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*Mesodictyon japonicum*, a new fossil diatom species from the Miocene marine sediments distributed in the Niigata area, central Japan

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#### **Abstract**

A new *Mesodictyon* species is described from the upper Miocene marine sediments of the Nomura Formation, distributed in the Tsugawa area of Aga Town, Niigata Prefecture, Japan. The new taxon exhibits the main characteristics of the genus, with cribra inside the areolae, no valve face fultoportulae and a single rimoportula on the mantle, but has mantle fultoportulae with three satellite pores and areolae with small external projections similar to the basal parts of volae, which distinguishes it from any other *Mesodictyon* species reported to date. The species is described herein as *Mesodictyon japonicum* sp. nov., and is illustrated using both LM and SEM photographs. The species has a restricted stratigraphic range in the late Miocene; it first appeared at around 8.6 Ma, became common at 8.2 Ma and disappeared at around 5.5 Ma. Although it has been found in marine sediments, the species is presumed to be a freshwater diatom because it exhibits a similar occurrence pattern to that of the accompanying *Aulacoseira* species.

**Key index words:** diatom, fossil, freshwater, Japan, *Mesodictyon*, Miocene