

A new species of *Myrianida* (Polychaeta: Syllidae: Autolytinae) from Rhodes (Greece, eastern Mediterranean)

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This paper deals with a new species of Myrianida collected from Rhodes Island at 1 m depth among algae in April 2014. This new species is mainly characterized by having flattened dorsal cirri; high number of falcigers in parapodia; a trepan with 16 unequal teeth; and a brownish patch (in fixed specimen) on dorsum of each segment. Individuals are at the stage of reproduction, with developing stolons.

Keywords: Annelida, Syllidae, Myrianida, new species, taxonomy, Aegean Sea

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INTRODUCTION

According to recent phylogenetic analysis, the family Syllidae is divided into five subfamilies, namely Autolytinae, Syllinae, Exogoninae, Anoplosyllinae and Eusyllinae, and at least 12 genera that have not been placed into these subfamilies are grouped under *incertae sedis* (Aguado *et al.*, 2012). The subfamily Autolytinae is represented by 11 genera worldwide, and the genus *Myrianida* is mainly characterized by possessing dorsal cirri with cirrophores on all chaetigers, relatively small blade length of falcigers and generally one row of teeth on trepan (Nygren, 2004). This genus possesses a total of 35 species worldwide (Gil, 2014) and 15 species in the whole Mediterranean Sea (author's database). In the eastern Mediterranean (covering the Aegean Sea, Levantine Sea and Sea of Marmara), a total of nine species of *Myrianida* have been reported to date: *Myrianida brachycephala* (Marenzeller, 1874), *M. convoluta* (Cognetti, 1953), *M. dentalia* Imajima, 1966, *M. edwardsi* (Saint-Joseph, 1887), *M. langerhansi* (Gidholm, 1967), *M. pinnigera* (Montagu, 1808), *M. prolifera* (O. F. Müller, 1788), *M. quindecimdentata* (Langerhans, 1884) and *M. rubropunctata* (Grube, 1860) (see Simboura & Nicolaidou, 2001; Çinar *et al.*, 2003, 2014).

This paper describes a new species of *Myrianida* collected from Rhodes and compares it with closely related species.

MATERIALS AND METHODS

Two specimens of *Myrianida rodosensis* sp. nov. were collected at 1 m depth among photophilic algae growing on the concrete wall at Faliraki Port (36°20.13'N 28°12.52'E) on 10 April 2014. The material was fixed in 10% seawater formalin solution in the field and then preserved in 70% ethanol in

the laboratory. The biometric features of specimens were determined using an ocular micrometer. Specimens were stained with ShirlastainA (a temporary stain) to make the morphological characters (e.g. nuchal organ, trochs, cirri) more visible.

Photographs were taken by a digital camera (Olympus OM-D E-M5 Mirrorless) attached to stereo- and compound microscopes. Drawings were made with the aid of a camera lucida.

Type specimens were deposited at the Museum of the Faculty of Fisheries of Ege University (ESFM).

SYSTEMATICS

SYLLIDAE Grube, 1850

Autolytinae Grube, 1850

Myrianida Milne-Edwards, 1845

Myrianida rodosensis sp. nov.

(Figures 1–4)

MATERIAL EXAMINED

Holotype: ESFM-POL/2014-446, Rhodes, Faliraki Port, 36°20.13'N 28°12.52'E, 1 m, among photophilic algae.

Paratype: ESFM-POL/2014-447, Rhodes, Faliraki Port, 36°20.13'N 28°12.52'E, 10 April 2014, 1 m, among photophilic algae, 1 specimen.

DESCRIPTION

Holotype and paratype with stolons. Holotype (stock) 6.5 mm long, 1 mm wide, with 29 chaetigers (Figure 1A); with developing stolons, all 2 mm long, 0.5 mm wide. Paratype (stock) 5 mm long, 0.7 mm wide, with 29 chaetigers; with developing stolons, posterior 9 stolons discernible (Figure 2A, B). Fixed specimens pale yellowish in colour, with pale brownish circular pigmentation on dorsum of each anterior chaetiger. Dorsal side of body domed, ventral side is somewhat flattened, with a shallow furrow in middle (Figures 2A & 4A). Ciliation

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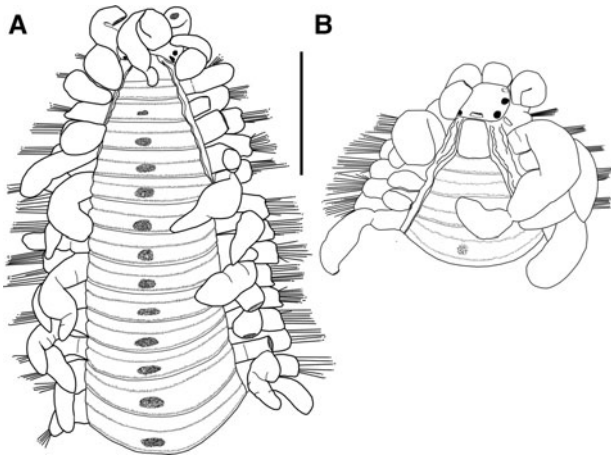


Fig. 1. *Myrianida rodosensis* sp. nov. (A) Holotype, anterior end, dorsal view, (B) Paratype, anterior end, dorsal view. Scale bar: A = 1 mm, B = 0.5 mm.

discernible; 2 trochs on dorsal side of chaetigers; one troch on ventral side of chaetigers (Figures 1A, 2A & 3A). Trochs absent or at least not discernible on chaetiger 1.

Prostomium with two pairs of black eyes placed in a close trapezoidal arrangement; anterior pair slightly larger; palps completely fused, almost 1/3 of prostomial length (Figure 1A, B). Nuchal epaulettes situated at lateral sides of anterior segments, as grooves, extending back to chaetiger 6 (Figure 1A).

Median antenna placed between posterior eye pair, cylindrical, tip missing in type specimens. Lateral antennae placed anterior margin of prostomium, near in front of anterior eyes, large, cylindrical, extending to chaetiger 3, with a bulbous tip (Figure 1A). Peristomium reduced dorsally, with two pairs of tentacular cirri, almost cylindrical; dorsal pair's tips missing; ventral pair small, extending to chaetiger 1, with a bulbous tip. First dorsal cirri large, long, somewhat cylindrical, extending back to chaetiger 7, with a bulbous tip

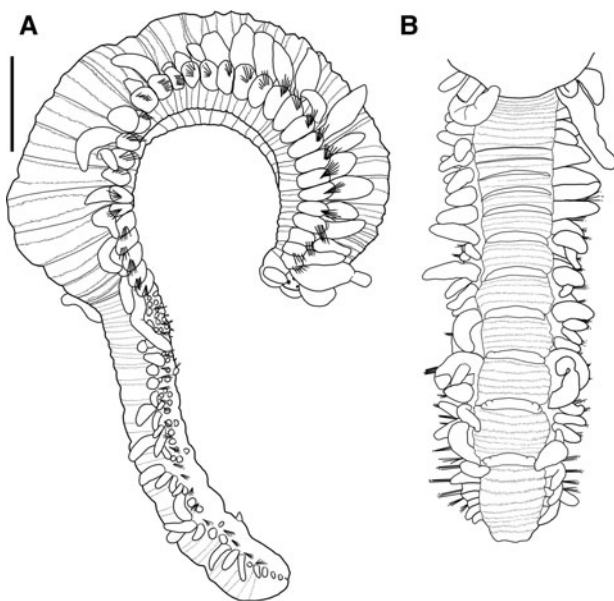


Fig. 2. *Myrianida rodosensis* sp. nov. (A) Paratype, whole body, lateral view, (B) Paratype, stolon, dorsal view. Scale bar: A = 0.7 mm, B = 0.66 mm.

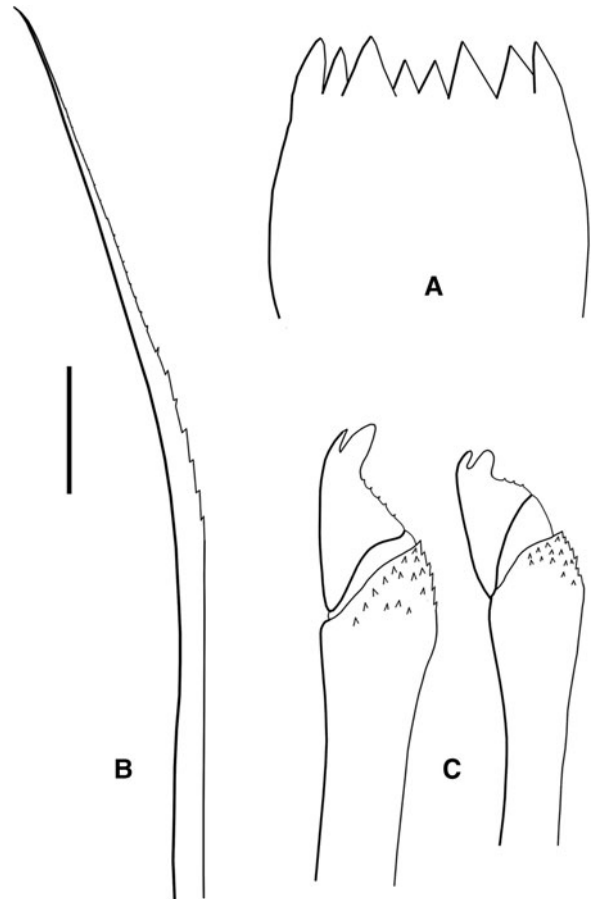


Fig. 3. *Myrianida rodosensis* sp. nov. (A) Trepan, (B) Bayonet chaeta, (C) Falcigers, middle parapodium. Scale bar: A = 40 µm, B = 15 µm, C = 11 µm.

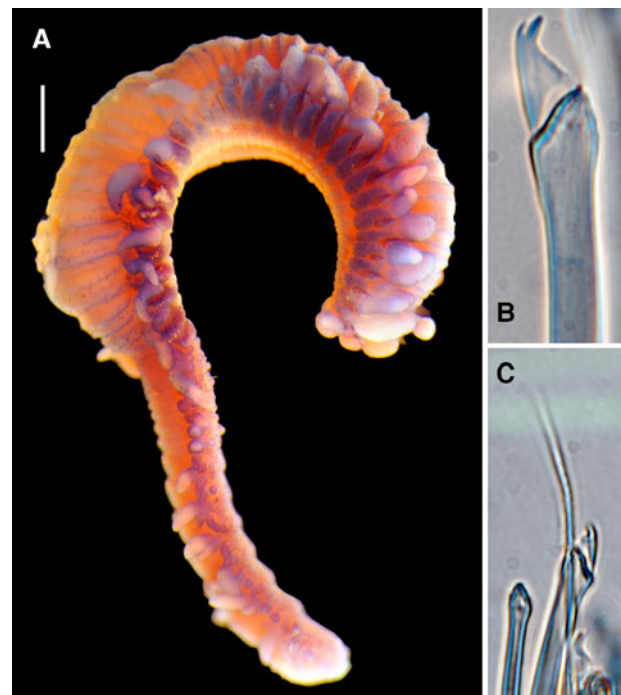


Fig. 4. *Myrianida rodosensis* sp. nov. (A) Paratype, whole body, lateral view, (B) Falciger, anterior parapodium, (C) Bayonet chaeta, posterior parapodium. Scale bar: A = 0.4 mm, B = 9 µm, C = 28 µm.

(Figure 1B); second dorsal cirri $1/3$ as long as first dorsal cirri; other dorsal cirri always smaller than those on chaetiger 1, more flattened, small; maximum length as half size as body width. Cirrophores present on tentacular cirri and all dorsal cirri, well developed, as long as parapodial lobes in long dorsal cirri; cirrophores being $1/6$ length of cirrostyles in long dorsal cirri. Cirrophores and cirrostyles unequal. From chaetiger 1–24, cirri with usual alternation in direction, followed by 1 UDUU-group, and 4 DUDUU-groups.

Dorsal side of chaetiger 1 narrowed due to presence of nuchal organs in lateral sides and elevated.

Parapodial lobes somewhat rounded, with a median notch. Anterior and middle parapodia with 2 aciculae. Chaetal fascicle with 40 falcigers in anterior and middle parapodia. Falcigers with proximal part serrated distally; blades with a slight dorso-ventral gradation in length; 15–10 μm long in anterior and middle parapodia; blades with finely serrated cutting edge; superior falcigers with distal tooth thin, sharply pointed; blades of inferior falcigers in middle parapodia with large distal tooth, having rounded tip and as long as half size of proximal tooth (Figures 3C & 4B). Single thin bayonet chaeta first present on chaetiger 24 (paratype), with cutting edge finely serrated (Figures 3B & 4C).

Pharynx with one situation, anterior and lateral to proventricle, placed between chaetigers 1 and 8. Trepan in chaetiger 2, with 16 unequal teeth, in two sizes, arranged in groups with 1–2 somewhat equal teeth in each (Figure 3A). Absence or presence of basal ring and infradental spines not possible to determine. Proventricle 0.67 mm long, 0.42 mm wide, occupying ~8 chaetigers, located between chaetigers 3 and 11, with 27 cell rows.

REPRODUCTION

This species represents the schizogamous reproduction by gemmiparity behind chaetiger 29.

MORPHOLOGY OF EPITOKOUS STAGE

Holotype and paratype with stolons. Fully developed stolons missing, only developing stolons present in chain. Determination of sex of individuals impossible. In paratype, 9 stolons being discernible; posterior stolon 0.45 mm in length, 0.45 mm width, with 6 chaetigers and 6 achaetous posterior segments with dorsal cirri (Figure 2B). Prostomium narrow, with only developing lateral antennae, emerging as small protuberances, without eyes and median antenna. Tentacular cirri well developed; dorsal pair almost two times longer than ventral pair, extending to middle line of dorsum. First dorsal cirri, equal in length to following dorsal cirri, except for most posterior ones. Cirrophores not discernible on tentacular cirri, short cirrophores present on all dorsal cirri. Tentacular and dorsal cirri flattened.

Parapodia somewhat conical, with only neuropodia. Chaetal fascicle with 6 falcigers in all chaetigers; single bayonet chaeta present on all chaetigers, falcigers with blades 10 μm in length, having finely serrated cutting edge.

HABITAT

Shallow waters, 1 m, among photophilic algae.

DISTRIBUTION

Rhodes, eastern Mediterranean, only known from the type locality.

ETYMOLOGY

The species name makes reference to its type locality, Rodos that stands for Rhodes in the Turkish and Greek languages.

REMARKS

A synoptic table for all *Myrianida* species was given by Nygren (2004). The *Myrianida* species that have distinctly flattened cirrostyles are *Myrianida phyllocera* Augener, 1918 (type locality: South Africa) and *M. pinnigera* (Montagu, 1808) (type locality: UK), and the species with slightly flattened cirrostyles are *M. pachycera* (Augener, 1913) (type locality: Australia) and *M. pulchella* Day, 1953 (type locality: South Africa). The last two species have cylindrical antennae, tentacular cirri and first dorsal cirri, whereas all appendages are flattened in the former two species. *Myrianida rodosensis* sp. nov. is closely related to the last two species, as anterior appendages of the body are cylindrical, rather than flattened. However, *M. rodosensis* sp. nov. is distinct from these species in having fewer teeth in trepan (16 teeth in *M. rodosensis* vs. more than 37 teeth in *M. pachycera* and *M. pulchella*). *Myrianida rodosensis* sp. nov. shares a character of bearing mid-dorsal spots on body with *M. pinnigera* and *M. pachycera*, but dorsal spots are placed on every third or fourth segment in *M. pinnigera*, whereas they are placed on every segment in *M. rodosensis* sp. nov. and *M. pachycera*. Among the species, eyespots have only been reported in *M. pachycera*. Long dorsal cirri are smaller than (*Myrianida rodosensis* sp. nov. and *M. pulchella*), longer than (*M. pinnigera* and *M. phyllocera*) or equal to (*M. pachycera*) body width. The cirrophores are equal in *M. pachycera*, unequal in *M. rodosensis* sp. nov., *M. pinnigera*, *M. phyllocera* and *M. pulchella*. The number of muscle cell rows in proventricle differ among the species; *M. rodosensis* sp. nov. with 27 rows, *M. pinnigera* with 34 rows, *M. pachycera* with 26–29 rows, *M. phyllocera* with 55 rows and *M. pulchella* with 100–105 rows. In reproductive individuals, stocks have 26 chaetigers in *M. rodosensis* sp. nov.; 47–56 chaetigers in *M. pinnigera*; 92–109 chaetigers in *M. pulchella*; 52 chaetigers in *M. phyllocera*; and 30–33 chaetigers in *M. pachycera*. The other morphological difference among the species is the number of falcigers on parapodia. There are almost 40 falcigers in parapodia of *M. rodosensis* sp. nov.; 15–20 falcigers in *M. pinnigera*; 20 falcigers in *M. pulchella* and *M. phyllocera*; and 20–25 falcigers in *M. pachycera*. Single bayonet chaeta begins on chaetiger 25 in *M. pachycera*; on chaetiger 35 in *M. pinnigera*; on chaetiger 110 in *M. pulchella*; on chaetiger 53 in *M. phyllocera*; and on chaetiger 24 in *M. rodosensis* sp. nov. The number of chaetigers in the stock is 29 in *M. rodosensis* sp. nov., whereas it is 30–33 chaetigers in *M. pachycera*; 46–55 chaetigers in *M. pinnigera*; 109 chaetigers in *M. pulchella*; and 52 chaetigers in *M. phyllocera*.

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