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THE FINDING OF A RARE IN THE BLACK SEA POLYCHAETE *CTENODRILUS SERRATUS* (SCHMIDT, 1857) (ANNELIDA, CIRRATULIDAE)

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In July 2019, three polychaetae specimens of the genus *Ctenodrilus* were found in oyster cages on silted oyster shells. The cages from a mussel-and-oyster farm located at the outer roadstead of Sevastopol Bay were suspended at a depth of 6–8 m. The bottom soil under the mussel-and-oyster farm is silted sand, and the depth is of 16 m. During the sampling, water temperature was of +23 °C, and the salinity was of 17.7 ‰. Thus, according to morphological characteristics, polychaetae we found should be classified as *Ctenodrilus serratus* (Schmidt, 1857). Photographs of alive and fixed polychaetae, chaetae patterns, and a schematic representation of their number by segments are presented. At the beginning of the XX century, a single specimen of this species was found in the Black Sea.

Keywords: polychaetae, *Ctenodrilus serratus* (Schmidt, 1857), Black Sea

There is only one known representative of the subfamily Ctenodrilinae of the family Cirratulidae in the Black Sea – *Ctenodrilus serratus* (Schmidt, 1857) [2 ; 3]. At the beginning of the XX century, a single specimen of this species was found in Sevastopol Bay in the fouling of a pipe near the military hospital at a depth of 1 m [1]. The respective specimen was probably lost. There were no further observations of this species in the Black Sea. All references to its presence in Black Sea fauna [2 ; 3] have been based on the first mention.

In July 2019, three specimens of polychaetae genus *Ctenodrilus* were found in oyster cages on silted oyster shells. The cages from the mussel-and-oyster farm located at the outer roadstead of Sevastopol Bay (44°37′13.3″N, 33°30′07.1″E) were suspended at a depth of 6–8 m. The substrate under the farm is silted sand, and the depth is of 16 m. During the sampling, water temperature was of +23 °C, and the salinity was of 17.7 ‰. Optical microscopes Mikmed-5, MBS-9, and Olympus CX-41 were used to identify these specimens. The photographs were taken by cameras Canon Digital IXUS 90 IS and Sony Cyber-Shot 16.2. Gathered material is lodged in IBSS RAS collection (IBSS-POL / Cirratulidae / No. 7).

The polychaetes have 11–12 segments; their body width is of 0.12–0.13 mm, and the length is of 1.25–1.5 mm (Fig 1A, B). Alive specimens: translucent body with a greenish tint; black-purple dots throughout the body; red intestines visible. Fixed specimens in 4 % formalin solution: light-green; with red stomach.

Prostomium round-conical. Eyes, head appendages, and gills absent. Prostomium and peristomium ciliated ventrally. Peristomium and last segment without chaetae. Parapodia not developed; chaetae in two bundles come directly from body side. All chaetae simple, of the same shape – distally expanded. Expanded part of hooks on one side has 5–6 large triangular teeth; all teeth of nearly the same size (Fig. 2A).

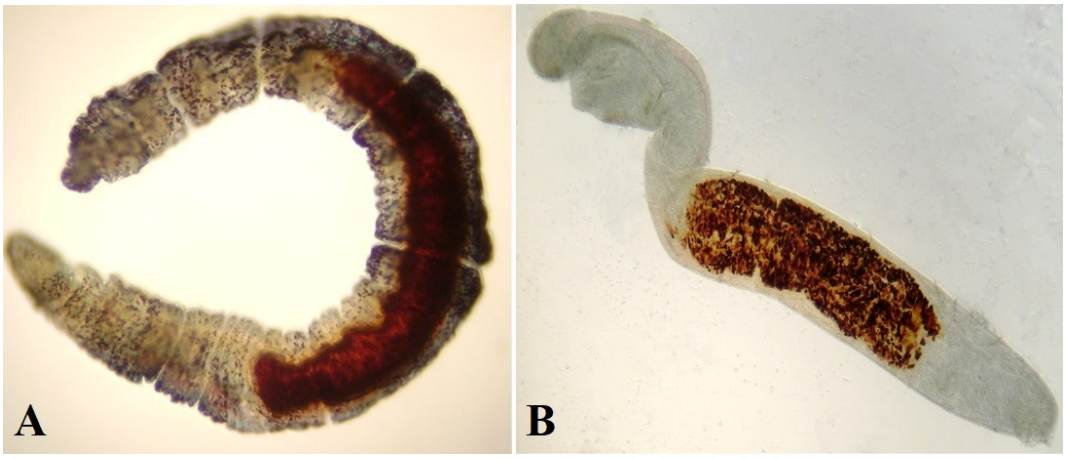

Fig. 1. *Ctenodrilus serratus* (IBSS-POL / Cirratulidae / No. 7): A – alive specimen; B – formalin-fixed specimen

Рис. 1. *Ctenodrilus serratus* (IBSS-POL / Cirratulidae / № 7): A — живая особь; B — фиксированный формалином червь

Variable number (1 to 4) of chaetae is in the noto- and neuropodial bundles in different chaetigers (Fig. 2B). Intestine with an expansion from chaetiger 3 to the beginning of chaetiger 6. Pygidium rounded, without cirri.

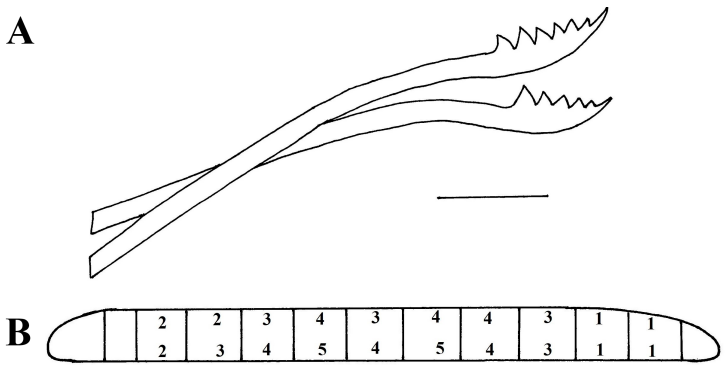

Fig. 2. A – chaetae of observed speciemen *Ctenodrilus serratus*, scale bar 10 μm; B – schematic representation of the number of chaetae in chaetigers of *C. serratus* in notopodia (upper row) and neuropodia (lower row)

Рис. 2. A — щетинки исследованного экземпляра *Ctenodrilus serratus*, размерная шкала: 10 мкм; B — схема количества щетинок в сегментах тела у *C. serratus* в нотоподиях (верхний ряд) и невроподиях (нижний ряд)

Morphological characteristics of the polychaetes we have found fit the description of *Ctenodrilus serratus* (Schmidt, 1857) [5]. The subfamily Ctenodrilinae includes two genera – *Aphropharynx* Wilfert, 1974 and *Ctenodrilus* Claparède, 1863. The main difference between these genera is chaetal morphology. *Aphropharynx* representatives have three types of simple chaetae: trichoid, serrated with small teeth, and serrated with large teeth, whereas *Ctenodrilus* representatives have only one type of chaetae – hooks [7 ; 8].

The genus *Ctenodrilus* includes four species. Validity of one of them (*Ctenodrilus paucidentatus* Ben-Eliahu, 1976) is doubtful. *Ctenodrilus parvulus* Scharff, 1887 is characterized by the presence of only smooth chaetae without teeth [4]. Recently described species *Ctenodrilus pacificus* Magalhães, Weidhase, Schulze & Bailey-Brock, 2016 from the Pacific Ocean (Hawaii) is morphologically quite similar to *C. serratus*, and main differences between these species are found at the molecular level [4].

C. serratus is the most common species of the genus *Ctenodrilus*. According to numerous indications of its presence in various water areas (Pacific, Atlantic oceans to Mediterranean Sea, English Channel, and Helgoland), this species appears to be spread worldwide. Due to lack of molecular data in most reports, it is not known whether this species is a cosmopolitan one or a complex of potentially cryptic species. Representatives of the genus *Ctenodrilus* found in oyster cages of a farm in South Africa and identified

as *C. serratus* according to molecular studies were identical to *C. serratus* from the North Sea [6]. Taking into account that molecular studies of Black Sea *Ctenodrilus* have not been carried out, the specimens we found can be tentatively classified as *C. serratus*.

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ОБНАРУЖЕНИЕ РЕДКОГО ДЛЯ ЧЁРНОГО МОРЯ ВИДА ПОЛИХЕТ *CTENODRILUS SERRATUS* (SCHMIDT, 1857) (ANNELIDA, CIRRATULIDAE)

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В июле 2019 г. в устричных садках на заиленных створках устриц обнаружены 3 экземпляра полихет рода *Ctenodrilus*. Садки с мидийно-устричной фермы, расположенной на внешнем рейде бухты Севастопольская, были подвешены на глубине 6–8 м. Грунт под фермой — заиленный песок, глубина — 16 м. Температура воды во время отбора материала составляла +23 °С, солёность — 17,7 ‰. Найденные полихеты по морфологическим признакам отнесены к виду *Ctenodrilus serratus* (Schmidt, 1857). Представлены фотографии живой и фиксированной полихеты, рисунки щетинок и схема их количества по сегментам. Данный вид в Чёрном море был отмечен единственный раз в начале XX века.

Ключевые слова: полихеты, *Ctenodrilus serratus* (Schmidt, 1857), Чёрное море