

Hindák, F.: **Fotografický atlas mikroskopických siníc.** [Atlas of Freshwater Cyanophytes.] – Veda, Bratislava 2001. ISBN 80-224-0658-9. 128 pp., in Slovak. € 41.00.

Cyanophyta (name used by botanists) or Cyanobacteria (name used by bacteriologists and experimental biologists), recently named also Cyanoprokaryota, are phototrophic prokaryotic microorganisms of the kingdom Bacteria. The old English name of this group, blue-green algae, expressed the similarity with the mostly autotrophic algae; this group of organisms is studied by algologists and not by bacteriologists. The members of this group are able to perform oxygenic photosynthesis just like eukaryotic plants and photosynthetic protists and they occupy the same biotopes as algae. To summarise, although they are prokaryotic, they are traditionally studied and presented by botanists in botany and not by microbiologists in microbiology.

Cyanophyta are the most primitive and oldest photosynthetic organisms; plastids in eukaryotic cells are probably phylogenetical descendants of these primitive organisms. As primary producers of biomass and oxygen, they have played an important role in evolution of life. They have been the sole producer of oxygen for more than two and half billion years; they altered the oxygen-free atmosphere and facilitated the evolutionary development of other organisms. Also recently in eutrophic waters they can produce large amounts of biomass – many of them are producing waterblooms, which can be toxic or dangerous for animals and humans alike.

The author puts an accent on the geological age and phylogeny, morphology and structure of the cells and filaments, reproduction, ecology and the distribution, collecting of the material, cultivation, state of threat in the field, significance of the group, determination, and systematic treatment. Very important part of the book is the dichotomical identification key to the determination of presented orders (all 4 recently recognised orders are present) and genera. Important specific terms used in the

morphology of this group are explained in the terminological glossary. The text part of the book is closed by references and short English summary.

The main purpose of this book is to present microphotographs of individual taxa of cyanophytes. Within 347 colour photographs there are presented 40 photographs of biotopes in which the cyanophytes occurs in Slovakia (mostly taken from the basin of rivers Morava and Danube). The remaining more than 300 photos present microphotographs of 140 taxa of freshwater cyanophytes, 29 of which have not been previously reported from the Slovakia yet. Most of microphotographs are taken from the material collected in Slovakia. Some rare species were collected also in the Czech Republic, Austria, Hungary, Poland, Switzerland, France, and Slovenia.

The microphotographs are very instructive, reproduced in excellent quality. Simply speaking high standard. The text is as well very instructive, clear, and containing all necessary information concerning this group of organisms. As a reviewer I can only mention small inaccuracies or not exactly perfect explanation of some terms. The explanation of the term “boreo-alpínský” (= boreo-alpine) fits merely on arctic(-subarctic)-alpine. The term “fykobiont” is recently used in lichenology only for algal partner in the lichens, for the symbiotic member of cyanophytes in lichens the term “cyanobiont” should be used. “Synonym” cannot be explained as invalid name of taxon (in the strict nomenclature used by I.C.B.N.). *etc.*

This atlas is a very important book presenting many taxa not as colour drawings (as usual), but in the form of colour photographs. It will help not only algologists and hydrobiologists for the determination of the mostly very important taxa, but can be used also by students and all biologists interested in these tiny living organisms.

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