

at least the online version of *IPCN* will follow this trend in the near future.

Given the huge amount of work involved in assembling the index, occasional typographical errors are inevitable. However, in this case, they are indeed occasional [e.g. *Ackama* (Cunoniaceae) appears under *Acama* and *Ackama*] and the editors are to be congratulated on the high quality of the production.

Despite the minor quibbles, this new volume is a 'must have' for any institution with plant cytogeneticists and others who use chromosome number information. It is priced at a level at which it should be affordable to most institutional libraries, and it will be well used, at least until these new records are available for searching in the online version.

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Grasslands of Wales – A survey of lowland species-rich grasslands, 1987–2004 by D.P. Stevens, S.L.N. Smith, T.H. Blackstock, S.D.S. Bosanquet & J.P. Stevens. Cardiff: University of Wales Press, 2010. 387 pp. with numerous illustrations. Hardback. ISBN: 9780708322550. £70.

This lavishly-illustrated book summarizes the results of a survey of the lowland grasslands of Wales between 1987 and 2004 by the staff of the Countryside Council for Wales. As such, it provides a snapshot of the grassland resource and provides the framework for their conservation. The detail on the grasslands supports the broader sister volume, *Habitats of Wales* (Blackstock *et al.* 2010).

The book comprises three introductory chapters setting out the background to the survey with the rationale, methods and coverage. The main part of the text comprises the accounts of mesotrophic, calcareous, acid and marshy grasslands, together with the associ-

ated flushes and heaths with which the grasslands are often associated. These accounts are based on the vegetation types from *British Plant Communities* (Rodwell 1992–2000) and are compared with them using new quadrat data. The characteristics, variations and differences in Welsh grasslands are described and illustrated with numerous colour photographs. There are also illustrative pen-pictures of individual sites giving local context and application. The final chapters provide overviews of the vegetation and its relationship to the environment and soils, and, surprisingly briefly, conservation and management.

This book will form the cornerstone of grassland conservation in Wales for decades to come. Its importance can be seen in the catastrophic loss of the semi-natural grasslands between the 1930s and 1980s–1990s which is graphically illustrated in Fig. 1.6. The quality, detail and extent of the information in the book is of outstanding value to its target audiences; it is an essential reference for anyone interested in nature conservation in Wales providing hard statistics on which to formulate conservation policy, and the accounts of individual vegetation types will be of specific interest to phytosociologists. The excellent photographs give it some wider appeal, but few beyond these two groups will appreciate the value of the text.

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Trees of Panama and Costa Rica by Richard Condit, Rolando Pérez & Nefertaria Daguerre. Princeton: Princeton University Press, 2011. 494 pp. Paperback. ISBN 978-0-691-14710-9. \$45. [Also available in hardback, ISBN 978-0-691-14707-9].

Princeton field guides are useful tools for the identification of plants and animals in certain parts of the world. The series is renowned for 23 guides to birds, but there are also guides to mammals (3), fishes (2), caterpillars, minerals, dinosaurs and even stars and planets. This volume is the third guide addressing plants in the series following *Palms of southern Asia* (Henderson, 2009) and *Seeds of Amazonian plants* (Cornejo & Janovec, 2010).

The emphasis is to bring knowledge of Central American trees to a wider audience and provide a

field guide to them, like the many that are available for temperate regions. The guide is very useful for the professional and the hobbyist alike and will also be interesting for the ecotourist who visits Panama or Costa Rica. Of course, not all trees are included (as the authors point out Panama hosts over 2300 tree species), but an impressive 493 species are described, of which 438 are illustrated with excellent colour photographs showing the distinctive characters of the species.

A detailed description of the geography, climate and forest types in the region is provided, and the impact of human activity is discussed. National parks are discussed and a short chapter on which forests are the main places to visit is included.

All species entries include a distribution map, and the distribution pattern is discussed. There is often a paragraph on how to recognise the species and if there are other species of the genus in the region that are not illustrated, these are often discussed. The excellent photographs have been cut out and pasted on a white background, and this prevents possible confusion with other plants in the background (which is often the case in pictures taken in tropical forests), and emphasises the characters important for recognizing the plant.

Chapter 2 deals with the identification of trees. In this chapter the importance of learning plant families is emphasised. The authors praise the standard works useful for identifying trees in tropical America (e.g. Gentry, 1996; Smith *et al.*, 2004), which until now have been the standard for family identification in Latin America. Unfortunately, the classification followed in this book (close to that of Smith *et al.* 2004) does not follow the latest phylogenetic knowledge on plant families (APG III, 2009), even though it is emphasised in this chapter that families are groups of related species. For instance, Myrsinaceae are still accepted (incorporated in Primulaceae in APG III), Clusiaceae and Hypericaceae are separated but Calophyllaceae is not accepted, and *Cochlospermum* is not included in Bixaceae. In contrast, it pleased me to see the phylogenetically correct placements of *Buddleja* (Scrophulariaceae), *Cecropia* (Urticaceae), *Celtis* (Cannabaceae) and *Vitex* (Lamiaceae). It was also good to see the use of Salicaceae (including the majority of Flacourtiaceae), the broad application of Malvaceae and the usage of Euphorbiaceae, Phyllanthaceae and Putranjivaceae (as separate families), so new students of Central American trees will learn these correctly. Occasionally the former family name is pointed out, which may be useful when using works that predate the APG system.

With the descriptions of characters used in this book it is easy to identify plants to the family level and this is aided by supplementary supporting material in the back: a glossary of terms, a table of major

leaf traits and an appendix providing descriptions of families that are not included in this guide.

Overall this is a very useful guide to the trees of a mega-diverse area of the Neotropics. I shall certainly take the guide along on my future explorations of these forests.

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Carnivorous plants and their habitats by Stewart McPherson, edited by Andreas Fleischmann and Alastair Robinson. Poole: Redfern Natural History Productions, 2010. Two volumes, 1442 pp. Hardback. ISBN 978-0-9558918-4-7 and 978-0-9558918-5-4. £69.99 for the two-volume set.

Continuing in the vein of the author's *Pitcher Plants of the Americas* (2006), *Glistening Carnivores* (2008) and *Pitcher Plants of the Old World* (2009), these two volumes are a testament to Stewart McPherson's fascination with the world of carnivorous plants – few modern authors manage such sustained productivity. As his readers have come to expect, the new volumes are lavishly illustrated with photographs, including many taken by the author, and other pictures. The books include information about all the 20 genera of plants considered to be carnivorous [or at least towards that end of the non-carnivore/carnivore spectrum – some like *Roridula* do not have all the characters expected of a 'true' carnivore (see Chase *et al.*, 2009, for a discussion of what constitutes carnivory)], and *Ibicella/Proboscidea* (Martyniaceae) and *Philcoxia* (Plantaginaceae) are tentatively included although their carnivory has not been fully researched or proven.

After a brief introduction, the first main chapter provides a historical perspective of the development of