
BOOK REVIEW***Larger Fungi of South Australia****by C.A. Grgurinovic*

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Fungi of Southern Australia*by Neale L. Bougher and Katrina Syme*

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Reviewed by David Ratkowsky

These two important books on Australian fungi help fill the great need for scholarly books on the "larger", or "macro" fungi, that is, species that produce conspicuous fruit bodies. There have been few regional books on Australian fungi, and those that do exist are badly out of date taxonomically, or difficult to obtain (Cleland 1934-35, Willis 1963, Aberdeen 1979).

Cheryl Grgurinovic was awarded a Research Fellowship in Mycology by the Cleland Committee on 4 October 1983 and was given the task of re-examining the Mycological Herbarium of John Burton Cleland, his collections having been made largely between 1910 and 1935. Her goal, which took 14 years to bear fruition, and which was largely unfunded, was to prepare a revision of his pioneering two-part handbook on the higher fungi of the State of South Australia (Cleland 1934-1935). The appearance of *Larger Fungi of South Australia* has to be greeted with enthusiasm by amateurs and professionals alike, not only in South Australia, but in neighbouring States where there is a considerable overlap of the fungal flora.

Grgurinovic's book is confined to 19 orders of Homobasidiomycetes, and excludes all Ascomycetes, the "cup-bearing" fungi. Cleland, on the other hand, considered all the Basidiomycetes, together with a few of the most highly developed cup-fungi. Cleland had personally taken a great interest in other divisions and classes of fungi. He was an all-around naturalist with a life-long interest in ornithology, and also had some knowledge of insects and marine animals, being concerned with the toxic effects of the bites, stings and injuries that they inflict on humankind. He even had a role in the subsequent finding that the suffering of Mertz and Mawson in Antarctica in 1913 was due to hypervitaminosis A from eating carnivore liver.

Among the lasting benefits that accrue from this book include a clarification of

the existing nomenclature, some of which was very confusing, and the description of some new taxa (96 new species and 1 new variety) as well as ca. 52 new names or combinations. Some of these name changes were necessitated by Cleland's unfortunate habit of storing more than one collection of what he thought was the same species in a single box or under a single heading. In some of these cases, more than one species was involved, necessitating choosing one of them to be the holotype for a new species. For example, the name *Cortinarius fibrillosus* (p. 190) was proposed by Cleland and supported by two collections rather than one in his protologue (i.e. the first verbal description of a taxon). Regrettably, one of these collections (AD 4169) is an *Inocybe*, while the other (AD 4170) is a species of *Cortinarius*. Since the protologue reproduces the collection notes accompanying the *Inocybe* collection rather than the *Cortinarius* collection, Grgurinovic has proposed the new combination *Inocybe fibrillosa*, designating AD 4169 as the lectotype. That leaves the *Cortinarius* collection AD 4170 without a valid name. Another example is *C. ochraceo-fulvus*, also originally described by Cleland. The protologue of this species records two syntypes, one of which has smaller spore measurements than the other, and whose mean length is outside the range given for that species. Hence, Grgurinovic has made the smaller-spored collection the holotype of a new species, *Cortinarius bambus*. Other examples can be cited over a range of genera.

The 96 new species described by Grgurinovic make a definitive contribution to the understanding of the Australian fungal flora. Descriptions of species are almost always accompanied by detailed microscopic-based drawings which will greatly aid the professional mycologist in obtaining a better understanding of each of the species, and assisting accurate identification. This book also offers benefits to the amateur naturalist. The centre of the book contains 84 drawings and water-colours by predominantly female illustrators, who painted mushrooms for J.B. Cleland over a period of more than three decades. These will clearly assist the naturalist in coming to a correct identification. There are, in addition, a number of plates of photographs illustrating a further 24 species.

No book is perfect and that of Grgurinovic also has its limitations. Careful editing has kept misprints to a minimum, but there are some, nevertheless. For example, under *Gymnopilus*, the name *G. macrosporus* appears in the Key, whereas it should be *G. megasporus*, as in the text. Three of the species are omitted from the Index on p. 719. Other criticisms of this otherwise scholarly book can be made. Sometimes her descriptions lack important details, and her new species are almost always the result of splitting existing species on the basis of spore differences or of mixed collections by Cleland, discussed above. She offers little new in the way of systematic arrangement, relying heavily on the approaches of other mycologists, ignoring some of the more recent advances. For example, in *Cortinarius*, the systematic arrangement of Singer (1986) has been largely surpassed, with new

criteria now being used to group the components of this genus. However, these criticisms do not diminish the admiration that this reviewer has for the enormity of the task that confronted Cheryl Grgurinovic. She was forced to make decisions about more than 475 taxa described in the text, without having the luxury of being able to choose to include only those species that are visually attractive or which would make the book sell well. It is a fine book and is an indispensable reference work for anyone who is serious about identifying Australian mushrooms and toadstools.

Fungi of Southern Australia by Bougher and Syme has a different objective to that of Grgurinovic, namely to combine an in-depth scientific approach to mycology with a beautiful work of art. This objective has been admirably achieved, with 125 species described and illustrated on pp. 92-341 of this 391-page book. A constant format has been followed throughout, with two pages devoted to each species. The left-hand page (and sometimes a part of the right-hand page as well) usually contains an introductory paragraph with useful general information, followed by a detailed scientific description of the fruit body and then a detailed description of the microscopic features. The right-hand page contains the illustration, being an original painting by Katrina Syme. These have been painted from fresh material collected in south-western Australia, almost all of which were taken along a transect ca. 200 km long between Walpole and Albany, centred on Denmark, W.A. The title of this book, in the earlier promotional literature, was to be "Fungi of South-western Australia", but the publishers probably thought that such a title might severely restrict sales, and thereby replaced "South-western" by "Southern". The justification for the name change is that most species included in the book occur throughout the southern regions of Australia with a high winter rainfall.

In addition to the descriptions and illustrations of the fungal species in Chapter 7, there are six introductory chapters, which include information on (1) the Kingdom Fungi and the difference between mushrooms and toadstools; (2) Australian fungi and the south-west region; edible, poisonous and hallucinogenic fungi; (3) the naming of fungi and how they are described in the book; (4) how to find, collect and preserve fungi; (5) describing fungi; (6) the main groups of fungi and how they are classified. At the end of the book, there is a useful glossary of terms used for larger fungi, which will be particularly welcomed by beginners to mycology, the scientific study of fungi. Here, complicated terms such as "mycorrhizal" and "sequestrate" are simply explained.

Clearly this is a very successful book, achieving its objective of marrying science and art in an appealing way. Nevertheless, with only 125 species illustrated, only a small percentage of the Australian higher fungi are dealt with. The number of mushroom-type species in Australia has been variously estimated to range between 5000 to 22,000; whichever estimate is closer to the truth, it is clear that there is a long way to go before a significant number of Australia's macrofungi are identified,

described and illustrated. Books such as the two reviewed here are welcome contributions towards that goal.

REFERENCES

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