

Book reviews

PHANG S-M, LEWMANOMENT K & LIM P-E. 2008 — *Taxonomy of South-east Asian Seaweeds*. Edited by Siew-Moi Phang, Khanjanapaj Lewmanomont and Phaik-Eem Lim. Institute of Ocean and Earth Sciences (IOES), University of Malaya, Monograph Series 2. 197 p., soft- or hardcover [<http://ioes.um.edu.my>]; ISBN: 978-967-5148-13-2; Price: RM 80 (soft cover), RM 100 (hard cover)].

The central Indo-Pacific harbours one of the most diverse seaweed floras on Earth, yet the taxonomy of marine macro-algae in these tropical to subtropical waters has remained relatively poorly studied. With this volume, three leading algal systematists in the region, Siew-Moi Phang, Khanjanapaj Lewmanomont and Phaik-Eem Lim, are providing an important outlet for taxonomic knowledge of Southeast Asian seaweeds. The book represents the proceedings of the First Taxonomy of Southeast Asian Seaweed Workshop held at the University of Malaya, Kuala Lumpur in 2008. This workshop, the first in a series to come, brought together phycologists from different countries and was intended to “keep the science of taxonomy and systematics flourishing and ensure the existence of a next generation of seaweed taxonomists in the Southeast Asian region”.

The present volume contains a collection of twelve scientific contributions from a long list of authors, all active researchers in seaweed biology in Southeast Asia. In particular seaweeds of Thailand, Malaysia, Indonesia, and to a lesser extent Vietnam and the South China Sea, are represented in this volume. Somewhat surprisingly, the Philippines, a country with a rich seaweed flora and a long history of phycology is only poorly represented. The twelve articles vary in scope from brief floristic treatments or checklists of selected groups of common and abundant green, brown and red algae from particular countries, to more comprehensive papers, including a study of *Caulerpa* from Thailand, taxonomic notes on some Malaysian Rhodomelaceae, a review of *Gracilaria* from Thailand, and a morphological and taxonomic study of *Sargassum* from Malaysia. Several contributions include collections, identifications and observations made during the workshop. The taxonomic accounts include tentative, morphologically-based identifications and provide descriptions and illustrations (photographs or line-drawings). A useful feature in several articles is the inclusion of keys to species or genera (e.g. *Caulerpa*, *Ulva*, *Sargassum* and Gracilariaceae), or tables that allow comparisons of morphological features between taxa (e.g. for the family Gracilariaceae). The quality of the illustrations range from utilitarian to average, with photographs being sometimes blurry and some line-drawings being somewhat sloppy. A fact that is largely ignored in this volume is that morphology is often a poor indicator for species boundaries in many of the genera that are dealt with (e.g. *Caulerpa*, *Ulva*, *Sargassum*, *Gracilaria*). Another shortcoming is that most articles have no, or very short discussions, which would have been valuable to put the work into a broader context, and to highlight the significance of the studies. In summary, the taxonomic treatments are rather traditional, including basic descriptions and illustrations of the taxa. Somewhat regrettably, the articles do not incorporate advanced taxonomic methodologies, such as statistical evaluations of discontinuities of morphological features, or assessment of species boundaries and relationships using molecular phylogenetic analyses.

Along with the taxonomic and floristic contributions, the book also includes two other studies. One article deals with genetic variation in *Eucheuma* and *Kappaphycus* using RAPD. This study demonstrates the presence of at least

eight genetically distinct strains of *K. alvarezii*, *K. striatum* and *E. denticulatum* in Vietnam and shows that morphological differences are largely a result of differences in environmental conditions in which the plants are cultivated, except for thallus colour which seems to be genetically linked. The other article includes a biogeographical analysis of *Sargassum* species in the South China Sea. The paper provides distribution data of an impressive number of *Sargassum* species (191) for 10 countries in Southeast Asia. Cluster analysis based on species composition of each country shows a clear separation of subtropical and truly tropical areas, largely due to the presence of specific subtropical species.

In conclusion, the book brings together valuable but traditionally morphologically-based floristic accounts of selected groups of seaweeds in Southeast Asia. Those who are expecting comprehensive, up-to-date taxonomic treatments will probably be disappointed. All this said, efforts to encourage taxonomic research, especially in biologically diverse regions such as Southeast Asia, should be encouraged. Therefore, the editors are to be congratulated for having assembled a valuable taxonomic treatment of Southeast Asian seaweeds that will hopefully serve as a gateway for further systematic research of marine algae in the region.

Frederik Leliaert

Phycology Research Group, Biology Department,
Ghent University, Krijgslaan 281-S8, 9000 Gent,
Belgium

JOHN D. M. and WILLIAMSON D. B. — *A practical guide to the Desmids of the West of Ireland*, Galway, Martin Ryan Institute, National University of Ireland, 2009, viii + 196 p., 49 pl. (ISBN 978-3-906166-71-1, distributed by Koeltz Scientific Books, P.O.Box 1360, D-61453 Koenigstein, Germany).

More than a mere practical guide, this beautiful book might be entitled more appropriately the Desmid Flora of the West of Ireland! Following a foreword by Michael Guiry, the authors define the nature of desmids and the scope of the book, and by means of colour photographs they illustrate the desmid habitats – lakes or loughs – investigated in western Ireland (i.e., Connemara in the district of Galway and south Mayo). The introduction also deals with desmid diversity, the long-term changes in the desmid flora and the history of desmid studies in western Ireland. One chapter of the introduction is also devoted to other algae commonly associated with desmids and these are illustrated by some very informative colour micrographs. After a short survey of field and laboratory methods, the introduction ends with a dichotomous key to the genera. An interesting feature of the introduction is the comparison between ancient and modern desmid records from this area. Astonishingly, a comparison of the desmid floras reported by William West in 1890 and by the present authors around 2000 (i.e. about 100 years later,) in the same 14 loughs shows that only 6% of the taxa are common to the ancient and modern records, 57% have not been seen after 1890 and 37% are new records, not seen in 1890. However, when all records from western Ireland are taken into account, the picture changes considerably: 52 % of the taxa are common to ancient and modern records, whereas 37% of the taxa seen by W. and G.S. West were not seen again during modern investigations.

The systematic account includes more than 420 species and infraspecific taxa, of which about 50 are new records for western Ireland. The most diverse genera are *Cosmarium* (119 species and infraspecific taxa), *Staurastrum* (76), *Closterium* (63), *Euastrum* (32) and *Micrasterias* (26). Each taxon is described and illustrated by means of accurate line drawings, and its detailed distribution in

Western Ireland is given alongside a short indication of its general distribution and ecology. For most genera, user-friendly dichotomous keys are given for identifying species and infraspecific taxa. At the end of each genus description, a list is given of the taxa formerly reported from western Ireland but not seen recently in this area. In addition to the 49 plates illustrating the taxa found, many figures are provided, depicting, for several genera, the most useful morphological characters for taxonomic identification (shape, ornamentation, range and disposition of spines, etc.). A short glossary, a list of references and a taxonomic index are provided at the end of the book. The list of references could be more complete: the works by Williamson (1991, 1994), cited in the text p. 18, are not included in the list.

The classification scheme follows quite exactly A.J. Brook in "The Freshwater Algae of the British Isles", which differs from the one proposed by Růžička in that only one order (Zygnematales) is recognized, with three sub-orders: Zygnemoidiineae (sic!) (including the family Mesotaeniaceae) for the saccoderm desmids, Closteriineae (including one family, Closteriaceae) and Desmidiineae (including the family Desmidiaceae) for the placoderm desmids. The name of the first sub-order is not correctly formed: according to Art. 17.1 of the International Code of Botanical Nomenclature, its correct spelling should be Zygnematineae. The genus *Onychonema*, often treated as a synonym of *Sphaerosma*, is recognized here as a separate genus.

Two new taxa are described: *Cosmarium maamense* D.B. Williamson et D.M. John, and *Staurastrum clepsydra* var. *undulatum* D.B. Williamson et D.M. John. The presence of two new taxa in the book is only incidentally mentioned on the flap of the dustcover. The new taxa could have been publicized more effectively; in the way they are presented here, they could easily escape the attention of index-makers and cataloguers.

The book is well produced and the print quality is good. However, in at least one case (*Cosmarium confusum* and *C. margaritifera* var. *regularius*), presenting taxa in the same typographical format as that of taxa belonging to the flora is quite confusing, for those taxa are only cited for comparison with *C. maamense*.

Many of the desmids included here are widely distributed. Owing to the fact that the book provides original data, informative illustrations and user-friendly keys, it will be useful to desmidiologists, phycologists and limnologists working not only in Ireland and the British Isles but also in continental western Europe.

Pierre Compère
Jardin Botanique National de Belgique
Domein van Bouchout
B-1860 Meise, Belgium