## HALOSIPHON TOMENTOSUS (OCHROPHYTA) IN THE DNIESTER REGION OF THE BLACK SEA

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**Introduction**. The first invasion of the species *Halosiphon tomentosus* (Lyngbye) Jaasund, 1957 (*Halosiphon* Jaasund, 1957, Tilopteridales, Phaeophyceae, Ochrophyta) was discovered in May 2016 in the Dniester region. It is the second case of important finding of this species in the Black sea ecosystem.

*Halosiphon tomentosus* is a subarctic species which is widespread in the Arctic Ocean and northern parts of the Atlantic Ocean (Zinova, 1953). This species is littoral or sublittoral, dark brown to almost black in colour, cartilaginous, firm, densely covered with dark green hairs. The size is 10–30 cm long for littoral, and about 50–135 cm long for sublittoral species (Jaasund, 1957, p. 212–213).

**Materials and methods**. The materals used in this work were taken from research expeditions on the research vessel Mare Nigrum, Romania (May, 2016) within the project "Improving Environmental Monitoring in the Black Sea" (EMBLAS).

The procedure of macrophytobenthos collection and its processing was prepared within the EMBLAS I project and approved by the Black Sea Environmental Commission (Minicheva, Afanasyev & Kurakin, 2015). Samples of macrophytobenthos were collected by a Van Veen grab with the surface of 0.13 m<sup>2</sup>. Identification books were used to verify algae (Zinova, 1953, p. 144–146; Jaasund, 1957).

**Results.** In May 17, 2016, several thalli *Halosiphon tomentosus* (= $Chorda\ tomentosa$ ) were found on sandy and shelly substratum at the station with coordinates 45°59.393 (45.9899) N 030°42.667 (30.7111) E (Dniester region) at a depth of 18.5 m and temperature of 6 °C. The height of thallus was about 10 cm.

First detection of sporophytic phase of the brown algae *Halosiphon tomentosus* was on sandy and shelly substratum at a depth of 5–8 m and temperature of 9 °C at Cape Bolshoi Fontan (the north-western Black Sea, Ukraine, Odessa Bay: 46° 22.469 N 30°45.249 E) on April 30, 2015, during an underwater survey. The height of thallus in the population is 50 to 80 cm in average (the maximum height was 85 cm) (Minicheva, 2015).

According to Jaasund (Jaasund, 1957), with increasing depths, the dimensions of the Chord should also increase. Apparently, the specimens found in 2016 were in a depressed state.

**Conclusion**. Finding of *Halosiphon tomentosus* within the EMBLAS project is the second official discovery of this species in the Black sea. It can be assumed that the reproductive material of this species was brought with ballast waters to the area of Odessa bay and the Dniester region, where it found acceptable conditions for development. Further distribution of the species can be traced in case of special monitoring.

## References

**Zinova A.D.** 1953. *Opredelitel' burykh vodorosley severnykh morey SSSR* [Manual for identification of the brown algae of the northern seas of the USSR]. Moscow & Leningrad: Akad. Nauk SSSR. 224 p. (In Russian).

Jaasund E. 1957. Marine algae from northern Norway. II. Botaniska Notiser, 110: 205–231.

**Minicheva G., Afanasyev D. & Kurakin A.** 2014. *Black Sea monitoring guidelines. Macropphytobenthos.* Secretariat of commission on protection of the Black Sea against pollution. Istanbul [onliner]: 76 p. http://emblasproject.org/wp-content/uploads/2013/12/Manual\_macrophytes\_EMBLAS\_ann.pdf [Viewed 27 January 2021].

**Minicheva G.** 2015. Finding of alien brown macroalgae *Chorda tomentosa* Lyngb. in the Ukrainian Black Sea coast. *J. Black Sea/Mediterranean Environment*, **21** (2): 227–231.