ABSTRACT BOOK

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TAXONOMIC REVISION OF LIVENTAL’S SPECIES OF BRACKISH WATER OSTRACODA (Crustacea) AND DESIGNATION OF NEOTYPES

In the Late Serravallian (mid-Miocene), following the closure of the Palaeomediterranean-Paratethys connections, the Neo-Paratethys bio-province was created, characterised by endemic, brackish water mollusc and ostracod faunas that were distributed widely from the Pannonian Basin (central Paratethys) to the Caspian-Aral Basin (Eastern Paratethys) (Olteanu & Jipa, 2006). Each Paratethyan basin [Styrian, Vienna, Pannonian, Dacian, Euxinic (former extent of the modern Black Sea basin), and Caspian-Aralic basins] was characterised both by endemic and common species, recording a complex palaeogeographical history of isolation and connection.

Some brackish water ostracods of the Neo-Paratethys were studied for the first time by Reuss (1850), who analysed the ostracods from the “Tertiary” (later ascribed to the Sarmatian-Pontian intervals) deposits of Austria and Hungary (Vienna Basin and Pannonian Basin) and Méhes (1907, 1908) who studied the ostracod assemblages from Sopron, Budapest-Kőbánya and Péremarton (Hungary, Pannonian Basin) at the time considered Pliocene in age but today revised to the lower Pannonian. In those papers several brackish water species were erected/described/figured? which were subsequently revised by later authors (see Zelenka, 1989 for the Reuss’ collection and Zalányi, 1944 for some of Méhes’ species – the Méhes collection is lost, L. Kordos, pers. comm. curator of the Geological Museum of the Geological Institute of Budapest). Those papers were followed by important contributions by Zalányi (1929), again on the Pannonian Basin ostracods, and by Livental (1929) on the brackish water ostracods of the Caspian area. Both authors
established several new species that were later shown to be widely distributed both stratigraphically and geographically across the Paratethys realm.

Unfortunately, older papers sometimes contain descriptions and illustrations that are not sufficient to correctly identify the species, thus in the eastern European literature many new species were erected and some of them probably represent junior synonyms. Moreover, as correctly noted by Schornikov (2011), several species were differentiated on minor details of their ornamentation, yet it is well known that, particularly in brackish water environments, tubercles may be more or less developed, or even absent, depending on environmental parameters, and it is clear that several species were erected on juveniles of already known taxa. The taxonomic confusion arising from all these factors limits our ability to correctly reconstruct the palaeogeographic relationships between the different Neogene Paratethyan basins and the evolutionary radiation of endemic lineages of ostracods that evolved in those basins.

The aim of this paper is to re-describe Liventals’s (1929) species through the SEM pictures of the specimens included in various historical collections deposited at the Micropaleontological Laboratory of the VNIIGRI, St. Petersburg, Russia, since the original Liventals’s collection seems to be lost as well as the Azerbaijan collections by Agalarova (Agalarova, 1956, 1967; Agalarova et al., 1940, 1961). In particular, the revision is based on the VNIIGRI collection AZNII27 of L.N. Klein who studied the ostracods of the Azerbaijan area of Babazanan (Klein, 1960, the same area studied by Liventals, 1929) and on several other collections from Turkmenistan, the Caucasus and Euxinic/Black Sea? Basin included both in historical collections (Mandelstam, Luebimova, Rozjeva, Stepmanaitys) as well as on new findings from the Euxinic Basin. The discussion on each species is accompanied by its synonymy, and an updated geographical and stratigraphical distribution based on the new chronostatigraphical data of Krijgsman et al. (2010) and Van Baak et al. (2013). In those few cases where the Liventals’s species are still living in the Caspian or Black Sea, the soft parts are described and the ecological parameters given.

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