

## Book Review

**Pflanzenparasitische Kleinpilze. F. Klenke and M. Scholler. 1172 pp. Hardcover, €89.99, ISBN 978-3-642-55330-1. eBook, €69.99, ISBN 978-3-662-46162-4, DOI: 10.1007/978-3-662-46162-4. Berlin, Heidelberg, Germany: Springer-Verlag, 2015.**

This book is an up-to-date account of parasitic micro-fungi causing diseases to wild and cultivated vascular plants in Germany, Austria, Switzerland and South Tyrol. It catalogues for the first time, comprehensively and concisely, rusts, smuts, downy mildews, chytrids and *Taphrina*-related fungi occurring on a wide range of hosts in the German-speaking countries of central Europe.

The book is essentially a compilation of recent monographs, with some unpublished records of fungus/plant relationships. An introductory, general section provides guidance on taxonomic criteria, distinguishing features at higher taxonomic ranks, hints for collecting and identification, accounts on the impact of anthropogenic activities on current diversity and distribution of plant-parasitic fungi, a glossary and an identification manual.

The main part of the book consists of concise and informative accounts on *c.* 2150 plant-parasitic micro-fungi, about a fifth of which are currently absent from the area but at risk of introduction due to current societal transformation and climate change scenarios.

The main focus and objective of the volume was to produce a handbook for prompt recognition. Dichotomous identification keys, starting from the host plant genera, accounts of the major taxonomic groups, and details of macro- and microscopic distinguishing characteristics should make identification easy for non-specialists. Many herbarium specimens were revised and types checked (e.g. those of the *Uromyces pisi* complex, *Puccinia* on *Carex*, and *Melampsora* on *Salicaceae*). This led to the inclusion in the keys of new information on rusts

and new species. Records are enriched with insights on distribution, phenology, life cycle and host range. New fungal species, scarcely known taxa, and formerly misidentified entities are reported, and some taxonomic uncertainties are resolved. In this connection, the volume fills an important gap in mycology.

The rich colour illustrations facilitate visual identification of important plant-parasitic fungi in the field, while high-quality black and white photos depict the main microscopic features of relevant taxa.

The completeness of descriptions and the wealth of information make this volume a landmark textbook in mycology and related (e.g. botany, plant pathology) disciplines. The only shortcoming is that the book is written in German and therefore it will not be an easy reference for the wider, non-German speaking, readership. This drawback makes the book of limited value as a general guide. The hope is that the book will soon be translated into English, and so enrich the international mycological literature.

The different skills of the two authors complement each other beautifully in this book, enabling Friedemann Klenke, with his excellent knowledge of plant and fungal species, and Markus Scholler, with his deep knowledge of urediniomycetes, to do a sterling job. I congratulate both authors on their efforts to write this gargantuan textbook, which represents an authoritative contribution to the identification, classification and nomenclature of plant-parasitic microfungi of central Europe. The book could serve as a useful diagnostic handbook for stakeholders (urban green operators, farmers, nurserymen and foresters) and a valuable support for mycologists, botanists, plant pathologists, conservation biologists and restoration ecologists.

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