



Ca/Mg ratio and depositional cycles in marine upper Absheron substage succession in the Western flank of the South Caspian depression

E. Amirov

Institute of Geology of Azerbaijan National Academy of Sciences, Paleontology and Stratigraphy, Baku, Azerbaijan
(amirovelnur@yahoo.com)

The Caspian Sea, the largest land locked basin in the world, isolated from ParaTethys at the end of Messinian. Since that time sedimentation there took place under conditions of isolated basin temporarily connected with Black Sea in Upper Pliocene (Akchagy1). The aim of this work was the reconstruction of paleotemperature of South Caspian basin in marine upper Absheron substage time by using Ca/Mg ratio from ostracoda carapaces. The results of the field works on exposures of the Lower Pleistocene deposits located in the Western flank of the South Caspian depression (Shikhov outcrop) demonstrated the high-frequency cyclicality in sedimentation accompanied by rapid lateral and vertical depositional environmental change. It is possible to observe several depositional sequences developed from low stand system tract to transgressive and high stand system tract. The quantitative changes of ostracoda composition for each interbed depending on paleotemperature fluctuations, in detail point out the tendency of increasing and decreasing of Ca/Mg ratio in carapaces as indicator of paleotemperature. It was clearly recognized that Ca/Mg ratio increases in high stand system tract and decreases in regressive systems tracts. As well as was observed positive correlation tendency between amount of ostracoda carapaces and Ca/Mg ratio, in most cases with increasing of Ca/Mg ratio, amount of ostarcoda carapaces increase and with decreasing of Ca/Mg ratio, amount of ostracoda carapaces decrease. Just in some cases we can observe invert correlation. Carried out biogeochemical analyses have shown that amount of the studied elements, including Ca and Mg considerably varies in a section, which reflects the change in paleotemperature and depositional setting during accumulation of sediments.