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De Vlas J, De Vlas J. 2008. *Illustrated field guide to the flowers of Sri Lanka.* Mark Booksellers and Distributors (Pvt) Ltd., Kandy. ISBN 978-955-1917-00-5. Price: EUR 30 (The Netherlands), EUR 37.50 (Sri Lanka).

New field guides are always welcome, especially those for countries where only few field guides or floras are available. The 'Illustrated field guide to the flowers of Sri Lanka' fills a gap in this respect.

The book gives mostly common flowers one meets along roads, in parks, along forest paths or nature walks. It also includes some cultivated plants. All plants are briefly described and illustrated by one or more colour photographs. The field guide is arranged according to flower colour and number of flower parts or bracts. Arranging plant species to flower colour introduces the possibility that species with several flower colours appear more than once. In this book for instance: *Bidens pilosa* (p. 91, white; p. 116, yellowish) and *Portulacca oleraceai* (p. 53, 135). The last species on p. 135 even twice, with different descriptions! Up to now the only mistake I spotted concerns *Dalbergia candenatensis* (p. 21): the figure of the pods belongs to *Derris trifoliata* and not to *Dalbergia candenatensis*.

Recommended for all visitors of Sri Lanka and to Srilankese with an interest in flowering plants.

Frits Adema

Dransfield J, Uhl NW, Asmussen CB, Baker WJ, Harley MM, Lewis CE. 2008. *Genera Palmarum. The Evolution and Classification of Palms*. Edition 2. xii + 732 pp., line drawings, colour photos, maps. Kew Publishing. ISBN 978-1-84246-182-2. Price: GBP 79; USD 30.35.

The new Genera Palmarum is a completely rewritten edition of the standard reference work for the palm family from 1987. It is extended to 732 pages, and contains a wealth of new data cast within a phylogenetic framework. It represents the culmination of long-standing collaborations of an international team of specialists from the Royal Botanic Gardens, Kew, Cornell University, University of Copenhagen and Fairchild Tropical Botanic Garden.

The core of this new edition are the treatments of all taxa from subfamilies to the 183 accepted genera, which include detailed morphological descriptions, complete nomenclature (incl. etymology), discussions of diversity, distribution and ecology, phylogenetic relationships, common names and uses and the fossil record, references of authoritative taxonomic and anatomical accounts and explanatory notes. All genera of palms are well illustrated with very clear analytical plates, SEM pollen photos, distribution maps and numerous colour photographs.

The introductory chapters comprise reviews of the structure of palms, their pollen, cytology, chemistry, fossil record, phylogeny and evolution, biogeography, natural history and conservation (the latter being most important for such a group of plants of large ecological, economic and horticultural significance), providing essential background information to the classification and taxonomic treatments. The classification is substantially revised and based on the latest phylogenetic evidence. As the authors state, they met in 2004 to collectively evaluate all phylogenetic studies on palms, as well as the results of some ongoing, at the time unpublished research, and balancing this evidence against their own expert knowledge.

Since the first edition, several new genera have been discovered and a wealth of new research into the phylogeny of palms has revealed relationships not appreciated in the past, resulting in considerable reorganization of subfamilies, tribes, subtribes and genera. Keys are provided to groups at all ranks. An illustrated glossary, geographical listings, extensive bibliography and indices complete this excellent reference book to the palm family.Genera Palmarum Edition 2 is for sure the standard reference text for information on palm systematics and diversity for the coming decade.

M.C. Roos

Heide-Jørgensen HS. 2008. *Parasitic flowering plants*. xiv + 438 pp., 495 colour illustrations. Brill, Leiden. ISBN 978-90-04167-50-6. EUR 99; USD 147.

This is a beautifully illustrated book presenting an overview of the whole variety of hemiparasitic and holoparasitic taxa of flowering plants. It provides a clear introduction to the phenomenon of botanical parasitism, the different types, and some anatomical characteristics. Some interesting look alikes are mentioned, especially myco-heterotrophic plants, but also climbers/stranglers and carnivores.

The second and largest chapter is devoted to the hemiparasitic *Santalales*, followed by a much smaller chapter on hemiparasites in families other than *Santalales*. The fourth chapter treats the holoparasitic families. The 3 taxonomic chapters are arranged to families and for each family in varying detail are treated the morphological and taxonomic diversity, special anatomical features, geographic and ecological distribution, and various biological aspects like pollination, embryology, dispersal. It appears that in most of the families all species are parasitic, overall 60 % being root parasites and 40 % stem parasites. The hemiparasitic *Santalales* sum up to a total of c. 2 240 species in 8 families; the main families being *Loranthaceae*, *Viscaceae*, *Santalaceae*, and to a lesser extent *Olacaceae*. The hemiparasites in families other than *Santalales* count somewhat less, c. 1 980 species in 4 families; by far the largest being *Orobanchaceae*. The 9 holoparasitic families comprise c. 390 species; 3/4 belonging to *Orobanchaceae*.

The last four chapters are describing general aspects, i.e. the Establishment of the parasite, the Host ranges and various ecological aspects of parasitism, Harmful parasites and control methods, and Ecology and evolution respectively. Regarding the establishment, the main focus is on the haustorium, its development, anatomy and functioning. A major topic in the chapter on hosts and ecology is host specificity, the usual case for root parasites being many hosts and a low degree of host specificity, whereas stem parasites show a larger range from low to high degrees. The potential harm of parasites is described for agricultural crops and for woody plants (forests and orchards). Only few species (mainly *Cuscuta*, *Striga* and *Orobanche*) parasitize (a relatively broad array of) agricultural plants, whereas members of *Viscaceae* and *Loranthaceae* are present on woody economic plants.

The last chapter is an interesting one, treating some aspects of the evolution of the diversity of parasitic flowering plants (only one out of the c. 900 gymnosperms is (root) parasitic, endemic to New Caledonia). Several hypotheses of the origin of parasitism are discussed, all starting from the general idea that the original condition is hemiparasitic root parasitism. A

detailed account is given on series of functional morphological and anatomical features, with special attention for convergent evolutionary trends. It is obvious that convergent evolution has to be assumed as parasitism is represented in 11 orders, 2 in the magnoliid clade, one basal eudicot clade, 5 in the eurosid clade and 3 in the asteroid clade. The final paragraph is a plea for increased protection measurements.

All in all, this is a very informative book, giving state of the art views. It is well recommended!

M.C. Roos

Mabberley DJ. 2008. *Mabberley's Plant-book.* Third edition. Cambridge University Press, New York. ISBN 978-0-521-82071-4. Price: GBP 50.99; EUR 74.

The new edition of this well-known reference book, a continuation of 'Willis, Flowering Plants and Ferns', has appeared. Congratulations to the author!

The subtitle 'A portable dictionary of plants, their classification and uses' tells you exactly what you get: a dictionary. The Plant-book gives you the names of families and genera of flowering plants and ferns. It also includes some widely used common names. Family names give: place in the system, number of genera and species, distribution, a brief description, a sample of all genera and some notes. Larger families get larger treatments, including subfamily and tribe names. *Leguminosae* for instance get three pages. Genus names give: family name, number of species, distribution, secondary metabolites, uses. Large genera get larger treatments. *Ficus* for instance get two pages. Descriptions for genera are restricted to some notes, some references may be given.

A most useful book. Recommended!

Frits Adema

Primack RB, Corlett RT. 2005. *Tropical Rain Forests – An Ecological and Biogeographical Comparison*. 319 pp., figs, col and b/w photos. Blackwell Publishing, ISBN: 06-32045-13-2 (hardcover) Price: GBP 50.

The comparative approach in this book, filled with natural history examples, shows that rain forests in different tropical regions are unique despite superficial similarities. The authors want to emphasize the manifold ways in which the rain forests differ, floristically, faunistically and ecologically, from region to region, summarizing in which ways the major rain forest belts are special. Throughout the book the distinctive characteristics of rain forests in tropical Asia, tropical America, Africa, Madagascar, New Guinea, and Australia are accentuated. Unfortunately, less emphasis is given to differences in forest types within the same region.

Each chapter points out commonalities, then spends time looking at its topic with reference to each of the five forest areas, and then concludes with a summary and indications of directions for future research. The scene is set by outlining the major tropical rain forest belts and characterizing the climate, biogeographic history and environment of tropical rain forests. Successive chapters are devoted to cross-continental treatments of a selection of plant and animal groups. Unfortunately, several interesting taxa are not treated at all (the account of plants is mainly confined to flowering plants; of the fungi, only some notes on ectomycorrhiza are included). The chapter on plants provides a suitable overview of rain forest plants, primarily at the family level, including both pantropical families and those characteristic of (or confined to) each of the five areas. It explores the different kinds of plant communities which characterize tropical rain forests in different regions – the familiar dipterocarp forests of Southeast Asia, the bromeliad-rich forests of the Neotropics, the relative abundance of the families *Dichapetalaceae* and *Olacaceae* in Africa. Clear regional differences in species diversity are also highlighted. Forest structure and timing of fruiting and flowering events also vary regionally, with concomitant effects on faunal assemblages. The faunistic chapters particular refer to the ways in which the ecological roles of the selected groups vary regionally as a consequence of forest structure and floral composition.

The book rounds off, as all such books must do nowadays, with a final chapter on 'The future of rain forests', with a discussion on threats and conservation issues. It outlines a comparative, cross-continental research agenda, considers the impact of people on tropical forests and discusses conservation strategies that, based upon the characteristics of particular regions rather than a one-size-fits-all approach, may prove more effective in preserving different forest ecosystems. Overarching issues of the degradation of biological diversity and forest integrity are clearly addressed, analyzed in the context of the differences among nations and rain forests, and related to differences in the conservation status and challenges facing each rain forest belt.

It is suitable reading for a wide range of students (e.g. biology, anthropology, forestry), and while surveying large parts of recent ecological literature useful for specialists as well.

M.C. Roos

Schmelzer GH, Gurib-Fakim A (eds). 2008. *Plant Resources of Tropical Africa 11 (1). Medicinal Plants 1*. 791 pp., ills. Prota Foundation, Wageningen, The Netherlands. Backhuys Publishers, Leiden, The Netherlands. Book only: ISBN 978-90-57822-04-9 / 978-38-23615-31-6. Price: EUR 40 (industrialized countries); EUR 20 (developing countries). Book + CD-ROM: ISBN 978-90-57822-05-6 / 978-38-23615-32-3. Price: EUR 50 (industrialized countries); EUR 25 (developing countries).
French edition: Schmelzer GH, Gurib-Fakim A (eds). 2008. *Resources végétables de l'Afrique tropicale 11 (1). Plantes médicinales 1*. 869 pp., ills. Fondation Prota, Wageningen, Pays-Bas. Backhuys Publishers, Leiden, Pays-Bas. Livre seul: ISBN 978-90-57822-06-3 / 978-38-23615-33-0. Livre + CD-ROM: ISBN 978-90-57822-07-0 / 978-38-23615-34-7. Prices as the English edition.

Plant Resources of Tropical Africa (Prota) is an international non-profit foundation which seeks to synthesize information on approximately 7 000 useful plant species of Tropical Africa still dispersed in numerous publications in order to provide wider access for the public through not only books, but also through CD-ROMs and Web databases. Linking up with the great success of the Plant Resources of South-East Asia (Prosea) Project for South-East Asia, it contributes to the rich documentation and collection of data on useful plants of Africa with due respect for the ethnobotanical knowledge and practice and indigenous peoples' property rights.

While the objective is to cover a total of 16 commodity groups which refer to various categories of use of plant resources during the project's period of time from 2003–2015, so far already five volumes have been published: Vegetables (2, 2004), Dyes and Tannins (3, 2005), Cereals and Pulses (1, 2006), Vegetable Oils (14, 2007) and Timbers (7, 2008), and presently Medicinal Plants (11 (1), 2008). All volumes are published in English and French editions.

Medicinal Plants 1 encompasses the first of 4 volumes describing wild and sometimes cultivated plant species of Tropical Africa used in traditional medicine for human – and yet to a lesser extent – animal health.

Since most plant species are used for multiple purposes, the choice of species embarks on primary use as medicinal plants,

and, if relevant, one or more secondary uses in other categories such as for food, material, ornamental or for firewood purposes, some of which are treated in the other PROTA volumes. The remaining primary use as medicinal plants are to be included in the forthcoming Volumes 11 (2), 11 (3) and 11 (4).

The present Volume 11 (1) treats the medicinal plant species of 7 important medicinal plant families – *Apocynaceae*, *Asphodelaceae*, *Caesalpiniaceae*, *Euphorbiaceae*, *Loganiaceae*, *Menispermaceae* and *Solanaceae* – and 19 other families encompassing few but important medicinal plants. As such, 134 important, largely wild medicinal plant species are presented in accounts with a clear and detailed format and illustrated with a line drawing and distribution map of the African Continent.

While the medicinal plant species are presented in alphabetical order, basically listing Protologue; Family; Chromosome Number; Vernacular Names; Origin and Geographic Distribution; Uses; Properties; Botany; Ecology; Management; Genetic Resources and Breeding; Prospects; Major References, Other References and, of course, Authors, various significant species are described in a richer manner including Production and International Trade; Growth and Development; Propagation and Planting; Diseases and Pests and Harvesting. In addition, 272 medicinal plants regarded as of minor importance are treated in a less extensive format, while another 488 medicinal plants with rather scanty information are only mentioned in the accounts of related species.

As regards the description of uses, each account seeks to describe both traditional and modern uses, followed by the related phytochemical and pharmacological properties, harvesting and cultivation methods, and current research and conservation status of the plants.

While a full assessment and reference of the currently existing body of knowledge on medicinal plants in Tropical Africa will become possible with the publication of the envisaged Volumes 11 (2), 11 (3) and 11 (4), it is hoped that the treatment of local medicinal plant use will also link up with a wider emic perspective of medicinal; aromatic and cosmetic (MAC) plants documented to substantiate the significant ethnobotanical knowledge and practice in Africa. Indeed, as medicinal plants in this Volume 11 (1) are treated as plants not only used for human health care, but also as applied in veterinary medicine, and as poisonous plants for local pesticides and dart poison, and as narcotic plants, one would expect special attention for such health-related uses of plants for non-insignificant cosmetic and aromatic purposes, often locally classified as one comprehensive plant-based complex. Similarly, the following Volumes11 (2) – 11 (4) in their treatment of the remaining 'primary use' will certainly include the growing body of knowledge of ethnoveterinary medicine, also brought together in a recent annotated bibliography of community animal health care by Martin et al. (2001).

As most ethnobotanical studies from around the globe substantiate that among indigenous peoples the larger part of local use of plant resources includes medicinal plants and herbs, the great value of this impressive publication and its subsequent Volumes renders beyond mere systematic botanical description for students, scientists, policy makers and administrators to include unique practical knowledge as to contribute to local health improvement and forest conservation by various groups of end-users at the community level. The great overall significance of this Volume is that it contributes to the current reorientation towards indigenous peoples and their knowledge systems, particularly their ethnobotanical knowledge systems for local health care improvement and biocultural plant diversity conservation in tropical Africa.

As all preceding PROSEA publications, the PROTA Volumes in both English and French are equally well-designed and neatly produced, particularly the hardcover edition for rather intensive reference use.

L.J. SLIKKERVEER

Reference:

Martin M, Mathias E, McCorkle CM. 2001. Ethnoveterinary medicine: An annotated bibliography of community animal health care. Indigenous Knowledge and Development Series, ITDG Publishing, London.

Stuppy W, Kesseler R. 2008. *Fruit: edible*, *inedible*, *incredible*. 264 pp., colour illus. Papadakis Publisher in collaboration with Royal Botanic Gardens, Kew. ISBN 978-1-9010-9274-5 (hardcover). Price: GBP 35.

This is the third volume of a series produced by Papadakis Publishers in collaboration with the Millenium Seedbank Project of the Kew Botanic Gardens. The preceding volumes are: Pollen, 2004 by Rob Kesseler and Madeline Harley and Seeds, 2006 by Rob Kesseler and Wolfgang Stuppy. Together these three books provide excellent information on all aspects of plant reproduction. As the previous volumes the present one is amply illustrated by beautiful photographs. Many of the originally black-and-white SEM images have been coloured afterwards, making them look unnatural, but still quite stunning. If you can overcome your inclination to look only at the illustrations you'll find that the text is more than worth while, containing well written and well documented information, from micro anatomy to dispersal strategies. On some pages the text contrasts very little with the colour of the paper on which it is printed, making it difficult to read. Errors and inconsistencies are few and far between: *Casuarinus* instead of *Casuarius* (p. 15); sago palm should be reserved for palms of the genus *Metroxylon* and not for *Cycas* (p. 25); the fruit of *Citrus hystrix* is 55 mm across (p. 57). In general the authors follow the latest family concepts, but *Liquidambar* is still in *Hamamelidaceae* (p. 131), *Clerodendrum* in *Verbenaceae* (p. 207) and *Strychnos* in *Loganiaceae* (p. 221). Among famous bat fruits I would like to have seen mango (*Mangifera indica*) and sapodilla (*Manilkara sapota*) mentioned. Personally I was pleased with the statement on p. 17 that the tropics have produced the "finest tasting fruits nature has to offer, mangosteen, mango and Durio!"

A chapter on the Millenium Seed Bank and an index to scientific names conclude the book. The authors are to be complimented on producing a piece of work of high artistic and scientific standard.

M.M.J. VAN BALGOOY