

# THE VIOLET SNAIL *JANTHINA JANTHINA* (LINNAEUS, 1578) (MOLLUSCA: GASTROPODA) IS AROUND THE CROATIAN ADRIATIC ISLAND OF LOKRUM AGAIN

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A specimen of the violet snail *Janthina janthina* (Linnaeus, 1578) was collected in Portoč Bay, Lokrum Island, in May 2016, during the beach cleanup and removing of marine debris drift arising from strong winds. The first record of the raft snail *J. janthina* along the Eastern Adriatic coast was also noticed in the area of Lokrum Island in the middle of the 19th century.

**Key words:** *Janthina janthina*, Adriatic Sea, Lokrum, new record

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Kućica ljubičastog splavara *Janthina janthina* (Linnaeus, 1578) prikupljena je u uvali Portoč na otoku Lokrumu u svibnju 2016. tijekom uklanjanja otpada naplavljenog jakim vjetrom. Prvi nalaz puža *J. janthina* na istočnojadranskoj obali zabilježen je također u području otoka Lokruma sredinom 19. stoljeća.

**Ključne riječi:** *Janthina janthina*, Jadransko more, Lokrum, novi nalaz

Janthinids are holoplanktonic gastropods that live in the surface layer of the open sea. The snail's fragile dextrous-coiled shell floats upside down, hanging on to a raft of mucous-coated air bubbles. Although they are cosmopolitan species that usually live between 50°N and 40°S, they can drift as far as to British Columbia, England, New Zealand (LALLI & GILMER, 1989; POPPE & GOTO, 1991).

According to the World Register of Marine Species (WoRMS), the genus *Janthina* Röding, 1798 contains 5 valid recent taxa. Four of them, *J. exigua* Lamarck, 1816; *J. janthina* (Linnaeus, 1578), *J. pallida* W. Thompson, 1840 and *J. globosa* Swainson, 1822, are present in the Mediterranean Sea. By the 1950s, 60 different names in the literature were used for the species of the genus. During the 19th century, five synonymised names for *Janthina* genus were used (GOFAS, 2004; LALLI & GILMER, 1989; LAURSEN, 1953; MIENIS & SPANIER, 1987).

Records of *Janthina* species are made quite often all around the world, but rarely in the Mediterranean and Adriatic. The Croatian naturalist Spiridon Brusina published data regarding the first finding of *Janthina* species in Adriatic in 1866 (BRUSINA, 1866). He identified specimens drifted by currents to Lokrum Island and Dubrovnik Old Port that were collected by the Franciscan monk and pharmacist Ivan Kuzmić (BRUSINA, 1907).



**Fig. 1.** Geographical position of Lokrum Island

Those specimens of *J. janthina* and *J. globosa* are still part of the malacological collection of the Croatian Natural History Museum in Zagreb. The collection contains five specimens of *J. janthina* from Lokrum and six from the Adriatic in general, Brusina naming them *J. costae* Mörch, 1860 and two specimens from Lokrum and two of Adriatic origin of *J. globosa*, which Brusina attributed to *J. nitens* (ILJANIĆ & STOŠIĆ, 1972). BRUSINA (1872) reported that *J. globosa* (syn. *J. prolongata* Blainville, 1822) was found in off Hvar Island. During the 20<sup>th</sup> century, only two specimens of *J. globosa* were recorded in the waters around Rab Island in the northern Adriatic in 1961 (LEGAC & MIENIS, 2010).

There had been no other records of any other *Janthina* species until May 2<sup>nd</sup> 2016, when a specimen of *J. janthina* was found on a gravel beach in Portoč Bay, Lokrum Island (Fig. 1). This area is directly exposed to the northwest oligotrophic current from the Eastern Mediterranean which flows through the Strait of Otranto (ORLIĆ *et al.*, 1992; ZORE-ARMANDA, 1969).

*J. janthina* can grow up to 40 mm high and 30 mm broad, but usually is smaller (POPPE & GOTO, 1991). The width/height ratio gets smaller as the shell grows, but it varies between individuals (WILSON & WILSON, 1956). The specimen found at Lokrum has a height of 20 mm and a width of 21 mm. The shell is typically coiled and exhibits four blue to violet whorls which are turning darker from the apex to the wide aperture. Inside, the shell surface of the last whorl is very dark, as are the soft parts of the animal (Fig. 2). Since that part of the animal that lives “at the sea surface” is exposed upwards, it is almost invisible to potential predators from the air, as is the lighter part of the shell to predators from the sea. The violet snail’s coiled shell is rather fragile; therefore we may not rule out the possibility that there were other broken shells among the marine debris and seaweed on the beach in Portoč Bay that were overlooked.



Fig. 2. Two views of the *Janthina janthina* (Linnaeus, 1578) shell

Bubble rafts with adhering snails form part of the pleuston community and are often found with their preferred prey the jellyfish *Velella* (WILSON & WILSON, 1956), *Porpita* and *Physalia* (LEGAC & MIENIS, 2010). We remark that this violet snail was found a week after a bloom of the jellyfish *Aurelia aurita* (Linnaeus, 1758) that was noticed in Portoč Bay. During the following weeks the occurrence of *A. aurita* was noticed sporadically. A strong south-eastern wind accompanied by waves drifted not only animals that could not resist their force, but also seaweed and marine debris onto the beaches of Lokrum Island. This episode resulted in the *Janthina* specimen being found during the cleaning of the beach.

Despite the long natural history and research tradition (e.g. BELAMARIĆ & ŠERMAN, 1989; BRUSINA, 1866, 1872; ŠPAN *et al.*, 1989), despite the protected status of Lokrum Island and its marine zone (Croatian Nature Protection Act (ANONYMOUS, 2013b), Croatian Regulation on Ecological Network (ANONYMOUS, 2013a, 2015) and UNESCO World Heritage List (ANONYMOUS, 2016) there is no collection that represents the values of the island. This specimen of violet snail is to be the first object in the natural history collection that will be founded by the Lokrum Reserve.

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## SAŽETAK

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