FUNGI ON TREES AND SHRUBS IN NEW ZEALAND

by P. D. Gadgil (with M. A. Dick, I. A. Hood, and S. R. Pennycook)

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This volume, treating "some 700 fungi" associated with trees and shrubs in New Zealand, will be a valuable addition to the library of anyone interested in woody plant pathogens. It is stated to be intended primarily for forest pathologists and those of similar interest to identify the major fungi involved as forest pathogens and tree or shrub associates. Also included are several foliicolous algae (seven species), organisms rarely treated by such volumes.

The book opens with a series of 16 colour plates of fungi treated within. None of these photographs can be faulted. They are nicely presented and, at least in the copy which I reviewed, the color was accurate.

A short introduction follows the plates. It includes a very brief discussion of the fungi in general and their place in the biological hierarchy. Also included there is a brief presentation of ascomycota and basidiomycota life cycles. Considering the level of training of the intended audience and the brevity and simplicity of the life cycle explanations, this section will probably not be useful to many. A glossary is always useful and is found next in this book.

The approach in this volume is interesting and for practical application probably very useful, in that it presents the descriptions of the fungi grouped into sections based on the plant part affected. The sections include foliicolous, caulicolous, corticolous, radicicolous, xylophilous, and lignicolous fungi. Then there are five sections that depart from the very useful previous breakdown, instead being defined by fungal class — downy mildews, powdery mildews, rusts and smuts, sooty moulds and similar fungi, and mycorrhizal fungi. Departing from the established format can only be confusing to the user of the work. The fungi in four of these five sections fit very well into the other six categories already provided. The exception to this is the mycorrhizas, which obviously need their own section, not being on any of the previously segregated plant parts. This is one of few negatives I found in the treatment.

The numerous descriptions, though brief, are adequate to allow a pathologist a good chance of identifying the fungus in hand — IF the pathologist can find the correct description. The major drawback I find in this volume, expressly intended for the identification of these species, is that there are no keys. The investigator needs to know pretty well the genera and species before going to this book. The Host-Fungus

Index saves the day in this regard because it is more elaborate than the usual host-fungus index. It is a partial synoptic key using host and the plant part to lead the user to a group of species to consider. This does help the user somewhat, but the lack of a key to at least the genera in each group makes it more difficult to use than necessary.

The descriptions as indicated are abbreviated but quite sufficient. The author is to be commended for the consistency of presentation within the descriptions, having the same order of characters in each one.

Each species is presented with the scientific name of either the teliomorph or the anamorph, depending on which is being described, and in some cases synonyms. Why some synonyms are given and others not, and why the particular synonyms were chosen in lieu of others may not be important, except to a taxonomist, but it was curious to this reviewer.

The descriptions are followed by a Literature Cited of more than 600 references, many of which are further descriptions of the species treated. This will make it a valuable reference book. This is followed by the Host-Fungus Index mentioned above, that can be used to assist in the identification of the species. Then comes an Index of Common Names of Host Plants, and finally an Index of Fungi and Algae.

"Fungi on Trees and Shrubs of New Zealand" will be very useful for its intended audience, especially veterans who need to have this information all in one place. The less experienced, I believe, will have trouble identifying fungi by using it, not that it can't be done but it could have been made easier for users by adding dichotomous keys to at least the genera.

Having said all this, let me summarise by saying if I were working on fungi on trees and shrubs in New Zealand there is no way that I would not have at least one copy of this book.

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