

BOOK REVIEW

Peter F.M. Coesel, Koos J. Meesters. Desmids of the Lowlands—Mesotaeniaceae and Desmidiaceae of the European Lowlands. KNNV Publishing, Zeist, The Netherlands (2007). 351 pp., 123 plates, 20 figures in the text and one CD-ROM with extra information, 89.95 €, ISBN: 978-90-5011-265-9

Algae as primary producers play a pivotal role in freshwater ecosystems. Qualification (species composition) and quantification (biomass, primary production) of algal communities are widely accepted indicators of water quality. Desmids are often used as indicators of environmental conditions such as pH, conductivity and to assess the trophic state of water bodies. They preferentially live in vulnerable habitats thus they often appear in conservation studies.

Generally, the determination of desmids is not simple and few handbooks describing the entire spectrum of this algal group. Until recently only a few small volumes of the series “De Desmidiaceen van Nederland” filled this void in the European Lowlands (Coesel, 1982–1997).

The present edition represents a comprehensive version of the Dutch volumes describing desmids flora in English inclusive of new and additional taxa recorded in the Netherlands as well as taxa described from adjacent lowlands in Belgium and Germany.

The book contains determination keys and descriptions of more than 500 species and 150 varieties of desmids. The keys are exclusively based on vegetative cell characteristics with additional characterization of zygospores. The predominant occurrence of each taxon is

given. Furthermore, the taxa are well characterized through original drawings primarily drawn by the first author located in 123 plates at the end of the book. Illustrations of species within specific genus's are predominantly drawn to scale 300 × and 600 × of magnification which enhances their usefulness for practical work. A list of references helps provide additional information on different taxa. A detailed species index gives names of all the presented taxa in addition to, the most common synonyms, obscure records and associated species.

A bonus CD-ROM is including with description of the general biology of desmids including reproduction and function in the food web. Details are illustrated through coloured drawings and micrographs. Description of desmids communities are providing including sampling and analysis techniques for euplanktic, tychoplanktic, benthic and atmophytic desmids. Finally, software that can be applied to data for assessing species ecology, distribution and their conservation value for a given sample site is available for downloading on the CD. This program is very useful in lake evaluation for the European Water Framework Directive.

This book/CD combination is highly recommended for all hydrobiologists, phycologists and ecologists.

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