

Re-description of some poorly known species of the family Syllidae (Annelida)

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*Several poorly known species of the family Syllidae (Annelida) have been revised and re-described. New diagnosis and taxonomic remarks are provided for *Erinaceusyllis erinaceus*, *Opisthosyllis neglecta* comb. nov., *Parapionosyllis parapionosylliformis* comb. nov., *Prosphaerosyllis semiverrucosa* comb. nov. and *Amblyosyllis granosa*.*

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INTRODUCTION

The family Syllidae (Annelida) is one of the most diverse families within polychaetes, with over 70 genera and more than 700 species (Pleijel, 2001; Aguado *et al.*, 2007, 2012; Aguado & San Martín, 2009; Appeltans *et al.*, 2012). Syllids are often the dominant taxa in coastal environments, both in terms of number of species and number of specimens (San Martín, 2003). The great diversity and abundance of this family is a consequence of the wide range of body dimensions, feeding habits and extraordinary reproductive strategies (Serrano *et al.*, 2006). The family Syllidae is characterized by the presence of a proventricle, a specialization of the digestive tube often visible through the body wall, and considered by several authors as a synapomorphy for the group (Glasby, 1993; Fauchald & Rouse, 1997; Aguado & San Martín, 2009; Aguado *et al.*, 2012).

The family Syllidae is currently considered monophyletic (Aguado *et al.*, 2007, 2012; Aguado & San Martín, 2009), however, new species and even genera are continuously being described and the taxonomy within the family is not well understood. Several authors (Nygren, 1999, 2004; Nygren & Sundberg, 2003; Aguado *et al.*, 2007; Aguado & San Martín, 2009) have considered the traditional classification into four subfamilies (Syllinae Grube, 1850; Exogoninae Langerhans, 1879; Autolytinae Langerhans, 1879; and Eusyllinae Malaquin, 1893) inadequate. The studies of Nygren (1999), Nygren & Sundberg (2003), Nygren (2004), Aguado *et al.* (2007), Aguado & San Martín (2009) and Aguado & Bleidorn (2010) all corroborate Autolytinae, Syllinae and Exogoninae each as monophyletic, whereas Eusyllinae was either poly- or paraphyletic. However, Aguado *et al.* (2012) recently reorganized the subfamily Eusyllinae and provided a new diagnosis for a well-supported monophyletic group. The authors combined

morphological and molecular information in a phylogenetic analysis including the highest number of terminals to date (Aguado *et al.*, 2012).

Nevertheless, several questions regarding the taxonomy and systematics of Syllidae remain yet to be answered. Authors are involved in several research projects aiming to solve the systematic and taxonomic flaws concerning this intriguing family of polychaetes, through new proposals of classification based on morphological (Aguado & San Martín, 2009) and molecular data (Aguado *et al.*, 2007, 2012; Aguado & Bleidorn, 2010). During the process, authors have described new taxa from different parts of the world (Aguado *et al.*, 2005, 2006, 2008a, b; Aguado & San Martín, 2006; 2007; San Martín *et al.*, 2007, 2008a, b, 2010) and re-described taxa based on type material (Aguado & San Martín, 2008; San Martín *et al.*, 2009). However, there are still many syllid species originally described from a limited number of specimens collected decades ago, with incomplete diagnoses and iconography. Additionally, some of them have been incorrectly classified and assigned to an inappropriate taxonomic level mainly due to past technological constrains. Thus, modern re-descriptions and re-assignments to correct taxonomic level, according to current systematic classification, are needed.

In this paper we re-describe several species included in the subfamilies Exogoninae and Syllinae. New diagnosis and taxonomic remarks are provided for *Erinaceusyllis erinaceus* (Claparède, 1863), *Opisthosyllis neglecta* (Grube, 1870) comb. nov., *Parapionosyllis parapionosylliformis* (Hartmann-Schröder, 1962) comb. nov., *Prosphaerosyllis semiverrucosa* (Ehlers, 1913) comb. nov., and *Amblyosyllis granosa* (Ehlers, 1897).

MATERIALS AND METHODS

Material examined is located at different institutions. The specimens were studied during visits to the Zoologisches Museum Hamburg (ZMH), and the Museum für Naturkunde der Humboldt-Universität, Berlin (ZMB). Examinations were made using stereomicroscopes and

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optical microscopes provided by the respective institutions. Drawings were made to scale, when possible, with a camera lucida drawing tube attached to each optical microscope. Specimens of *Erinaceusyllis erinaceus* and some segments of *Opisthosyllis neglecta* were critical point dried and then coated with 80% of gold and 20% of palladium and examined using a LEO 1450 VP electronic microscope (LEO Microscopy Inc., Cambridge, UK) at the ZMH and ZMB, respectively. The width of specimens was measured at the level of proventricle, excluding parapodia.

Most of the studied material consisted of old and fragile types and, unfortunately, it proved impossible to distinguish several features due to the poor condition of preservation. Moreover, dissection and therefore examination of the structure of the pharynx of several holotypes was impossible due to the unique nature of the material. In these cases the information provided by the original description was taken into account.

SYSTEMATICS

Order PHYLLODOCIDA Dales, 1962

Family SYLLIDAE Grube, 1850

Subfamily EXOGONINAE Langerhans, 1879

Genus *Erinaceusyllis* San Martín 2005

Erinaceusyllis San Martín, 2005: 73.

TYPE SPECIES

Erinaceusyllis erinaceus (Claparède, 1863).

DIAGNOSIS

Body small to minute, more or less densely covered by papillae, usually small, short, scarce, sometimes also distributed on cirri and parapodia. Prostomium with three antennae, four eyes and two anterior eyespots. Peristomium usually large, covering posterior margin of prostomium, sometimes forming two dorsolateral wings covering nuchal organs; single pair of tentacular cirri. Antennae, tentacular cirri and dorsal cirri spindle-shaped to pyriform, with slightly bulbous bases and short to moderately long tip. Dorsal cirri on second chaetiger absent or present, more commonly absent. Compound chaetae heterogomph, with blades bidentate, bidentate and unidentate, or unidentate, short or long, sometimes long and slender. Pharyngeal tooth small, conical to rhomboidal, located near anterior margin, sometimes backwards near middle of pharynx; pharynx usually with smooth margin, but larger species with a ring of papillae surrounding the opening. Proventricle long and wide, barrel shaped, with numerous, slender muscle cell rows (15–22). A pair of anal cirri similar to dorsal cirri, usually longer. Mature males with natatory chaetae; females brooding eggs dorsally, by means of capillary notochaetae.

Erinaceusyllis erinaceus (Claparède, 1863)

Figures 1A–G, 2A–H

Sphaerosyllis erinaceus Claparède, 1863: 45, pl. 13, figure 38.—Fauvel, 1923: 302, figure 115.—Hartmann-Schröder, 1971: 168, figure 55.—Imajima 1966: 402, figure 5.

Sphaerosyllis (*Sphaerosyllis*) *erinaceus* Hartmann-Schröder, 1996: 175, figure 75.

MATERIAL EXAMINED

ZMH P-23292 Spitzbergen, Liefdefjorden; lower intertidal, on brown algae *Fucus* sp. Coll. 11 July 1991.

DESCRIPTION

Body small to minute, 2 mm long, 0.07 mm wide, 12–25 chaetigers, covered with small, scattered papillae (Figures 1A, 2A). Prostomium oval, wider than long; four large eyes aligned on the posterior margin of prostomium; two distinct lateral eyespots on anterior margin. Antennae spindle-shaped, shorter than combined length of prostomium and palps; median antenna inserted slightly anterior to eyes; lateral antennae inserted laterally on anterior margin, near eyespots. Palps similar in length to prostomium, fused along their length. Peristomium similar in length to following segments, covering posterior margin of prostomium, with a small frontal notch (Figure 1A). One pair of tentacular cirri similar to antennae, slightly smaller. Dorsal cirri similar to antennae, longer than tentacular cirri, with bulbous bases and slightly elongated tip, absent on second chaetiger (Figure 1A), more elongated from midbody (Figure 2C). Ventral cirri digitiform, smaller than parapodial lobes. Compound chaetae heterogomph, similar throughout, slightly longer on anterior segments; shafts of dorsal chaetae bearing long, thin subdistal spines (Figures 1B, 2D–F) becoming smooth ventrally; blades unidentate, longer blades of anterior chaetae with a distinct subdistal spine (Figure 1B); margin of longer blades provided with long spines diminishing in length distally; margin of shorter blades covered uniformly with short spines (Figures 1B, C, 2D, G); blades dorso-ventrally gradated in length, 26–12 µm on midbody. Dorsal simple chaetae from anterior parapodia, slightly curved, unidentate, with short spines on margin (Figures 1G, 2H); ventral simple chaetae on posterior parapodia, curved, unidentate, smooth (Figures 1F, 2G). Solitary acicula, sub-distally enlarged, acuminate tip (Figure 1D), thicker on posterior parapodia (Figure 1E). Pharynx long and slender, through four segments; pharyngeal tooth located slightly posterior to opening (Figure 1A). Proventricle barrel-shaped, through three segments. Several specimens epigamous; females carrying eggs dorsally (Figure 2B) by means of capillary notochaetae (Figure 2C).

REMARKS

The original description of *Sphaerosyllis erinaceus* (Claparède, 1863) is incomplete (San Martín, 2005) and therefore this species is re-described here. San Martín (2005) erected the genus *Erinaceusyllis* for several species previously described under *Sphaerosyllis*. *Sphaerosyllis erinaceus* was established as the type species of the genus; however, it was not re-described and new features were not reported. *Sphaerosyllis erinaceus* was transferred to the genus *Erinaceusyllis* because females brood eggs dorsally by means of capillary notochaetae, unlike species of *Sphaerosyllis* which brood ventrally by attaching the eggs to the dilated nephridiopores (San Martín, 2005). This is the first study that shows SEM images of the brooding type in *Erinaceusyllis* (Figure 2B).

Genus *Parapionosyllis* Fauvel, 1923

Parapionosyllis Fauvel, 1923: 289.

TYPE SPECIES

Parapionosyllis gestans (Pierantoni, 1903).

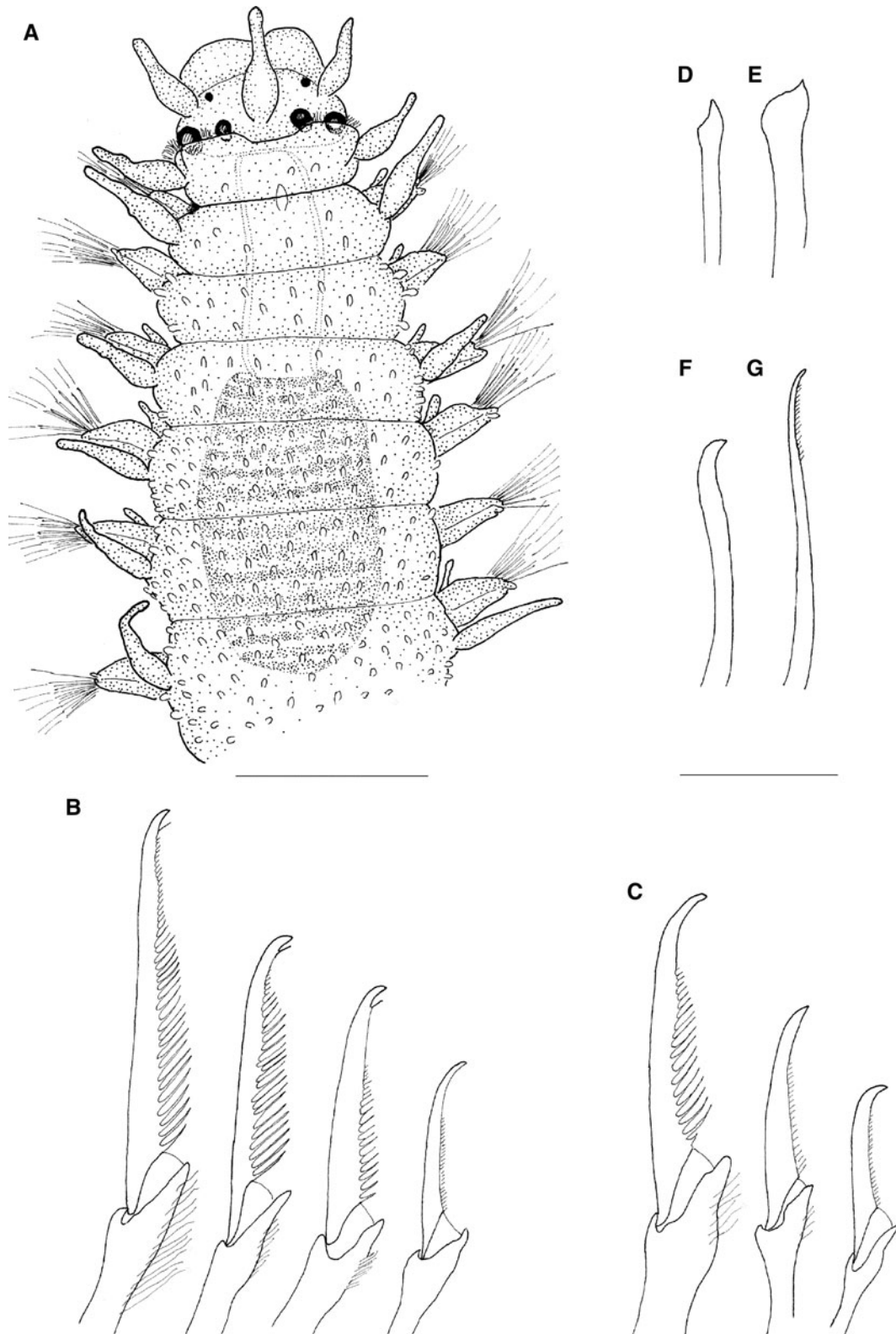


Fig. 1. *Erinaceusyllis erinaceus* (Claparède, 1863) comb. nov.: (A) anterior end, dorsal view; (B) compound chaetae, anterior parapodium; (C) compound chaetae, posterior parapodium; (D) acicula, anterior parapodium; (E) acicula, posterior parapodium; (F) ventral simple chaeta, midbody parapodium; (G) dorsal simple chaeta, midbody parapodium. Scale bars: A, 44 μm ; B–G, 25 μm .

DIAGNOSIS

Body small to minute. Prostomium with two pairs of eyes and, sometimes, a pair of eyespots, three bowling-pin shaped antennae. Palps partially fused, distal half or last

third free from each other. Single pair of tentacular cirri, bottle- or bowling-pin shaped located lateroventrally. Dorsal cirri on all parapodia, short, bowling-pin shaped.

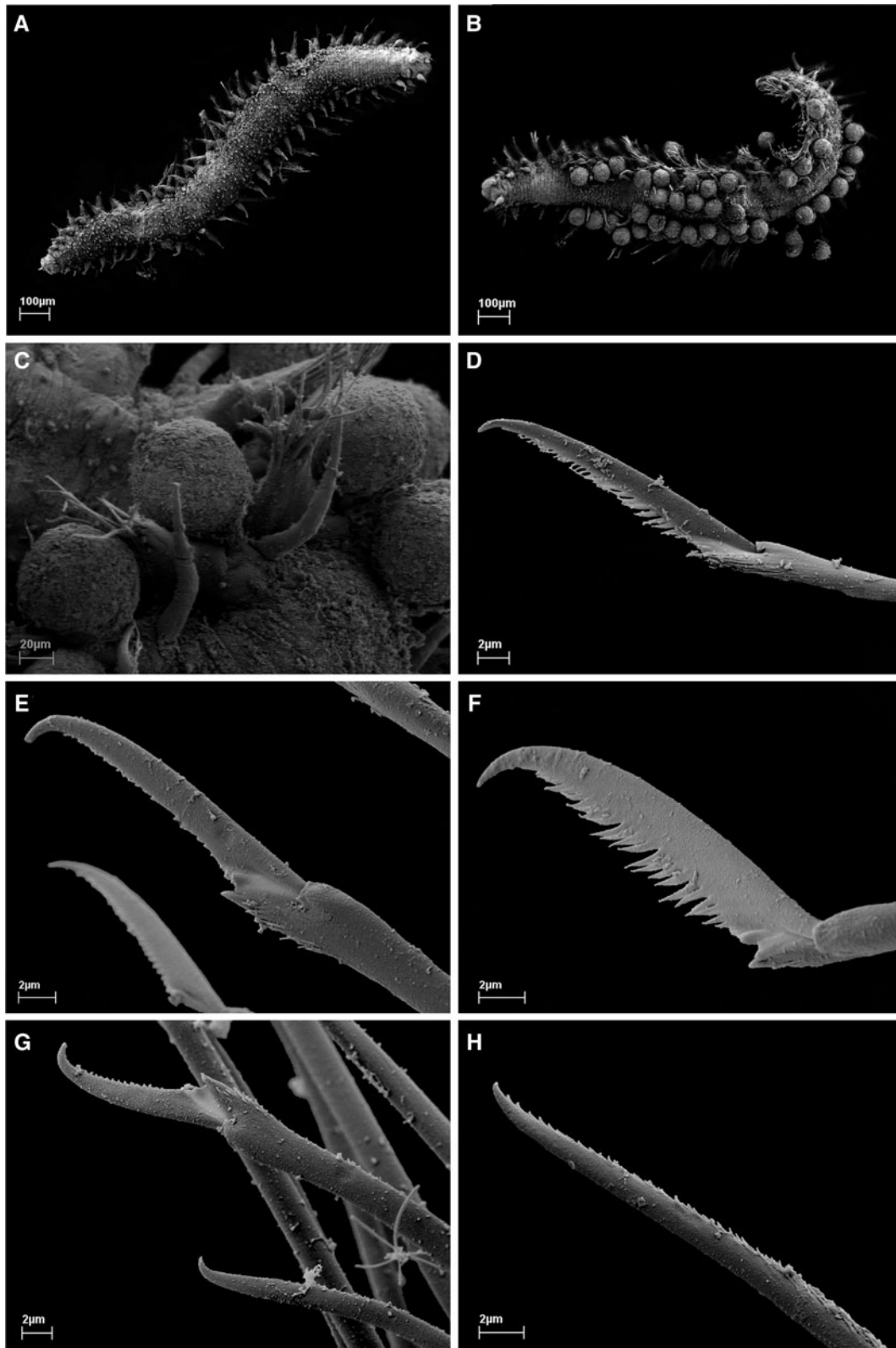


Fig. 2. SEM micrographs. *Erinaceusyllis erinaceus* (Claparède, 1863) comb. nov.: (A) complete specimen, dorsal view; (B) specimen with eggs, dorsal view; (C) detail of attachment of eggs; (D) compound chaeta, anterior parapodium; (E) compound chaeta, posterior parapodium; (F) detail of compound chaeta, posterior parapodium; (G) compound chaeta and ventral simple chaeta, posterior parapodium; (H) detail of dorsal simple chaeta, posterior parapodium.

Parapodial lobes conical, with a small, thin, distally rounded papilla. Parapodial glands present. Pharynx provided with an anterior tooth, opening surrounded by soft papillae.

Compound chaetae with unidentate blades provided with a subdistal spine and rounded tip; aciculae with a rounded, slightly hollowed tip. Dorsal simple chaetae usually

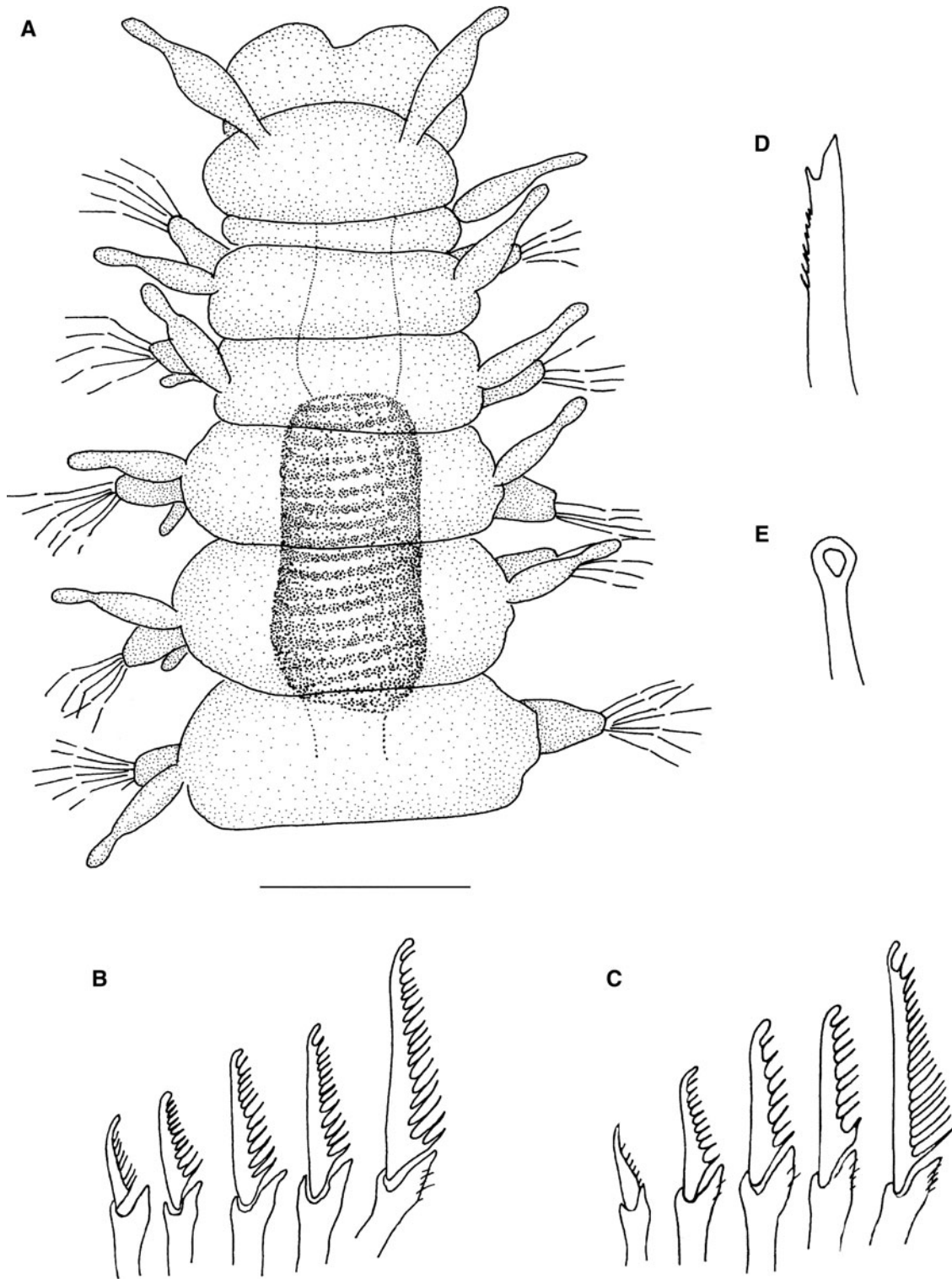


Fig. 3. *Parapionosyllis parapionosylliformis* (Hartmann-Schröder, 1962) comb. nov., holotype P-14815: (A) anterior part, dorsal view; (B) compound chaetae, posterior parapodium; (C) compound chaetae, anterior parapodium; (D) dorsal simple chaeta, midbody parapodium; (E) acicula, midbody parapodium. Scale bars: A, 0.1 mm; B–E, 25 µm.

subdistally serrated. Ventral simple chaetae sigmoidal, usually unidentate. Mature males with natatory chaetae; mature females brooding eggs or juveniles ventrally, lacking natatory chaetae. *Parapionosyllis* is almost identical to *Brania*, but having a single pair of tentacular cirri rather than two pairs.

Parapionosyllis parapionosylliformis (Hartmann-Schröder, 1962) comb. nov.

Figure 3A–D

Sphaerosyllis parapionosylliformis Hartmann-Schröder, 1962: 126, pl. 9, figures 57–60.

TYPE MATERIAL

Holotype ZMH P-14815 Isla Santa, Coisco Bay, north of Chimbote, Peru. 9 m depth, muddy sediment. Coll. 24 April 1956.

DESCRIPTION

Body minute, 1.7 mm long, 0.2 mm wide, 16 segments. Prostomium ovate, wider than long; four large eyes in trapezoidal arrangement, anterior eyes larger than posterior ones; two anterior small eyespots (decoloured after long time preservation). Antennae slender and short, bowling-pin shaped, slightly shorter than combined length of prostomium and palps; median antenna lost, inserted between posterior eyes (*vide* Hartmann-Schröder, 1962). Palps broad, similar in length to prostomium, fused for almost all their length (Figure 3A). Peristomium shorter than subsequent segments; one pair of tentacular cirri similar in length and shape to lateral antennae. Dorsal cirri similar to lateral antennae (Figure 3A), almost twice as long as parapodial lobes. Ventral cirri digitiform, about half the length of parapodial lobes. Compound chaetae similar throughout; unidentate blades, distally rounded, slightly hooked, provided with long marginal spines; sub-distal spine near tip, slightly longer than marginal spines (Figure 3B); parapodia with five compound chaetae, blades dorso-ventrally gradated in length from 39.7 µm to 14.3 µm long, anterior parapodia (Figure 3C); dorsal simple chaetae from chaetiger eight, unidentate, provided with 8–10 short spines and one thick sub-distal spine (Figure 3D). Solitary acicula on each parapodium, tip enlarged and rounded, distally hollowed (Figure 3E). Pharynx slightly shorter than proventricle, through two segments; surrounded by 10–12 papillae; pharyngeal tooth located on anterior margin. Proventricle short, through two to three segments, with about 17 muscle cell rows (Figure 3A). Pygidium with two short anal cirri, probably regenerating.

REMARKS

Sphaerosyllis parapionosylliformis is transferred to *Parapionosyllis* because some of its diagnostic features correspond to the latter genus, such as the palps, which are rounded and free on top, unlike those of *Sphaerosyllis* which are conical and fused for all their length, and also because it lacks papillae on dorsum (San Martín, 2005). *Parapionosyllis parapionosylliformis* comb. nov. also has chaetae distinctly spinulated and aciculae with a round enlarged tip, distally hollowed, like typical chaetae and aciculae of *Parapionosyllis*. The specimen is probably a juvenile because it lacks ventral simple chaetae and it has a small number of segments.

Genus *Prosphaerosyllis* San Martín, 1984

Sphaerosyllis (*Prosphaerosyllis*) San Martín, 1984: 377.

Prosphaerosyllis San Martín, 2005: 59.

TYPE SPECIES

Prosphaerosyllis xarifae (Hartmann-Schröder, 1960).

DIAGNOSIS

Body small, with few segments, provided with dorsal and ventral papillae, also present on palps, cirri and parapodia; usually covered by detritus; sometimes, some dorsal or ventral papillae long. Prostomium with three short antennae,

four eyes, and two anterior eyespots, usually partially covered dorsally by peristomium, some species with prostomium completely retracted inside peristomium. Palps fused along their length, short, slightly ventrally folded, provided with small papillae. Single pair of tentacular cirri, located ventrolaterally. Two small nuchal organs, ciliated lateral clefts, usually covered by peristomium and difficult to see. Antennae, tentacular and dorsal cirri short, pyriform to bulbous, with spherical bases and short tips that are usually retractile inside bases, especially in midbody and posterior parapodia; tips sometimes papilliform and short; dorsal cirri present on all parapodia. Parapodial glands absent. Parapodia with compound, heterogomph chaetae with unidentate, short, falcate blades; dorsal and ventral simple, capillary, unidentate chaetae on some parapodia. Acicula usually solitary, acuminate, sometimes slightly modified. Pharynx long and wide, usually with smooth margin; pharyngeal tooth rhomboidal to oval, located posteriorly from anterior margin of pharynx, sometimes on middle of pharynx. Proventricle long and wide, similar in size to pharynx, provided with numerous, slender muscle cell rows. Reproduction by epigamy with dorsal incubation by means of capillary notochaetae; mature males provided with long, thin natatory chaetae on mature segments.

Prosphaerosyllis semiverrucosa (Ehlers, 1913) comb. nov.

Figure 4A–H

Sphaerosyllis semiverrucosa Ehlers, 1913: 483, pl. 32, figures 5–9.—Day, 1967: 276, figure 12.11 a–e.

TYPE MATERIAL

Holotype ZMB 6749, 3 syntypes ZMB 5819. Simonstown, South Africa (Deutsche Südpolar-Expedition).

DESCRIPTION

Holotype, mature male with natatory chaetae from chaetiger 10 to 29; colour pattern yellow to orange; 5 mm long, 0.3 mm wide, 35 chaetigers. Prostomium oval, slightly wider than long, partially covered by peristomium (Figure 4A); four large eyes in trapezoidal arrangement. Antennae minute, papilliform, with bulbous base and short tip; median antenna inserted between posterior eyes, lateral antennae inserted in front of anterior eyes, near anterior margin of prostomium (Figure 4A). Palps short, fused along all their length except for a short terminal notch. Peristomium shorter than subsequent segments, covering posterior margin of prostomium (Figure 4A). Anterior segments smooth, without papillae; dorsum and ventrum covered by papillae from ninth segment onwards; dorsal papillae of three different sizes; large, round papillae, arranged in three longitudinal rows (Figure 4A); remaining papillae smaller, of two different sizes, irregularly distributed among large papillae (Figure 4A). Tentacular cirri similar in shape and length to antennae, slightly smaller. Dorsal cirri short, papilliform (Figure 4A, C), provided with a distinct, retractile cirrostyle; larger on posterior half of body; ventral cirri larger than dorsal cirri (Figure 4C). Compound chaetae with short unidentate blades, provided with short spines on margin (Figure 4H); chaetal fascicles with five to six compound chaetae, blades 6–7 µm long; dorsal simple chaetae from first chaetiger, unidentate, with short spines on margin (Figure 4D); ventral simple chaetae on posterior parapodia, similar to dorsal one (Figure 4E). Anterior parapodia with two slender aciculae;

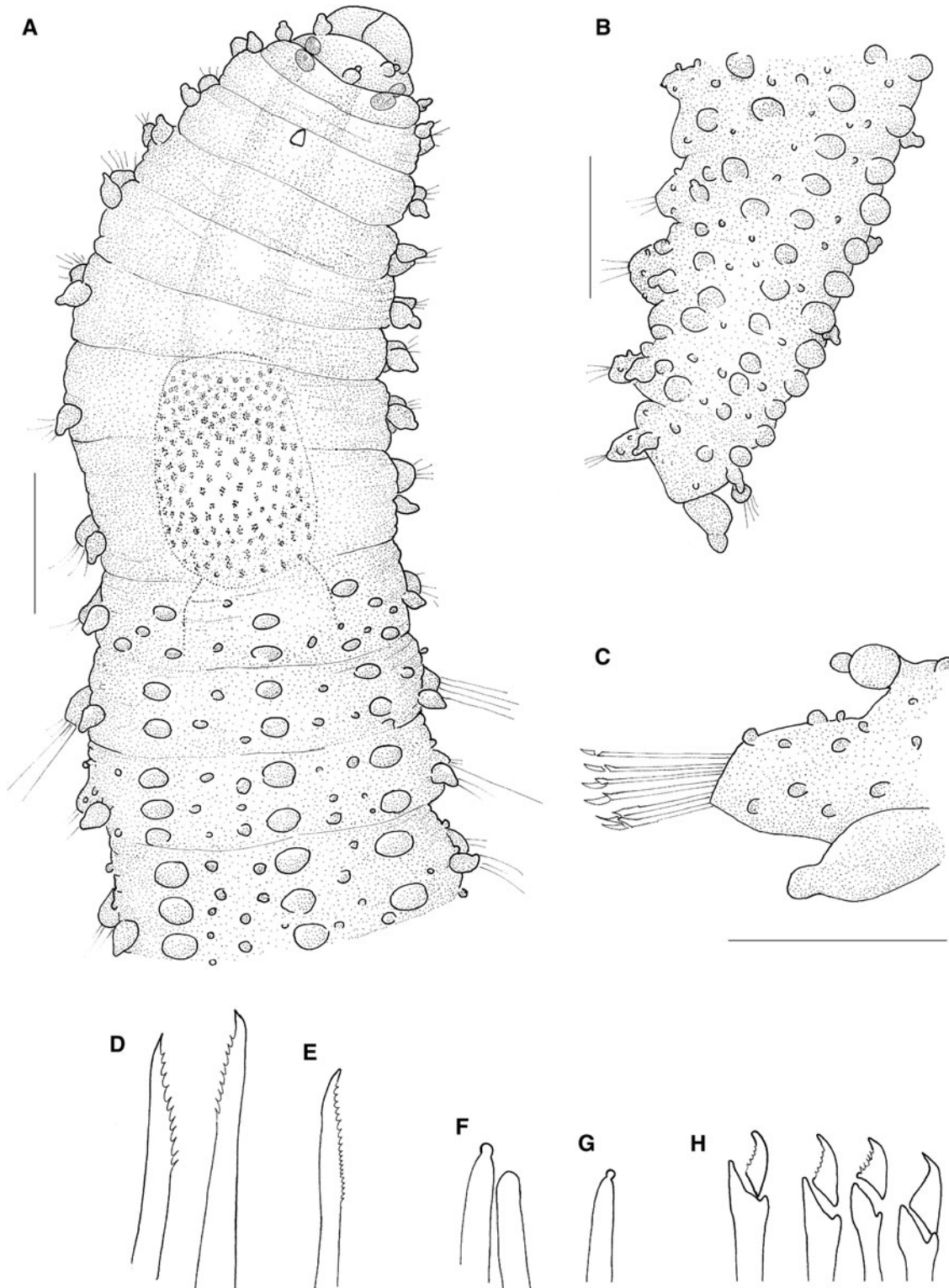


Fig. 4. *Prosphaerosyllis semiverrucosa* (Ehlers, 1913) comb. nov., holotype ZMB 6749: (A) anterior part, dorsal view; (B) posterior part, dorsal view; (C) midbody parapodium; (D) dorsal simple chaetae, anterior parapodium; (E) ventral simple chaeta, posterior parapodium; (F) aciculae, anterior parapodium; (G) acicula, posterior parapodium; (H) compound chaetae, midbody parapodium. Scale bars: A–C, 0.15 mm; D–H, 19 μ m.

one distally rounded, other one with a distal small spherical tip (Figure 4F); posterior parapodia with solitary acicula, with a small spherical tip (Figure 4G). Pharynx through about six segments; pharyngeal tooth small, located on anterior half of pharynx, separated from pharyngeal opening (Figure 4A). Proventricle barrel shaped, through two segments, with

about 25 muscle cell rows. Pygidium with two short anal cirri, similar to dorsal cirri but distinctly larger (Figure 4B).

REMARKS

This species is characterized by its particular distribution of papillae, with spherical, large papillae arranged in three

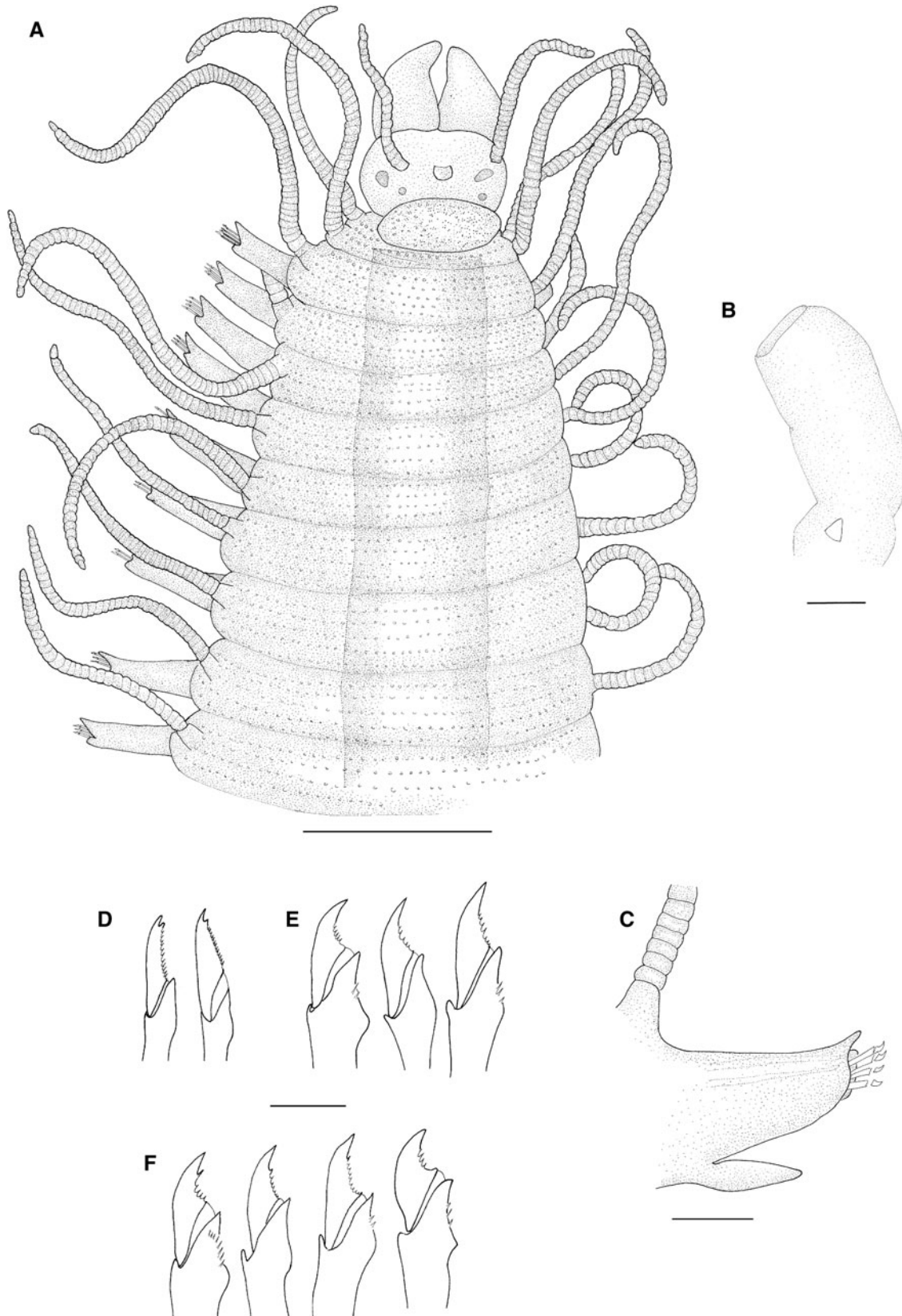


Fig. 5. *Opisthosyllis neglecta* (Grube, 1870) comb. nov., lectotype ZMB 843: (A) anterior part, dorsal view; (B) pharynx and pharyngeal tooth; (C) midbody parapodium; (D) compound chaetae, anterior parapodium; (E) compound chaetae, posterior parapodium; (F) compound chaetae, midbody parapodium. Scale bars: A, 0.44 mm; B, 0.3 mm; C, 0.19 mm; D–F, 20 μ m.

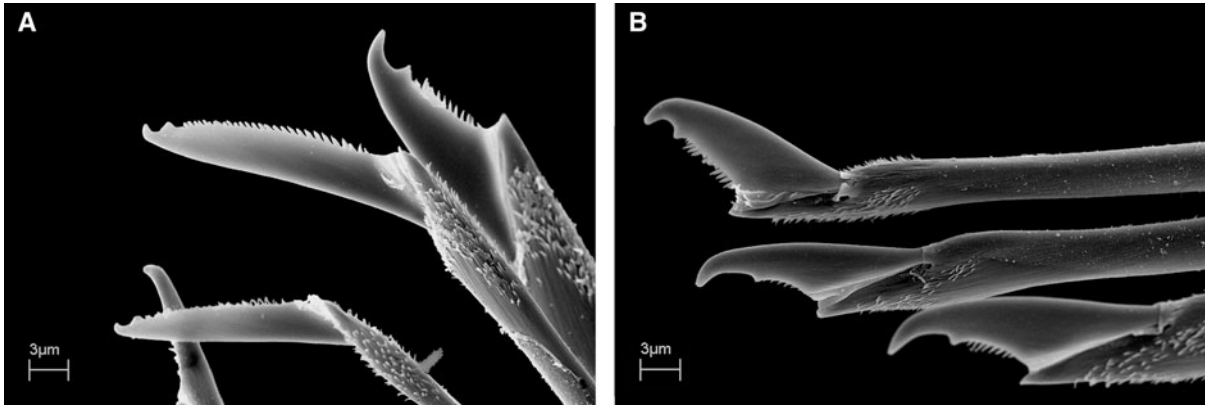


Fig. 6. SEM micrographs, *Opisthosyllis neglecta* (Grube, 1870) comb. nov., lectotype ZMB 843: (A) compound chaetae, anterior parapodium; (B) compound chaetae, midbody parapodium.

longitudinal rows and smaller papillae of two different sizes scattered throughout. San Martín (2005) suggested this species as a member of the genus *Prosphaerosyllis* in his discussion of *Prosphaerosyllis battiri*, from Australia. *Sphaerosyllis semiverrucosa* is herein transferred to *Prosphaerosyllis*, in agreement with San Martín (2005), because it has short rounded palps, fused along all their length except for a terminal notch, unlike those of *Sphaerosyllis*, which are conical and fused for all their length. Moreover, *Prosphaerosyllis semiverrucosa* comb. nov., unlike species of *Sphaerosyllis*, has dorsal cirri present on the second chaetiger and a pharyngeal tooth located posterior to the pharyngeal opening, which lacks papillae.

Subfamily SYLLINAE Grube, 1850
Genus *Opisthosyllis* Langerhans, 1879

Opisthosyllis Langerhans, 1879: 541.

TYPE SPECIES

Opisthosyllis brunnea Langerhans, 1879.

DIAGNOSIS

Body size medium to large (5–10 mm in length) with numerous segments. Prostomium with three antennae, two pairs of eyes and sometimes one pair of eyespots, and two palps. Palps basally fused. Two pairs of tentacular cirri; some species with an occipital flap, originated from peristomium. Antennae, tentacular, anal, and dorsal cirri distinctly articulated. Ventral cirri digitiform to ovate. Compound chaetae with falcigerous blades; capillary dorsal and ventral simple chaetae present. Pharynx with tooth located posterior to anterior rim, typically inserted posteriorly to middle of pharynx; anterior margin of pharynx surrounded by soft papillae. Reproduction by means of dicerous stolons.

Opisthosyllis neglecta (Grube, 1870) comb. nov.
Figures 5A–F, 6A–B

Syllis neglecta Grube, 1870: 501–502.—Hartman, 1959: 228; 1974: 617.—Hartwich, 1993: 120.

Typosyllis neglecta Licher, 1999: 207–209, figure 88.

TYPE MATERIAL

Lectotype ZMB 843. Paralectotype ZMB 11074. Tor, Red Sea.

DESCRIPTION

Lectotype 20.4 mm long, 1.1 mm wide, with 165 chaetigers. Body long and slender, circular in section, ventrally flattened; body width fairly constant with tapering end. Red colour pattern preserved in lectotype. Dorsal surface covered with small, spherical papillae, arranged in transversal rows. Prostomium wider than long, rectangular to oval, with two pairs of red eyes in trapezoidal arrangement, anterior pair larger (Figure 5A). Palps broad, longer than prostomium, conical, basally fused with distinct medial longitudinal groove. Antennae filiform, articulated; median antenna lost, first article inserted medially on prostomium; lateral antennae slightly shorter than combined length of prostomium and palps, with 25–30 articles, inserted near anterior margin of prostomium (Figure 5A). Peristomium shorter than subsequent segments; occipital flap arising from anterior margin of peristomium, covering posterior part of prostomium (Figure 5A). Tentacular cirri similar in shape to antennae but distinctly longer; dorsal pair with 50–58 articles; ventral pair shorter, with 30–35 articles. Dorsal cirri of first chaetiger with 70 articles; dorsal cirri of second chaetiger shorter, with 30–35 articles, dorsal cirri of third and fourth chaetigers longer, with 50–60 articles (Figure 5A). Subsequent cirri alternating in length, longer cirri with 35–40 articles, and shorter ones with 25–30 (Figure 5A); distinct alternation in midbody chaetigers; longer cirri pointing up and shorter cirri pointing down; cirrophores well developed. Ventral cirri digitiform, short, about half the length of parapodia; proximally inserted (Figure 5C). Parapodia conical, long, approximately one-third of body width; pre-chaetal and post-chaetal lobes present; pre-chaetal lobe digitiform, longer than post-chaetal one; post-chaetal lobe papilliform (Figure 5C). Chaetal fascicle with 12–15 heterogomph compound chaetae on anterior parapodia, 9–12 on median parapodia and 5–7 on posterior parapodia; anterior compound chaetae with bidentate blades; distal tooth larger than proximal one, blade edge with short spines (Figures 5D, 6A); midbody compound chaetae with bidentate or indistinctly bidentate blades, shorter than anterior ones, with short spines on margin (Figures 5F, 6B); posterior blades unidentate, more robust than anterior ones, with short spines on edge (Figure 5E); dorsalmost blades 31 µm long on anterior parapodia (Figures 5D, 6A), 26 µm long in midbody parapodia (Figures 5F, 6B). Dorsal and ventral simple chaetae unidentate, present on posterior parapodia

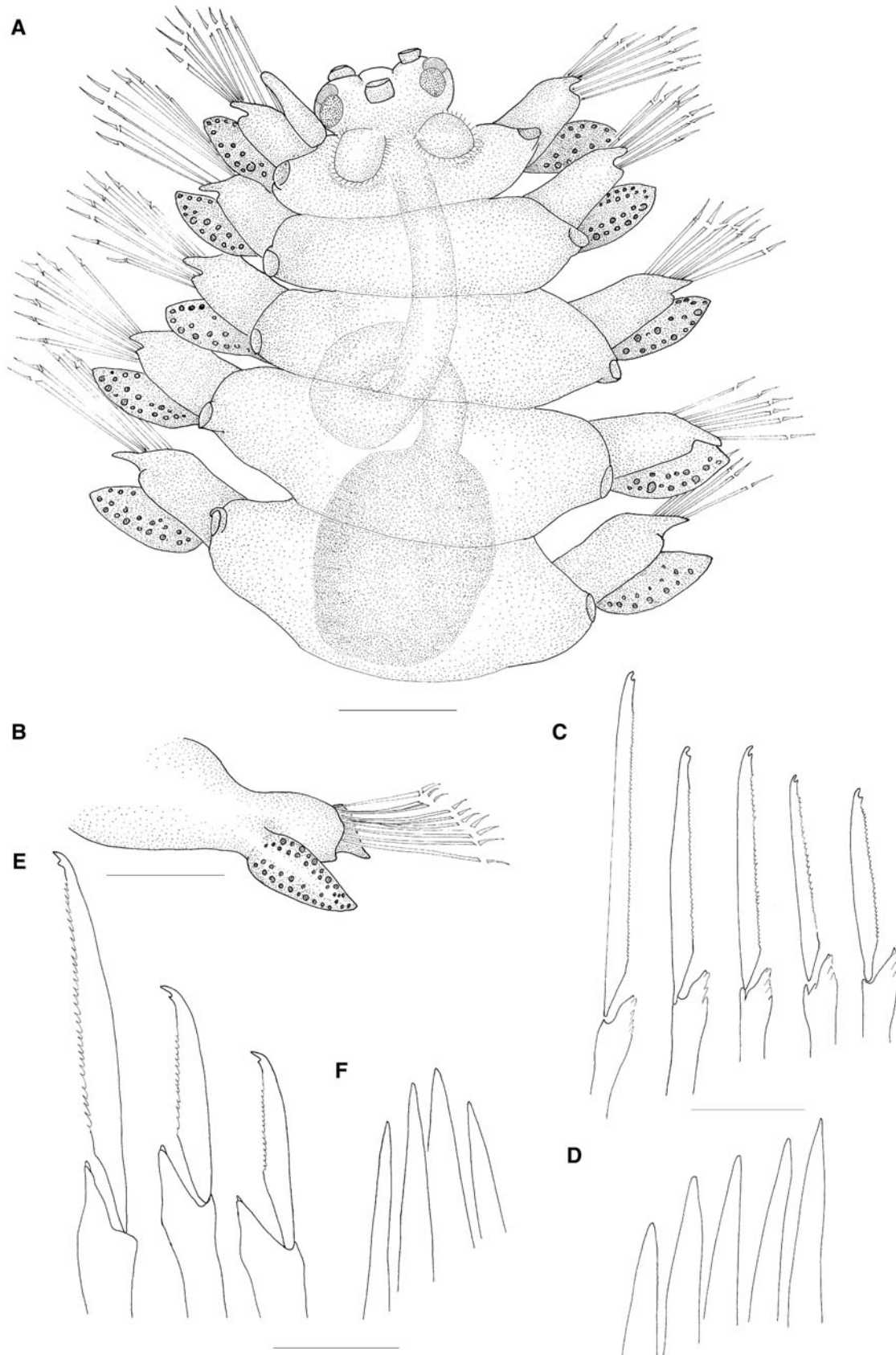


Fig. 7. *Amblyosyllis granosa* (Ehlers, 1897), syntype ZMB 5318: (A) morphotype A, anterior part, dorsal view; (B) morphotype A, midbody parapodium; (C) morphotype A, compound chaetae, anterior parapodium; (D) morphotype A, aciculae; (E) morphotype B, compound chaetae, anterior parapodium; (F) morphotype B, aciculae. Scale bars: A, B 0.29 mm; C–F, 29.8 μ m.

(*vide* Licher, 1999). Five aciculae in each anterior parapodium, four in midbody and two in posterior ones; aciculae straight and distally blunt (*vide* Licher, 1999). Pharynx long, through 18 segments, similar in length and almost as broad as proventricle (Figure 5A); large conical tooth located on posterior part of pharynx (Figure 5B). Proventricle long, rectangular, through segments 17 to 35. Pygidium conical, anal cirri lost.

REMARKS

Opisthosyllis neglecta comb. nov. has the pharyngeal tooth located on the posterior part of the pharynx, unlike species of *Syllis* which have the tooth located close to the pharyngeal opening. It also has an occipital flap which is lacking in *Syllis* species, while it is typical of *Opisthosyllis*. Although the

taxonomic position of *Opisthosyllis neglecta* comb. nov. is clearly based on morphological features, *Opisthosyllis* and *Syllis* are conflictive genera since not the former, or the latter, have been recovered as monophyletic groups in the last phylogenetic study of the family Syllidae (Aguado *et al.*, 2012). Therefore, until more studies are available, we herein maintain the diagnostic differences between these two genera since they are, up to date, the only way to organize these groups of syllids. More studies incorporating morphological and molecular information are needed in order to clarify the systematics of these conflictive groups.

Genus *Amblyosyllis* Grube, 1857

Amblyosyllis Grube, 1857: 186.

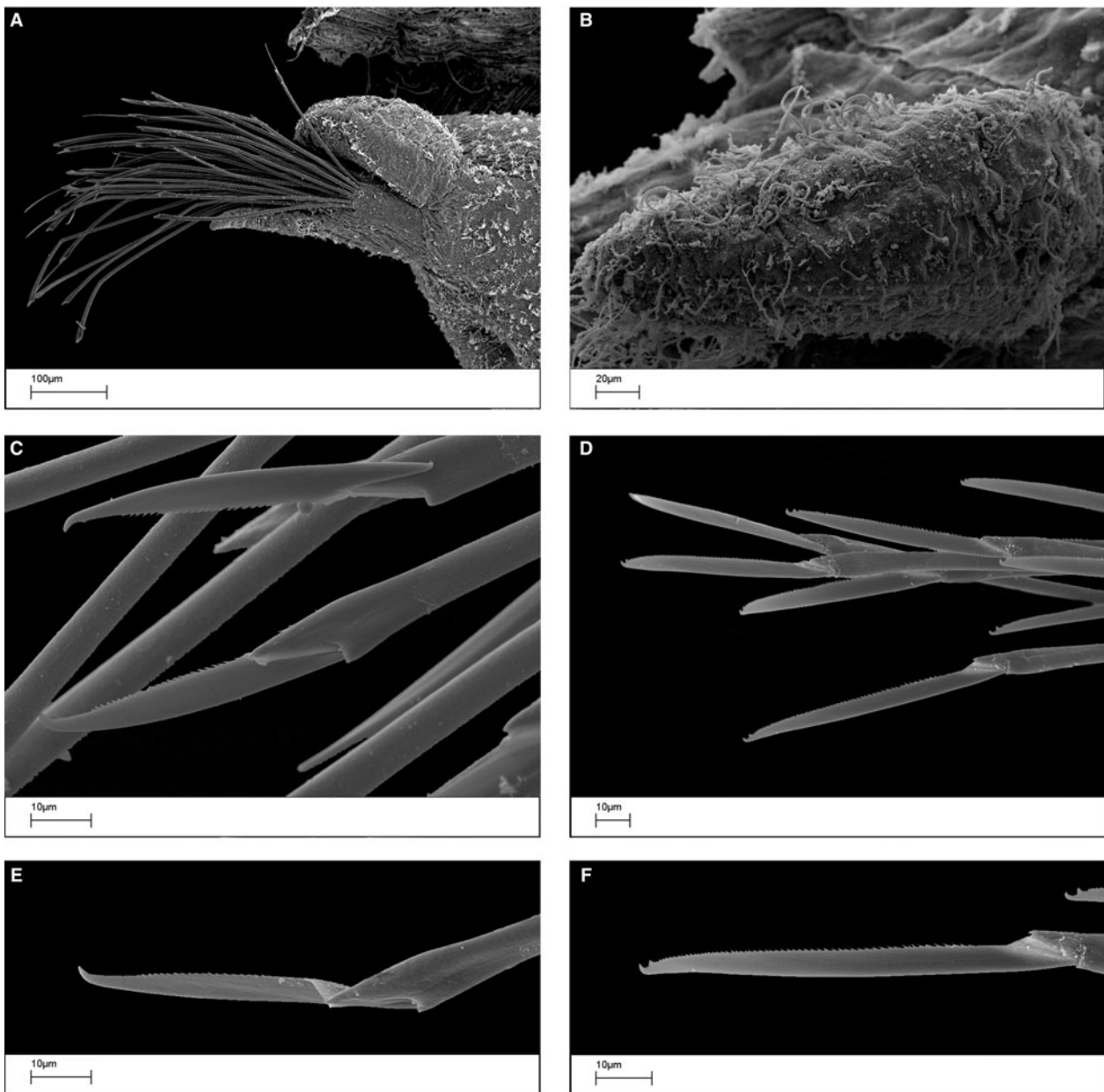


Fig. 8. SEM micrographs, *Amblyosyllis granosa* (Ehlers, 1897), syntype ZMB 5318: (A) morphotype A, anterior parapodium, ventral view; (B) morphotype A, detail of ventral cirri cilia, anterior parapodium; (C) morphotype B, compound chaetae, anterior parapodium; (D) morphotype A, compound chaetae, anterior parapodium; (E) morphotype B, detail of compound chaeta, anterior parapodium; (F) morphotype A, detail of compound chaeta, anterior parapodium.

Cirrosyllis Schmarda, 1861: 76.
Gattiola Johnston, 1865: 195.
Nicotia Costa, 1864: 160.
Pterosyllis Claparède, 1863: 46.
Thylaciphorus Quatrefages, 1865: 55.
Pseudosyllides Czerniavsky, 1882: 173.

TYPE SPECIES

Amblyosyllis rhombeata Grube, 1857.

DIAGNOSIS

Body dorsoventrally flattened, extremely fragile, with few segments; last segment with two pairs of cirri, lacks parapodia and chaetae. Intersegmental constrictions strongly marked; midbody segments typically trapezoidal in shape. Prostomium with three antennae, four eyes, and usually two anterior eyespots, sometimes ventrally located. Palps short, shorter than prostomium, basally fused, divergent, usually ventrally folded, and difficult to see dorsally. Peristomium shorter than following segments, with two pairs of tentacular cirri, and one pair of nuchal organs, forming nuchal lappets, usually ciliated. Antennae, tentacular and dorsal cirri long, longer than body width, usually strongly coiled, sometimes forming skeins, smooth to indistinctly articulated, fragile. Pigmentary glands on dorsal and ventral cirri, sometimes forming distinct vesicles. Ventral cirri large, located lateroposteriorly to parapodial lobes, similar in length. Compound chaetae heterogomph, bidentate falcigers, numerous, present on all chaetigers, other types of chaetae rarely present; chaetae similar in all species. Pharynx long, slender, highly convoluted, with trepan formed by several teeth, lacking median tooth. Proventricle proportionally small. Pygidium with two long anal cirri, one-third the length of dorsal cirri.

Amblyosyllis granosa Ehlers, 1897
 Figures 7A, 8A–F

Amblyosyllis granosa Ehlers, 1897: 58–60, pl. 3, figures 73–76.
 ? *Amblyosyllis granosa* Westheide 1974: 68–71, figures 30.

TYPE MATERIAL

Four syntypes ZMB 5318 (4 anterior fragments and numerous segments). Sharks Bay, Australia.

DESCRIPTION

Four incomplete syntypes; best preserved specimen, 8.5 mm long, 0.54 mm wide, with five chaetigers. Body fragile, pigmented in yellow to orange. Segments trapezoidal in shape (Figure 7A). Prostomium oval, with four large red eyes in trapezoidal arrangement. Antennae lost, median antennae inserted between posterior pair of eyes, lateral antennae inserted on anterior margin of prostomium (Figure 7A); palps basally fused, divergent, ventrally folded. Peristomium shorter than subsequent segments, with two pairs of tentacular cirri (*vide* Ehlers, 1897); two elongated nuchal epaulettes with long and numerous cilia on margin, extending over first chaetiger. Only one dorsal cirrus present on seventh segment of one syntype, annulated with orange granular material, remainder dorsal cirri missing. Parapodial lobes long, with conical prechaetal lobes, distally pointed (Figure 7B); ventral cirri spindle shaped, large, broad, arising ventro-laterally, inserted medially in parapodia, with dark granular material inside distributed in several

longitudinal rows (Figures 7A). Parapodia with about 20–30 compound, heterogomph chaetae (Figure 7B), blades bidentate with very short spines on edge (Figure 7C); blades dorsoventrally graduated in length from 55 µm in the dorsalmost to 28 µm in the ventralmost. Four to five straight and pointed aciculae per parapodium (Figure 7D). Pharynx slender, with several coils, at least one externally visible in some specimens (Figure 7A); trepan absent; proventricle extending through 1.5 segments, with 13 muscle cell rows (Figure 7A). Pygidium lost.

REMARKS

The re-description presented herein is intended to complement the information provided by Ehlers (1897) in the original description. Slight variation was observed among the examined specimens, apparently belonging to two different morphotypes. The morphotype described above (morphotype A) (Figure 7A–D) has small spines on the margins of the shafts of falcigers and lacks a trepan, while morphotype B (Figure 7E) does not have spines; due to the poor state of preservation of the material further examinations were not possible and it is unknown if morphotype B has a trepan or not.

It is worth mentioning that the Australian specimens described above are also similar to those described by Whestheide (1974) from the Galapagos Islands, however, these have a trepan with six small teeth on the pharyngeal opening whereas the Australian specimens do not. *Amblyosyllis* is a very conflictive genus with some poorly known species, and an appropriate revision is needed.

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