Quaternary silicoflagellate assemblages from the subarctic Pacific

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Quaternary sediments from the subarctic Pacific Ocean and Bering Sea have been studied using diatoms, radiolarians and other siliceous microfossils (silicoflagellates and ebridians). However, there is little information on the skeletal morphometrics and morphological variation in silicoflagellates, which has led to identification difficulties.

Two recent studies of water samples from the Southern Ocean have demonstrated a wide morphological variation within *Stephanocha speculum* using morphometrics (Tsutsui et al., 2009; Malinverno, 2010). These studies have suggested that there may be a number of pseudocryptic species within the *S. speculum* complex.

Piston cores and/or multiple Ashura cores (three-tubed multiple cores) were collected from six sites in the subarctic Pacific Ocean and Bering Sea in 1999. The silicoflagellates in these cores were observed, photographed and measured using the light microscope and scanning electron microscope. The data show that there is a relatively high species diversity, including three *Dictyocha* species (*D. aculeata*, *D. stapedia* and *D. subarctios*) and six *Stephanocha* species (*S.* cf. *S. boliviensis*, *S. medianoctisol*, *S. octangulatus*, *S. octonarius*, *S. quinquangulatus* and *S.* cf. *S. speculum*). Observations on the *S. speculum* complex revealed a wide variation in pike morphology and portal shape, which could be useful as separation criteria. All specimens of *Dictyocha* and *Stephanocha* in this study bore pikes. The coastal species *Octactis pulchra* was not present in our core samples, although another study recorded it in a subarctic Pacific sediment trap.

References

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