FOSSILS RESPONSE TO PALEOENVIRONMENTAL CHANGE IN DANUBE DELTA

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Paleontological / sedimentological analyses were based on recent sediment samples picked up from some lakes of the Danube Delta. For this reason we used short cores, less then 1.5 m long, sampled using plastic liners. The cores were cut longitudinally and samples where taken at every 10 cm, or at major lithological changes. Every sample was separately analyzed for micro- and macropalaeontological content. A description of the sedimentary structures was recorded in order to help the sedimentological reconstruction.

The palaeontological analysis allows us to separate at least two types of faunas that are dependent of palaeoenvironment. Based on facies fossils we can restore with great precision the salinity of the sedimentary palaeoenvironment (brackish/marine). This is very important because is possible to reconstruct the evolution of delta system. The salinity was the main ecological factor that controlled the composition of fossils association.

The microfaunistical assemblage is dominated by ostracods, associated sometimes with foraminifers, gastropods, bivalves, bryozoas, fish tees and bones, otoliths and charophyta algae. In few samples even radiolarians are present. The presence of radiolarians is highly interesting and indicates a period of normal marine salinity and high influx of waters from Mediterranean Sea.

Fresh water faunas dominate the upper part of cores. In this interval ostracods are represented by *Candona candida, C. compressa, C. neglecta, Pseudocandona sp., Cypridopsis vidua, Heterocypris sp., Eucypris inflata, Cypria opthalmica, C. sp., Cyclocypris laevis, Ilyocypris gibba, I. bradyi, Darwinula stevensoni*. Ostracods are associated with fresh water gastropods and bivalves: *Planorbis sp., Oxichilius sp., Succinea pfeifferi, Physa fontinalis, Hydrobia aciculina, Ancylus fluviatilis, Viviparus sp., Dreissena polymorpha, Unio sp.* and *Anodonta rumana*. Charophyta algae are present too. Fresh water sediments are thicker in the cores located faraway to the present day shoreline

The lower part of cores contains typical brackish faunas (similar to actual Black Sea faunas). Ostracods are represented by Cyprideis *torossa, Leptocythere histriana, L. multipunctata, L. sp., Heterocythereis amnicola, Loxoconcha pontica, L. granulata, L. aestuarii, L. lepida, Xestoleberis cornelii, X. aurantia acutipenis, Pontocythere bacescoi, Paracytherois agigensis, Sclerochilius mülleri, Cytherois cepa*. Ammonia beccari, Haynesina depressulum, Elphidium sp. and Brizalina sp. represent foraminifers. Gastropods are frequent: *Hydrobia pontieuxinus, Hydrobia aciculina, Ebala pointeli, Chrysallida terebellum, Retusa truncatula, Cylichnia variabilis, Hinia reticulata, Bittium reticulatum, Odostomia risoides* and *Theodoxus euxinus*. Bivalves are represented by Cardium *edule, Monodacna caspia, Abra ovata, Mytilus galloprovincialis, Modiolus adriaticus* and *Ostrea sublamelosa*.