

THE *PLANOETHIDIUM PERICAVUM/ENGELBRECHTII* COMPLEX

Bart Van de Vijver^{1,2*}, Carlos E. Wetzel⁴ & Luc Ector⁴

¹Meise Botanic Garden, Research Department, Nieuwelaan 38, B-1860 Belgium (bart.vandevijver@plantentuinmeise.be)

²University of Antwerp, Department of Biology-ECOB, Universiteitsplein 1, B-2610 Wilrijk, Belgium

³Luxembourg Institute of Science and Technology (LIST), Environmental Research & Innovation (ERIN) Department, 41 rue du Brill, L-4422 Belvaux, Grand-Duché de Luxembourg

In 1966 John Carter described and illustrated *Achnanthes pericava* from the Tristan da Cunha Archipelago, a small island group located in the southern Atlantic Ocean. This species, transferred in 1999 by Lange-Bertalot to the genus *Planoethidium*, is characterized by a rapheless valve lacking the typical spot of *P. lanceolatum* (sinus) or *P. frequentissimum* (cavum). The valves are elliptical-lanceolate with slightly protracted, broadly rounded apices.

Planoethidium pericavum forms important populations on several islands in the southern hemisphere but it also seems present in the northern hemisphere. Lange-Bertalot & Krammer (1989) illustrated the type of *A. pericava* and added several dubious conspecific populations from the Canary Islands, Chile and Catalonia. The ultrastructure of this species is unfortunately not known to date, which prevents to have a correct idea of the identity of *Planoethidium pericavum*.

In order to disentangle the exact taxonomy of this species, populations of *P. pericavum* from Tristan da Cunha and Ile Amsterdam (southern Indian Ocean) as well as several European populations (Sicily, Flanders), identified as *P. pericavum*, were analyzed to determine their conspecificity with the typical population from Tristan da Cunha. As the species shows a clear resemblance to *Planoethidium (Achnanthes) engelbrechtii*, described by Cholnoky in 1955 from South Africa, the type material of the latter was also investigated to compare it with the type of *P. pericavum*.

The poster presents the ultrastructure of the *P. pericavum* populations of the Tristan da Cunha Islands, Ile Amsterdam Island, Sicily and Flanders and the type of *P. engelbrechtii*. Each population is illustrated using light and detailed scanning electron microscopy. The similarities and differences between the different populations are highlighted.