

RESEARCH NOTES

A NEW SPECIES OF *PUGNUS* FROM COCOS-KEELING ISLANDS, INDIAN OCEAN (GASTROPODA)

The littoral molluscan fauna of Cocos-Keeling Islands, isolated atoll group of the eastern Indian Ocean, was catalogued by Maes (Proc. Acad. Nat. Sci. Philadelphia, 119(4):93-217, 1967), and its geographic affinities assessed. Included in the collections which formed the basis of that report were several specimens of an undescribed species of *Pugnus*, a peculiar gastropod which may be an aberrant member of the Marginellidae, a family under study by the author. Through the kindness of Virginia Orr Maes, Academy of Natural Sciences, Philadelphia, and Winston F. Ponder, The Australian Museum, I have had the opportunity to compare the Cocos-Keeling specimens with specimens of the Australian *Pugnus parvus* Hedley (Rec. Australian Mus., 2:105-106, 1896), the type and only species of the genus previously described.

Pugnus maesae, new species

Figure 1

Pugnus sp. Maes, 1967, p. 141, pl. 14, fig. D.

Description of holotype: Shell minute, solid, white, short-cylindrical, slightly broader posteriorly; surface polished; involute, spire immersed, covered by a pad of callus; aperture as long as shell, nearly straight, narrow, widening somewhat anteriorly, arching above summit of body whorl; outer lip varicose externally, thickened and denticulate within, the denticles very fine and close together on central portion of lip, larger and more widely spaced anteriorly and posteriorly; body whorl slightly contracted medially, sculptured with approximately 40 wavy spiral grooves which are crossed by very fine raised axial threads; parietal wall covered by thin, transparent, well-defined layer of smooth callus which bears a longitudinal row of about seven weak, irregularly spaced tubercles; anterior portion of columella having four evenly spaced, oblique folds (including fold at base of columella), most anterior fold the largest; folds decreasing in size and becoming more horizontal posteriorly; anterior margin of shell produced, evenly rounded, without a siphonal notch. Length 1.5 mm, breadth 1.1 mm.

Type locality: One mile north of Tanjong Puji, West Island, Cocos-Keeling Islands, Indian Ocean; dredged in 6 feet (1.83 m), coral mud and sand, with some *Caulerpa* algae; collected by R. Ostheimer and V. Orr (Maes), 30 January 1963.

Type material: Holotype, Academy of Natural

Sciences, Philadelphia, No. 288324. Eight paratypes, ANSP No. 32474, from same locality as holotype.

Referred material: ANSP No. 288311, one specimen, from two miles east of Ujong Tanjong, West Island, Cocos-Keeling Islands, in 4 fathoms (7.32 m), hard sand and weed; Ostheimer, Orr, Ross, collectors, 11 February 1963.

Discussion: From *Pugnus parvus* Hedley, originally described from Manly, near Sydney, New South Wales, the new species differs in several shell details: *P. maesae* has four nearly equal columellar folds; *P. parvus* has two large folds and a smaller, deeply seated fold posterior to them. *Pugnus maesae* has dentition on the outer lip; *P. parvus* has none. The specimens of *P. parvus* examined by the author, from Mallacoota, Victoria (nearly 300 miles south of Sydney), were rather narrower, in proportion to their length, than the new species. They showed a curious surface sculpture of shallow hexagonal pits arranged "honeycomb" fashion, elongating behind the outer lip into spiral sculpture like that originally described

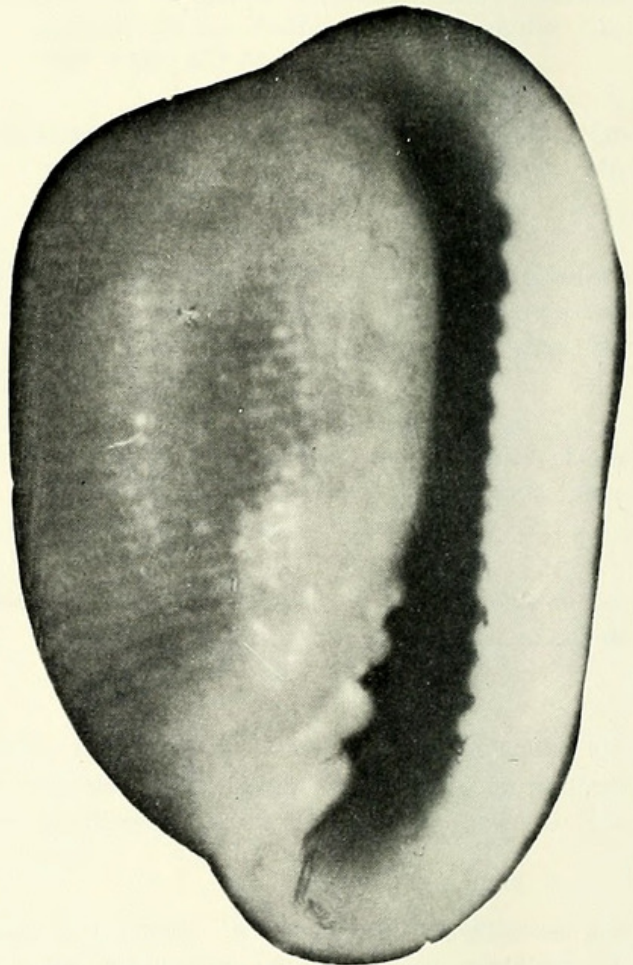


Figure 1. *Pugnus maesae*, new species. Ventral view of holotype. Copy, Maes, 1967, pl. 14, fig. D.

for the species by Hedley. These specimens also had perforate apices.

Familial placement of the genus *Pugnus* is uncertain. It was described by Hedley (1896) as a member of Ringiculidae, and Zilch (Handbuch der Paläozoologie, 6:1-835, 1959) placed it in Cephalaspidea. Maes (1967) transferred it to Marginellidae, remarking on its resemblance to the [marginellid] genus *Marginellopsis* Bavay, 1911. The character of the columellar folds and the lip denticulation appear typically marginellid. The wavy, incised spiral sculpture recalls that of some cephalaspidean genera, such as *Acteon* Montfort, 1810. Knowledge of its true relationships awaits an anatomical study.

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A NOTOPHYCID POLYCHAETE FROM CALIFORNIA

While collecting at a floating boat dock in Bodega Harbor, California, one of us (Belman) found a thick gelatinous sac attached to a colony of a hydroid (*Obelia* sp.). A polychaete was moving around inside the sac; this worm could not be identified as any polychaete reported from California (Hartman, Atlas of errantiate polychaetous annelids from California, Allan Hancock Foundation, Los Angeles, 1968; Atlas of the sedentariate polychaetous annelids from California, Allan Hancock Foundation, Los Angeles, 1969) and turned out to belong to the family Notophycidae, recently described from New Zealand (Knox and Cameron, Trans. Roy. Soc. New Zealand, Biol. Sci., 12:73-85, 1970). The Californian specimen differs from the other known specimens in several respects and is described as a new species in a new genus.

The relationship between the family Notophycidae and related polychaetes was discussed in detail by Knox and Cameron (1970).

Phyllodocella, new genus

Notophycids with a muscular proboscis, but without jaws.

The other known genus in the family, *Notophycus* Knox and Cameron (1970) has a pair of lateral jaws in the proboscis. Such jaws are absent in the present specimen.

The generic name refers to the resemblance between this notophycid and members of the Phyllodocidae.

Phyllodocella bodegae, new species

Figures 1 and 2

Material examined: Mason's Marina, Bodega Harbor, California, July 20, 1971, from a gelatinous sac attached to a colony of *Obelia* sp.; 15 cm depth on a floating boat dock; one specimen, Holotype, deposited in the collections of the Allan Hancock Foundation.

Description: The holotype is a complete, sexually mature female with 24 segments that is 8 mm long and 2 mm wide without setae. It is white with reddish pigment spots over the anterior end in alcohol preservation.

The pygidium is a small, rounded cushion without anal cirri; the anus is dorsal.

The prostomium (Fig. 1) is pentagonal and has two pairs of long, slender antennae near the anterior margin. A pair of small, distinct frontal lobes are present on the anteroventral margin. Two pairs of eyes are present at the middle and mid-posterior part of the prostomium; the anterior pair is lensed; the posterior pair is semi-lunular in shape. The peristomial segment is a complete ring, forming

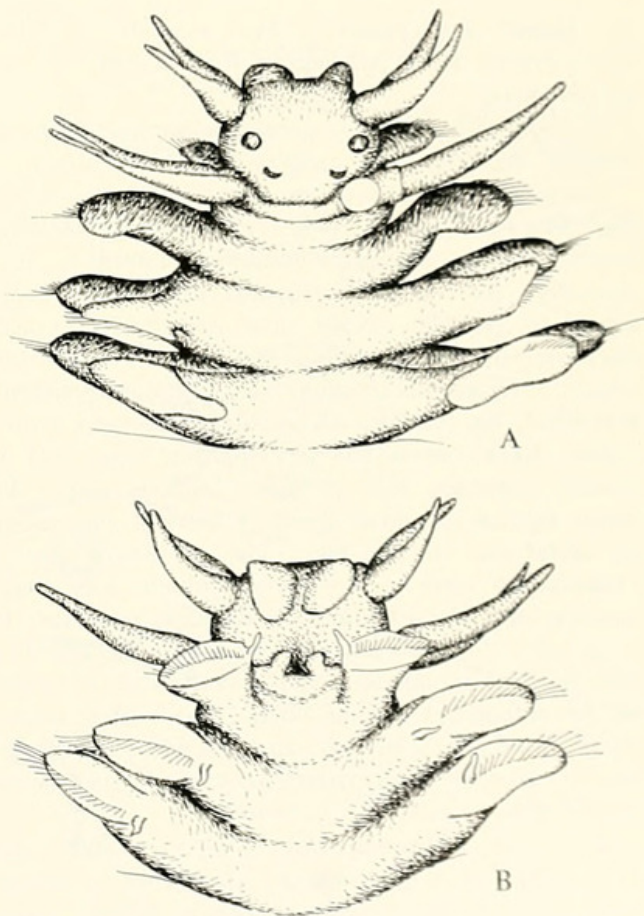


Figure 1. *Phyllodocella bodegae*, new species. A. anterior end, dorsal view, right dorsal tentacular cirrus broken, $\times 50$. B. anterior end, ventral view, $\times 50$.



1972. "A new species of *Pugnus* from Cocos-Keeling Islands, Indian Ocean (Gastropoda)." *Bulletin* 71, 106–107.

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