

PARAEUPOLYMNIA, A NEW GENUS OF TEREHELLID (POLYCHAETA: TEREHELLIDAE) FROM BELIZE

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Abstract. — A new genus of terebellid, *Paraeupolymnia*, and species, *P. carus*, collected by the senior author in Belize are described.

Paraeupolymnia, new genus

Type species. — *Paraeupolymnia carus*, new species.

Diagnosis. — The genus *Paraeupolymnia*, placed in the subfamily *Amphitritinae*, is characterized by the virtual absence of ventral glandular scutes, by lateral lappets only on the second segment, by thoracic setigers bearing smooth-tipped winged capillaries on segments 3 through 19, by avicular uncini without long basal shafts in single rows on setigers 2 through 7, in double rows face to face on setigers 8 through 17, and single rows throughout the abdomen, and by a pair of dichotomously branched gills on both segments 2 and 3. The new genus is erected on the ground that, although it resembles *Eupolymnia* Verrill, 1900, in some respects, it differs in several important characters, most particularly in that all of the undamaged specimens examined by us have two pairs of gills, not three as in *Eupolymnia*.

Paraeupolymnia carus, new species

Fig. 1

Material examined. — Caribbean Sea off Belize, main channel separating the two mangrove islands constituting the Twin Cays, 16°50'N, 88°06'W, 2¼ m, 9 Mar 1984, coll. D. K. and M. W. Young. Holotype, USNM 098908, 2 paratypes, USNM 098909, many others in the collections of the senior author.

Description. — The holotype, a complete specimen with 19 thoracic and about 30 abdominal segments, is 11 mm long and

about 1 mm wide. The tentacular lobe consists of a low semicircular dorsal flap and a collar that encircles the mouth. It bears two dorsolateral clusters of 4 to 6 grooved tentacles (Fig. 1A). A row of eyespots is situated at the base of each group of tentacles. The latter have numerous single and paired pigment spots. The second segment bears prominent lateral lappets. From its dorsal anterior edge arises the first pair of quite regularly dichotomously branched gills. The second pair is similarly situated on the third segment. The anterior pair is larger and has up to 4 or 5 levels of dichotomous branching. The posterior, smaller pair has fewer, not more than 3. A pair of nephrostomes is situated on both segments 3 and 4, dorsal to the notopodia. There are no distinct ventral glandular scutes (Fig. 1B). Narrow-winged, smooth-tipped capillary setae are borne on small, undistinguished notopodia on segments 3 through 19. The wings have diagonal striations visible under oil (Fig. 1C). Avicular uncini, none of which have long basal shafts, appear in single rows on setigers 2 through 7, in double rows face to face on setigers 8 through 17 (Fig. 1F). Uncini continue in single rows on well-developed tori throughout the abdomen (Fig. 1G). Each torus bears a low cirrus and, especially toward the posterior, prominent suspensory ligaments. The thoracic uncini have a single tooth surmounted by a row of 3 to 5 denticles, above the main fang (dental formula MF: 1: 3-5) (Fig. 1D-F). The abdominal uncini are variable, the dental formula being mainly as in the thorax but, occasionally in

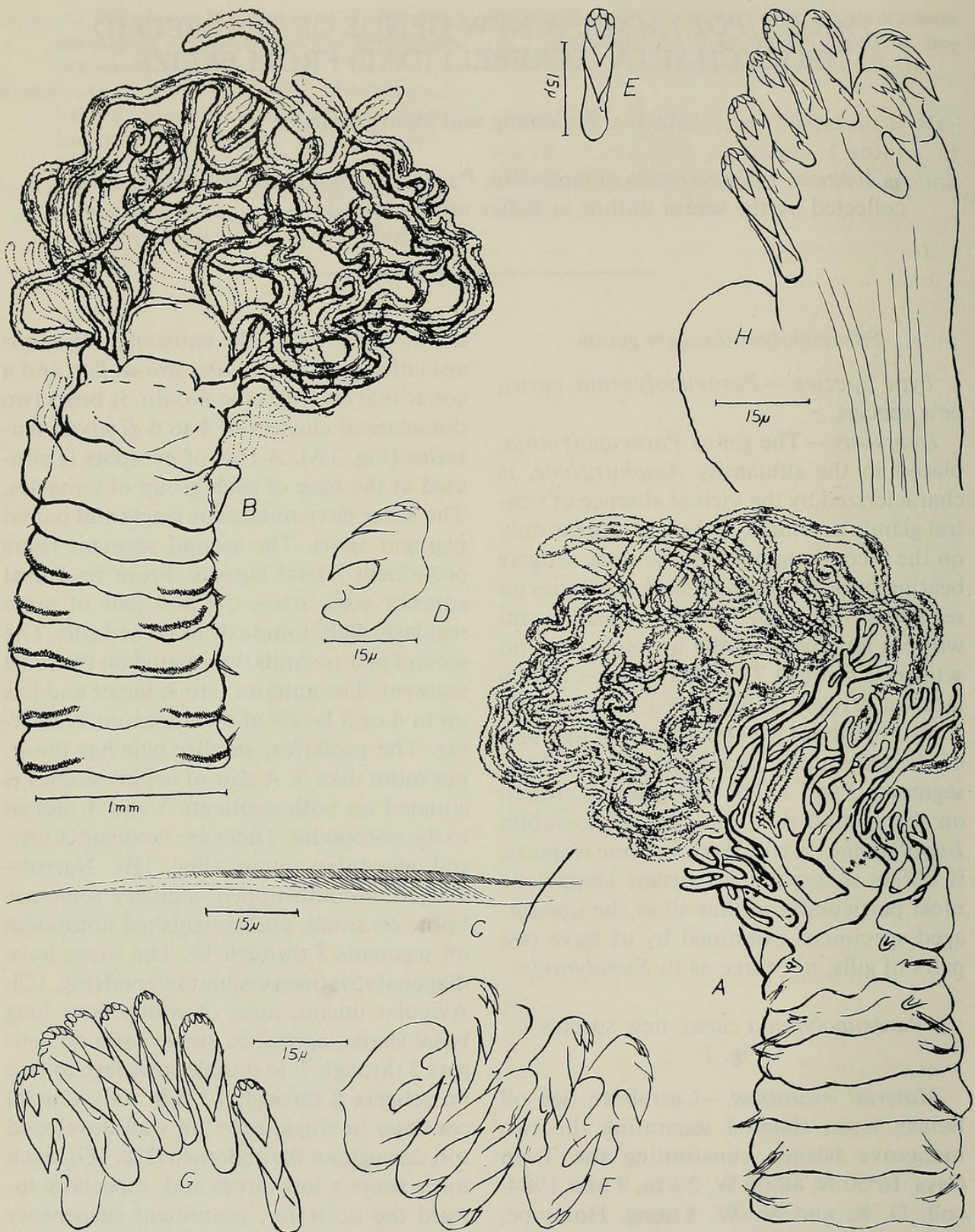


Fig. 1. *Paraeupolymnia carus*, holotype. A, Anterior end, dorsal view; B, Anterior end, ventral view; C, Capillary seta; D, Thoracic uncinus, lateral view; E, Thoracic uncinus, frontal view; F, Uncini, eighth thoracic setiger; G, Uncini, second abdominal segment; H, Uncinigerous torus, twenty-seventh abdominal segment.

the same row and increasingly toward the posterior, they read MF: 2: 4–6 or MF: 3: 5–6 (Fig. 1G, H).

The anus is terminal on a low eminence devoid of distinguishing characteristics.

The foregoing description applies equally well to the paratypes and to virtually all of the other specimens examined by us.

Biology.—*Paraeupolymnia carus* lives in mucus tubes adorned with miscellaneous debris and attached to the blades of turtle grass (*Thalassia testudinum*) growing in a mixture of coarse and fine mainly calcareous sediment with varying amounts of mangrove detritus. It is associated with a species-rich benthic assemblage. Its population constitutes a conspicuous portion of the seagrass epibenthos in the Twin Cays mangrove habitat. Of 47 individuals from one station, which ranged from 2.5 to 11 mm in length and from which the holotype and the paratypes were segregated, there were 36 with two pairs of gills and 11 with fewer. All of the latter were small and appear to have been damaged by sieving or by removal from tubes. Several of the larger specimens, including one of the paratypes, have eggs in the abdominal cavity, suggesting that 11 mm represents the length of an adult specimen.

Etymology.—The generic name combines *Para* (Greek like or resembling) with *Eupolymnia* Verrill, 1900. The specific name is given in honor of David K. Young, husband of the senior author, in appreciation of his having introduced her to the polychaetes (David, Hebrew, beloved = *carus*, Latin).

Remarks.—Using Fauchald's (1977:128) key to the genera of the Terebellidae, these specimens would invariably key out to *Eupolymnia* Verrill, 1900, were it not for the number of gills. Although the dental formula of the thoracic uncini closely resembles that of *E. nesidensis* (Delle Chiaje, 1828) and *E. sp. B.* Kritzler, 1984, other significant differences also rule out identification of these specimens with *Eupolymnia*. These

are: a, the first appearance of notopodia and setae on the third segment and uncini on the fourth; b, the virtual absence of lateral lappets on segments 3 and 4; c, the absence of ventral glandular scutes, all of which are at variance with the diagnosis of *Eupolymnia*. Some authors hold that a genus of terebellids may contain species with one, two, or three pairs of gills, a position which makes difficult, not to say impossible, the erection of a key such as Fauchald's (1977) and creates a state of confusion for ecologists and other field workers attempting to identify the specimens in their collections.

The large number of specimens in an excellent state of preservation makes it clear that the consistent number of branchiae is indeed a key character setting *Paraeupolymnia* apart from *Eupolymnia* and other terebellid genera. All of the specimens that have been examined by us had to be removed from their tubes, a process that may have caused the loss of one or more gills from very small specimens, but definitely assured us that none had more than two pairs of branchiae. The character does not vary nor does that of having three pairs of gills in *Eupolymnia*, thereby giving us confidence in erecting the new genus *Paraeupolymnia*.

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