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Cuadernos de Trabajo de Flora Micologica Iberica.

Vol. 6 – M.T. Telleria (Ed.). *Bases corológicas de Flora Micologica Ibérica, 250–375.* (Madrid. 1993.) Pp. 180. Price: 1500 Ptas.
This is a continuation of volumes 3 and 4 of the series, treating 125 taxa of resupinate, non-poroid Aphyllophorales.

Vol. 7 – C. Lado (Ed.). *Bases corológicas de Flora Micologica Ibérica, 376–692.* (Madrid. 1993.) Pp. 305. Price: 2000 Ptas.
This volume treats 317 taxa of Myxomycetes.

K. Gessner-Ulrich. *Untersuchungen zur Expression und Funktion des linearen, mitochondrialen Plasmides pClK1 von Claviceps purpurea.* (Bibliotheca Mycologica 148, J. Cramer in der Gebrüder Borntraeger Verlagsbuchhandlung, Berlin, Stuttgart. 1992.) Pp. 83, 23 text-figs., 2 tables. Price: DM 60.-.

This thesis is a continuation of the study of a linear, mitochondrial plasmid of *Claviceps purpurea.* The molecular expression and function of this plasmid were studied. It remained difficult to identify the terminal proteins of these linear genetic elements. Experiments to transfer linear plasmids between strains of *Claviceps purpurea* and *Neurospora crassa* showed that such transfers do not occur. The author concludes that the study of the linear plasmid of *Claviceps purpurea* strongly suggests that these genetic elements are most probably of viral origin.

J. Hermanns. *Mitochondriale Genomveränderungen und Altern. Struktur und Funktion eines linaren Plasmides einer langlebige Mutante von Podospora anserina.* (Bibliotheca Mycologica 142, J. Cramer in der Gebrüder Borntraeger Verlagsbuchhandlung, Berlin, Stuttgart. 1992.) Pp. 100, 33 text-figs., 8 tables. Price: DM 60.-.

In the ascomycete *Podospora anserina* age-related modifications are genetically controlled, with a distinct role of the mitochondrial genome. In this thesis the structure and function of a linear plasmid of a long-living mutant of *P. anserina* was analysed. It was found that the longevity of the mutant is due to a delayed amplification of the plasmid DNA. This process is controlled as well by chromosomal as by extrachromosomal factors.

I. Krisai-Grailhuber. *Die Makromyceten im Raum von Wien. Ökologie und Floristik.* (Libri Botanici 6. IHW Verlag, Bert Brechtstraße 18, D-85386 Eching, Germany. 1992.) Pp. 190, 24 text-figs., 16 col. pls. Price: DM 88.-.

The author conducted a long-term mycofloristical-ecological research project in the surroundings of Vienna, Austria, from 1981 to 1987. The main object has been the ob-

servation of the fungi in 15 permanent plots in the nature reserves Lobau and Lainzer Tiergau. The present volume deals with 1241 macromycetes that have been recorded and documented during this study. The phytocoenological results will be presented in a second volume to be published later in the same series. It has been proved that the mycoflora of the surroundings of Vienna deviates from the typical Central European flora, as it contains many thermophilous elements. It therefore forms a link to the Submediterranean and East European Mycofloras. All taxa are represented with data on their ecology and distribution in the area, and critical taxa are fully described and illustrated. Also 16 species are depicted in colour. The illustrations are well-done and of good quality. The book gives good, modern descriptions of many rare and interesting taxa and is therefore highly recommended for all who are seriously interested in European macrofungi.

O. Petrini & G.A. Laursen (Eds.). *Arctic and Alpine Mycology 3–4. Proceedings of the Third and Fourth International Symposium on Arcto-Alpine Mycology.* (Bibliotheca Mycologica 150, J. Cramer in der Gebrüder Borntraeger Verlagsbuchhandlung, Berlin, Stuttgart. 1993.) Pp. 269. Price: DM 90.-.

This volume constitutes the Proceedings of the Third and Fourth International Symposium on Arctic and Alpine Mycology. It presents 21 papers largely on fungal taxonomy, but also on mycofloristics and myco-ecology of the arctic and alpine regions. One contribution deals with *Myxomycota* (slime moulds), six with *Ascomycota,* and 13 with *Basidiomycota,* while one is devoted to the study of distribution patterns of parasitic fungi in high mountains. That the arctic and alpine regions comprise still many little known fungi is demonstrated by the fact that 19 new fungal taxa are described in this volume. Keys are provided for the identification of species of *Entoloma, Ciliolaria,* and Xylariaceae.

J. Rammeloo & R. Walleyn. *The edible fungi of Africa south of the Sahara: a literature survey* (Scripta Botanica Belgica 5. National Botanic Garden, Domein van Bouchout, B-1860 Meise, Belgium. 1993.) Pp. 62, several text-figs. Price: Bfrs 230.- excl. postage.

This booklet gives a survey of the information on importance, nutritive content, knowledge, collecting, trade, culture, local traditions, new introductions and preparation for eating of about 300 species whose edibility has been explicitly mentioned in literature. The species are arranged in alphabetical order with references to the countries from which they have been recorded with source of literature. In some cases short comments are given. A few species are illustrated with nice-looking line drawings.

M. Rohe. *Untersuchungen zur Phylogenese linearer genetischer Elemente. Extrachromosomale DNA des Ascomyceten Morchella conica.* (Bibliotheca Mycologica 146, J. Cramer in der Gebrüder Borntraeger Verlagsbuchhandlung, Berlin, Stuttgart. 1992.) Pp. 118, 25 text-figs., many tables. Price: DM 60.-.

Plasmids are extrachromosomal genetic elements able of self replication. The first plasmids discovered were circular in structure, but recently also many plasmids of linear structure were found, especially in eucaryotes. The linear plasmids of yeasts are of a spe-

cial type and located in the cytoplasm, while those of the other fungi are of a special structure and integrated into the mitochondria. The aim of this study is to characterize more accurately the linear plasmids as a group of genetic elements.

The linear plasmid of *Morchella conica* was chosen because preliminary studies of this allowed fast DNA sequence analysis. Indications on the function and on the origin of linear plasmids were obtained from comparison of nucleotid sequences, coding capacity, and transcription analysis. The results indicate that the linear plasmids are of procaryotic origin and clearly related with linear bacteriophages. This is in agreement with the endosymbiont hypothesis about the origin of mitochondria.

S. Ryman & I. Holmåsen. *Pilze. Über 1500 Pilzarten ausführlich beschrieben und in natürlicher Umgebung fotografiert.* Aus den Schwedischen übersetzt und bearbeitet von T.R. Lohmeyer & H.-G. Unger. (Bernhard Thalacker Verlag, Braunschweig. 1992.) Pp. 718, 1100 col. pls. Price: DM 138.-.

This is the German edition of Ryman & Holmåsen's 'Svampar'. The main part of this well-printed book consists of 1100 impressive colour-photographs mostly taken by the distinguished Swedish nature photographer Ingmar Holmåsen. The translators have taken into account the Central-European ecology and distribution of the macromycetes described. They also added many new references. Data on the origin of the material pictured are replaced by the 'Red-list' categories for Germany. In the introductory part there are chapters on macromycete habitats, recent threats of the fungus-flora, and collecting of mushrooms. A key to the genera of the basidiomycetes is included. Occasionally keys to the most important species of large genera are provided in the text among the descriptions.

L. Ryvarden & R.L. Gilbertson. *European Polypores, Part 1. Abortiporus–Lindtneria.* (Fungiflora A/S, Postbox 95, Blindern, N-0314 Oslo, Norway. 1993.) Pp. 387, numerous text-figs. and distribution maps. Price: NOK 360.-.

This flora contains keys, descriptions and illustrations to all Polypores known from Europe, and will be published in two volumes. The first volume contains an introduction, definitions of macro- and micromorphological characters, a survey of the higher taxonomy of the group, and chapters on decay characteristics, pathology, culturing, sexuality, forest regions and mycogeography. Guide-lines are given as to collecting and determination. The keys are dichotomic and concise. The genera are treated in alphabetical order, and this first volume treated *Albatrellus* through *Lindtneria*. As can be expected from the authors, well known specialists in this group, the descriptions and illustrations are of high quality. The book will prove to be a valuable tool for taxonomists and forestry people.

R. Smit. *Entwicklung von Transformationssystemen für den phytopathogenen Ascomyceten Claviceps purpurea.* (Bibliotheca Mycologica 143, J. Cramer in der Gebrüder Borntraeger Verlagsbuchhandlung, Berlin, Stuttgart. 1992.) Pp. 95, 14 text-figs., 10 tables. Price: DM 60.-.

The aim of this thesis was to find the underlying conditions to apply recombinant DNA techniques for the study of phytopathological and biotechnological problems in *Claviceps*

purpurea. Because of the complicated life-cycle of this fungus, the classical methods of genetic recombination are not practicable. Several experiments with gene transfer were successful and indicated that *C. purpurea* is a promising object for the study of the alcaloid metabolism and the host-parasite interaction.

M. Walz. *Molekulare Analysen zur Expression von β-Lactam-Genen bei Acremonium chrysogenum*. (Bibliotheca Mycologica 147, J. Cramer in der Gebrüder Borntraeger Verlagsbuchhandlung, Berlin, Stuttgart. 1992.) Pp. 101, 23 text-figs., 11 tables. Price: DM 70.-.

This thesis is devoted to genetic problems concerning a better production of antibiotics in strains of *Acremonium chrysogenum*. Especially the expression of the β-lactam antibiotic biosynthetic gene is studied for this purpose with experimental techniques.

The absence of an English summary with a publication of more than local importance in an international mycological series is felt as an omission.

E. Weber. *Untersuchungen zu Fortpflanzung und Ploidie verschiedener Ascomyceten*. (Bibliotheca Mycologica 140, J. Cramer in der Gebrüder Borntraeger Verlagsbuchhandlung, Berlin, Stuttgart. 1992.) Pp. 186, 6 text-figs. Price: DM 90.-.

In the first part of this thesis the reproductive system in 15 species of Leotiales and 17 species of Pezizales was examined. Different single spore mycelia of these species were confronted in cultures and analysed. About 94% proved to be homothallic and 6% heterothallic. Interesting observations were made on the relative DNA content in the nuclei of ascogenous hyphae and of young asci during karyogamy and meiosis. In the second part of this study the relative DNA content in 566 species of Ascomycetes, mainly Leotiales (413) and Pezizales (84), was established by cytofluorometry. From this the degree of polyploidy, or 'ploidy level', was calculated. Mrs. Weber found that in the haplophase only 3% of the species of Leotiales and Pezizales are monoploid, 97% showed higher ploidy levels. The highest levels ever recorded in fungi were found in the genera *Neottiella* and *Octospora* (respectively 50 × and 18 ×). In general within otherwise closely related taxonomic groups more primitive and older species have lower ploidy levels than derived and younger ones. Great care has been taken in the collecting and identification of the many species investigated.

H. Weber (Ed.). *Allgemeine Mykologie*. (Gustav Fischer Verlag, Jena, Stuttgart. 1993.) Pp. 541, 206 text-figs., 66 tables. Price: DM 148.-.

This is a well-printed reference book pretending to give a survey of the total field of mycology. Twelve authors, active in research and education at universities and institutes in the eastern part of Germany, have contributed well-documented and up-to-date chapters on the different aspects of modern mycology. There are chapters on cytology, morphology, propagation, physiology, ecology, taxonomy, pathology, and the practical importance of fungi. This book is recommended to all interested in recent developments in mycology in its widest sense.