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Book review

V. WIRTH & R. DÜLL [eds.]: Farbatlas Flechten und Moose.

Verlag Eugen Ulmer, Postfach 700561, 70574 Stuttgart, Germany, 2000, pp. 320, ISBN 3-8001-3517-5.

The handbook for basic identification of lichens and mosses is work of two well-known cryptogamologists, VOLKMAR WIRTH (famous lichenologist) and RUPRECHT DÜLL (famous bryologist).

Although this book is not extensive and contains near 300 colour photos of lichens and bryophytes, can be very useful source of informations on some striking or common taxa, especially in the field (keys, basic taxonomy, biochemistry, ecological informations and informations on related taxa). The photos are very realistic and first rate.

This book is a practical manual for lovers of nature without respect of age and degree of education and can be useful in the field (e. g. pollution monitoring studies). Is clearly written, well illustrated and pleasure to read. I highly recommend to use it.

M. BAČKOR

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Book reviews

D. W. Woodland: Contemporary Plant Systematics, 3rd Edition.

Andrews University Press, 213 Information Services Building, Berrien Springs, MI 49104-1700, U.S.A., 2000, xiv+570 pp.+CD, ISBN 1-883925-25-8 (Hard cover), USD 64.99.

A textbook of systematic botany with wide range, an excellent introductory literature for every student, provides an acquaintance with the world of vascular plants, with the methods of work in systematic botany and related topics.

The first four chapters are devoted to the questions of significance of systematics, naming and identification of plants, as well as to collecting, handling and preserving specimens. The next five chapters are fundamental and they gradually deal with families of ferns and their associated plants, families of Pinophyta, terminology of flowering plants and families of flowering plants I. (Magnoliopsida) and II. (Liliopsida). One-page table with text and pen-and-ink drawing is devoted to each family, the text of each family is divided to general description, leaves, flowers, fruit, seeds, distribution, economic value, classification and fossil record. Next chapters (10-15) are very useful for obtaining information from the history and the presence of botanical work: history and development of classification, the literature of systematics, contemporary views of the origin of vascular plants, contemporary methods of studying plants, preserving plant biodiversity, the role of botanical garden in society. In the epilogue the author did not avoid such practical questions as job opportunities and qualifications for plant systematists and he found 56 professions that use principles of plant systematics. Appendices in the book are devoted to selected references, floras of the world and Cronquist´s classification of the Division Magnoliophyta. The dictionary of terminology and index do not miss either.

A CD, which completes the text in excellent way, is an important part of the textbook. The CD, named "The Photo Atlas of Vascular Plants" is a collection of over 4,700 plant images representing more than 270 families and 1,150 genera of vascular plants. I personally do not know any textbook providing in such an extent number of photos useful for the study of systematics. It is really (CD-)book in textbook.

As it can be seen, the textbook deals with wide view on vascular plant systematics. On one hand, it is difficult to say that there would be something unnecessary, on the other hand I miss little more information on new trends in plant systematics. Although cladistic analyses based on morphological features and on evidence from molecular data are mentioned in several places and on the p. 387 even the cladogram from Angiosperm Phylogeny Group (Annals of the Missouri Botanical Garden 85(4): 531-553, 1998) is published, I think that, because of the range of the works published and really weighty

evidence for the phylogenetic trees arranged in this way, this would require more attention, particularly if the book is designed for the students in 21st century. If they work in the field of plant systematics, they will not be able to avoid these works and hypotheses.

As the reader form Europe, I put myself the question: What will American student learn about e.g. Central-European botany? It is not small amount of information (herbaria, botanical gardens, publications). However, some inaccuracies occur, e.g. p. 27, herbaria in Praha (PR, PRC) are the herbaria in Czech Republic, not in Czechoslovakia (since 1993 Czech Republic and Slovak Republic exist and in on-line version of Index Herbariorum this information is actualised). In the list of selected botanical journals (pp. 393-394) Biochemical Systematics should be Biochemical Systematics and Ecology, „Folia geobaotanica et phytotaxon-omica Bohemsolovaca" (sic!) is now Folia Geobotanica (former Folia Geobotanica et Phytotaxonomica and only in 1966 it had the full name Folia Geobotanica et Phytotaxonomica Bohemoslovaca).

Minor mistakes, howerver, do not reduce the importance of the book not only as a textbook, but as the source of valuable botanical information as well and it can be recommended for all students of plant systematics and workers in the field of systematic botany .

P. MÁRTONFI

K. P. SVOBODA & T. G. SVOBODA: Secretory Structures of Aromatic and Medicinal Plants.

Microscopix Publications, Middle Travelly, Beguildy, Knighton, Powys LD7 1UW, U.K., 2000, 60 pp., ISBN 0-9538461-0-5 (Soft cover), GBP 25 (in Europe).

'Apricots are ripe/With moonlight dripping/On each fruit' *Haiku* by Shibata Hakuyojo – the verse on preface page of the book suggests, that this is not a common scientific publication, but a publication where science and art are combined. And really, when we are turning the leaves of the book, we meet above all a serie of excellent micrographs made (by A. D. SYRED) using scanning electron and light microscopy. These photographs are little work of art. Totally the publication comprises 94 full colour plates, 35 light micrographs each comprehensively described including accurate magnification figures.

The selection of species included in the publication by KATEŘINA P. SVOBODA is made with regard to long-time scientific work of the author in the field of aromatic and medicinal plants. We meet here for example: *Ocimum basilicum, Myrica gale, Cedrus, Citrus, Zingiber officinale, Hysopus officinalis, Lavandula angustifolia, Levisticum officinale, Mentha piperita, Rosmarinus officinalis*, etc. The text is devoted to the brief characteristics of secretory structures in plants and is a source of useful terms and concepts for description of their variety.

According to advertising leaflet the book is key reading for students, researches and various practical and advisory workers concerned with aromatic and medicinal plants and their applications. However, I think not only for them. It is interesting also for all lovers of nature and lovers of scientific and documentary photograph.

P. MÁRTONFI

R. WISSKIRCHEN & H. HAEUPLER (eds.): Standardliste der Farn- und Blütenpflanzen Deutschland.

Verlag Eugen Ulmer GmbH & Co., Wollgrasweg 41, 70599 Stuttgart, Germany, 1998, 765 pp., ISBN 3-8001-3360-1.

We live in „the time of the checklists" of all living groups of the world, the vascular plants including. There are some reasons for it: (i) the botanical systematics has a long tradition, at least in some regions (e. g. the Old World), and therefore it is time to summarise the increasing knowledge; (ii) the efforts of taxonomists for standardisation and stabilisation of plant names; (iii) the inventarization of the plant world because of fast decline of many taxa and the general loss of biodiversity; (iv) the constructing of the checklists is closely connected with rapid progress in computerisation of available data (databases).

The presented checklist of vascular plants of Germany is a collective work of 42 co-authors. Many others contributed by taxonomic information and advises, floristic data, by consultations with the nomenclature, orthography, bibliography, database or as correctors of the texts of particular taxa.

The first four chapters are devoted to the new synonymized checklist of vascular plants of Germany (including the area of former GDR). The fifth chapter (ca 60 pages) represents the Atlas of chromosome numbers (FOCKE A. (ed.)), which were stated on the material from Germany. The detailed list of literature references comprises almost 30 pages (ca 45 citations per page).

The proper checklist includes in alphabetic order about 4.200 species and infraspecific taxa within 777 genera, that after editors represent about 15.000 scientific names. Further main information is the place of publication (many of them were checked in original sources, which is indicated by special character, literature standardised according to „B-P-H" and „TL"), author's abbreviations (standardised according to „Brummitt and Powell"), in the case of combinations also the basionym, synonyms and type of each genus, for many taxa also the place of typification or, as e. g. for the species of *Hieracium*, the „locus classicus" from the protologue is given, notes on the status (archeophyt, neophyt, locally naturalised, cultivated plant etc.), circumscription of taxa at all taxonomic ranks (s. str., agg., s. l.), note on the presence of the taxon in seven floras actually used in Germany (e. g. Liste der Gefässpflanzen Mitteleuropas, Exkursionsflora von Deutschland, Illustrierte Flora von Mitteleuropa, Flora Europaea, Med-Checklist), German vernacular names.

Rich commentaries, well distinguished by red colour of the text, on the taxonomic treatment, nomenclature, phytogeography and floristic status added for many genera or species make the book more interesting and appreciated. The comment to the *Myosotis scorpioides* agg. is accompanied by detailed determinative key. It is noteworthy that, e. g. for some ferns (*Diphasiastrum*, *Dryopteris*, *Cystopteris*) and other genera (*Fallopia*, etc.), notes on the „fresh" taxonomic knowledge are given. However, they are missing in some taxonomically complicated groups, such as indigenous autogamous representatives of the genus *Epipactis*. On the other hand, the genus *Chionodoxa*, which „seems to get naturalized soon" in Germany, is well commented. It is surprising that no hybrids were published in the genera *Polystichum* and *Epipactis* (at least *Epipactis atrorubens* × *E. helleborine*) from Germany, since they are reported from the neighbouring countries. Concept of aggregates for closely related taxa such as e. g. *Carex brunescens* and *C. canescens*; and *Carex hartamnii* and *C. buxbaumii* seems to be more appropriate than their treatment out of the aggregate used in the checklist.

Generally, the larger taxonomic approach dominates the checklist, cf. the inclusion of the *Ceterach* and *Phylitis* in *Asplenium, Avenella flexuosa* in *Deschampsia* or *Chamaerion angustifolium* in *Epilobium*, what may seem strange to Czech and Slovak botanists „breast-fed on the Dostál's and Holub's taxonomic milk". It is interesting that two different, large and narrow, taxonomic concepts are published for the *Oenothera* genus at one place.

The checklist was prepared with well known „German consistency". Some little mistakes, e. g. missing of the place of combination for *Geranium phaeum* subsp. *lividum*, p. 234, only occasionally can be found. The character „x" designating the nothotaxon (or parent's combination), should be changed to the symbol of multiplication - „×" written without a gap before the epithet of the nothotaxon.

In spite of a lot of information (the whole „book of names" weights 2.5 kg) the text is well structured, what is also due to the scale of different letters and colours used (aggregates differ from other taxa by the grey background of the text).

What to say in the end? In my opinion, without any doubt the German checklist belongs to the best national checklists on the European continent (if it is not the best one). It is valuable taxonomic source not only in German territory, but it is very useful, if not indispensable aid for botanists-taxonomists from botanical institutions in the Central Europe, too. The book is only the first part of the three planned books (the second one, Bildatlas der Farn- und Blütenpflanzen Deutschlands, appeared at the beginning of the year 2001; the third volume will be Verbreitungsatlas der Farn- und Blütenpflanzen Deutschlands). So there is something we have to look forward to!

P. MRÁZ

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Book information

(edited by M. BAČKOR)

L. W. D. VAN RAAMSDONK & J. C. M. DEN NIJS [eds.]: Plant evolution in man-made habitats (Proceedings of the VIIth international IOPB symposium, Amsterdam, The Netherlands August 10-15, 1998).

Hugo de Vries Laboratory, University of Amsterdam, Kruislaan 318, 1098 SM Amsterdam, The Netherlands, 1999, ISBN 90-804431-6-6

Contents: Evolution in disturbed habitats (evolution of plants on soils anthropogenically contaminated by heavy metals, patterns and processes of man-influenced hybridisation in *Cardamine* L., *Capsella bursa-pastoris* – colonisation and adaptation, a globe-trotter conquers the world, the evolution of invasive species in *Senecio* (Asteraceae), nathuralised population of *Arabidopsis thaliana* in Japan: micro-satellite polymorphisms and differentiations in life history traits), **Crop evolution** (key genetic factors influencing morphological change during the domestication of maize, genes, jeans and genomes: reconstructing the history of cotton, human effects on *Phaseolus vulgaris* adaptation during and after domestication, a strategy for comparative physical mapping in cruciferous plants, comparative genetic mapping in Triticeae, **Crop-wild relative genetic interactions** (a new measure for analysing hybrid speciation, invasive plant species: evolutionary risk from transgenic crops, European *Beta*: crops and their wild and weedy relatives, the *Medicago falcata/sativa* complex, crop-wild relative introgression in Switzerland, hybridisation and introgression between *Brassica napus* and *Hirschfeldia incana*: impact of transgenic crops), **Apomixis** (the genetics of apomixis, species concepts in agamic complexes, the evolutionary role of hybridisation in angiosperm agamic complexes, new perspectives into the evolution of polyploid complexes).

L. MARGULIS, C. MATTHEWS & A. HASELTON [eds.]: Environmental evolution: effects of the origin and evolution of life on planet earth.

Massachusetts Institute of Technology Cambridge, Massachusetts 02142, USA, 2000, ISBN 0-262-63197-0 (ISBN 0-262-13366-0).

This book is focused on a study of the history of the environment from prebiotic times to the present.
Contents: the Gaia hypothesis, comparison of planetary atmospheres: Mars, Venus and earth, chemical evolution in a hydrogen cyanide world, origins of membrane structure, origins of life, clues to life in the archean eon, microbial landscapes, symbiosis and the origin of protists, the antiquity of life, continental drift and plate tectonics, chemical signals from plant and phanerozoic evolution, mammalian evolution: karyotipic fission theory, environmental pollution and the emergence of new diseases + appendices (A-G), glossary and index.

W. S. C. POSTON II, C. K. HADDOCK [eds.]: Food as a drug.

The Haworth Press, Inc., 10 Alice Street, Binghamton, NY 13904-1580, USA, 1999, ISBN 0-7890-0959-5 (ISBN 0-7890-0977-3).

This book is valuable guide composed from studies and informations about food in general.
Contents: pharmacological properties of foods and nutrients, the effects of food on mood and behavior: implications for the addictions model of obesity and eating disorders, medical foods: cross-cultural perspectives, legal and regulatory perspectives on dietary supplements and foods, eating disorders and addiction, etiology and treatment of obesity in adults and children: implications for the addiction model, inability to control eating: addiction to food or normal response to abnormal environment, conclusions.

HENK´T HART & U. EGGLI [eds.]: Evolution and systematics of the Crassulaceae

Backhuys Publishers Leiden, PO Box 321, 2300 AH Leiden, The Netherlands, 1995, ISBN 90-73348-46-3.

Contents: Introduction: evolution of Crassulaceae systematics, phylogenetic relationships in the Crassulaceae inferred from chloroplast DNA variation, phylogenetic and systematic implications of chloroplast and nuclear spacer sequence variation in the Macaronesian Sempervivoideae and related Sedoideae, chemotaxonomy of the Eurasian Sedoideae and Sempervivoideae, hybridization in *Monanthes*, quantitative phytogeography, species richness and evolution of American Crassulaceae, floristic and phytogeographical studies on the Crassulaceae of Jalisco (Mexico), contributions to the phytogeography of *Crassula*, systematic problems of Asian Sedoideae, infrafamiliar and generic classification of the Crassulaceae, toward a consensus classification of the Crassulaceae.

B. MATHEW [ed.]: A review of *Allium* section *Allium*

The Trustees of the Royal Botanical Gardens, Kew, 1996, ISBN 0 947643 93 1.

Contents: history of sect. *Allium*, definition & morphological description, leaf anatomy, cytology, flavonoid survey, ecology, distribution, economic value, list of accepted taxa in sect. *Allium*, keys to the identification of species, species descriptions, select bibliography.

S. J. MAYO, J. BOGNER & P. C. BOYCE [eds.]: The genera of Araceae.

Royal Botanic Gardens Kew, Richmond, Surrey TW9 3AB, 1997, ISBN 1 900347 22 9.

The book is the first complete taxonomic treatment of the Araceae in English (105 genera and over 3,300 species. Every genus is described and illustrated with one or more plates of original line drawings as well as maps and near 100 colour photos. The book is composed from general part (history, anatomy, morphology, embryology, cytology, palynology, phytochemistry, ecology, uses, cultivation ...) and taxonomic part.

P. L. FIEDLER & P. M. KAREIVA [eds.]: Conservation biology for the coming decade (second edition)

Chapman & Hall, 2-6 Boundary Row, London SE1 8HN, UK, 1998, ISBN 0-412-09651-X.

Contents: Saving species through population biology and viability analyses: a morass of math, myth and mistakes?, broad brushes and taxonomic tours: summaries of the state of the natural world, habitat degradation and ecological restoration: hubris, hegemony and healing, when conservation meets the real world of economics, politics and tradeoffs, new technologies and novel perspectives for the next generation of conservation biology.