

## Distribution of the mollusks of Melanopsidae family (Mollusca, Gastropoda, Pectinibranchia) in Ukraine

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Melanopsidae is a family of freshwater pectinibranchial mollusks, which dwell mostly in rivers, sometimes in running water reservoirs of Southern Europe, Middle East, South-Eastern Asia, also of New Caledonia and New Zealand. In Ukraine it is represented only by *Fagotia* genus with two species: *Fagotia acicularis* (Ferussac, 1823) and *F. esperi* (Ferussac, 1823), endemic for the Danube-Don zoogeographical province (Starobogatov, 1970). In Ukraine they are distributed only in the basins of large rivers to the right of the Dnieper (the Danube, the Dniester, the Southern Bug, the Dnieper).

First information on the Melanopsidae family in Ukraine was presented by E. Eichwald (1830). In his monograph on geology, mineralogy, flora and fauna of Lithuania, Volyn and Podolia, he mentioned *F. acicularis* and *F. esperi* for the first time. Later, dense populations of these mollusks were found by Y. Bonkovsky (Bąkowski, 1891) not far from Mykolayiv and Zhydachiv (Lviv region). He mentioned them in his monograph accentuating that these species mollusks are common in the upper Dnieper. Numerous populations of *F. acicularis* and *F. esperi* in the basin of the Southern Bug (within Vinnytsa region) were found by V.I. Zhadin (Zhadin, 1952) and O.Y. Novitsky (Novicki, 1938). There is also information on the distribution of these mollusks in the Danube basin (Polischuk, 1965) and in the mid-Goryn (outsbirths of Tuchyn, Kozlyn, Shubkov, Goryngrad in Rivne region) (Zdun, 1976).

Nowadays, the areal of these mollusks on the territory of Ukraine is discontinuous. Its northern part (Volyn wood-land) is in the middle Goryn and its tributary Sluch. The northern border of the southern part of the range of these species moved far to the South. Now it goes from Antonivka via Arkhangelske, Pervomaisk – Mogyliv-Podilsky to Ataky.

The mollusks from this family are reophilous animals, which dwell only in clean reservoirs with a stream velocity from 0.01 to 2 m/s, although they mostly occur at the sections with a stream velocity of 1–1.5 m/s. The population densities of *F. acicularis* and *F. esperi* differ greatly from each other, with the former being, as a rule, much higher. These animals are oxyphilous, preferring biotopes with oxygenation level not less than 12 mg O<sub>2</sub>/l. They mostly occur in low-acid, low-alkaline and neutral environments (pH 4.9–8.1). According to our observations and literature data (Gradovski, 2000), their optimum depth is 0.8 m, but they make seasonal vertical migrations. In warm seasons, they occur at a depth of 0–0.3–0.4 m. In a cold autumn, they migrate to a depth of 2 m where temperature fluctuations are less pronounced in comparison to shallow waters.

Usually these animals dwell on stone and sandy-pebble substrata. Their numerous populations were found in the river sections with multiple outcrops of chert and marl (r. Goryn, Tuchyn, Rivne region). Sometimes *F. acicularis* and *F.*

*esperi* also occur on submerged water plants (*Typha latifolia*, *Nymphaea alba*). This phenomenon was XXVII Krajowe Seminarium Malakologiczne 70 observed in the river Sluch. These mollusks are good indicators of water pollution with organic substances, as they dwell only in the  $\beta$ -mesosaprobic zone of water streams.

The retrospective analysis of Melanopsidae fauna in Ukraine from the time they have been found demonstrates their population decrease both in number and density. The main reasons for their disappearing are considerable regulation of river water flow and stream deceleration, as well as the pollution with industrial sewage.