

FAUNA AND ECOLOGY OF BIVALVE MOLLUSKS OF THE GENUS SYNANODONTA IN AQUATIC ECOSYSTEMS OF THE LOWER REACHES OF THE AMU DARYA, FAMILY UNIONIDAE

Boymurodov S.Kh.

National University of Uzbekistan named after Mirzo Ulugbek

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Abstract. *It is important to suggest that in our republic, one of the most important issues is the study of the protection of biological resources of aquatic ecosystems and their rational use. The distribution of 3 species Sinanodonta gibba, Sinanodonta ruerorum, Sinanodonta orbicularis, belonging to the Sinanodonta family of the Unionidae family, in the aquatic ecosystems of the lower reaches of the Amu Darya has been established. It has been analyzed that these species live in swampy and sandy biotopes of slow-flowing rivers, reservoirs, fisheries and ponds at depths from 1.5 m to 2-2.6 m. Species belonging to the genus Synanodonta are producers with increasing temperature There was a gradual increase in water between the months March and June.*

Keywords: family Unionidae, genus Sinanodonta, Sinanodonta gibba, Sinanodonta ruerorum, Sinanodonta orbicularis.

Introduction. At present time in our republic a particular attention is paid to the protection of biological resources of water bodies and their rational use. The state of the fauna of aquatic ecosystems was assessed, the sources and scale of anthropogenic pollution were determined, and measures to eliminate them were developed. The Action Strategy for the further development of the Republic of Uzbekistan defines the tasks of “preventing environmental problems that harm the environment.” Based on these tasks, the study of the fauna and ecology of bivalve mollusks of the genus Synanodonta of the Unionidae family of aquatic ecosystems of the lower reaches of the Amu Darya is considered as one of the urgent tasks.

Regional species composition and distribution of bivalve mollusks of the genus Synanodonta of the Unionidae family, taxonomy, scientific works on their protection, foreign scientists James H. Thorp., Alan Kovich (1991), Aldridge DC (1999), Bouchet P (2017), Huber Markus (2010) g.), Bogan A.F. (2010), Annabelle Cattelode et al. (2011), Maria Khos (2002), Mamangki NGF et al. (2009), Rahayu S. et al. (2009), Sata Yoshida Sri Rahayu et al. (2013) [1,3,4,6,8,9,10]. In the CIS countries Bogatov V.V., Starobogatov Ya.I. (2004), Bogatov V.V. (2014), Andreev N.I. et al. (2009), Alyokhina G.P. et al. (2007), Panov V.F. et al. (2009), Son M.O (2009), Yanovich L.N. (2013), Rizhinashvili A.L. (2009), Sintyurina A.V., Bigaliev A.B. (2009), Kuzmenkin D.V. (2015), Z.I. This was reflected in the studies of Izzatullaev (1992), Kh.T. Boymurodova (2009)[2,5,7].

Materials and teaching methods. The studies of the fauna and ecology of bivalve mollusks of the genus Sinanodonta of the family Unionidae in aquatic ecosystems of the lower reaches of the Amu Darya were carried out in 20218-2023. In addition, there was used the collection materials stored at the Institute of Zoology of the Academy of Sciences of Uzbekistan and the Department of Ecology of Samarkand State University. In total, more than 800 samples of bivalve mollusks of the Synanodonta family of the Unionidae family were selected; the mollusks

account for 1261 specimens. These mollusks were studied using the methods of V.I. Zhadina (1938, 1952), Ya.I. Starobogatova, Z.I. Izzatullaeva (1984), Z.I. Izzatullaeva, Kh.T. Boymurodova (2009).

Research results and discussion. It has been established that 3 species belonging to the genus *Sinanodonta* of the family Unionidae are widespread in the aquatic ecosystems of the lower reaches of the Amu Darya. Their systematic composition is presented below.

Bivalvia Linne 1758 class [1]

Unioniformes Stoliczka, 1871 family

Unionidae Rafinesque, 1820 family

Sinanodonta Modell, 1944 genus

1. *Sinanodonta gibba* (Benson, 1895)
2. *Sinanodonta puerorum* (Heude, 1880)
3. *Sinanodonta orbicularis* (Heude, 1880)
4. *Synanodonta gibba* (Benson, 1855)

Spreading. East Asian species. It is an acclimatized species as a result of acclimatization of Chinese complex fish to the waters of Central Asia. In the same way, it spread to the aquatic ecosystems of the Amu Darya. Bivalves of the genus *Synanodonta* of the family Unionidae of the aquatic ecosystems of the lower reaches of the Amu Darya were collected from types of reservoirs in bays with slow flows, muddy, silted areas of reservoirs, lakes and canals at depths of 2.2-2.8 m.

Bivalves of the genus *Synanodonta* of the family Unionidae of the lower reaches of the Amu Darya are shown for the first time from lakes and canals of the basin. The shell dimensions turned out to be as follows: CHU – shell length 164, CHB – shell height 106, ChQ – shell convexity 3.1 mm, bivalve mollusk convexity 54 mm.

Ecology. This species lives in swampy and sandy biotopes of slow-flowing rivers, reservoirs, fish farms and ponds at depths from 1.5 to 2-2.6 m. Pelorheophil. This species is a breeder and gradually breeds between March and June as water temperatures rise, *Sinanodonta puerorum* (Heude, 1980)

Spreading. For the first time in the fauna of the CIS, an East Asian species was recorded, introduced together with the original species from the Yangtze reservoir to the Akkurgan fishery of Tashkent region, together with the Chinese complex fish. Species belonging to the *Synanodont* family of the Unionidae family are common in aquatic ecosystems of the lower reaches of the Amu Darya River. The shell of this mollusk is large, uniform in thickness, oval in shape with low back sides and a weak mantle line. CHU-168, CHB-101, CHK. 102, convexity of two contours 61 mm. It differs from the original type in the length and roundness of the shell.

Ecology. Found together with the species *S. gibba* Pelorheophil. It is more common than *S. orbicularis* and less common than *S. gibba*. This species is an ovipositor and lays eggs between the leaves of the jabra. Glochidia hatched from eggs live for some time in the fish as parasites. Reproduction begins in March and continues until the end of May, *Sinanodonta orbicularis* (Heude, 1880)

Spreading. East Asian species. Submitted. Until now, it was known only in the Akkurgan fishery of the Tashkent region of Uzbekistan. For the first time, the aquatic ecosystems of the lower reaches of the Amu Darya are shown from lakes and reservoirs. It differs from others in its medium size, thin and very flat shell, and narrow, low top. The apices are located at a distance of

0.34 mm from the anterior edge of the shell, the mantle line is depressed. CHU 94; BW before peak 62; 64 at the height of the peak of the ChK; convexity (double contour) 30 mm.

Ecology. Together with the species *S. gibba*, it lives in rivers, reservoirs, lakes, fish farms and ponds in the lower reaches of the Amu Darya. Pelorheophil. It is less common than other species and increases in April-May as water temperatures rise.

Summary. The distribution of 3 species *Sinanodonta gibba*, *Sinanodonta ruerorum*, *Sinanodonta orbicularis*, belonging to the *Sinanodonta* family of the Unionidae family, in the aquatic ecosystems of the lower reaches of the Amu Darya has been established. These species live in swampy and sandy biotopes of slow-flowing rivers, reservoirs, fish farms and ponds at depths from 1.5 m to 2-2.6 m. Their inclusion in the ecological group of pelorheophiles has been studied. The *Sinanodonta* species spawned and gradually increased in number from March to June as water temperatures increased.

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