

## Book review

BROOK A. J & WILLIAMSON D. B. – *A monograph on some British Desmids*, London, The Natural History Museum, The Ray Society, vol. 172, 2010, 364 p., 157 pl. (ISBN 0-903874-42-3 978-0-90384-42-7; sold by Scion Publishing Ltd, Banbury, OX16 9UX, U.K.)

The five-volume monograph of W. & G.S. West on the British Desmidiaceae, the first volume of which was published in 1904, has been for a long time the classic reference for desmids not only in the British Isles but also elsewhere in Europe and in the world. However, during the following one hundred years desmid taxonomy underwent considerable changes and therefore the publication of this monograph is particularly welcome. This first volume deals with the saccoderm desmids (Mesotaenioideae) and two families of placoderm desmids (Peniaceae and Closteriaceae).

A short introduction deals with the affinities of the desmids, their morphology and their habitat; it also gives some advice on microscopical examination and identification, drawing attention to difficulties due to the varying degrees of polymorphism found in many species.

The systematics take into account the many advances in desmid taxonomy since West & West's monograph and one genus, *Tortitaenia* Brook 1998, is added to those already known by the Wests. The classification followed here is that of the "Algal Flora of the British Isles" with a few changes. Only one order is recognized: the Zygnematales, with three suborders, Zygneimoidiineae (sic! Zygneimatineae would be the correctly formed name according to the International Code of Botanical Nomenclature), Closteriineae and Desmidiineae. Saccoderm desmids are included in the suborder Zygneimatineae, but as a subfamily (Mesotaenioideae) of the Zygnemataceae, rather than a family in their own right (Mesotaeniaceae) as in most recent treatments of the group.

The systematic account includes about 115 species and many infraspecific taxa: 6 genera and 34 species of Mesotaenioideae, 3 genera and 13 species of Peniaceae (including *Gonatozygon* and *Genicularia*, previously separated in the family Gonatozygaceae) and 68 species of Closteriaceae belonging to only one genus, *Closterium*. For each taxon the authors give a thorough description and a wealth of accurate line drawings, illustrating all the variation of its morphology; data are also given on its ecology and distribution in the British Isles. For most genera user-friendly dichotomous keys are given for the determination of species and infraspecific taxa.

The 157 plates of line drawings are scattered in the book in order to place the drawings next to the description of the depicted taxa. These line drawings are of high quality and very informative, and they generally illustrate the whole range of variation of the different taxa. One coloured plate is used as frontispiece, which is reminiscent of the beautiful coloured plates illustrating the West & West monograph.

A few new combinations are proposed for taxa of the genus *Closterium*: *Closterium hibernicum*, *Cl. jenneri* f. *cynthia*, *Cl. jenneri* var. *curvatissimum*, *Cl. lunula* var. *giganteum*, *Cl. navicula* var. *inflatum*, and *Cl. nylandicum*.

The Index at the end of the volume includes the names of the treated taxa along with other subjects such as 'barium sulphate', 'fungal infection' or 'vacuoles'. It could have been produced in two parts, i.e. a systematic index and a subject index, and the typographical appearance of the various entries could have differentiated more clearly between the accepted names and those considered as synonyms.

Many of the taxa included in this book are widely distributed, and most of them occur in the European Lowlands according to Coesel & Meesters<sup>1</sup>. Many of these also have a high ecological value as indicators of water quality, and therefore it is very important to identify them correctly. Thanks to the quality of the illustrations, the thoroughness of the descriptions and the user-friendly keys, this book will provide desmidiologists, phycologists and limnologists with an important new tool for the study of this interesting group of desmids, not only in the British Isles but also in Western Europe and elsewhere in the world. In continental Europe, thanks to the enlarged descriptions and the wealth of illustrations, this book could be a valuable companion to the book by Coesel & Meesters<sup>1</sup> for this group of desmids. Therefore, we do hope that further volumes will be published, so as to complete this monograph of British Desmids with a similar treatment of the other genera included in the family Desmidiaceae.

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1. Coesel, P.F.M. & Meesters K.J., 2007. *Desmids of the Lowlands, Mesotaeniaceae and Desmidiaceae of the European Lowlands*, Zeist, KNNV Publishing.