

Diatom 19: 55-65 (英文)

Janice L. Pappas and Eugene F. Stoermer : Morphometric comparison of the neotype of *Asterionella formosa* Hassall (Heterokontophyta, Bacillariophyceae) with *Asterionella edlundii* sp. nov. from Lake Hovsgol, Mongolia

Abstract

We conducted a morphometric study to compare *Asterionella* specimens from Lake Hovsgol, Mongolia with the neotype specimens of *A. formosa* Hassall from the Glienicke See, Berlin, Germany. Specimens were digitized and measured for valve length, mid-valve width, head pole width, and foot pole width, and length to mid-valve ratio was calculated. Plots of morphometric measures revealed that specimens from Lake Hovsgol are not in the same size class as those from the Glienicke See. Size change series for each population revealed different rates of size diminution. For Lake Hovsgol specimens valve length change to mid-valve width change had a value of 0.217. For the neotype specimens of *A. formosa*, valve length change with respect to mid-valve width change was 0.41. A related rate, as a proxy for the relation between size diminution between each lake's population, had a value of -1.25 which indicates that each population vegetatively reproduces at a different rate. Cluster analysis using all morphometric measures resulted in Lake Hovsgol specimens aggregating in a group separate from the neotype *A. formosa*. With evidence of endemism being more prevalent in diatoms than what was once thought, genetic evidence of possible species differences among *Asterionella* in other lakes, and different environmental conditions between the two locales of *Asterionella* in this study, we propose that the *Asterionella* specimens from Lake Hovsgol are different from the neotypes of *A. Formosa* and should be treated as *A. edlundii* Stoermer & Pappas sp. nov.

Key index words : *Asterionella*, diatom taxonomy, Lake Hovsgol, morphometry, neotype