



A new species of the diatom genus *Campylodiscus* (Bacillariophyta, Surirellaceae) from Dongtan, Chongming Island, China

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Abstract

A new species of genus *Campylodiscus* is described, *Campylodiscus sinensis* sp. nov., from Dongtan, Chongming Island, Shanghai, China. It is a small species compared with other species in genus *Campylodiscus*, with two characteristic kidney-shaped bumps externally and pyramidal verrucae. Light and scanning electron microscopy characteristics of this taxon support its systematic placement in the genus *Campylodiscus*. This new species is compared with other small species in genus *Campylodiscus* from around the world.

Key words: Taxonomy, new species, *Campylodiscus*, Surirellaceae, China, morphology

Introduction

The diatom genus *Campylodiscus* Ehrenberg ex Kützing (1844: 59) was mentioned first by Ehrenberg (1838), and then he presented four species for the genus (Ehrenberg 1840) but no description for the genus was offered. Kützing (1844) provided a validating description for *Campylodiscus*, noting that the species occurred as individuals (not in colonies), the cells were rounded and folded or bent. Kützing (1844) included the genus in the family Surirellaceae Kützing (1844: 58) ('Surirelleae' of Kützing). The relationship between *Campylodiscus* and *Surirella* Turpin (1828: 363) is supported by the complex nature of the raphe system whose structure includes a raised keel elevated above the face of the valve around the periphery of the entire valve (Round et al. 1990). The type species of the genus, *C. clypeus* (Ehrenberg 1838: 195) Ehrenberg ex Kützing (1844: 59) was proposed by Boyer (1927). Fourtanier & Kociolek (2001) indicate that there are 479 taxa in the genus. Although there are a few species that occur in freshwaters (Krammer & Lange-Bertalot 1988), the genus is dominated by taxa that occur in marine and estuarine ecosystems, and the genus is typical of epipsammic to silty benthic habitats.

Located in the Yangtze River Estuary, Chongming Island is formed by sediment deposition of Yangtze River (Liu 2011). This is the third largest island (after Taiwan and Hainan) in the nearby East China Sea of China. The ecosystem around the Chongming Island is a marsh that ranges from fresh- to brackish waters, and occurs in the temperate zone (Liu 2011). Studies on the diatoms of Chongming Island are few. Liu et al. (2011) reported a total of 110 diatom taxa at Dongtan, an area located at the SE end of Chongming Island, but no species of *Campylodiscus*.

The purpose of the present report is to formally describe a peculiar new species of *Campylodiscus*, *Campylodiscus sinensis* B. Wu, Q. Liu et Q.X. Wang, sp. nov., and to document its morphological variability with light microscopy (LM) and scanning electron microscopy (SEM).