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**MACROPHYTOBENTHIC SPECIES  
NEW TO THE CAPE MARTYAN NATURE RESERVE (THE CRIMEA, BLACK SEA)**

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In the epiphyton of communities formed by representatives of *Cystoseira* s. l., three species of macroalgae were identified in spring samples in 2019 which are new for the water area of the Cape Martyan nature reserve (southern coast of the Crimea, Black Sea). Those are *Ulva compressa* L., *Pylaiella littoralis* (L.) Kjellm., and *Phaeostroma bertholdii* Kuck. With these findings taken into account, 166 species of macrophytes are recorded for the reserve which is about 38% of the Black Sea macroflora. It is one of the key refugia of algae diversity and phytodiversity off the coast of the Crimea and in the Sea of Azov–Black Sea Basin as a whole.

**Keywords:** Black Sea, southern coast of the Crimea, Cape Martyan nature reserve, macrophytobenthos, new species

Since 1973, the Cape Martyan nature reserve has been functioning on the southern coast of the Crimea (since 2015, it is a natural park). There, land and coastal-marine biotopes of the Mediterranean type are preserved on the northern border of their distribution. In order to clarify the provisions of composition and structure of macrophytobenthos of the territorial-aquatic specially protected natural area and to optimize nature management within the boundaries of protected and recreational areas of the southern coast of the Crimea, hydrobotanical monitoring is carried out in the reserve.

Macrophytes were sampled in spring (17.05.2019) in the depth range (h) 0–8 m at a distance (l) up to 300 m from the shore (44°30'20.3"N, 34°14'40.4"E at the spot where the profile intersects the water's edge) in accordance with the generally accepted hydrobotanical technique [Kalugina-Gutnik, 1975]. The nomenclature and taxonomy of macrophytes are given after [AlgaeBase, 2024]; ecological and floristic characteristics, after [Kalugina-Gutnik, 1975]. General distribution is indicated after [AlgaeBase, 2024], with clarifications for the Caspian Sea according to [Zinova, 1967]. Distribution along the coast of the Crimea within boundaries of hydrobotanical regions (hereinafter HBR) is given after [Kalugina-Gutnik, 1975], with some additions if the species were later registered within new HBR.

The following macroalgae are recorded for the first time in the Cape Martyan nature reserve.

*Ulva compressa* Linnaeus, 1753 (Ulvales F. F. Blackman et Tansley, 1902, Ulvaceae J. V. Lamouroux ex Dumortier, 1822). In sublittoral zone, h = 8 m, l = 200...300 m. Annual, cosmopolitan, oligosaprobic, brackish-marine species. General distribution: shores of all oceans, including subpolar

and tropical regions, inland seas (*inter alia* the Mediterranean Basin), and oceanic islands. Distribution along the coast of the Crimea is wide (HBR No. 3–8, 16), but the species is relatively rare, usually occurs in small abundance, and sometimes is abundant in pseudolittoral zone [Kalugina-Gutnik, 1975].

*Pylaiella littoralis* (Linnaeus) Kjellman, nom. cons. 1872 (Ectocarpales Bessey, 1907, Acinetosporaceae G. Hamel ex J. Feldmann, 1937). In sublittoral zone, h = 1 m, l = 30 m. Seasonal winter, arctic-boreal, mesosaprobic, brackish-marine species. General distribution: shores of all oceans, including subpolar and tropical regions, inland seas (*inter alia* the Mediterranean Basin), and oceanic islands; the Caspian Sea. Distribution along the coast of the Crimea is quite wide (HBR No. 4, 6–8), but the species is relatively rare and usually occurs in small abundance [Kalugina-Gutnik, 1975; Kalugina-Gutnik, Kostenko, 1981; Maslov et al., 1996; Sadogurskiy, 1996; Shiroyan, 2022].

*Phaeostroma bertholdii* Kuckuck, 1895 (Ectocarpales Bessey, 1907, Chordariaceae Greville, 1830). In sublittoral zone, h = 5 m, l = 150 m. Lower boreal, mesosaprobic, marine species; vegetation period is not established. General distribution: the Mediterranean and Black seas; the Caspian Sea. Distribution along the coast of the Crimea is limited; the species is rare (HBR No. 3, 5, 7) and occurs in small abundance [Kalugina-Gutnik, 1975; Sadogurskiy, 2013; Sadogursky, 2009].

All the listed species were found in the epiphyton of communities formed by representatives of the genus *Cystoseira* s. l. As a rule, they do not occur in noticeable aggregations and have small-sized thalli usually identified under a microscope; to a certain extent, this fact governs their relatively rare detection. With these findings taken into account, 166 species of macrophytes are registered for the Cape Martyan nature reserve – about 38% of the Black Sea macroflora [Minicheva et al., 2014]. It is one of the key refugia of algae diversity and phytodiversity off the coast of the Crimea and in the Sea of Azov–Black Sea Basin as a whole.

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## ВИДЫ МАКРОФИТОБЕНТОСА, НОВЫЕ ДЛЯ ЗАПОВЕДНИКА «МЫС МАРТЬЯН» (КРЫМ, ЧЁРНОЕ МОРЕ)

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В эпифитоне сообществ, формируемых представителями *Cystoseira* s. l., в весенних сборах 2019 г. выявлено три вида макроводорослей, новых для прибрежно-морской акватории заповедника «Мыс Мартьян» (Южный берег Крыма, Чёрное море): *Ulva compressa* L., *Pylaiella littoralis* (L.) Kjellm. и *Phaeostroma bertholdii* Kuck. С учётом этих находок в акватории заповедника насчитывается 166 видов макрофитов, что составляет около 38 % макрофлоры Чёрного моря. Это один из ключевых рефугиумов альгофиторазнообразия у берегов Крыма и в Азово-Черноморском бассейне в целом.

**Ключевые слова:** Чёрное море, Южный берег Крыма, заповедник «Мыс Мартьян», макрофитобентос, новые виды