

A CULTURE-BASED STUDY OF *COCconeis LINEATA* EHRENBURG AND *COCconeis EUGLYPTA* EHRENBURG (BACILLARIOPHYTA): MORPHOLOGY, TYPIFICATION, AND BARCODING

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The nominate varieties of the monoraphid diatoms *Cocconeis lineata* Ehrenberg and *Cocconeis euglypta* Ehrenberg are typified. Discrepancies from common concepts in Ehrenberg's types, habitats and descriptions were discovered, which might affect our current understanding of both *Cocconeis* species. Lectotypes of both taxa are preserved at the Ehrenberg Collection (Museum für Naturkunde, Berlin, Germany). The lectotype of *C. lineata* is an original, poor-detailed drawing, which shows an ovoid sternum valve with two-to-three rows of apical striae. The lectotype of *C. euglypta*, which is contained in a mica, shows a unique, broadly elliptical sternum valve with an apical zigzagging pattern of four to five striae on each hemivalve. This is roughly consistent with the current concept of *C. lineata* and *C. euglypta* and with their usage during the last 160 years. To ensure stabilization of names and current concepts for these two taxa, culture-based epitypes of *C. lineata* and *C. euglypta* are presented. For both taxa, light and electron microscopy observations, morphometric data and the barcoding from several clones collected from European and Eastern Asian localities are presented and discussed. The morphology and the morphometry of the sternum valves reveal the most significant differences. The morphometry-based differentiation is partially supported by the molecular information. The usefulness of a multiparameter approach on the identification and characterization of diatom taxa at the species levels is discussed.