

<p>Record of <i>Microeuraphia depressa</i> (Thecostraca: Balanomorpha: Chthamalidae) on the Romanian Black Sea Shelf (Adrian Filimon, Valeria Abaza)</p>	<p>“Cercetări Marine“ Issue no. 51 Pages 188 - 192</p>	<p>2021</p>
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**Short communication: RECORD OF *MICROEURAPHIA
DEPRESSA* (THECOSTRACA: BALANOMORPHA:
CHTHAMALIDAE) ON THE ROMANIAN BLACK SEA SHELF**

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ABSTRACT

Acorn barnacle *Microeuraphia depressa* (Poli, 1791) (Thecostraca: Balanomorpha: Chthamalidae) was recently found (March 2021), in the Romanian Black Sea. Compact populations were found during a rapid biofouling survey in Constanta harbour on artificial hard substrata from the waterline up to 20 cm. Some hypothesis regarding actual and historical presence in the Romanian waters are discussed.

Key-Words: *Microeuraphia depressa*, barnacle, Constanta harbour, Romania, Black Sea.

AIMS AND BACKGROUND

The paper aims to point out the presence of acorn barnacle *Microeuraphia depressa* (*syn. Chthamalus depressus*), on the Romanian Black Sea shelf.

Poli (1791) described for the first time two barnacle species as *Lepas depressa* and *Lepas stellata*. Later on, Ranzani (1818) established the genus *Chthamalus*. Darwin (1854) considered Poli`s species as varieties of *Chthamalus stellatus*. Southward (1964) reverted the two varieties to specific rank and set up the new species *C. depressus*. Newman & Ross (1976) have placed it into the genus *Euraphia* resulting the species name *Euraphia depressa*. Currently, the accepted species name is *Microeuraphia depressa* (WoRMS, 2021).

M. depressa is distributed in the eastern Atlantic, Mediterranean, the Adriatic and the Black Sea (Poltarukha, 2006; Igić, 2007; Linetskii *et al.*, 2020).

At the Romanian Black Sea shore, four species of acorn barnacle were reported: *Amphibalanus improvisus* (the most common), *Amphibalanus eburneus*, *C. stellatus* and *Amphibalanus amphitrite* (Băcescu *et al.*, 1971; Preda *et al.*, 2012). After the 1954 frost, *C. stellatus* virtually disappeared from the Romanian Black Sea coast (Băcescu *et al.*, 1971).

EXPERIMENTAL

During a rapid biofouling communities assessment survey held in Constanta harbour (44.088414° N; 28.689356° E) in March 2021, a different acorn barnacle species was observed. A few specimens were collected, stored in 96% ethanol and identified according to specialist taxonomic guides (Relini, 1980; Poltarukha, 2006). The carino-rostral distance was measured using a caliper with 0.1-mm precision. After identification, we extended our research to other Romanian harbours but no individual was found. Field observations (*e.g.* habitat preference, habitat occupancy, accompanying species) were also carried out. Whole individuals and body parts used for taxonomical identification were deposited in the author's collection.

RESULTS AND DISCUSSIONS

The historical presence of *M. depressa* on the Romanian Black Sea shelf remains uncertain. As mentioned before, for a long time *M. depressa* (*i.e.* *C. depressus*) was considered a variety of *C. stellatus*. Zernov never mentioned it in his works, but *M. depressa* was later found in his re-examined samples from the Black Sea (Southward, 1964). In Romania, *C. stellatus* was common before 1954 (Borcea, 1931; 1937; Antipa, 1941). Therefore, we consider that the species could have been present at the Romanian littoral and misidentified as *C. stellatus*. Unfortunately, without historical samples, the assumption cannot be verified.

Currently, we found monospecific and gregarious populations of *M. depressa* on the artificial hard substrata (concrete) from above the waterline to over 20 cm (*i.e.* corresponding to supralittoral zone). Two morphological forms (varieties) can be distinguished: variety from the surf zone and the sheltered variety (hypobiotic form or typical form) (Utinomi, 1959; Kensler *et al.*, 1965). In Constanta harbour it was found in sheltered, secluded places, never on exposed surfaces (Fig. 1). Due to low waves activity inside the harbour, *M. depressa* populations are moistened whenever big cargo ships enter or leave the harbour and during the storms. The populated substrate is never completely dry.

Solitary individuals scattered over the substrate on the undersides of the stones were also found. Accompanying barnacle was *Amphibalanus improvisus*. Dr. M. Skolka also stated that some *M. depressa* individuals were

found underside of the stones at the Romanian littoral, between 2 Mai and Vama Veche localities in the same period (personal communication, June 2021).



Fig. 1. *Microeuraphia depressa* population on hard substrata sides
In Constanta harbour (Photo: A. Filimon)

Individuals from hard substrata sides had opaque shell walls (Fig. 2) but those from undersides had semitransparent shells. Semitransparent shells are characteristic of animals growing under stones (Achituv & Safriel, 1980). The carino-rostral diameter ranges from 4 to 15 mm.

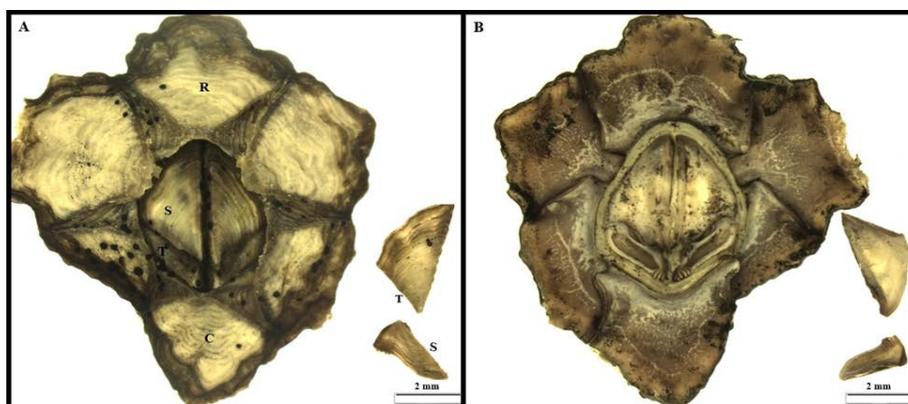


Fig. 2. *Microeuraphia depressa* specimens found in Constanta harbour (Romania).
(A) apical view of shell; (B) internal view; (C) Carina; (R) Rostrum; (T) Tergum;
(S) Scutum. (Photo: A. Filimon)

This can be considered a clear evidence that a monitoring program under Marine Strategy Framework Directive (MSFD) (EC, 2017), should

target the Romanian harbours, too. A special effort must be focused on Constanta harbour which connects the Black Sea with the North Sea through the Rhine-Main-Danube Canal.

CONCLUSIONS

Acorn barnacle *M. depressa* was found in Constanta harbour, Romania. *M. depressa* could be historically present at the Romanian littoral and misidentified as *C. stellatus*. In this case, this would be the first correct taxonomical record of *M. depressa* in Romania. A monitoring program in Romanian harbours under MSFD, shall be implemented.

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