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A new species of Loxosomatidae (Entoprocta, Solitaria) from the White Sea: *Loxosomella unicornis* sp. nov.

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Abstract

A new solitary entoproct, *Loxosomella unicornis* **sp. nov.**, is described. The species was found on the gymnolaemate bryozoans *Cribrilina* sp. and *Electra* sp. in Kandalaksha Bay, White Sea. *Loxosomella unicornis* **sp. nov.** is a medium-sized species with a total length up to 650 μm, eight tentacles and a conspicuous horn-shaped appendage on the top part of calyx.

Key words: Entoprocta, *Loxosomella*, new species, epibiont, *Cribrilina* sp., *Electra* sp.

Аннотация

Описан новый вид одиночных Entoprocta, *Loxosomella unicornis* **sp. nov.**, обитающий на мшанках *Cribrilina* sp. и *Electra* sp. в Кандалакшском заливе Белого моря. *Loxosomella unicornis* sp. nov.—средний по размерам вид, длина особи до 650 μm, имеет 8 щупалец и отличается наличием короткого роговидного выроста на верхней стороне чашечки.

Introduction

Entoprocta Nitsche, 1870 (or Kamptozoa Cori, 1929) is a minor group of small, solitary and colonial, sessile, aquatic, invertebrate animals. All solitary entoprocts belong to a single family, Loxosomatidae Hincks, 1880, which includes about 140 species in 4 genera: *Loxosoma* Keferstein, 1863 (about 25 species), *Loxosomella* Mortensen, 1911 (about 110 species), *Loxomespilon* Bobin et Prenant, 1953 (1 species) and *Loxomitra* Nielsen, 1964 (5 species) (Nielsen 1964, 2010; Wasson 2002; Emschermann 2011). *Loxosomella* differs from the other genera by a stalk that ends in a complicated foot (with a foot gland, a foot groove and accessory glandular cells) that can be reduced after attaching to the substratum (Nielsen 1964, 1989; Iseto & Hirose 2010). The largest number of *Loxosomella* species, about 80, have been described from the Atlantic Ocean (based on ITIS data). The entoproct fauna of the Arctic Ocean has been poorly investigated, and only 10 solitary species are known from the White Sea (Table 1) (Derjugin 1928; Krylova 1985; Krylova 1986; Bagrov & Slyusarev 2002). In this paper we describe a new species of *Loxosomella* from the White Sea.

Materials and methods

Specimens were collected by dredging at a depth of 5 m on 27 August 1983 and by diving at a depth of 24 m on 26 June 2013 in the Velikaja Salma Bay ("Great Salma strait") of Kandalaksha Bay in the White Sea, Russia (66°34' N, 33°08' E) (Fig. 1). Numerous entoprocts were found on the gymnolaemate bryozoans *Electra* sp. (Cheilostomata: Electridae) and *Cribrilina* sp. (Cheilostomata: Cribrilinidae) living on mussel shells. Material was fixed in 2.5% glutaraldehyde in 0.1M PBS and in 96º ethanol after relaxation in seawater with magnesium chloride solution. Specimens were photographed, drawn and measured under a light microscope. The following measurements were made: total length of body from end of foot to base of upper tentacles; calyx length, not including a horn-shaped appendage; calyx width; stalk length; stalk width; horn-shaped appendage length.

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TABLE 3. *Loxosomella* species with appendages on the calyx.

Species	Characteristics of appendages	Position of appendages
L. cirrifera (Harmer, 1915)	Varying number of cirriform appendages	Surface of body
L. lappa Iseto, 2001	Many appendages	Margin of the calyx rim
L. lecythifera Iseto, 2003	4–7 appendages	Abfrontal side of the calyx
L. monocera Iseto, 2001	One conspicuous long appendage	Abfrontal midline of calyx
L. velata (Harmer, 1915)	4–5 branched appendages, distal pair with horn-like shape (Iseto 2001, 2003)	Each side of a calyx

Another remarkable feature of *L. unicornis* is the presence of two pigmented semicircular strips around the tentacle crown. A very similar structure was recorded in *L. ameliae* Sánchez-Tocino & Tierno-de-Figueroa, 2009. There is a field of well-marked gland cells along the base of the tentacle crown, but this species lacks the horn-like structure on top of the calyx, and additionally differs in tentacle number (10–12), foot structure (having a foot groove and glandular cells) and body size (520–820 μm).

Loxosomella unicornis **sp. nov.** appears to be an epibiont of bryozoans. Indeed, most *Loxosomella* species are epibionts of different invertebrate animals such as polychaetes, bryozoans and sponges. Individual species of *Loxosomella* are usually associated with only one type of host animal (Nielsen 1964). About 20 loxosomatid species have been found associated with bryozoans. Five of them are similar to *L. unicornis* in having lateral compressions (wings) on the calyx and a similar number of tentacles, viz *L. nordgaardi* Ryland, 1961, *L. marisalbi* Bagrov & Slyusarev, 2002 and three species of uncertain position that were described as *Loxosoma* but which probably belong to *Loxosomella* species: *L. cingulata* Kluge, 1946, *L. loricatum* Harmer, 1915 and *L. rotunda* Kluge, 1946. All of these species differ from *L. unicornis* in different respects. *L. nordgaardi* lacks lateral papillae; *L. marisalbi* has a calyx with three pairs of sensitive receptors; and *Loxosoma cingulata* lacks stomach lobes and bears 8–10 glandular cells along lateral wings; *L. loricatum* differs in size (its total length is up to 210 μm) and stomach shape (without lobes) and has only one pair of papillae; *L. rotunda* is very small (total length about 270 μm) with a very short stalk and no lateral papillae.

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