

## ‘Diatom Taxonomy in the 21<sup>st</sup> Century’ in honour of Henri Van Heurck (1838–1909)

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Editor

Henri Ferdinand Van Heurck, one of the most famous Belgian diatom scientists, passed away on March, 13<sup>th</sup> 1909 in his hometown Antwerp (Belgium). Thanks to his well running paint and varnish factory, Van Heurck was financially able to dedicate most of his time to the study of diatoms and microscopes. Despite being an autodidact, he became a nationally and internationally highly respected scientist with an all-embracing mind (Frison 1959). He spent a fortune to enlarge his collections and to increase his knowledge on all kinds of biological topics, mostly on his favourite algal group, the unicellular diatoms (Bacillariophyta). Between 1880 and 1900, Van Heurck published two of the most important diatom books of the nineteenth century, viz. the “Synopsis des Diatomées de Belgique” (Van Heurck 1880–1885), followed by the “Traité des diatomées” (Van Heurck 1896), for which he got international recognition. Van Heurck was in contact with all the great 19<sup>th</sup> century diatomists, especially with Albert Grunow from Vienna and they regularly exchanged material, drawings and ideas. Van Heurck’s extensive knowledge of microscopes significantly influenced the construction of microscopes. Especially his book “Le microscope” (Van Heurck 1865; a 4<sup>th</sup> edition in 1891) very quickly became the standard reference work in microscopy.

In 2009, exactly a century after Van Heurck’s death, a scientific symposium in honour of Van Heurck was organised at the National Botanic Garden of Belgium. It gathered more than sixty scientists from all over the world focusing on the scientific subjects Van Heurck was interested in, more specifically morphology, taxonomy and biogeography of dia-

toms. During three days, more than fifty keynotes, lectures or posters have been presented. The past decades, diatom taxonomy has undergone serious changes. The application of new and better microscopical techniques, such as the use of differential interference contrast optics and scanning electron microscopy, and later on the introduction of molecular techniques was crucial in the development of the actual species concept. This meant a huge step forward in establishing the relationships between the different diatom taxa (Round et al. 1990, Medlin & Kaczmarska 2004). The resulting refined species concept significantly reduced the impact of force-fitting (Tyler 1996), improving not only the interpretation of paleo-ecological data (Stoermer 2001) but also and more importantly the current ideas on diatom biodiversity and biogeography (Vyverman et al. 2007), contradicting the widespread hypothesis that micro-organisms are cosmopolitan lacking any well defined geographical distribution patterns (Finlay & Clark 1999).

The present volume of Plant Ecology and Evolution comprises the full texts of eleven lectures and posters presented during the Van Heurck meeting, reflecting the evolution in our understanding of diatom taxonomy and biodiversity.

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