

P E R S O O N I A

Published by the Rijksherbarium, Leiden
Volume 14, Part 2, pp. 237-244 (1990)

BOOKS RECEIVED BY THE RIJKSHERBARIUM

- R. Agerer (Editor). *Colour atlas of ectomycorrhizae [Fasc. 3]*. (Einhorn-Verlag Eduard Dietenberger GmbH, Schwäbisch Gmünd. 1989.) Pp. 73, including 12 pp. with colour and 24 pp. with black-and-white photographs, on loose leaves to be assembled in binder. Price: DM 35.80.

The third delivery of this colour atlas contains an extended key for the identification of 64 ectomycorrhizae, new synoptic tables, and an updated list of literature. Twelve double sheets each with four excellent colour photographs and two pages of anatomical details in half-tone photomicrographs illustrate twelve new mycorrhizae: *Amphinema byssoides*, *Cortinarius varicolor*, *Hygrophorus pustulatus*, *Paxillus involutus*, *Piceirhiza chordata*, *P. conspicua*, *P. gelatinosa*, *P. glutinosa*, and *P. guttata* all on *Picea abies*; *Dermocybe semisanguinea* and *Tylopilus felleus* both on *Pinus silvestris*; *Xerocomus chrysenteron* on *Fagus sylvatica*.

- C. A. Clark & J. W. Moyer. *Compendium of sweet potato diseases*. (APS Press, The American Phytopathological Society, St. Paul, Minnesota. 1988.) Pp. 74, 53 Text-figs., 74 Col. Photogr. Price: \$ 25.- (\$ 20.- in the U.S.A.) including postage.

This publication on diseases of the sweet potato (*Ipomoea batata*), a major food crop in tropical regions, includes 28 diseases of that plant caused by fungi, besides those caused by bacteria, viruses, nematodes, and several noninfectious disorders. For each disease the symptoms, causal organisms, disease cycle, epidemiology and control are described and discussed. The symptoms are clearly illustrated by means of coloured photographs.

- C. D. Delp (Editor). *Fungicide resistance in North America*. (APS Press, The American Phytopathological Society, St. Paul, Minnesota.) Pp. V, 133, 26 Text-figs., 46 Tables. Price: \$ 28.- in the U.S.A., \$ 35.- elsewhere (both prices include postage).

This book is based on the papers presented and discussed at a workshop designed to focus on solutions to fungicide resistance problems in North America. Twenty-six scientists from Europe, Japan, and the U.S.A. present the state of the art and science. The intensive use of fungicides in Europe and Japan has resulted in valuable experiences and different approaches to the solutions of resistance problems. It is the aim of the organizers of the workshop to develop the necessary cooperation at all levels in North America to carry out the tough tasks of resistance management in the future.

- H. Dörfelt (Editor). *Lexikon der Mykologie*. (Gustav Fischer Verlag, Stuttgart, New York. 1989.) Pp. 432, 217 Text-figs., 40 Col. Pls., 8 black-and-white Pls. Price: DM 39.80.

A mycological encyclopedia in the German language which is written by nine authors (U. Braun, H. Dörfelt, H. Heklau, G. Hirsch, J. Miersch, M.-B. Schröder, R. Strodeur,

G. Straube, and Th. Voigt). This is the West German edition of the East German 'Bi-Lexikon Mykologie Pilzkunde' (Leipzig, 1988).

Terms in use in taxonomy, morphology, cytology, genetics, physiology, and chemistry of fungi and in phytopathology, medical mycology, and economical mycology are explained and, when necessary, illustrated. Inserted are also biographical notes on outstanding mycologists and selected genera with their characteristics. The 198 coloured photographs present mostly fruiting bodies of macromycetes; the 8 black-and-white plates present 16 TEM and SEM photographs of ultramicroscopical structures. This relatively low-priced mycological dictionary will be particularly useful for those mycologists for whom German is their mother-tongue or first foreign language.

A. Dövell. *Struktur und Funktion linearer Plasmide bei dem phytopathogenen Ascomyceten *Claviceps purpurea**. (Bibliotheca mycologica 126, J. Cramer in der Gebrüder Borntraeger Verlagsbuchhandlung, Berlin, Stuttgart. 1989.) Pp. 118, 24 Text-figs., 4 Tables. Price: DM 70.-.

Claviceps purpurea, although being an obligatory parasite, is easily grown in culture. It is true that no fruit-bodies are formed in culture, but there is a rich production of conidia. In biotechnology the species plays an increasingly important role. Therefore *C. purpurea* is a perfect subject for molecular-genetic research.

Three linear plasmids have been found to be present and have been thoroughly studied and analysed. The creation of plasmid-free transformants and again-plasmid-carrying transformants opens the way for comparative infection tests in order to shed some light on the role of plasmids in the pathogenicity of fungi.

D. A. Farr, G. F. Bills, G. P. Chamuris & A. Y. Rossman. *Fungi on plants and plant products in the United States*. (APS Press, The American Phytopathological Society, St. Paul, Minnesota. 1989.) Pp. VIII, 1252. Price: \$ 59.- in the U.S.A., \$ 74.- elsewhere (both prices include postage).

This large-format, densely printed book of 1252 pages is a precious and extensive reference of the fungi that grow on plants and plant products in the United States. It can be considered as a strongly revised and updated version of the 'Index of Plant Diseases in the United States' (1950–1953) by the U.S. Department of Agriculture. The contents of 4030 cited articles, books, and monographs are accurately compiled in a very concise way. The host-fungus list contains 78,000 unique combinations of phanerogamic plants as host or substratum for fungi. The fungus list of 474 pages gives detailed information on the taxonomy and nomenclature of the 13,000 fungi included in this work. A host index, a host common name index, and a fungus index make the information easily accessible.

The work is appended by a new list of authors of fungal names, in which the 2,485 authors referred to in the book are listed in full and with the proposed abbreviations. For authors listed in F. A. Stafleu & R. S. Cowan (1976–1980), 'Taxonomic literature' or in R. D. Meilke (1980), 'Draft list of author abbreviations compiled at the Herbarium Royal Botanic Gardens,

Kew', the proposed abbreviations are used. Of authors not cited in either of these two references the last name is generally written out in full and handled in accordance with U.S. usage. This has led to some inconsistencies, especially in handling particles in names of European authors. On the one hand we see suppressed particles, in accordance with the International Code of Botanical Nomenclature, Recommendation 46A, e.g. Arx (J.A. von Arx), Overeem (C. van Overeem), Tiegh. (P.E.L. van Tieghem); but on the other hand, in similar cases, particles are maintained and even capitalized, e.g. De Hoog (G.S. de Hoog), Van Kesteren (H.A. van Kesteren), Van Oorschot (C.A.M. van Oorschot), etc.

In conclusion, the book is very much worth buying for any mycological, phytopathological, agricultural, or horticultural library.

T.C. Harrington & F.W. Cobb, Jr. (Editors). *Leptographium root diseases on conifers* (APS Press, The American Phytopathological Society, St. Paul, Minnesota. 1988.) Pp. 155, 19 Text-figs., 8 Tables. Price: \$ 30.- (\$ 24.- in the U.S.A.), postage included.

The anamorph genus *Leptographium* (teleomorph: *Ophiostoma*) comprises about 35 mostly bark beetle-associated fungi parasitizing conifers and broad-leaved trees. The beetle introduces the fungus in the tree. In chapter 1 of the present publication a survey of the genus is given. In chapters 2 and 3 *Leptographium wagneri*, a root parasite on *Pseudotsuga* and a serious forest pathogen in western North America, is extensively reviewed (history, distribution, biology, management). In the following two chapters *Leptographium* root disease in British Columbia and *L. procerum* as pathogen on *Pinus* are amply discussed. In the final chapter a more world-wide view of *Leptographium* as root pathogen of conifers is given. The bibliography consists of 240 entries.

J.R. Hartman (Editor). *Biological and cultural tests. Volume 3.* (APS Press, The American Phytopathological Society, St. Paul, Minnesota. 1988.) Pp. 100. Price: \$ 22.50 (\$ 18.- in the U.S.A.), postage included.

A collection of instant, mostly one-page research reports, many of which concern plant diseases caused by fungi. The publication aims at keeping scientific workers on plant diseases abreast of current research of which the results have not yet reached the pertinent journals. Genera like *Cercospora*, *Colletotrichum*, *Erysiphe*, *Fusarium*, *Puccinia*, *Sclerotinia*, *Uromyces*, and *Verticillium* score highly in the reports presented.

[G.L.] Hennebert, [Ph.] Boulenger & Balon. *La Mèrulle. Science, technique & droit.* (Éditions Ciaco, Artel, Chaussée de Gand 14, Brussels. 1990.) Pp. 198, 6 Text-figs., 55 Col. figs. Price not known.

An introduction and survey of problems concerning the 'true dry rot fungus', *Serpula lacrimans*, and a few related fungi. In the first part are chapters on growth, development, nutrition, and prevention. The second part is devoted to juridical implications and jurisdiction

concerning claims of insurances against the destructions caused by this fungus according to Belgian law.

M. Kloidt. *Untersuchungen zum Abbau der Buchenblattstreu durch Pilze – unter besonderer Berücksichtigung der Ascomyceten* – (Dissertationes botanicae 130, J. Cramer in der Gebrüder Borntraeger Verlagsbuchhandlung, Berlin, Stuttgart. 1989.) Pp. 82, 71 Text-figs., 20 Tables. Price: DM 110.-.

The author reports on her studies concerning leaf-decomposition of *Fagus* leaves after leaf-fall over a period of three years. Mainly ascomycetes and imperfect fungi were found to be active among which *Apiognomia errabunda*, *Mycosphaerella punctiformis*, and *Naeviopsis carneopallida*; their anamorphs are the most common ones.

Sequence of settling, distribution over the leaves, visible decomposition-pattern, and the chemistry of leaf-decomposition have been analysed. After two years cellulose-contents of the leaves had considerably declined but lignin-contents had hardly changed. Nitrogen could slightly increase the decomposition-ability of some species, but in general optimal decomposition found place under N-deficient conditions.

W.D.J. Kuijs. *De Paddestoelen van Zuid-Beveland*. (Private edition, W.D.J. Kuijs, Plaanstraat 7, 4462 TW Goes. 1988.) Pp. 201, with many Text-figs., Maps and Tables. Price: Dfl. 12.50.

This is a report in the Dutch language on the macro-fungi found on the island Zuid-Beveland (prov. Zeeland, Netherlands) in the periods 1844–1847, 1950–1963 and 1982–1987. Habitat descriptions and separate lists are given for about 30 areas. In the general list 646 taxa are recorded.

G. Laaser. *Vergleichende systematische Studien an Basidiomycetenhefen unter besonderer Berücksichtigung der Hefestadien*. (Bibliotheca mycologica 130, J. Cramer in der Gebrüder Borntraeger Verlagsbuchhandlung, Berlin, Stuttgart. 1989.) Pp. 335, 6 black-and-white figs. Price: DM 130.-.

This thesis is an important contribution to the taxonomy of basidiomycetous yeasts. Both hetero- and homobasidiomycetes are included. Many yeast strains of homobasidiomycetes were isolated and characterized by a series of eleven physiological standard tests for yeasts. Where possible yeast strains were analyzed and compared among each other and, where possible, with mycelial strains, from which they were isolated. New methods of molecular biology make possible the assessment of relatedness at the molecular level. Among methods of DNA analysis, DNA-DNA hybridization studies prove to be most valuable to indicate levels of homology or conspecificity. A first basis for the identification of basidiomycetous yeasts is given.

J.-M. Mangen (Editor). *Champignons du Luxembourg. Planches inédites de Pierre-Joseph Redouté (1759–1840). Manuscrit de Louis Marchand (1807–1843)*. (Imprimerie Saint-Paul S.A., Luxembourg. 1989.) Pp. 115, 38 Col. Pls., 1 black-and-white portraiture (of P.J. Redouté).

At the occasion of the 150th anniversary of the declaration of independence of the Grand Duchy Luxembourg, the government commission for the commemoration of this fact had the bright idea to publish a series of 38 unpublished water-colour paintings of fungi from Luxembourg by Pierre-Joseph Redouté with the authentic text by Louis Marchand. The plates and the manuscript, originating from the Rijksherbarium, Leiden, are accurately reproduced on high-quality paper. In the introductory part are biographic notices on Redouté by A. Lawalrée and on Marchand by Prof. J.-M. Mangen.

The identity of the depicted fungi, among which several with new names by Marchand, has been established by a commission under P. Diederick, C. Besch, and B. Schultheis. Even four unfinished plates (Pls. 35–38) are published, mainly showing stages in their accomplishment.

The work was printed with a limited number of copies.

D.C. McGee. *Maize diseases. A reference source for seed technologists*. (APS Press, The American Phytopathological Society, St. Paul, Minnesota. 1988.) Pp. 150, 52 Text-figs. Price: \$ 32.- (\$ 26.- in the U.S.A.), postage included.

The author describes 150 diseases of maize subdivided into four groups: diseases that are seedborne and seed transmitted; diseases that are seedborne but not seed transmitted; diseases that are not seedborne and not seed transmitted; pathogens that are able to infect maize when inoculated. For each disease the following aspects are covered: disease distribution, susceptible plants other than maize, variability, control, seedborne aspect, effect on seed quality, pathogen transmission, seed health tests, key references. About 90 of the diseases reviewed are caused by fungi.

W.E. McKeen (Editor). *Blue mold to tobacco*. (APS Press, The American Phytopathological Society, St. Paul, Minnesota. 1989.) Pp. VII, 288, 10 Col. Pls. and 96 Text-figs. Price: \$ 58.- in the U.S.A., \$ 72.- elsewhere (both prices include postage).

This book provides a detailed picture of the pathogen *Peronospora hyoscyami*, its relationship with tobacco, its sensitivity to the environment, and the effect of human manipulation. In ten chapters aspects of taxonomy, structure, genetics, biochemistry, environment, systemic resistance, epidemiology, and meteorology are extensively discussed.

G. Mohr. *Grundlagen, Anwendungen und Möglichkeiten der Stammverbesserung biotechnologisch relevanter Hyphenpilze durch den Gentechnik: Integrative Transformation von *Aspergillus niger**. (Dissertationes botanicae 131. J. Cramer in der Gebrüder Born-

traeger Verlagsbuchhandlung, Berlin, Stuttgart. 1989.) Pp. 114, 16 Text-figs., 15 Tables. Price: DM 70.-.

The object of this thesis is the study of the foundation of genetical transformation in *Aspergillus niger* and the indication of practical applications. The results show that the transformation with integrative vectors is a very efficient possibility in *A. niger*. Molecular analysis of the total DNA of transformants indicate, that many vector copies are present in a tandem-like arrangement. Free vectors could not be found. New possibilities for genetical analysis of phycomycetes without a sexual process are mentioned.

M. Moser & W. Jülich. *Farbatlas der Basidiomyceten. Colour Atlas of Basidiomycetes. Lief. 7.* (Gustav Fischer Verlag, Stuttgart, New York. 1989.) Pp. 31; 84 Pls. with 144 coloured figs. (a binder for fasc. 5–7 is included). Price: DM 110.-.

This is the seventh issue in a series of a loose-leaved atlas with colour plates of European basidiomycetes. Most of the new plates are of reasonable to good quality. Descriptions are given of the genera *Phylloporus*, *Flammulina*, *Gymnopilus*, *Bulbillomyces*, *Meruliopsis*, and *Mycoacia*. A new index of all genera and species treated thus far is included.

R. C. Pearson & A. C. Goheen (Editors). *Compendium of grape diseases.* (APS Press, The American Phytopathological Society, St. Paul, Minnesota. 1988.) Pp. 93, 30 Text-figs., 28 Col. Pls. Price: \$ 25.- (\$ 20.- in the U.S.A.), postage included.

Authors from all over the world have contributed to this well-edited volume on grape diseases. About 60 disorders of the grape, caused by biotic or abiotic factors, are described, discussed, and illustrated in colour in 188 photographs. Among these are about 30 diseases caused by fungal agents. In each case symptoms, causal organism, disease cycle, epidemiology and control pass in review. In an appendix the equivalent names of grape diseases are given in French, German, Italian, and Spanish. A glossary is also added.

E. W. Ricek. *Die Pilzflora des Attergaves, Hausruck- und Kobernaufferwaldes.* (Abh. zool.-bot. Ges. Öst. 23. Zoologisch-botanische Gesellschaft, P.O. Box 287, Vienna. 1989.) Pp. 439, including 20 Col. Pls. Price not known.

This is an ecological fungus flora of the area around St. Georgen in the Attergau-region in Austria. After a biographic sketch of the author by E. Hübl and J. Krisai, surveys are presented of the types of landscape in the area and of the different biotopes distinguished. Since the observations cover a period of more than 30 years, special attention is paid to changes in the mycoflora. A list of threatened species of fungi for the area is given.

The special part of this volume consists of an extensive list of ascomycetes and basidiomycetes of the area with annotations on ecology and occurrence. For nomenclature and taxonomy of the fungi discussed, reference is made to other floras. In 20 coloured plates 4 species of *Peziza* and 33 species of agarics and boleti are rather coarsely depicted.

- U. Schmidt. *Struktur, Spleißprozesse und Funktionen mitochondrialer Introne. Das 'mobile Intron' des Ascomyceten Podospora anserina.* (Bibliotheca mycologica 127. J. Cramer in der Gebrüder Borntraeger Verlagsbuchhandlung, Berlin, Stuttgart. 1989.) Pp. 124, 16 Text-figs., 6 Tables. Price: DM 70.-.

Subject of this thesis are cell-wall analyses of yeasts and yeast-like fungi belonging to ascomycetes and basidiomycetes. Cell-wall properties were especially tested for use as characters in chemotaxonomy. Of many representatives of yeasts the cell-wall sugars were determined quantitatively and qualitatively with gaschromatography. In some groups the chitin content and the composition of cell-wall proteins were also established. Among the many conclusions of this study, the author could e. g. recognize four different types of cell-walls within the heterobasidiomycetes, based on the composing sugars. Within the Ustilaginales two systematic groups can be distinguished, corresponding with growth on either Monocotyledonae or Dicotyledonae.

- J.B. Sinclair & P.A. Backman (Editors). *Compendium of soybean diseases. Third edition.* (APS Press, The American Phytopathological Society, St. Paul, Minnesota. 1989.) Pp. VIII, 106, 102 Text-figs., 66 Col. Figs. Price: \$ 20.- in the U.S.A., \$ 25.- elsewhere (both prices include postage).

This is the third, fully revised edition of this compendium. Each section of it has been revised and updated with the aid of 57 agricultural scientists from all over the world. Many new illustrations and some new sections are added. The descriptions of diseases and other damages of the soybean (*Glycine max*) are arranged in sections according to the causal agents like bacteria, mycoplasma like organisms, fungi, viruses, and nematodes. Each disease or condition is described by symptoms, causal organism, disease cycle and epidemiology. Suggestions for control strategies and selected references are given.

- J. Stangl. *Die Gattung Inocybe in Bayern.* (Hoppea 46, Verlag der Regensburgischen Botanischen Gesellschaft, Regensburg. 1989.) Pp. 410, 138 Text-figs., 38 Col. Pls. Price: DM 50.-.

A monograph by the well-known, unfortunately too early deceased specialist on *Inocybe*, Johann Stangl. In total 138 species, subspecies and varieties are extensively described and a key is given. The microscopical details are illustrated on full-page assemblages of line-drawings for each taxon, whereas excellent water-colours of all taxa, usually represented by 3 or more basidiocarps, are added.

This book is a must for every European agaricologist and a monument to its author.

- J.O. Whiteside, S.M. Garnsey & L.W. Timmer (Editors). *Compendium of citrus diseases.* (APS Press, The American Phytopathological Society, St. Paul, Minnesota. 1988.)

Pp. VI, 80, 33 Text-figs., 171 Col. Figs. Price: \$ 20.- in the U.S.A., \$ 25.- elsewhere (both prices include postage).

This is a new addition to the APS-series of compendia on diseases of agricultural and horticultural crops. In this compendium 32 authors from around the world contribute many sections on the major diseases and disorders recorded on citrus. The citrus fruits treated fall in several groups, like e. g. sweet oranges, sour oranges, mandarins, pummelos, grapefruit, lemons, limes, and tangalos. About fifty fungal diseases are treated. A guide to the identification of diseases and a glossary of phytopathological and general botanical terms are included. It is an authoritative and practical reference for plant pathologists and other researchers working with citrus diseases.

T.D. Wyllie & D.H. Scott (Editors). *Soybean diseases*. (APS Press, The American Phytopathological Society, St. Paul, Minnesota. 1988.) Pp. 75, 13 Text-figs., 16 Tables. Price: \$ 24.- (\$ 19.- in the U.S.A.), postage included.

The purpose of this volume is to provide the latest information on the major diseases of the soy-bean (*Glycine max*) in the north central soy-bean area in the U.S.A. It gathers papers given at a Soybean Disease Workshop held in Indianapolis in 1987 of which many concern fungal affections of this important crop. The references consist of 572 entries.