*' without a more critical examination. And at such a modest price, and availability at no cost through the CBS website, there can be no excuse not to be more precise. This splendid work is yet another pinnacle of achievement for a group of

extraordinarily skilled mycologists, to whom all others will remain even more in debt than they already were.

David JC. 1997. A contribution to the systematics of *Cladosporium*: revision of the fungi previously referred to *Heterosporium*. MYCOLOGICAL PAPERS 172: 1–172.

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A monograph of *Allantonectria*, *Nectria* and *Pleonectria* (Nectriaceae, Hypocreales, Ascomycota) and their pycnidial, sporodochial and synnematosus anamorphs. By Y. Hirooka, A.Y. Rossman, G.J. Samuels, C. Lechat & P. Chaverri. 2012. STUDIES IN MYCOLOGY no. 71. CBS-KNAW Fungal Biodiversity Centre, P.O. Box 85176, 3508 AD Utrecht, The Netherlands. <info@cbs.knaw.nl>. Pp. 210, illustr. ISBN 978-90-70351-90-8. Price: 65 € (paper copy, download free)

The *Hypocreales* is one of the most intensively researched orders of fungi, and it is mildly surprising that *Nectria* (in its current restricted circumscription) has not previously been the subject of a large-scale monograph in the STUDIES IN MYCOLOGY series. This publication addresses that omission very satisfactorily, alongside a detailed treatment of two other genera of the *Nectriaceae*, the monotypic *Allantonectria* and the more speciose *Pleonectria*. These three genera, shown to be individually monophyletic based on a six-locus phylogenetic analysis, collectively form a paraphyletic assemblage with *Nectria* itself sister to a cluster of other nectriaceous genera including *Calonectria* and *Neocosmospora*. The three genera studied here can be separated with relative ease using morphological criteria, with *Nectria* separated from *Allantonectria* and *Pleonectria* based on absence/presence of yellow scurfy cells on the ascomatal walls and on conidioma and conidiophore morphology. *Allantonectria* has aseptate allantoid ascospores, in contrast to *Pleonectria* where they are septate (frequently multiseptate and/or muriform) and in most species bud to form conidia directly from the germinating ascospore.

The type species of *Nectria*, *N. cinnabarina*, is one of the most familiar microfungi in northern Europe, especially as its “coral spot” anamorph, which is almost ubiquitous in the region as a weak pathogen of woody plants. Building on work published in an earlier volume of STUDIES IN MYCOLOGY (Hirooka et al., 2011), it is now considered to be one of a complex of four cryptic species that are unequivocally separated using sequence data but which can hardly be distinguished on morphological criteria. The authors provide an explanation of their interpretation of species concepts in the *Nectriaceae*, favouring a polyphasic approach. However, the inclusion of phylogenetic/genealogical

concordance as the primary method (or one of the primary methods) of species differentiation seems inevitably to lead to a proliferation of taxa and difficulties when attempting to correlate modern species concepts with historical data. For example, a report referred to without comment of *N. cinnabarina* as an endophyte of *Taxus mairei* in China is at odds with the geography and ecology of that taxon as defined in the current volume. Using the wealth of historical literature on fungal systematics and biology in the context of modern phylogenetic species concepts is one of the twenty-first century's greatest challenges, and one that goes far beyond the bounds of this volume.

Publication in *STUDIES IN MYCOLOGY* is not in itself an absolute guarantee of quality, but few other publication series covering fungal systematics come close to it for utility, presentation and scientific rigour. The current volume is not perfect — it could have done with more attention to proof-reading and some of the illustrations are not of the highest quality — but it will constitute the standard reference for the genera concerned for some years to come.

Hirooka Y, Rossman AY, Chaverri P. 2011. A morphological and phylogenetic revision of the *Nectria cinnabarina* species complex. *STUDIES IN MYCOLOGY* 68: 35–56.

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Taxonomic manual of the *Erysiphales* (powdery mildews). By U. Braun & R.T.A. Cook, 2012. CBS BIODIVERSITY SERIES 11. CBS-KNAW Fungal Biodiversity Centre, P.O. Box 85176, 3508 AD Utrecht, The Netherlands. <info@cbs.knaw.nl>. ISBN 978-90-70351-89-2. Pp 707. Price 80 €

The powdery mildews are often ignored by field mycologists because they look rather uninteresting and require a microscope to identify. Luckily this impression is not shared by all, and the authors of this fine new book have provided abundant evidence to support much more research into the group. Following on from Braun's monograph of 1987 and his account of European species in 1995, this collaboration with Cook has laid a modern foundation for future work. These fungi have had a chequered taxonomic history with differing approaches by 'lumpers' and 'splitters' and by plant pathologists and mycological taxonomists.

The book begins with a review of the classification of the *Erysiphales* and the pathways by which the latest systems have been developed. Detailed accounts of structure, especially of the anamorphs, are accompanied by a wide range of drawings and microphotographs. Detailed keys allow identification either via the host family or by examination of the fungi themselves. Descriptions

of all known species are clear and convincing and all include drawings of the diagnostic features. Host information is generally full and distribution data is most helpful, although necessarily not without some minor omissions. Comprehensive indices and a useful glossary complete a tour-de force.

Using modern molecular techniques it can be demonstrated that the *Erysiphales* have evolved in a close partnership with their hosts and the systematics of the group closely mirrors that of the angiosperms. Host specificity is high and we now have a review of the world's species that will allow for far easier identification of the vast majority of taxa. The separation of species of *Golovinomyces* on hosts from different tribes in the *Asteraceae* is now clear, as is the division of *Podosphaera fusca* into a number of more narrowly defined taxa on the same host family. In addition, the breaking up of the *Leveillula taurica* complex and the separation of host-specific species in *Phyllactinia* will greatly assist confident naming of these fungi.

A major feature of the book is the reliance on anamorph characters and the erection of different form-genera for the anamorph states, classified within the tribes of the teleomorphs. This will allow for a quicker placement of the many un-associated anamorphs to the correct perfect genus and, subsequently, their absorption into existing species or description as new.

All reviewers are expected to find some fault but this is very difficult in this case. Perhaps the inclusion of three colour plates, rather fuzzy and not exciting, was a small mistake and the fact that the index does sometimes fail to lead to the fungus listed (pages and species numbers are in a few cases confused), and some of the distribution data is incomplete. But these are very minor quibbles.

The combination of traditional and molecular taxonomy is a timely justification for both approaches and the writers are to be congratulated on producing a truly magnificent work. The publishers too deserve praise for providing such a well-produced book at a really modest price.

This book should be in the library of all plant pathologists and also all those mycologists who are interested in the co-evolution of fungi and plants. The greatest praise that this reviewer can add is that he wishes that he had written this book, it is so good!

Braun U. 1987. A monograph of the *Erysiphales* (powdery mildews.) Beih Nova Hedwigia 89.

Braun U. 1995. The powdery mildews (*Erysiphales*) of Europe. Fischer, Jena.

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LICHENS

Biomonitoring, ecology and systematics of lichens. Recognizing the lichenological legacy of Thomas H. Nash III on his 65th birthday. By S.T. Bates, F. Bungartz, R. Lücking, M.A. Herrera-Campos & A. Zambrano (eds), 2011. BIBLIOTHECA LICHENOLOGICA Band 106. ISBN 978-3-443-58085-8. Pp. 442, col. pl. 16, figs 102. Price 109 €

It is most fitting that Tom Nash should be honoured on the occasion of his 65th birthday and retirement from Arizona State University, where he was based for 40 years and developed both his personal reputation and a major lichen collection. The high regard in which Tom is held by his students and peers is evident from the size of this book, which includes no fewer than 33 original contributions. These reflect Tom's research in systematics, ecology, and bioindication, but those on systematics predominate here, though five concern air quality issues. As is almost always the case in such volumes where space is generally restricted, the majority of papers deal with one or a few species. It would not be practical to mention all these here, but some are of wider interest: the recognition of *Haplospora* as distinct from *Merismatium* (Hafellner, pp. 75–93), the introduction of the new generic name *Malmidea* in the new family *Malmideaceae* for tropical lecideoid lichens on trees, many of which were previously placed in *Malcolmiella* (Kalb et al., pp. 143–168), and the ingeniously eponymous new generic name *Trinashotrema* for “Nash's pore lichens” in the *Stictidaceae* for some taxa previously placed in *Conotrema* and *Ocellularia* (Lücking et al., pp.187–210). Amongst the other papers, I found the resurvey of the area around the Palmerton zinc smelter in Pennsylvania of particular interest. The effects of this smelter on lichens were the topic of Tom's PhD dissertation of 1971; it ceased functioning in 1980, and along Tom's transects, lichen cover on bark and wood was found to have increased substantially, from 0.6 to 1.4 m² (229%), and on rocks and the ground from 7.6 to 22 m² (296%) (Howe & Lendemer, pp. 127–142).

Also included are a most readable account of Tom's career and achievements including several photographs of him in action teaching in the field (Bates & Bungartz, pp. v–xvi), and a meticulously prepared 14-page list of his published works (pp. 409–422). It was, however, somewhat depressing to learn that the 100,000+ specimen lichen collection Tom had built up at ASU, which includes around 50,000 he made, was no longer accessible except by visits, as no curator had been recruited.

The book has been edited and prepared to the high standards customary in the series, and especially welcome was the inclusion of coloured plates at the end, which illustrate many of the contributions. Volumes recognizing the

contributions of outstanding lichenologists have become one of the mainstays of BIBLIOTHECA LICHENOLOGICA, but the volumes are expensive for personal purchase and the generally specialized papers included consequently tend to be passed by lichenologists as a whole. Perhaps increased availability of the individual articles could be achieved by making them available free or charge on the Internet?

Tom's achievements include combining field studies with often pioneering laboratory experimentation, and later also novel bioinformatic approaches, but it is the superlative LICHEN FLORA OF THE SONORAN DESERT REGION (3 vols, 2002–2007) that will constitute his most important legacy to lichenology. That he managed to cajole so many lichenologists around the world to contribute to that work, and on a finite time-scale and in a common format, will never cease to amaze me. Another legacy is his students. Tom himself seems to have been greatly influenced by the late William (“Bill”) L. Culberson, whose class at Duke University he took during his formative years. Sadly, with Tom's departure from ASU, another institution where future lichenologists might be spawned and nurtured has to be deleted from the list. However, there is no doubt that he achieved more than could reasonably have been expected of him, and he deserves a well-earned and enjoyable “retirement.”

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Suomen Jäkäläopas. By S. Stenroos, T. Ahti, K. Lohtander & L. Myllys (eds). 2011. NORRLINIA no. 21. Kasvimuseo, Luonnontieteellinen keskusmuseo, Helsinki, Finland. <http://www.luomus.fi>. Pp. 534, illustr., col. plates. ISBN 978-952-10-6804-1. Price: 45 €

The standard of colour lichen macrophotographs increases by leaps and bounds, partly as technology advances, but also with the skills of the photographers. Now, the modern classics for coloured photographs of macrolichens of Wirth (1995) and Brodo et al. (2001) must be supplemented by this superbly illustrated account of those occurring in Finland. It is now a ‘must have’ for the shelves of all lichenologists, even though the text is in Finnish. Indeed, so superbly produced is this book that it was awarded the 2011 Tieto-Finlandia prize of 30 000 €, Finland's most significant non-fiction award.

In all, 481 species and infraspecific taxa are treated, including all the macrolichens and also a few common crustose species known in the country. The alphabetical systematic treatment is prefaced by a wide-ranging account of lichenology in Finland, from the historical, through the ecological and commercial exploitation aspects. Apart from the illustrations, the accounts

include short descriptions, information on synonyms, spot-tests, ecology, and distribution (with maps indicating provinces where the species are known). Keys are also provided for the larger genera.

This lavish production has been very much a team effort by Finnish lichenologists as a whole, and the authors of particular genera are appropriately credited (p. 52). It will be of particular international value for the comprehensive treatments of genera such as *Bryoria*, *Cladonia*, and *Peltigera*, for which colour images of many species appear in print here for the first time.

Non-Finnish speakers are aided by a glossary of Finnish/English terms (p. 516), but the photographs with scientific names largely speak for themselves. Even though the primary target for this work was clearly to produce an authoritative and comprehensive stand-alone for Finnish ecologists and naturalists, it might have been valuable also to include references to other publications and websites. I did not even catch a reference to the multi-volume and comprehensive NORDIC LICHEN FLORA (1999 ff.), with which some of the editors are much involved, but may have missed it in the Finnish text.

I suspect that Teuvo ("Ted") Ahti was very much a driver of this work, and he, as well as his co-editors and contributors, should be proud of this extraordinary achievement. Such works are the key to catching the imagination of potential lichenologists of the future, as well as facilitating precise identifications by non-specialists.

Brodo IM, Sharnoff SD, Sharnoff S. 2001 Lichens of North America. New Haven: Yale University Press.

Wirth V. 1995. Die Flechten Baden-Württembergs. 2nd edn. 2 vols. Stuttgart: Eugen Ulmer.

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BASIDIOMYCETES

Funga Nordica. Agaricoid, boletoid, clavarioid, cyphelloid and gasteroid taxa. 2nd edition. By H. Knudsen & J. Vesterholt (eds). 2012. Nordsvamp, c/o Botanical Museum, Gothersgade 130, 1123 Copenhagen, Denmark. ISBN 978-97-983961-3-0. Pp 1083. Price 119 €

This is the second edition of the FUNGA NORDICA that came out in 2008. The new version has been enriched with many crust-forming fungi, gasteroid taxa, and a number of taxa with hymenophores other than gilled or pored. The inside of the back cover indicates that in practice for some orders all taxa are treated while only a scattering of taxa are covered for others. Two types of keys, one

based on hymenophore type and one based on phylogeny, are presented. So, although some crust forming species are included, the majority of the species not cited should be keyed out with specialized literature. As some genus and family concepts have been updated to accommodate recent findings, this is still the only book to really incorporate results from the molecular-phylogenetic studies that revolutionized our perception of mushroom taxonomy so much in the last decade.

A total of 56 families, 278 genera, and over 3000 species are included. Those who fondly remember the CD with the colour photos of the first edition will be disappointed to learn that they are not included in the second edition.

Family and generic concepts in general follow Index Fungorum and Mycobank; but I was surprised to see that *Cystoderma* and allies (in their own family in the first edition) and the Bird's nest fungi now are included in the family *Agaricaceae*, as there is no good evidence for such a placement.

I wish that Jan Vesterholt, editor for the first edition, had lived to see this second edition.

A general review of the first edition can be found in MYCOTAXON 110: 521 (2009), and I heartily agree with that reviewer that this book should be on every mycologist's work surface.

Tricholomas of North America. A mushroom field guide. By A.E. Bessette, A.R. Bessette, W.C. Roody, & S.A. Trudell. 2012. University of Texas Press, P.O. Box 7819, Austin, TX 78713-7819, <www.utexaspress.com>. Pp 208, numerous colour plates. ISBN 978-0-292-74233-8. Price \$29.95

The genus *Tricholoma* harbours many species that are difficult to identify. Furthermore, the literature on these species is scattered, and in many cases good colour photographs are lacking, which is especially difficult in a group where the microscopical characters are few and not very informative. The field guide by Bessette et al. of North American tricholomas fills the gap between scientific literature and the normal region-focused guidebook by presenting good quality descriptions and colour photographs of around 75 *Tricholoma* species. Most are illustrated, and in many cases multiple photos are given, to show the range of colours and shapes.

The book starts out with an introduction to the genus, its nomenclatural history and how to distinguish its taxa from other genera, an overview of the important characters, and a key to the species. The key is divided up into eight separate dichotomous (or in some cases trichotomous) keys: for eastern and for western species, and for white, grey, brown, or yellow species, with considerable overlap between the keys. At the end of the book, a list of additional as-yet unnamed species are presented, plus a list of species names that can be found

in the literature but are hard to interpret or otherwise insufficiently known, a glossary, a list of references, and indices can be found.

In the introduction the authors stress that much work still has to be done; for instance a rigorous comparison of molecular characters of American and European taxa is very much needed. This is indeed required, as I get the impression that European names are misapplied in some cases: I would not, for instance, recognize *Tricholoma sulphureum* from the photos in this book. Many species from the literature are insufficiently known, and which names to apply to the recognized taxa is also an unsolved problem. But, the authors also express the hope that with this book, renewed interest in the genus will be kindled in many mushroom lovers. The colour photos certainly invite readers to pay more attention to this important group of mushrooms.

As in other such guidebooks, the sources of the information are not given — whether descriptions are based on the literature or on personal observations, whether there are herbarium vouchers for the photographs, none of these issues are touched on.

But in summing up this book, I end on a very positive note: the lay-out of the book is pleasant, the book is very affordable, the quality of the photos is in general high, and at last it gives insight in the North American *Tricholoma* flora.

Gli Igrofori. Atlante pratico-monografico per la determinazione delle *Hygrophoraceae* Roze ex Lotsy. By R. Galli. 2012. dalla Natura, Franca Marmonti s.a.s., Via Andrea Costa 2, 20136 Milan, Italy. <franam2@alice.it>. Pp 208, many col. pl. Price 56 €.

Waxcap mushrooms of eastern North America. By A.E. Bessette, W.C. Roody, W.E. Sturgeon, and A.R. Bessette. 2012. Syracuse University Press, 621 Skytop Road, Suite 110, Syracuse, NY 13244-5290, <supress@syr.edu> <www.syracuseuniversitypress.syr.edu>. Pp 192, 167 colour plates. ISBN 978-0-8156-3268-9. Price \$ 95

The *Hygrophoraceae* are basking in a lot of attention, book-wise. Two new books were published this year, one treating the eastern North American species and the other the Italian species of *Hygrophorus* and *Hygrocybe* s.l. Both use the same genus concepts, with a 'lumping' approach to *Hygrocybe*, which includes *Cuphophyllus*, *Humidicutis*, and *Gliophorus*, and in the American book, even species of *Camarophyllopsis*.

The North American book starts with a short introduction to the groups, followed by the species descriptions, all photos grouped by colour and look-alikes, with a glossary, resources, and indices at the end. A key to the species is not given. In many cases several photos per species are provided, and many classic eastern species are depicted here for the first time. Although photo

credits are given, there is no information about the locality where the photos were made nor where the descriptions came from. Some new combinations for *Hygrocybe* species originally described in the genus *Hygrophorus* are invalidly proposed without references to the basionym. The photos are of reasonable quality, though I have to admit that the *Hygrocybe* photos in Boertmann's book (2010) are much more pleasing and informative. The high price of this rather slim volume is a serious drawback.

The Italian book starts out with a lavishly illustrated 35-page introduction, which pays ample attention to macroscopical, microscopical, ecological, and culinary characters and aspects of the family. Keys to genera, sections, and species are presented in both Italian and English. Species descriptions are in Italian only. Each species gets at least one page, often several pages with big photographs and colour illustrations, and a line drawing of the main microscopical characters. The specimens are, as in the American book, photographed in the field. Some photos are a bit vague, but most are of good quality, showing the variation and the characters of the species.

Both books rely heavily on morphological species concepts. I would love to see a follow up in which molecular and morphological data are combined, giving us real insight into the world of these colourful intriguing species. A quick look in GenBank is enough to realize that ITS sequences with the same taxon name attached are not similar, even within Europe. Let us hope that these books will stimulate further research.

Boertmann D. 2010. The genus *Hygrocybe*. 2nd ed. Fungi of northern Europe vol. 1. Svampetryk. 200 p.

GENERAL

Cytology and plectology of the hymenomycetes. By H. Cléménçon, with the assistance of V. Emmett and E.E. Emmett, 2012. 2nd revised edition. J. Cramer in der Gebr. Borntraeger Verlagsbuchhandlung, Johannesstr. 3A, 70176 Stuttgart, Germany <mail@borntraeger-cramer.de>. Figs 636. ISBN 978-3-443-50037-5. Price 98 €

If I could choose only one mycological book to take with me on a 2-week stay on an uninhabited island, this would be it. It is chock-full of information, interesting facts, and historic tit-bits, and it is heartily recommended for everybody who is interested in the phylogeny, development, and characters of mushroom forming basidiomycetes.

The first edition, published in 2004, has been expanded with new findings published from 2003 to 2011; names have been updated, and some colour plates have been added. This version is 32 pages thicker than the first one.

With the often-unexpected outcomes from phylogenetic studies, knowledge of morphological data is more than ever in demand, and everyone should have access to this book.

For the rest I refer the reader to the equally enthusiastic review by David Hawksworth of the first edition, in MYCOTAXON 90: 474–476 (2004).

BOOK ANNOUNCEMENTS

Atlas of soil *Ascomycetes*. By J. Guarro, J. Gene, A.M. Stchigel and M.J. Figueras. 2012. CBS BIODIVERSITY SERIES 10. CBS-KNAW Fungal Biodiversity Centre, P.O. Box 85176, 3508 AD Utrecht, The Netherlands. <info@cbs.knaw.nl>. Pp. 486, 322 figs. Price 70 €

Biodiversity of *Heterobasidiomycetes* and non-gilled hymenomycetes (former Aphyllophorales) of Israel. BIODIVERSITY OF CYANOPROCARYOTES, ALGAE AND FUNGI OF ISRAEL. By D. Tura, I.V. Zmitrovich, S.P. Wasser, W.A. Spirin & E. Nevo; edited by S. Wasser, 2011. A.R.A. Gantner Verlag K.-G (distributed by Koeltz Scientific Book <www.koeltz.com>. ISBN 978-3-906166-99-5. Pp 566. Price 93.00 €.

***Entolomataceae* in Tasmania.** By M.E. Noordeloos and G.M. Gates, 2012. FUNGAL DIVERSITY RESEARCH SERIES 22. 212 figs (106 in colour), xvi and 354 p. ISBN 978-9400746787 Price \$169.99

International Code of Nomenclature for algae, fungi, and plants (Melbourne Code) adopted by the Eighteenth International Botanical Congress Melbourne, Australia, July 2011. By J. McNeill, F.R. Barrie, W.R. Buck, V. Demoulin, W. Greuter, D.L. Hawksworth, P.S. Herendeen, S. Knapp, K. Marhold, J. Prado, W.F. Prud'homme van Reine, G.F. Smith, J.H. Wiersema and N.J. Turland, 2012. REGNUM VEGETABILE 154. Pp xxx, 240. ISBN 978-3-87429-425-6. Price 59 €

Smut fungi of the world. By K. Vánky. 2012. American Phytopathological Society Press, 3340 Pilot Knob Road St. Paul, MN 55121, U.S.A. <aps@scisoc.org>. Pp xvii, 1458, 650 line drawings; 2800 micrographs. ISBN 978-0-89054-398-6. Price \$499