

Geodynamic environment and paleoecology of upper Cretaceous-Paleogene basins of the western part of the eastern segment of Ajara-Trialeti folded zone

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The oldest rock units of the eastern segment of Ajara-Trialeti zone are Upper Cretaceous and Paleocene-Lower Eocene sediments, which crop out as a narrow line in the gorges of the right tributaries of the r. Mtkvari and in the arch part of Mtskheta anticline.

According to D. Papava (1966) Upper Cretaceous cross-section starts with Coniacian-Santonian lithographic limestones with inter layers of marls and basalt sills. They are overlain by Campanian-Maastrichtian (K c-m) limestones, sandy limestones and marls and upwards pass into Danian (E_{1d}) sandstones. Paleocene –Lower Eocene rock units without visible unconformity continue Upper Cretaceous sediments and are characterized by homogenous composition throughout their entire thickness. They are represented by alternation of thinbedded fine- and medium grained sandstones, marls and carbonate clays. These fish type sediments are conformably overlain by Middle Eocene volcanogenic-sedimentary series.

We've studied two open pits of facing stones (Kvemo Nichbisi and Maisa) in Campanian Maastrichtian deposits and one open pit (Shua Nichbisi), where Danian deposits crop out. These stones are used as a facing material and the local manufacturers have to extract them layer by layer. This technology gives a unique chance for detailed paleontological investigations. Especially, as the boundaries of these suits coincide in ages with the border between Mesozoic and Cenozoic –the limit when one of the greatest Bajocian extinction took place on the Earth.

In these three locations we've determined common for abyssal-bathial (turbiditic) sediments ichnofossils of Nereites facies: Gnarularia, Facusopsis, Scolicia, Phycosiphon, Paleodictyon, Spirophycous, Gyrophyllites, Cosmorhapha. Should be emphasized that mentioned complex of ichnofossils is very much alike of ichnofauna in upper Cretaceous – Eocene fish (turbiditic) series of Spain (D. Seilacher, 2007).