

## Book Reviews<sup>1</sup>

### LIFTING THE VEIL

**Slayers, Saviors, Servants, and Sex. An Exposé of Kingdom Fungi.** By David Moore. 2001. Springer-Verlag, New York. Pp. 175. ISBN 0-387-95101-6 (hardcover). ISBN 0-387-95098-2 (softcover). Price US\$ 69.95 (hardcover), US\$ 29.95 (softcover).

Some years ago, a colleague told me that the most fortunate among us are faced with three options at the juncture in life once valued as the mid-life crisis: go insane, engage in an extramarital affair, or write a book. In my own approach to this disconcerting landmark, all but the third option has vaporized under my wife's guidance. Being a professional mycologist, fungi are the obvious topic for my literary exercise, but how can one attract a wide readership to a book about molds and mildews? The depth of inquiry and choice of topics are critical decisions. Realization that one's scientific peers may flip through the pages is a strong incentive to get the facts straight, but a book about cell wall chemistry or gene organization in fungi would only be welcomed in a sleep clinic.

So it was with great interest that I opened David Moore's latest book. The former Executive Editor of *Mycological Research* has written a very enjoyable volume, perhaps the only authoritative popular treatment of fungal biology in recent years. This is a good one for an evening in a recliner chair. Moore's editorial skills are evidenced by the fact that the text is refreshingly free from errors and he has also dodged much of the standard mycological folklore that can only be employed to surprise some miserable freshman student debilitated by cable television and video games.

As the title suggests, procreation is a major theme. In his chapter on mushroom sex, Moore grapples with the question of the necessity for mycelial copulation but is unable to penetrate much further than James Thurber in his treatise on human sexuality. We know far more about the practice and outcome of mushroom sex than its selective benefit. Natural selection also appears as an interesting theme in the chapter on mushroom poisoning. Why do fungi produce compounds like amanitins? The poisonous nature of *Amanita phalloides* is not evident until hours after ingestion, so these molecules are unlikely to play any role in discouraging consumption by animals with communicative skills less sophisticated than humans. Yet it seems certain that relatives of today's death caps and destroying angels preceded our appearance by a substantial time period and that these mushrooms possessed the contemporary pathways for toxin biosynthesis. Moore doesn't arrive at a satisfying answer, but at least he thought of the question.

Two chapters consider symbioses between fungi and other

organisms. The first deals with mutualistic relationships with plants and ants, the second with debilitating and lethal fungal interactions with less privileged partners. In other chapters, Moore discusses the beneficial uses for which we have enslaved fungi for millennia (medicines, food, and drink), and recent enterprises that seek to save the planet through fungal biotechnology.

There are a few illustrations in the book, and most of these are useful. The copy of Buller's diagram from 1931 showing his experiment on the weight-lifting abilities of fruiting bodies is a personal favourite, and the microscopic image of an embryonic mushroom is a classic from Moore's research that has appeared in his previous books. He closes the exposé with a selection of fungal word games including a crossword. Fortunately, Morpheus had found me in my chair before I discovered this appendix.

Mycologists face a serious challenge in communicating the marvels that they observe in the laboratory with a wider, nonprofessional audience. David Moore confronted the blank page in Hong Kong, and completed the book on a hand-held computer in a beach hut. The warm climate seems to have agreed with the elder statesman from the frozen wasteland of Manchester. It is beautifully written.

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### SOIL FUNGI

**Detection and Isolation of Soil Fungi.** By Pierre Davet & Francis Rouxel. July 2000. Science Publishers, Enfield, NH. Pp. x + 188, 18 coloured plates. ISBN 1 57808 125 4. Price: US\$ 49.50.

This is a translation of *Détection et Isolement des Champignons du Sol* which was first published in 1997. It is very much a hands-on book with basic information on techniques, from extraction and sample preparation from roots and soil, isolation techniques, culturing methods, and incubation to purification. The main value of the book, however, is the enormous range of selective techniques that have been compiled together, some targeted at single species or even special forms. A comprehensive bibliography is presented for those who might wish to know more. While one modestly sized book cannot cover everything pertinent to such a vast field, I would have expected some entrée into methods of long-term storage of cultures, and the identification of isolates.

The target of the book was clearly plant pathologists rather than fungal ecologists, and problems of interpreting isolates obtained with respect to the actual and generally largely uncultured mycobiota present are not considered in any detail. Molecular methods are starting to assist with this long-standing problem, but the original French version of the work was prepared before significant progress had been made in molecular fungal ecology.

<sup>1</sup> Book Reviews are compiled by David L. Hawksworth, Executive Editor *Mycological Research*, MycoNova, 114 Finchley Lane, Hendon, London, NW4 1DG, UK (tel/fax: [+44] (0)20 8203 4282, e-mail: [myconova@btinternet.com](mailto:myconova@btinternet.com)) to whom copies of books for consideration for inclusion should be sent. Unsigned items are prepared by the Executive Editor.