

trained in the ecology of cyanobacteria and algae this could be quite confusing. Perhaps a better title would have been 'Key to identification of cyanobacteria and algae in lakes and rivers'.

Overall, this book is a very good starting point for beginners in the ecology of cyanobacteria and algae, either students or biologists dealing with environmental monitoring. The book has many drawings or photos

illustrating individual taxa. It gives a good overview of this ecologically, taxonomically and evolutionarily interesting group of ubiquitous organisms. I am happy to include it in my little phycological library.

JOSEF JURÁŇ, *Department of Botany, Faculty of Sciences, University of South Bohemia, Na Zlaté Stoce 1, CZ-370 05 České Budějovice, Czech Republic*

Polish Botanical Journal 59(2): 294–295, 2014
DOI: 10.2478/pbj-2014-0036

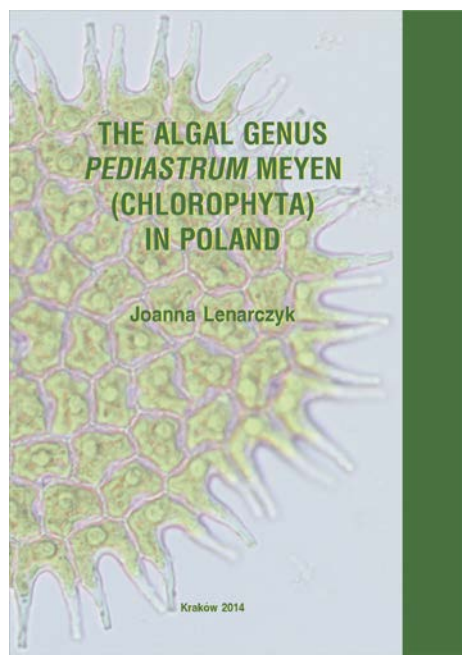


JOANNA LENARCZYK 2014. *The algal genus Pediastrum Meyen (Chlorophyta) in Poland*. W. Szafer Institute of Botany, Polish Academy of Sciences, Kraków, 104 pp, 31 figures including photographs. Paperback, 24 × 17 cm. ISBN 978-8362975-22-8. Price: 21.00 €.

Pediastrum is a common and widespread genus of green algae with a poetic name reflecting its morphology (etymologically it means little or 'child' star). The genus is also interesting for its morphological variability, the structure of its colonies, and particularly its ecology. Currently, research in algology focuses primarily on the use of molecular methods to investigate the evolution, phylogeny and taxonomy of algae. However, there are still gaps in our knowledge of the ecology and distribution of algae. It is very heartening that a publication outside of the 'molecular mainstream' and dedicated to these issues can still be published.

This work summarizes the results of a three-year study of this genus in Poland. It gives data on the occurrence of 23 *Pediastrum* taxa, with detailed descriptions. Their distribution was monitored at localities in nine physiographic regions: the Southern Baltic Coast, Eastern Baltic Lakelands, Southern Baltic Lakelands, Central Polish Lowlands, Polesie, Sudety Mountains and Foothills, Wyżyna Śląsko-Krakowska upland, Northern Sub-Carpathia and Central Western Carpathians. More than 70 localities were sampled; the main habitats were lakes, ponds and peat bogs. Samples were processed by traditional methods used in phycology: optical microscopy and scanning electron microscopy. Several strains were isolated as unialgal cultures. The publication is supplemented with data from herbarium material and literature.

The results are given as a list of taxa of the genus *Pediastrum*. Also listed are other species of cyanobacteria and algae recorded at the localities. Selected species are accompanied by very detailed descriptions of their morphology, ecology and distribution in Poland. The iconographic documentation of the taxa is very good. It consists of optical light microscopy and scan-



ning electron microscopy photographs as well as drawings. Ecological and distributional data are discussed in detail. The author focused mainly on the morphology and ultrastructure of individual taxa; the main assets of the work are its precise morphological descriptions of the cell surface, illustrations, and practical key for determination.

This book is based on a huge amount of work and only minor imperfections can be mentioned. It provides measurements of environmental parameters and data on the abundance of taxa at the sampling sites but those

results were not processed statistically. Such statistics would have given a clear picture of the ecology of the genus *Pediastrum*. In the section devoted to the descriptions of each species and also the discussion it would have been useful to cite references to recent works dealing with the systematics of green algae based on molecular and morphological data, dividing the genus *Pediastrum* into several new genera (e.g., works of Lothar Krienitz, Christina Bock). The publication is primarily an ecological work; although I appreciate this classical approach I believe that the results of molecular biology are so crucial to the taxonomy of *Pediastrum* that they should at least be mentioned.

These small criticisms do not reduce the importance of this book. In view of our still-insufficient knowledge, every work that brings new insights about the distribution and ecology of cyanobacteria and algae is a valuable step forward. The author's thorough work has provided us with a fairly detailed guide to determining this very common and very beautiful genus.

JOSEF JURÁŇ, *Department of Botany, Faculty of Sciences, University of South Bohemia, Na Zlaté Stoce 1, CZ-370 05 České Budějovice, Czech Republic*