

# BULLETIN ZOOLOGISCH MUSEUM



Vol. 5 No. 21 10-XII-1976

*PTEROXENA PAPILLIFERA* N. GEN., N. SP., AN ENDOPARASITIC ORGANISM  
(COPEPODA?) FROM THE GYMNOSOMATOUS PTEROPOD, *NOTOBRANCHAEA*

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#### ABSTRACT

A single specimen of a strongly transformed, endoparasitic organism was found on the gymnosomatous pteropod *Notobranchaea macdonaldi* Pelseneer morpho *pelseneeri* Pruvot-Fol off Delaware Bay in the north-western Atlantic Basin. The parasite is described as *Pteroxena papillifera* n. gen., n. sp., and is provisionally attributed to the subclass Copepoda of the Crustacea.

#### INTRODUCTION

While studying the pelagic Pteropoda collected during the operation "Deep Dump 106", one of us (Van der S.) noticed a gymnosome of the genus *Notobranchaea* with some abnormalities. The little snail (fig. 2) showed at one side a scar (s) caused by a disrupted chromatophore pattern on its ventral body surface, whereas on the other side a swollen pustule (p) propped through a slit in the

body wall, indicating the presence of a parasite.

The scar did not reveal a parasite, although it is suspected that one has been present once. The swollen pustule appeared to be the terminal protruding part of the body of a parasitic organism. The parasite is about 1 mm long and mainly consists of a frontal neck, deeply embedded in the host's tissues, and a posterior sack-like part containing the ovaries; no trace of structured appendages or of a well-defined head was found. The fact that several similarly transformed parasites of marine invertebrates and fishes proved to belong to the Copepoda, has induced us to attribute it provisionally to that group of crustaceans.

Up to now, the adults of only two species of parasitic Copepoda are known to infest Pteropoda, both tentatively assigned to the family Splanchnotrophidae (vide Stock, 1971, 1973), and both mor-

phologically very distinct from the present parasite. Juvenile parasitic copepods have been recorded from several thecosomatous pteropods (references in Stock, 1973: 24); these juveniles might belong to lernaeid copepods. The present parasite is certainly not immature, since it has well-developed ovaries. Its overall shape (the suctorial neck and the swollen hind-body) is reminiscent of adult lernaeid or lernaeocerid copepods, whereas an even more striking resemblance to the family Sphyrriidae can be observed. However, all these resemblances may be due to convergencies since the absence of any structured appendage in the female, and the lacking knowledge about the male sex, in the present parasite do not contribute any positive proof as to its taxonomic position.

For the moment, we tentatively assign the parasite to the Copepoda and leave it as a "species incertae sedis" within this subclass.

*Pteroxena* n. gen.

Diagnosis.- Body consisting of two major divisions: a frontal neck embedded in the host's tissues, and a caudal pouch filled with ovarian tissue. No structured appendages. Caudal body end divided into two horizontal lobes, each ornamented with several long, finger-shaped or irregularly branched papillae.

On gymnosomatous pteropods.

Type-species: *Pteroxena papillifera* n. sp.

Etymology.- The generic name is a contraction of πτερόν (alluding to the pteropod host) and ξενή (= a female guest).

The specific name refers to the various papillae borne at the posterior body end.

*Pteroxena papillifera* n. sp.

Material examined.- 1 ♀ (holotype), "Deep Dump 106". 2-67 M. On *Notobranchaea macdonaldi*

Pelseneer, 1886, morpha *pelseneeri* Pruvot-Fol, 1942. In plankton tow, 38° 51'-38° 46' N, 72° 23'-72° 26' W; depth 0-25 m; April 12, 1976 (ZMA Co. 102.600).

Description ♀.- The anterior part of the body is transformed into a neck, deeply embedded in the host's tissues; the frontal part of the neck penetrated the liver and reached the host's ovaries. The frontal part is slightly curved downward, but no strictly organized "head" could be discovered. We have sectioned the host, to see whether such a "head" might have broken off, but without result. A number of non-descript flaps on the frontal end might just as well be the rest of a head torn off, as a suctorial apparatus. In side view, the neck is flattened (fig. 1, top), in ventral view (fig. 1, bottom) it is rather wide and slightly tapering. The posterior part of the body is bag-like. The dorsoanterior end of the bag is produced in a hood-like way over the base of the neck. The left and right lateral sides of the bag are filled with ovarian tissues. The hind-end of the body shows two lobes, separated by a horizontal cleft. The most ventral lobe has a sclerotized posterior edge, on which a number of slender, finger-shaped, branched, knobbed papillae are implanted. Similar papillae, but fewer in number, are found on the other body lobe.

Measurements (taken as indicated in fig. 1) are: length of neck 0.34 mm, length of bag-like body section 0.78 mm; width of bag-like body section 0.54 mm.

Males or juveniles are unknown.

REFERENCES

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 -----, 1973. *Nannallecto fusii* n. gen., n. sp., a copepod parasitic on the pteropod, *Pneumoderma*. Bull. zool. Mus. Univ. Amst., 3 (4): 21-24.

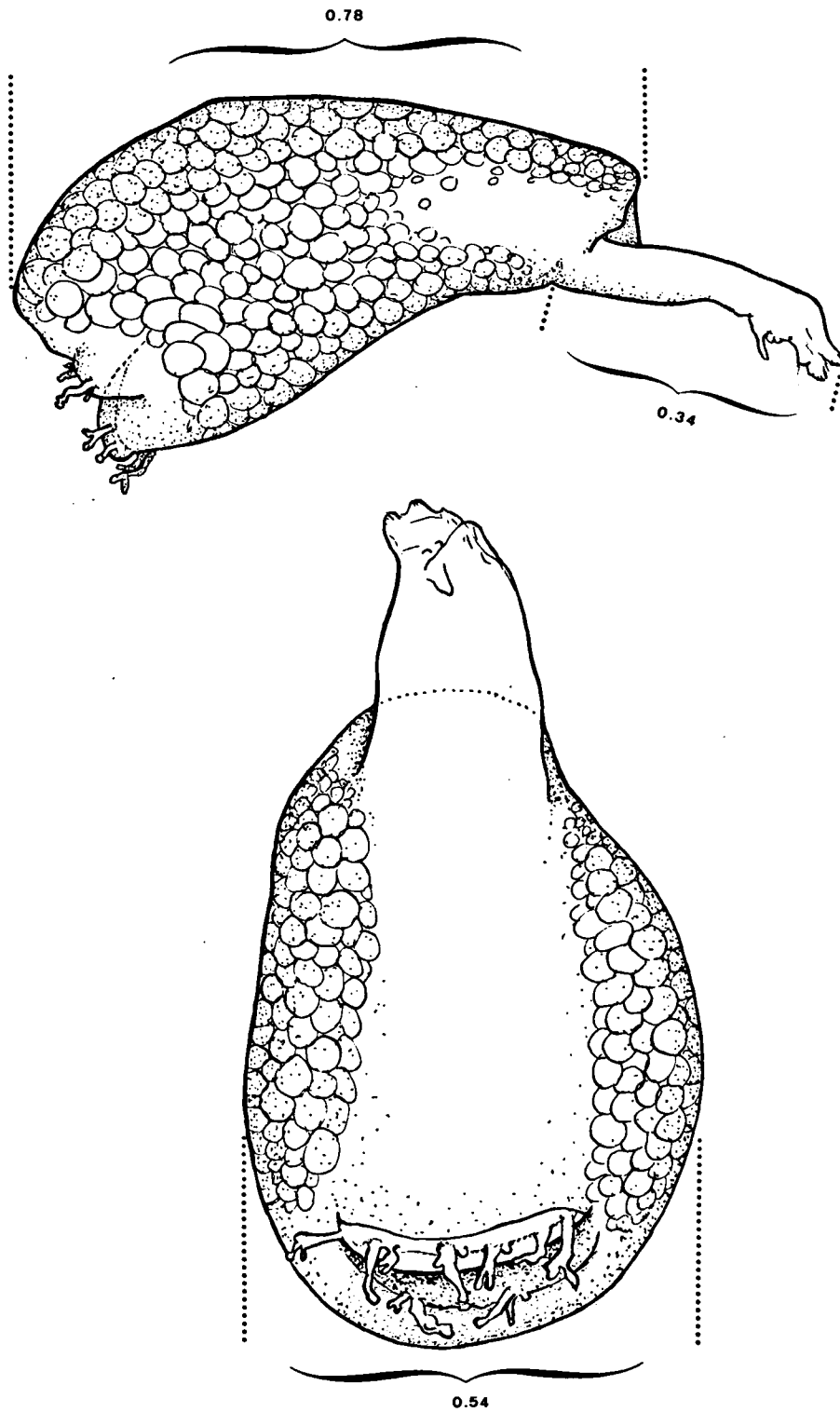


Fig. 1. Top: The parasite, *Pteroxena papillifera* n. gen., n. sp., from the right.  
Bottom: The same, in ventral view (measurements in mm).

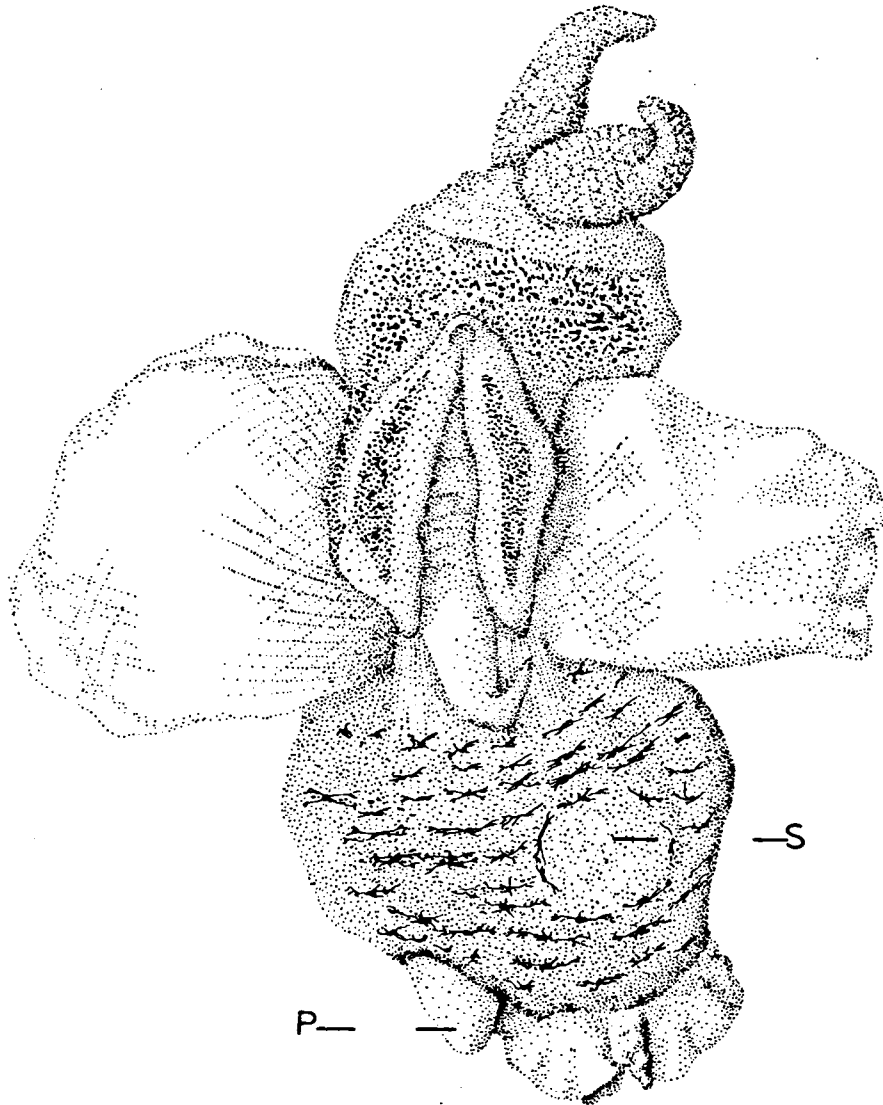


Fig. 2. The pteropod, *Notobranchaea macdonaldi* morpho *pelseneeri*, in ventral view, showing the position of the scar (s) and the pustule (p) mentioned in the text.