

The non-marine diatom flora of the Maritime Antarctic region: an iconographic guide

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A new volume in the series *Iconographia Diatomologica* was recently published on the freshwater and terrestrial diatom flora of the Maritime Antarctic Region (Zidarova et al. 2016). This region is defined as the zone between the southern limit of the extensive, closed phanerogamic vegetation to the southern limit of the extensive cryptogamic (mainly bryophyte) communities, roughly comprising all landmasses between 70°S northwards to 55°S, including several islands and archipelagos (South Sandwich Islands, South Orkney Islands, South Shetland Islands, Palmer Archipelago), as well as the west coast of the Antarctic Peninsula south to Marguerite Bay.

The new volume provides the first detailed diatom identification guide for the Maritime Antarctic region. A total of 203 taxa found during a large taxonomic and ecological freshwater diatom survey on the South Shetland Islands and James Ross Island are included. Each taxon is discussed on a single page providing the original reference, a morphological description based on LM and SEM observations, a comparison with similar taxa and data on its ecology. Per taxon, an entire plate composed of high quality LM and SEM micrographs is shown, illustrating all morphological details. Confirmed distribution in the Antarctic and sub-Antarctic regions of all these taxa is given as an Appendix at the end of the volume. Nine other taxa, that were very rarely observed in low abundance and for which no sufficient observations were possible at present are also shown. Short morphometric descriptions for them are provided.

The non-marine diatom flora of the Maritime Antarctic Region is mostly characterized by typical aerophilic genera such as *Luticola* (32 taxa), *Pinnularia* (29 taxa), *Muelleria* (16 taxa) and *Humidophila* (12 taxa) whereas typical aquatic genera such as *Nitzschia* (12 taxa), *Navicula* (6 taxa) or *Fragilaria* (1 taxon) are far less diverse. More than 70% of the taxa were previously described as Antarctic endemics, most of them having a restricted distribution to the Maritime Antarctic Region. These data clearly contradict the old-fashioned ideas on Antarctic diatom biogeography stating that the flora in this region was supposed to be dominated by cosmopolitan taxa. The latter, such as *Navicula gregaria*, *Nitzschia hamburgiensis* or *Tryblionella debilis*, showing a worldwide distribution constitute only a minority.

The poster presents the new volume of *Iconographia Diatomologica* and shows some of the typical Antarctic taxa.

Reference

- Zidarova, R., Kopalová, K., Van de Vijver, B. (2016): Diatoms from the Antarctic Region : Maritime Antarctica. *Iconographia Diatomologica* 24: 1-504