



An arctic ostracod species (Crustacea: Ostracoda) in Late Glacial and Early Holocene sediments of lake Mondsee (Austria)

T. Namiotko (1,2), M. Pichler (1), D.L. Danielopol (1), G. Roidmayr (1) and DecLakes Team

(1) Austrian Academy of Sciences, Institute of Limnology, Mondsee, Austria, (2) University of Gdansk, Institute of Biology, Department of Genetics and Cytology, Gdansk, Poland (namiotko@biotech.ug.gda.pl)

When studying succession of subfossil ostracod assemblages in a 14.8 m-long sediment core recovered from the 62 m-deep zone of a pre-alpine lake Mondsee in Upper Austria, we found valves of a species resembling *Candona harmsworthi* Scott and *Candona rectangulata* Alm, two arctic species of an unclear taxonomic status, which at present are restricted to the Holarctic permafrost zone.

These valves were reasonably well preserved, and the presence of both adult females and juveniles strongly suggests that the remains were deposited *in situ*. The species occurs only in the first and at the beginning of the second of four major intervals of ostracod stratigraphy recognised in Mondsee (from 1480 to ca. 1200 cm) and disappears at the transition from the Late Glacial Interstadial to the Early Holocene as indicated by the change in the sediment lithology.

Comparative study using geometric morphometrics and multivariate statistics of the shape of the valves found in Mondsee with those of the two above-mentioned and some other closely related species shows that *C. harmsworthi* and *C. rectangulata* represent one variable morphotype and based solely on the valve shape could be considered conspecific. Valves from Mondsee appear to belong to the *C. harmsworthi*-*C. rectangulata* morphotype, however because of being more elongated (less compact), they constitute a separate sub-cluster. This variability could be explained by the differences either in spatial and/or temporal distances or in local ecological conditions. Postembryonic developmental trajectory of the valve shape and size for the species

found in Mondsee is also presented.

This study was supported by the European Science Foundation (ESF) under the EUROCORES Programme EuroCLIMATE through project DecLakes no. 04-ECLIM-FP29 (Austrian subproject FWF no. I35-B06).