



14th European Diatom Meeting

Meise Botanic Garden, Belgium
09-11 May 2023

Book of Abstracts



Meise
Botanic Garden



University of Antwerp
ECOSPHERE

ORGANISING COMMITTEE

Bart Van de Vijver, Myriam de Haan, Anja Van Ossel, Christine Cocquyt, Koen Sabbe, Jonas Schoelynck & Steven B. Janssens

SCIENTIFIC COMMITTEE

Nelida Abarca (Botanischer Garten und Botanisches Museum, Berlin, Germany)
Suncica Bosak (University of Zagreb, Croatia)
Christine Cocquyt (Meise Botanic Garden, Belgium)
Eileen J. Cox (Natural History Museum, UK)
Hannah Hartung (University of Cologne, Germany)
Steven B. Janssens (Meise Botanic Garden, Belgium & Catholic University Leuven, Belgium)
Koen Sabbe (Ghent University, Belgium)
Jonas Schoelynck (University of Antwerp, Belgium)
Tanja M. Schuster (Natural History Museum Vienna, Austria)
Bart Van de Vijver (Meise Botanic Garden, Belgium & University of Antwerp, Belgium)

FINANCIAL SUPPORT

Meise Botanic Garden
Association des Diatomistes de Langue Française (ADLaF)
Nederlands-Vlaamse Kring van Diatomisten (NVKD)
Koeltz Botanical Books
Schweizerbart Science Publisher
Fonds voor Wetenschappelijk Onderzoek, Flanders

THIS PUBLICATION SHOULD BE CITED AS FOLLOWS:

Bart Van de Vijver, Christine Cocquyt & Myriam de Haan (Eds) 2023. Book of Abstracts, 14th European Diatom Meeting, Meise, Belgium, 09–11 May 2023. Meise Botanic Garden, Belgium, 105 pp.

ISBN 978-9072619-037

P16: Metabarcoding and morphological data of *Mayamaea* species from soda pans in Serbia

Danijela Vidaković^{1,4}, Zlatko Levkov², Jelena Krizmanić³, Bank Beszteri⁴, Bojan Gavrilović⁵ & Miloš Ćirić¹

daca.vidakovic89@gmail.com

¹University of Belgrade, Institute of Chemistry, Technology and Metallurgy, National institute of the Republic of Serbia, Njegoševa 12, Belgrade 11000, Serbia

²Institute of Biology, Faculty of Natural Sciences, Ss Cyril and Methodius University, Arhimedova 3, 1000 Skopje, R. Macedonia

³University of Belgrade, Faculty of Biology, Studentski trg 16, 11000 Belgrade, Serbia

⁴University of Duisburg-Essen, Faculty of Biology, Phycology Group, Universitätsstr. 2, 45141 Essen, Germany

⁵Institute of Forestry, Kneza Višeslava 3, 11030 Belgrade, Serbia

Soda pans located in the northern part of Serbia are alkaline and very shallow water habitats influenced by seasonal drying. Due to the rareness, vulnerability, and specific biota, these saline habitats have high conservation priority according to the EU Habitats Directive (92/43/EC).

Since 2017, ten soda pans have been intensively studied with the aim to determine the diatom biodiversity and to evaluate ecological conditions. Diatom samples were collected from mud and reed, and samples for molecular analyses were additionally collected in 2021. The diatom community is mostly composed of species that prefer alkaline conditions and high conductivity. Some of the most dominant genera are *Nitzschia* and *Navicula*. Among the recorded diatoms, *Mayamaea permitis* and one unknown *Mayamaea* species were recorded in two soda pans (Okanj bara and Bela bara). The unknown *Mayamaea* can easily be distinguished from similar species by the valve outline and shape of the central area using light and scanning electron microscopy. In a metabarcoding (partial 18S rRNA gene sequence) data set from the same sample, we could identify two amplicon sequence variants showing affinities to the genus *Mayamaea*, one of them matching published sequences from *M. permitis*, the other without exact matches in the Diat.barcode and NCBI databases. We conclude that the latter probably belongs to the new *Mayamaea* species observed by microscopy, which indicates that the unknown *Mayamaea* species is closely related to but different from *Mayamaea terrestris*.

Based on morphological features and molecular analyses, we consider the unknown *Mayamaea* species as a species new to science. Bearing in mind the vulnerability of soda pans due to anthropogenic threats and climate change, knowing which species inhabit these habitats is the first step in preserving these unique ecosystems.