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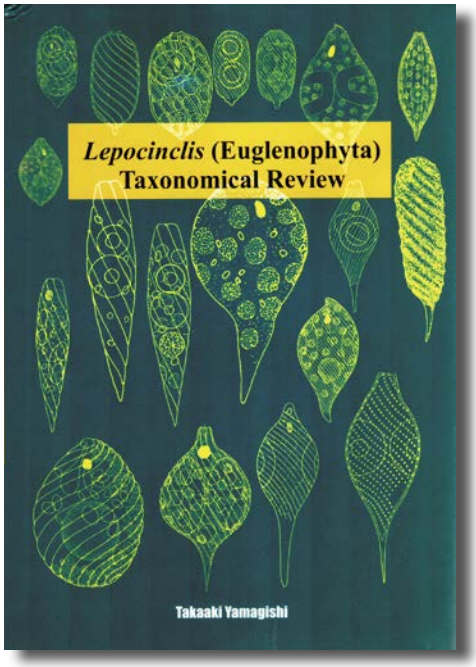
Takaaki Yamagishi 2013. *Lepocinclis* (*Euglenophyta*): *Taxonomical Review*. Bishen Singh Mahendra Pal Singh, Dehra Dun, 141 pp., 54 plates (black and white photographs and drawings). Hard cover, 23 × 15.5 cm. ISBN 978-81-211-0871-3. Price: 52.00 €.

This important monograph by a world-famous researcher of freshwater algae summarizes previous studies of representatives of the genus *Lepocinclis* (Euglenophyta), including data on the genus from the author's work and the world literature. Most of the information about the occurrence of these extremely interesting organisms in Asia comes from the author's research done in 1973–2005 in New Guinea, Taiwan, Thailand, Cambodia, Malaysia and Japan.

The introduction briefly outlines the history of research on *Lepocinclis* worldwide. Works containing important information about the frequency and main localities of the described taxa are given in a table, in order by author. The monograph summarizes information from keys for determining euglenoids by well-known authors including Huber-Pestalozzi (1955), Starmach (1986), Tell and Confortii (1986) and Shi (1999). Data on the biogeography and taxonomy of *Lepocinclis* are also taken from papers and monographs by Conrad (1935), Wołowski and Hindák (2005), Yamagishi (1910) and many others.

Another chapter presents data on taxonomic criteria adopted by Takaaki Yamagishi. These are phenotypic features such as variation of cell shape (examples compiled in Plates 48–51), variation of cell dimensions, pellicle ornamentation and striae arrangement. The most important part of the monograph gives descriptions of 150 taxa, including 65 species and 85 varieties – almost all the known varieties of species distinguished earlier by various authors. The species are arranged alphabetically and accompanied by the accepted name (with authorship), plate number, primary literature, synonyms, a detailed morphological description, taxonomic remarks, and biogeographic and ecological data. All the described taxa are accompanied by their original drawings and photographs as well as Professor Yamagishi's own iconography. Some images are blurred. Additional plates illustrate particular characters such as the shape or variety of pellicle structure.

This monograph applies the traditional taxonomic concept. It is a classic floristic and taxonomic elaboration of the genus *Lepocinclis*, with ample documentation given for each taxon. As in previous studies, the author



does not include the results of phylogenetic studies and the many related taxonomic changes. Consequently, some species recently transferred from *Euglena* to *Lepocinclis* [e.g., *L. acus* (O. F. Müller), *L. spirogyroides* Marin & Melkonian, *L. oxyuris* (Schmarda) Marin & Melkonian] are not included in this work, and several taxa that have been moved from *Lepocinclis* to *Monomorphina* are not excluded [e.g., *Lepocinclis reeuwykiana* Conrad = *Monomorphina reeuwykiana* (Conrad) Marin et Melkonian, *L. ovata* (Playfair) Conrad = *M. ovata* (Playfair) Marin et Melkonian, *L. capito* Wehrle = *M. capito* (Wehrle) Marin et Melkonian *L. pyriformis* Kufferath = *M. pryriformis* (Kufferath) Marin et Melkonian] (Marin *et al.* 2003).

The monograph is a useful source of data for further studies based on observation of taxa in nature and in axenic cultures, and also for phylogenetic research. It should prove useful not only to phycologists but also to those doing research in other fields such as water and sewage treatment technology.

References

Huber–Pestalozzi G. 1955. Das Phytoplankton des Süßwassers. In: A. Thienemann, *Die Binnengewässer*. **16**(4): 1–606. E. Schweizerbart'sche Verlagsbuchhandlung, Stuttgart.

Lemermann E. 1913. Eugleninae. In: A. Pascher A. & E. Lemmermann (eds), *Die Süsswasser-Flora Deutschlands, Österreichs und der Schweiz*, pp.115–117. G. Fischer, Jena.

Marin B., Palm A., Klingberg M. & Melkonian M. 2003. Phylogeny and taxonomic revision of plastid-containing euglenophytes based on SSU rDNA sequence comparisons and synapomorphic signatures in the SSU rRNA secondary structure. *Protist* **154**: 99–145,

Shi Z. X. 1999. *Flora algarum sinicarum aquae dulcis*. 6. *Euglenophyta*. Science Press, Beijing (in Chinese with English summary).

Starmach K. 1983. *Euglenophyta – Eugleniny*. Flora Słodkowodna Polski. 3. Państwowe Wydawnictwo Naukowe, Warszawa.

Tell G. & Conforti V. 1986. Euglenophyta pigmentadas de la Argentina. *Biblioth. Phycol*. **75**: 1–301.

Wołowski K. & Hindák F. 2005. *Atlas of euglenophytes*. VEDA, Bratislava.

Yamagishi T. 2010. *Plankton algae of Southeast Asia*. Bishan Singh Mahendra Pal Singh, Dehra Dun.

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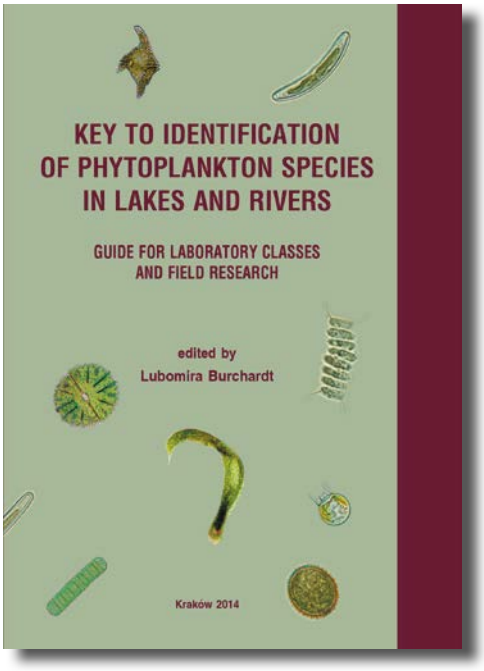
Lubomira Burchadt (ed.) 2014. *Key to identification of phytoplankton species in lakes and rivers. Guide for laboratory classes and field research*. W. Szafer Institute of Botany, Polish Academy of Sciences, Kraków, 179 pp., many line drawings and black and white and color photographs. Paperback, 24 × 17 cm. ISBN 978-8362975-19-8. Price: 35.00 €.



Cyanobacteria and algae are a heterogeneous group of organisms, typically microscopic, with several macroscopic representatives and with a worldwide distribution. Thanks to their wide ecological valence across groups, these organisms (genera or species) can be used as basic indicators of environmental quality. A sample of phytoplankton from a pond can quickly provide valuable information about habitat conditions without the need for expensive laboratory testing. Due to the large number of genera and species that may be present in a sample, determining these organisms is a complicated task. For their determination there are several book series intended primarily for the specialist in phycology (e.g., *Flora słodkowodna Polski*, *Süsswasserflora von Mitteleuropa*). The publication of a book that combines basic data for determining cyanobacteria and algae with information about their ecology is a good step. The book can be used as a starting point for quick and easy determination of their genera and sometimes species. Further detailed determinations can be made with the use of specialized literature sources.

This guide starts with a short chapter which gives basic information about the morphology, ecology and taxonomy of planktonic cyanobacteria and algae. It is followed by chapters on individual groups: blue-green algae (Cyanobacteria), diatoms (Bacillariophyceae), dinoflagellates (Dinophyta), euglenoids (Euglenophyta),