Geophysical Research Abstracts, Vol. 8, 00517, 2006
SRef-ID: 1607-7962/gra/EGU06-A-00517

Distribution pattern of recent ostracods in surface sediments of the Kara and Laptev seas as a basis for paleoenvironmental reconstructions

Anna Stepanova (1), Ekaterina Taldenkova (2), Johannes Simstich (3), Henning A. Bauch (4)

(1) Paleontological Institute RAS, Profsoyuznaya, 123, 117997 Moscow, Russia, (2) Geographical Faculty, Moscow State University, Vorob'evy Gory, 119899 Moscow, Russia, (3)

Department of Earth Sciences, University of Cambridge, Downing Str., Cambridge CB2 3EQ, UK, (4) Mainz Academy for Science, Humanities and Literature, c/o IFM-GEOMAR, Wischhofstr., 1-3, 24148 Kiel, Germany

(austepan@yandex.ru / Fax: 007-095-3391266 / Phone: 007-095-3392433)

Ostracods represent an important group of benthic organisms inhabiting a great range of aquatic environments from freshwater pools to marine deep-sea basins. Taxonomic composition of ostracodal assemblages is strongly dependent on environmental conditions, and certain taxa are restricted to a specific range of environmental parameters. We studied recent ostracods from 71 coretop sediment samples collected in the eastern Kara Sea from various water depths between 11 and 295 meters in order to, firstly, supplement the taxonomical database of ostracods from this area and, secondly, to understand the modern ecology of ostracods in the strongly river-runoff affected arctic marginal seas, thus providing a reliable basis for paleoenvironmental reconstructions. Previously obtained results on the distribution of ostracods in surface sediments of the eastern Laptev Sea (Stepanova et al., 2003, 2004; Schornikov, 2004) were supplemented with new data, analyzed and compared with the analogous Kara Sea data. The spatial distribution of recent taxa and the ecological groupings demonstrate a clear relation to the dominating environmental factors which range from estuarine to full-marine conditions. Four assemblages were established which could be linked to average summer bottom water salinities: (1) a freshwater assemblages from the inner estuaries of the Ob' and Yenisei rivers with salinities less than 2 and from the

thermokarst lagoons of the southern Laptev Sea coast; (2) a brackishwater assemblage of the outer estuaries of Ob' and Yenisei rivers with salinities up to 26; (3) a mixed euryhaline-marine assemblage dominated by euryhaline species *Paracyprideis pseudopunctillata* and *Heterocyprideis sorbyana* from the inner-shelf zone of the Kara and Laptev seas northward of the Ob' and Yenisei estuaries and Lena delta (down to 20-30 m water depths), where bottom water salinities range between 26 and 32; (4) a taxonomically diverse marine assemblage dominated by shallow-water marine taxa from the northern parts of the Kara and Laptev shelves and upper continental slope with stable bottom environments and a salinity higher than 32. Abundant euryhaline species found at greater water depths (St. Anna trough) of the Kara Sea and central-western Laptev Sea are identified as part of ice-rafted assemblage.