THE FIRST FINDING OF *SPERMOTHAMNION STRICTUM* (RHODOPHYTA) AT ZERNOV'S PHYLLOPHORA FIELD (BLACK SEA, UKRAINE)

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Introduction. "Zernov's Phyllophora field" (ZPF) is a unique habitat located in the northwestern part of the Black Sea. One of the main characteristics of ZPF is dense clusters of agarophytes (red algae) and a high diversity of associated fauna.

The first finding of *Spermothamnion strictum* (C. Agardh) Ardissone, 1883 (*Spermothamnion* Areschoug, 1847 Ceramiales, Florideophyceae, Rhodophyta) in the area of the ZPF was noted in the summer of 2016. We can say with a confidence that this species settled in the area after 2012. In 2012 a full-scale survey (over than 50 stations) was carried out in this area. The species was not found.

Spermothamnion strictum is considered as a lower boreal species with a common habitat in Northwestern region of the Black Sea, the Crimea, the Caucasus, Romania. Thallus of *Spermothamnion strictum* is thin filamentous, segmented, without a bark, with a sprawling thread-like base. It uses suckers to attach to the substrate. Vertical shoots rise lopsided, opposite or alternately branched from the sprawling filaments. It forms tufts of 0.5–1.5 cm in height. Vertical shoots are 45–52 μ thick at the base and 25–28 μ thick in the middle. The ends of the branches are very thin and pointed.

Nowadays, a significant change in a biodiversity of macrophytes in the Black Sea and this area in particular is expected due to increased eutrophication and climate changes. Therefore, the detection in the area of the ZPF a warm water (lower boreal) small filamentous species with higher specific surface values is quite naturally.

Materials and methods. In this work materials from the research expeditions on the research vessel Mare Nigrum, Romania (May 2016, April, July, August 2017, August 2019) within the project "Improving Environmental Monitoring in the Black Sea" (EMBLAS) were used. Underwater video filming and sampling with a 20 × 20 cm periphyton frame were carried out by the biologist-diver Kurakin A.P. (IMB) (Minicheva, Afanasyev & Kurakin, 2014). The guide (Zinova, 1967) was used to identify algae.

Results. In 2016, this alga was detected at all stations in the ZPF area. It was an epiphyte on *Phyllophora crispa* and *Coccotylus truncatus* and grew on mussel shells. At most stations 70–80 % of the coverage consists of made up of *Spermothamnion*. Currently, the species is ubiquitous and the third-dominant species among biomass abundance at ZPF. As a result of observations, it was found that the species is distributed at depths from 18.5 to 42 m. The temperature in the bottom layers in the area ranged from 5.0 to 6.5 °C in April, from 8.1 to 9.1 °C in July and from 8.4 to 8.8 °C at the end of August. The was observed throughout the growing season.

Conclusion. Changes in the biodiversity of the Black Sea macrophytes is obvious due to an increased anthropogenic load and climatic changes. The concentration of nutrients inside of the bottom sediments at the northwestern shelf is one order of magnitude higher than in the water column. Washing out nutrients from the bottom sediments into the bottom layers of water is the main reason for overgrowing of *Phyllophora crispa* and *Coccotylus truncatus* by small filamentous algae (Minicheva, Kosenko & Shvets, 2009). The confirmation of that is the active growth of *Spermothamnion* in the area of the field.

According to the latest revision, *Spermothamnion strictum* is distributed in the coastal waters of Ukraine, Russia, Georgia and Romania. One of the ways of dispersal of new species occurs in the direction of the main Black Sea water current (Milchakova, 2004). The water area closest to ZPF, where this species was recorded, is Karkinitsky Bay (the Crimea) (Sadogurskiy,

Belich & Sadogurskaya, 2019). Therefore, it is most likely that *Spermothamnion strictum* is spreading in the region from Karkinitsky Bay.

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