

Small diatoms from Lake Shinji-ko and Lake Nakaumi 1. Morphology and distribution of *Chaetoceros minimus* (Levander) D.Marino *et al.*

Kotaro HIROSE, Toshikazu GOTOH and Shuji OHTANI

Abstract

Morphological characteristics of a planktonic diatom *Chaetoceros minimus* were described from a brackish-water lake, Lake Nakaumi, Shimane Prefecture, Japan. This taxon is small in size with a single plastid, and has weakly silicified valves. The cell body is almost cylindrical in shape; 4.5–12 μm long in perivalvar axis and 2.0–4.0 μm in diameter. The valves of the frustule are similar, asymmetrically conical in shape with tops located axisymmetrically or asymmetrically to the perivalvar axis. A single long seta (0.5–50 μm) arises from the top of the valve face margin, and runs almost parallel (weakly bent) to the perivalvar axis. Ellipsoidal resting spores were observed, which are 3.5–7.5 μm long in perivalvar axis and 2.2–3.0 μm in diameter. Two types of cell sizes of *Chaetoceros minimus* are distinguishable (large and small), which suggests a relationship between cell size and water quality (salinity and/or water temperature). In this study, cells from Lake Nakaumi belong to the small type. Moreover, thin and thick cell-walled types are recognized from Lake Nakaumi. It is presumed that this dimorphism in shape corresponds to water temperature and/or cell cycle (vegetative or resting cell).

Key index words: brackish water, *Chaetoceros minimus*, diatom, dimorphism, Lake Nakaumi, resting spore