



Preliminary study on the Late Cretaceous ostracods from continental scientific drilling SK1 in the Songliao Basin, NE China

Dangpeng Xi (1,2), Haiying Qu (3), Zhongye Shi (1), and Xiaoqiao Wan (1)

(1) State Key Laboratory of Biogeology and Environmental Geology, China University of Geosciences, Beijing, China (xdp1121@163.com), (2) Department for Geodynamics and Sedimentology, University of Vienna, Vienna, Austria, (3) Panxi Geological Party, Xichang, Sichuan, China

Songliao Basin is one of the biggest lacustrine systems in Asia during Cretaceous age. Widespread deposits in the basin are mainly composed of clastic sediments which contain abundant fossils including gastropod, bivalves, ostracods, vertebrates and others. These well preserved ostracod fossils provide us valuable information about past climate changes and biotic responses in a greenhouse environment. The Cretaceous Continental Scientific Drilling in the Songliao Basin (SK1) offers a rare opportunity to study Late Cretaceous non-marine ostracod. The SK1 was drilled separately in two boreholes: the lower 959.55-meter-thick south core (SK1(s)), and the upper 1636.72-meter-thick north core (SK1 (n)), containing the Upper Quantou, Qingshankou, Yaojia, Nenjiang Formation, Sifangtai, Mingshui and lower Taikang formations. Here we establish high-resolution non-marine ostracod biostratigraphy based on SK1. 80 species belonging to 12 genera in the SK1(S) and 45 species assigned to 20 genera in the SK1(n) have been recovered. Nineteen ostracod assemblage zones have been recognized: 1. *Mongolocypis longicaudata*-*Cypridea* Assemblage Zone, 2. *Triangulicypris torsuosus*-*Triangulicypris torsuosus. nota* Assemblage Zone, 3. *Cypridea dekhoinensis*-*Cypridea gibbosa* Assemblage Zone, 4. *Cypridea nota*-*Sunliavia tumida* Assemblage Zone, 5. *Cypridea edentula*-*Lycoperocypris grandis* Assemblage Zone, 6. *Cypridea fuyuensis*-*Triangulicypris symmetrica* Assemblage Zone, 7. *Triangulicypris vestilus*-*Triangulicypris fusiformis*-*Triangulicypris pumilis* Assemblage Zone, 8. *Cypridea panda*-*Mongolocypis obscura* Assemblage Zone, 9. *Cypridea exornata*-*Cypridea dongfangensis* Assemblage Zone, 10. *Cypridea favosa*-*Mongolocypis tabulata* Assemblage Zone, 11. *Cypridea formosa*-*Cypridea sunghuajiangensis* Assemblage Zone, 12. *Cypridea anonyma*-*Candona fabiforma* Assemblage Zone, 13. *Cypridea gracila*-*Cypridea gunsulinensis* Assemblage Zone, 14. *Mongolocypis magna*-*Mongolocypis heiluntzianensis* Assemblage Zone, 15. *Cypridea liaukhenensis*-*Cypridea stellata* Assemblage Zone, 16. *Ilyocypris*-*Limnocypridea sunliaonensis*-*Periacanthella* Assemblage Zone, 17. *Strumosiopsis inandita* Assemblage Zone, 18. *Talicypridea amoena*-*Metacypris kaitunensis*-*Ziziphocypris simakovi* Assemblage Zone, 19. *Ilyocypris* Assemblage Zone. Assemblage Zone 1 to 18 are belong to late Cretaceous, but 19 might be constrained to the Latest Maastrichtian to the Earliest Danian.