

# MALACOFAUNA OF THE HOLOCENE LACUSTRINE CHALK AT THE OUTLET OF ÖKÜZINI CAVE

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Shells of subfossil molluscs have been found in lacustrine sediments filling the ancient lake at the foot of the Katran Dagı Mountains close to the outlets of Öküzini and Karain caves. Samples of mollusc-bearing chalk were collected by Prof. M. Pawlikowski during fieldwork and archaeological exploration of sites distributed in this area (Pawlikowski 1994). They derive from a trench situated in the near-shore zone of this water body. Four species of water snails and a few shells of slugs occur in Holocene calcareous deposits while numerous specimens of land snails are accumulated recently on the surface of the dried up lake, forming the thanatocoenose. The following taxa of molluscs have been distinguished.

*Bithynia pseudoemmericia* Schütt. Shell in general shape ovoid-conical with apical angle of 60-65°. It is relatively strong, composed of 4.5-5.5 whorls moderately swollen and divided by shallow sutures. The body whorl, distinctly rounded, reaches 75-78% of the shell, the umbilicus nearly closed by the peristome. The surface is rather glossy with indistinct growth lines. The aperture is large and moderately elongated, the axis making an angle of 20-25° with the of the shell. It is surrounded by a thick, broad outer lip bent back, developed more distinctly as in other specie of *Bithynia*. Subfossil specimens are somewhat smaller than living ones, reaching the following dimensions: 8.0-10.5 mm for height, 5.3-6.8 mm for breadth of the shell, 4.3-5.7 mm for height of the aperture, 3.4-4.5 mm for breadth of the aperture. This species is an endemic snail living nearly exclusively in southern Turkey, mainly in the region of Antalya. It has been found in small relict lakes (Avlan Gölü, Hazar Gölü, a lake in Bunarbasa) and in rivers of the Catma Dag and Kara Dag Mountains, but was also reported from Armenia (Schütt 1964, 1975). Now it is for the first time noted in Holocene deposits as the main component of the mollusc assemblage of the lacustrine chalk deposited in the ancient lake near Öküzini cave. Like other species of *Bithynia*, it is connected with different types of water bodies, both with moderately flowing and stagnant waters rich in calcium carbonate.

*Lymnaea (Galba) palustris* Müller. This holarctic species is widespread in all of Europe, in northern Asia and North America as well as in Algeria and the Near East, in Anatolia, Syria and Armenia. It was described several times from Late Quaternary deposits in the Mediterranean area (Chavaillon 1964; Huckriede and Wiesemann 1968; Chevailler 1969; Brown 1980; Alexandrowicz 1998). This species inhabits small water bodies of different types, both permanent and temporary

ones and even marshy areas. In the analyzed material it occurs together with the previously described species.

*Valvata saulcyi* Bourignat. Only one specimen was found in the sample from the lowermost part of the described profile. This species was described from the Near East in both Pleistocene lacustrine sediments and recent fauna (Schütt 1973; Mienis 1986) as a snail living in water bodies situated close to springs.

*Gyraulus hebraicus* (Bourignat). One well preserved shell occurs in the lowermost part of the profile. It is a species known from Turkey, Syria and Lebanon, living in both slowly moving and stagnant waters within a dense vegetation (Meier-Brook 1983).

*Limacidae*. Two small shells of slugs (1.0-1.1 mm) determined conventionally were found in the lacustrine chalk.

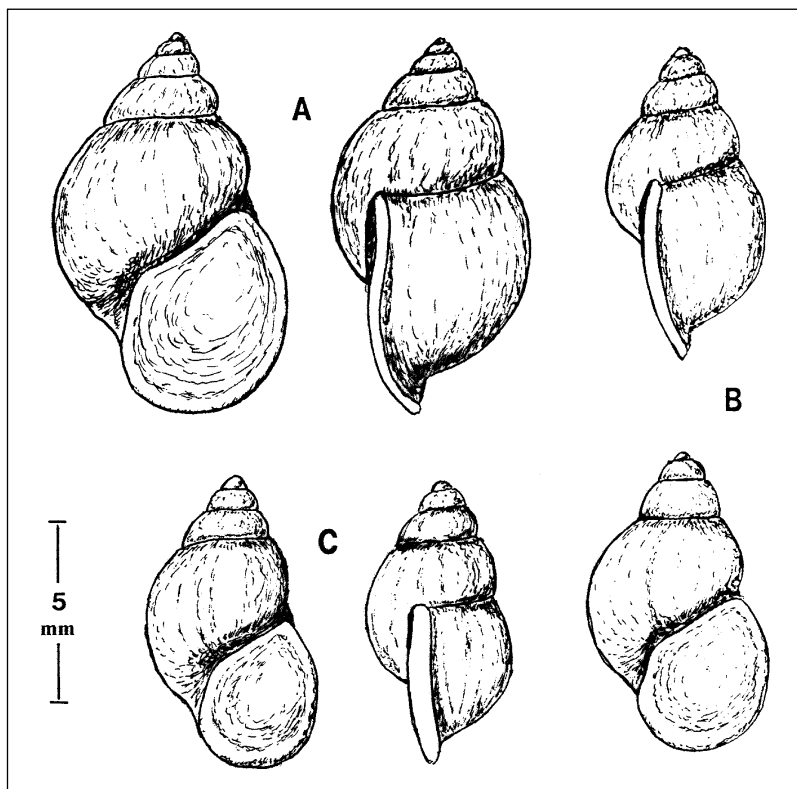
*Helicella obvia* (Menke). Numerous shells of this species are the main component of the thanatocoenose accumulated on the surface of dried up lacustrine deposits. It is a snail widespread in Turkey, the Balkan Peninsula and also in Central Europe, and is typical of warm, sunny and dry habitats and of environments changed by human activity (Damianov and Likharev 1975; Alexandrowicz 1990; Schütt 1993).

*Helix lucorum* Linnaeus. A fragment of shell was found in the thanatocoenose. It is a species noted both in the Balkan Peninsula and in Anatolia (Damianov and Likharev 1975; Schütt 1993), living both in xerothermic and somewhat humid habitats.

Three types of mollusc assemblages can be distinguished in the studied material. A very poor fauna containing single shells of *Valvata saulcyi*, *Gyraulus hebraicus* and opercule of *Bithynia pseudoemmericia* occurs in the lower part of lacustrine chalk. It passes upward into a richer fauna with numerous specimens of *Bithynia pseudoemmericia* (both shells and opercula) and a few specimens of *Lymnaea palustris*, accompanied by single shells of slugs. It was a lake temporarily reduced and expanding, overgrown with a relatively rich vegetation, promoting the deposition of lacustrine chalk. The third type of fauna – the thanatocoenose composed of xerophile land snails was developed after the deterioration of the water body, on the dried up substratum rich in calcium carbonate and covered by a ruderal plant cover.

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**Figure 1.** *Bithynia pseudoemmericia* Schütt from Holocene lacustrine deposits near the outlet of Öküzini cave.