

Diatom 24: 8-24 (英文)

Katrin Bruder¹, Shinya Sato² and Linda K. Medlin³ : Morphological and molecular investigations of naviculoid diatoms IV. *Pinnularia* vs. *Caloneis*

¹*Elsasser Str 164, 28211 Bremen, Germany*

²*Alfred Wegener Institute for Polar and Marine Research, Am Handelshafen 12, D 27570, Bremerhaven, Germany*

³*Marine Biological Association, Citadel Hill, Plymouth PL1 2PB UK*

Abstract

A molecular analysis of 14 species belonging to *Pinnularia* and *Caloneis* has been conducted with three molecular markers. Neither genus is monophyletic, thus supporting earlier contentions that the genera could not be separated. However, the molecular analysis does reveal two clades, which correspond to the division of the two genera following Krammer & Lange-Bertalot, using the degree of opening of alveoli as a criterion for separating species in the two genera. More analyses should be done with species from these genera to continue to verify that this is the morphological feature that divides the species before any taxonomic revision is made. Nevertheless, molecular data have indicated that separation of the species within these two genera is likely possible and that the separation is supported by morphological data, which will make the assignment of any existing or new species possible with traditional methods.

Key index words : *Caloneis*, LSU, naviculoid diatoms, *Pinnularia*, phylogeny, *rbcl*, SSU