

Two New *Sphaerosyllis* (Polychaeta, Exogoninae) from Gulf of Aqaba, Red Sea, Egypt

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Abstract: Two new species, family Syllidae, sub-family Exogoninae, genus *Sphaerosyllis* were collected with coarse sand from the coastal area of the Gulf of Aqaba, Red Sea, Egypt. They are named *Sphaerosyllis elnaby* n. sp. and *Sphaerosyllis hebatallah* n. sp. The main character of *S. elnaby*, each segment with four equal annuli, short or flask shape dorsal cirri, with bulbous bases and very short nick, straight acicula and non-serrated setae; long proventricles; while *S. hebatallah* characterized by the absence of parapodial glands and palps provided with high density of papillae, also long proventricles with 16 muscle rows, each one with about 6 square cells.

Key words: Syllidae • Exogoninae • *Sphaerosyllis* • Two New *Sphaerosyllis* • Gulf of Aqaba • Egypt

INTRODUCTION

Many authors have been studied family Syllidae from Mediterranean Sea, but were little from Red Sea. The first Red Sea expedition of the Pola (1895-1898); and the collected specimens were deposited at the Natural History Museum in Vienna. Many studies held by Gravier in Red Sea such as [1-12]; great efforts were done to investigate the benthic polychaetes of the Red Sea especially in the Northern part. Fauvel [13] and Monro [14] described polychaetes by John Murray Expedition from 1933 to 1934. Some authors reported numbers of polychaetes collected from Gulf of Aqaba [15, 16]. Ben-Eliahu studied polychaetes from Gulf of Aqaba [17, 18]. Amoureux *et al.* [19] summarized the taxonomic and biogenetic characters of polychaetes which collected from the Gulf of Aqaba and Gulf of Suez from 1968 to 1973. Amoureux [20] listed 81 species from rock, coral and algal substrates in the Gulf of Aqaba.

The only study from Egyptian researchers of Polychaetes in Gulf of Aqaba was given by the Author [21], who reported some alien syllidae species from the Gulf of Aqaba. In this paper the author reported two new *Sphaerosyllis* were collected from the Gulf of Aqaba. Which are considered new for science (*Sphaerosyllis elnaby* and *Sphaerosyllis hebatallah*); full description

and comparing to other *Sphaerosyllis* are reported drawing with camera Lucida attached with compound microscope. Dr. San Martin University Auto'noma of Madrid confirmed that the two species are new.

MATERIALS AND METHODS

Red Sea is divided in to two branch Gulf of Suez and Gulf of Aqaba (150 km long, average width of 16 km and average depth of 650m) [22]. Samples were within the project of Egyptian surface coastal waters of the Aqaba and Suez Gulf as well as the Red Sea. The project studied the water quality and bacterial indicators 2010, for pollution. The samples were collected from the coastal area, shallow depths, four seasons during 2010, then washing by tap water using sieve with mesh size less than 0.1mm to receive very small syllidae, sorted and fixed in 70% ethyl alcohol until the time of study. Using compound microscope and camera Lucida.

RESULTS

***Sphaerosyllis elnaby* n. sp:** Material examined: Three specimens were collected from station number 5, 6, 7 with coarse sand from the Gulf of Aqaba.

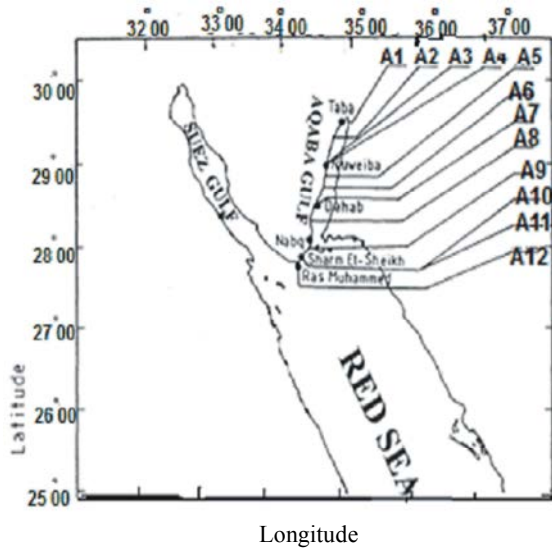


Fig. 1: Map showing the names and sites code of sampling for Aqaba Gulf.

Description: Body length from 4-6mm with 22-25 segments, each segment divided into four annuli. Palps short, completely fused dorsally with papillae on the outer margin. Antenna short in length same as palps; prostomium with four lensed eyes in trapezoid arrangement plus two eyespots (Fig. 2A); peristomium reduced compressed. Pair of tentacular cirri projecting below prostomium, more short than lateral antennae. Antennae, peristomial cirri, dorsal cirri and anal cirri, all with the same shape; short with bulbous bases and short nick; bases and nicks with iridescent particles (Fig. 2C) and one gland per each. Each segment with four equal annuli and above each segment there is a line of dots. Parapodial lobes with anterior and posterior papilla between them, bundle of chaetae present. Anal cirri short but slightly more in length than dorsal cirri (Fig. 2B). Ventral cirri broad, shorter than parapodial lobe (Fig. 2A). Parapodia with 5 chaetae anteriorly become three on posterior chaetigers (Fig. 2 E, F, G), falcigers short, falcate

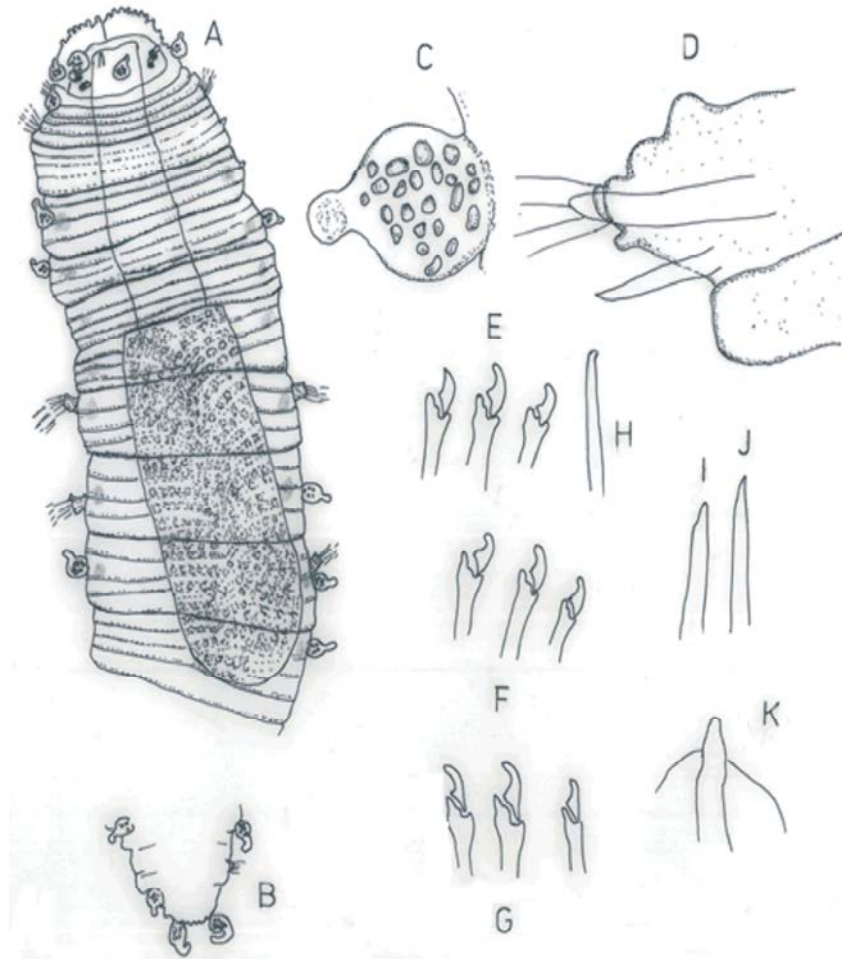


Fig. 2: *Sphaerosyllis elnaby* n. sp. A: Anterior part of the body; B: Posterior part of the body with anal cirri; C: Dorsal cirri; D: parapodia; E: Anterior chaetae; F: mid body chaetae; G: Posterior chaetae; H: Dorsal simple chaeta; I, J: Ventral simple chaeta; K: Acicula. Scale (A, B 10x10; C- D 10x40; E-K 10x100).

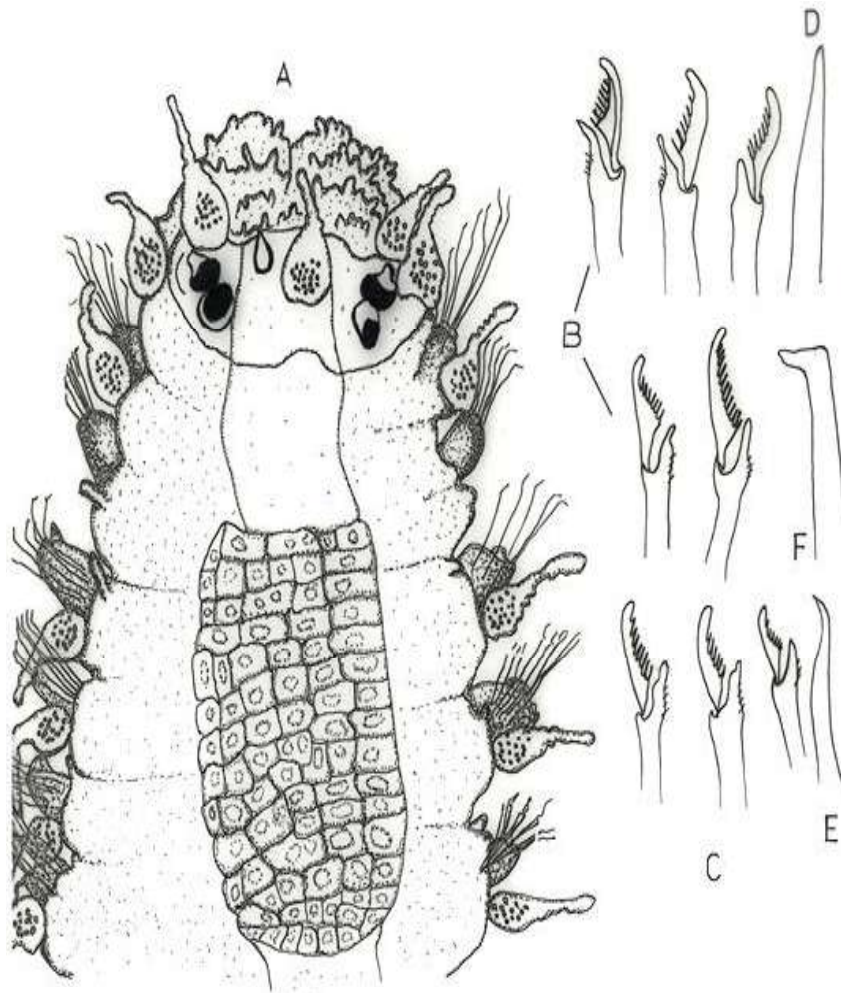


Fig. 3: *Sphaerosyllis hebatallah* n. sp. A: Anterior part of the body; B: Anterior chaetae; C: Posterior chaetae; D: Dorsal simple chaeta; E: Ventral simple chaeta; F: Acicula. (A10x40; B-E 10x100).

more curved without dorso-ventral serration, blades measuring 7.5-10.5 μm . Dorsal simple chaetae present from first chaetiger, almost straight and slightly curved distally; short and thin on anterior chaetigers, becoming longer and thicker posteriorly (Fig. 2H, K), from proventricular segments. Ventral simple chaeta straight, with pointed tip, appears posteriorly (Fig. 2 I, J); each parapodia with protruding acicula with rounded tip (Fig. 2 D). Pharynx extending through 5 chaetigers, with small tooth at anterior left side of pharynx. Proventricule occupies 4-5 segments, rectangular to square in shape, wider than pharynx with 27 rows of muscle cells Fig. 2 A). Pygidium with papillae and two anal cirri more bulbous than dorsal cirri (Fig. 2B).

Remarks: According to the confirmation by dr. Guillermo san Martin, this species is new, comparing to

Sphaerosyllis sp. [23], the dorsal cirri of the present specimens are different, shorter with more bulbous bases, different aciculae which straight in the present species; different chaetae here without serration while in san martin's specimens, they are with fine serrations.

The species comparing with *Sphaerosyllis annulata* which reported by Noguiera *et al.* [24] from Brazil, my specimens have long proventricles, being short in *Sphaerosyllis annulata* which occupied two segment but herein it through 5 segments.

Comparing with *Sphaerosyllis gravinae* [25]. The both have similar aciculae, but different in the shape of chaetae, dorsal simple setae, the presence of long nick bulbous dorsal cirri, also short preventricles, long papillae which cover the dorsal side of this species. In conclusion, the present species is considered new species. This is confirmed by dr. San Martin.

Etymology: The name of the new species comes from the family name of the author.

Sphaerosyllis hebatallah n. sp

Material Examined: Specimens numbered 2 collected from Gulf of Aqaba stations, number 5 and 7 with coarse sand.

Description: Body, slender 4mm long with 23 segments, without dorsal or ventral papillae also without parapodial glands. Prostomium short, rectangular, wider with two broad palps fused together with dorsal furrow, high dense papillae; two pairs of large eyes in trapezoida arrangement. Antennae flask shape, similar in length to palps; antennae three, the lateral antennae are present on the anterior margin of prostomium, median antenna are present between the two anterior eyes. Peristomium similar in length to following segments. Tentacular cirri similar to antennae, slightly short. All dorsal cirri similar in length as tentacular cirri, with bulbous bases and long tips; antennae, tentacular cirri and dorsal cirri with internal granular gland and there is no parapodial glands observed (Fig. 3A). Anterior parapodia each with 6-7 compound chaetae (Fig. 3B), three posteriorly, their shafts with sub distal spines, blades unidentate, hooks shape, provided with short spines from one side, with 13.5-7.5µm in length (Fig. 3C). Solitary simple seta present from segment number one, unidentate without spines (Fig. 3D). Ventral simple chaetae, sigmoid in shape, smooth, unidentate (Fig. 3E). Anterior parapodia each with slightly large acicula, distally bent at right angle (Fig. 3F). Pharynx extended through 2 segments, pharyngeal tooth present at anterior margin of pharynx. Proventricle through 4 segments, with 14-16 muscle cell rows. Pygidium small, with two anal cirri similar to dorsal cirri.

Remarks: The identification of this species was confirmed by dr. San Martin where he detect that is new species due to the absence of parapodial glands and the absence of dorsal and ventral papillae which characterized *Sphaerosyllis*, comparing with *Sphaerosyllis hirsute* [26], they are different in some things, firstly, eyes her larger then san martin specimens where they were rounded not as present one, the absence of parapodial glands, all dorsal cirri her with long tips, all anterior setae for san martin provided with long and short dorsally serration while her all are with short serration and more curved than them, dorsal simple seta in *S. hirsuta* with sub distal spines which absent her, pharynx long through 4

segments in *S. hirsute* while her extended through 2 segments only. Proventricle through 4 segments while extended through 2 segments only in *S. hirsuta* with less muscle cell rows. The high density of palps with papillae and the absence of body papillae and parapodial glands make this species sure new for science.

Etymology: The name of the new species comes from the name of author's daughter.

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