Dubravka Hafner and Anita Dedić – Diatoms of the Adriatic Sea Basin in Bosnia and Herzegovina

Diatoms – Do we know them well? We know that diatoms are the only organisms on our planet whose cell walls are made of transparent opaline silica, that they convert solar energy into sugars, produce 50% of the air we breathe, feed the oceans, lakes and rivers, are the most diverse protists on Earth, and inform us about the health of aquatic systems. To date, there are numerous applications of diatoms in various scientific fields, be it nanotechnology, biotechnology, environmental science, biophysics or biochemistry, bringing all facets of diatom biology under one roof. There is a particular focus on biosilication, biomineralization and the use of diatoms as "nanomaterials", vehicles for drug delivery, optical and immunological biosensors, philters, immunodiagnostics, aquaculture feeds, lab-on-a-chip, metabolites and biofuels. For these reasons, it is extremely important to have a good knowledge of the ecology of diatoms, their spatial and temporal distribution, especially in our immediate environment.

The monograph Diatoms of the Adriatic Sea Basin in Bosnia and Herzegovina, in bilingual form (Croatian and English), writen by Dubravka Hafner and Anita Dedić, published in July 2020 (Publisher: University of Mostar, Bosnia and Herzegovina, 216 pp.), does not provide a definitive account of the diatoms of Bosnia and Herzegovina, but is a starting point that provides insight into the richness of their natural heritage. It was written as a result of the scientific work of Professor Dubravka Hafner, who has devoted her whole life and work to the study of cyanobacteria and algae, with a special interest in diatoms.

The book is a useful resource for anyone interested in the ecology and conservation of the nation's freshwaters, and for anyone studying algae in school, at university, or for their own enjoyment. Compiling a definitive list of diatoms from Bosnia and Herzegovina involves considerable scientific effort, and I am sure that both authors will acknowledge that knowledge of freshwater habitats is still incomplete and there is much to learn. This book describes the state of the art in 2020 and provides a challenge for future researchers. It also provides a basis for the development of ecological assessment protocols that will be necessary if Bosnia and Herzegovina is to meet the requirements of the European Union's Water Framework Directive. The book begins with an introduction describing the biology of diatoms and the history of research on these organisms in Bosnia and Herzegovina, before providing an overview of aspects of the landscape that influence diatom distribution. The authors provide a list of all sites, with enough information to locate these sites in the future, before proceeding with a list of all diatom species recorded in Bosnia and Herzegovina. This list includes synonyms (important, as many diatom names have changed in the last 30 years) and information on their ecology and conservation status. Finally, there is a comprehensive reference list.

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