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MICRALLECTO UNCINATA N.GEN., N.SP., A PARASITIC COPEPOD FROM A REMARKABLE HOST, THE PTEROPOD PNEUMODERMA

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ABSTRACT

A new genus and species of copepod crustacean parasite, *Micrallecto uncinata*, is described from *Pneumoderma pygmaeum* (Tesch, 1903), a gymnosome pteropod (Mollusca) collected West of Bermuda. The parasite probably belongs to the family Splanchnotrophidae and is the first copepod associate reported from a pteropod.

To my colleague, Dr. S. van der Spoel, I am indebted for a most remarkable parasitic copepod found by him on a pelagic mollusc, *Pneumoderma pygmaeum* (Tesch, 1903), belonging to the Gymnosomata, one of the groups in which the Pteropoda are divided. Unfortunately, only a single specimen of the parasite has been found so far, but its external features were so interesting, that I have decided to dissect the unique specimen in order to make a detailed study of the appendages possible. A new genus and a new species are proposed for the reception of the curious little parasite. It appears to be the first copepod parasite reported from a pteropod host.

Micrallecto n.gen.

Diagnosis.-- Female. Body divided into a cephalosome and an unsegmented, sack-like posterior section. The cephalosome bears a 2-segmented anterior antenna, a 2-segmented posterior antenna distally armed with two groups of numerous claws, a toothed mandible, and a 2-segmented posterior maxilla distally armed with 2 strong hooks. The posterior section of the body contains the ovaries; external ovisacs have not been found in the single specimen known; this section is provided with the long, prehensile, modified, first pair of legs, the very reduced, prehensile, second pair of legs, and two terminal setae representing presumably the vestiges of the caudal rami.

Type-species.-- *M. uncinata* n.sp., associated with Gymnosomata.

Etymology.-- *Micrallecto*, gender feminine, from μικροσ (small) and αλληκτοσ (one of the three furies, a nasty creature pestering her victims, amongst others with her long claws); *uncinata*, from the Latin uncus (claw, hook), alluding to the distal armature of the posterior maxilla.

Micrallecto uncinata n.sp.

Material examined.- 1 ♀ (holotype). Ocean ACRE Project, cruise 11, station 9 M, West of Bermuda, 32°10'-31°58' N, 62°49'-62°47' W, 10 ft Isaacs Kidd Midwater Trawl, 0-860 m, 14/15 January 1971, time 23.45-01.45, surface temperature 20.2° C. On a "wing", next to the oral aperture, of *Pneumoderma pygmaeum* (Tesch, 1903). The holotype is in the Zoölogisch Museum, Amsterdam, catalogue nr. Co. 102.348.

Description of the holotype.- Body (fig. 1) length 708 μ . The small cephalosome is slightly hood-shaped and carries the following appendages:

-- The 2-segmented anterior antenna (fig. 6). The elongated, slightly tapering basal segment is unarmed; the elongately oval distal segment bears 8 flabby spines and one triangular, spine-like projection, as illustrated.

-- The 2-segmented posterior antenna (fig. 7). The strong basal segment is unarmed, the roughly rectangular distal segment is provided with 2 terminal groups of claw-like elements, the lateral group is composed of 4 to 5 groups of slender graduated claws; from the median row a membranous flange runs along the distal half of the median margin of the segment.

-- The mandible (fig. 2). This appendage is hidden in the soft chitinous mass, forming the morphologically still unclarified buccal area. As far as could be ascertained, it consists of an elliptical basal segment and a distal claw armed with 3 teeth.

-- The posterior maxilla (fig. 3). This is the only other mouth part that could be found. For reasons mentioned in the discussion, it is supposed to be the posterior maxilla. It consists of two segments, articulated with one another in such a way that they assume the form of a V; the distal armature consists of two large, strongly curved claws.

The sack-like, unsegmented remaining part of the body is filled with the ovaries. The larger eggs, in the posterior part of the "sack", have a diameter of 102 to 143 μ . This section of the body bears the following appendages:

-- The first leg (fig. 4). This is the largest appendage of the whole body. The basal segment is rectangular, wider than long. The second segment is tapering, its distal inner margin is membranaceous. The third segment is slightly curved. The fourth segment is prolonged into a shorter median, and a longer distal "finger", each finger being tipped with a crenulated membranaceous zone. None of the segments bears any armature.

-- The second leg (fig. 5) is strongly reduced in size. Its basal segment is 29 μ long; it bears a slender basal projection, which forms together with the strong terminal claw a kind of chelate device, just opposing the distal "fingers" of the first leg (see fig. 1).

-- Two terminal setae, 27 μ long (FU in fig. 1), that most probably are vestiges of the caudal rami.

DISCUSSION

The affinities of this curious parasite are rather obscure. There is a striking resemblance in the appendages to the genus *Splanchnotrophus*, although the body shape of the latter, an internal parasite of *Nudibranchia*, is quite different.

Striking similarities, which are in my opinion more than just convergent developments, are the 2-segmented anterior antennae, armed with flabby spines (figures for *Splanchnotrophus* in Monod & Dollfus, 1932, fig. 18; Delamare Deboutteville, 1950, fig. 14; Delamare Deboutteville, 1951, fig. 8), the mandible armed with teeth (figures for *Splanchnotrophus* in Laubier, 1964, figs. 1 d, e, f), the absence of a mandible palp or of an anterior maxilla (cf. Laubier, 1964: 170), the presence of a bicuspidate posterior maxilla (figure for *Splanchnotrophus* in Laubier, 1964, fig. 1 c), and in the overall structure of the first legs with its elongate, unbranched, prehensile structure, with an inner "finger" on the distal segment

(figures for *Splanchnotrophus* in Delamare Deboutteville, 1950, figs. 4 and 11; Delamare Deboutteville, 1951, fig. 6). Moreover, it is easy to homologize the 2nd leg of *Micrallecto* to the second leg of *Splanchnotrophus insolens* (T. & A. Scott) (figure in Delamare Deboutteville, 1950, fig. 12).

The furca of *Splanchnotrophus* is strongly reduced (Delamare Deboutteville, 1950, figs. 8, 17; Monod & Dollfus, 1932, fig. 19), but still possesses a small ramus and several distal setae, while in *Micrallecto* the ramus disappeared completely and the armature got reduced to a single seta.

Splanchnotrophus has external ovisacs. Whether *Micrallecto* can produce external ovisacs remains unknown at present; no indication of such sacs or of their attachment area has been found in the single available specimen.

Apart from the body shape (with three pairs of snake-like lateral body prolongations in *Splanchnotrophus*), the new genus *Micrallecto* is chiefly distinguished from *Splanchnotrophus* by the more complicated armature of the posterior antennae.

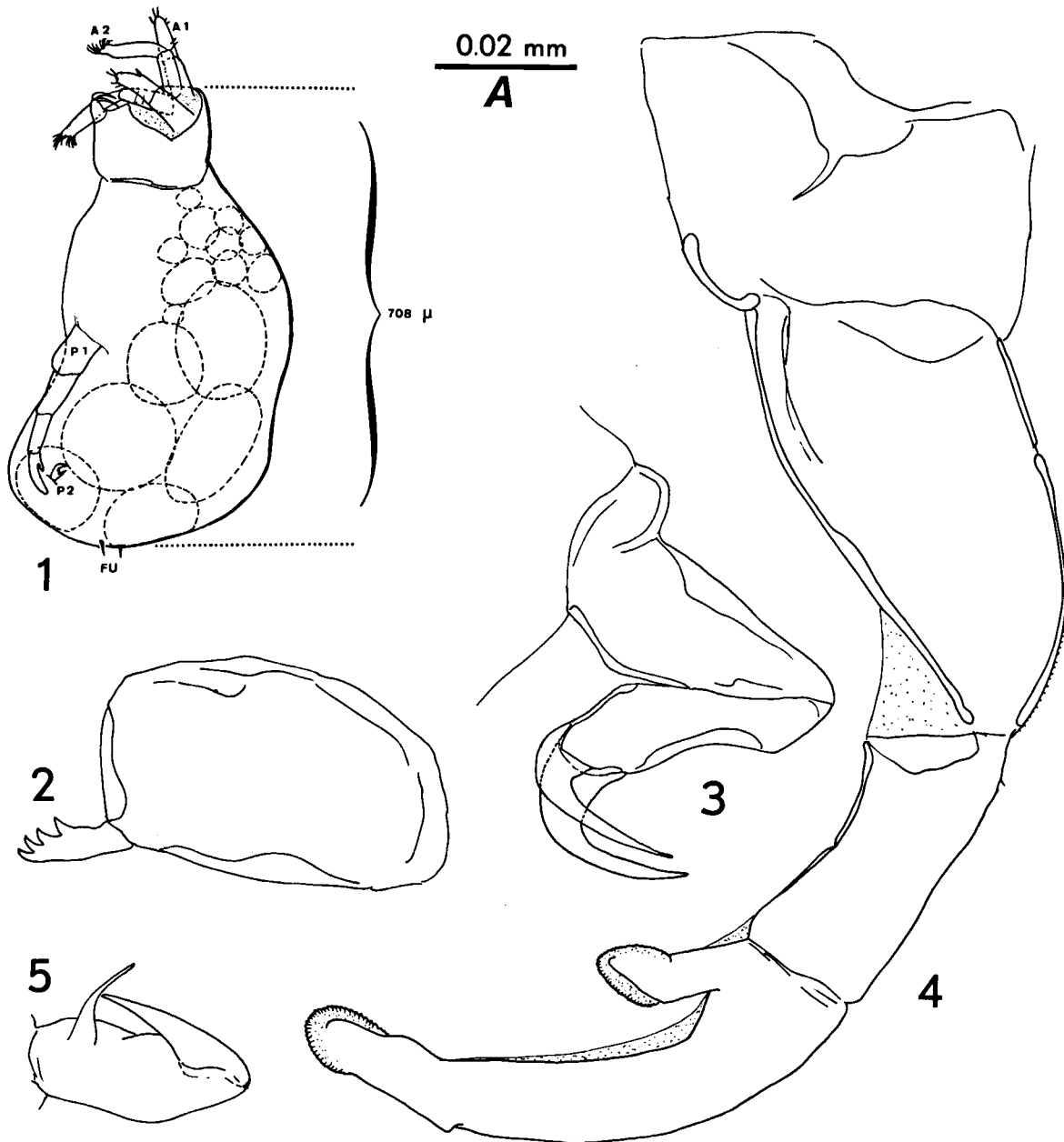
Taken the doubt concerning the ovisacs into consideration, the overall resemblance of the appendages leads me to the conclusion that *Micrallecto* should provisionally be included in the family Splanchnotrophidae. For the same reasons as brought forward by Laubier, 1964, I have called the post-mandibular oral appendage a posterior maxilla.

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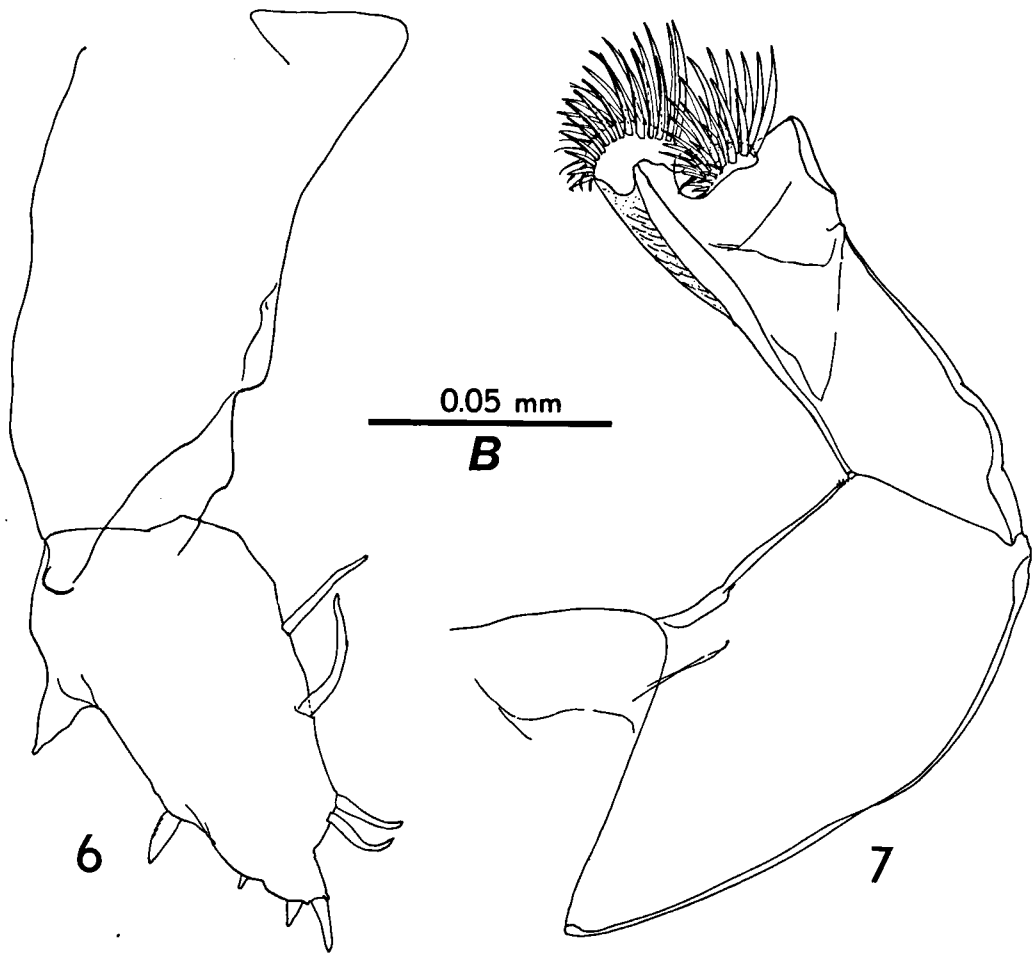
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Figs. 1 - 5. *Micrallecto uncinata* n. gen., n. sp. Female holotype. 1, body from the left (A1= anterior antenna; A2= posterior antenna; P1= first leg; P2= second leg; FU= caudal rami); 2, mandible (scale A); 3, posterior maxilla (B); 4, first leg, the stippled areas are membranous (B); 5, second leg (A).



Figs. 6 - 7. *Micrallecto uncinata* n.gen., n. sp. Female holotype. 6, anterior antenna (scale B); 7, posterior antenna (B).