

SCAMIT CODE : MBC 66

Date Examined: 13 October 1987  
Voucher By : Don Cadien

SYNONYMY: *Philine* sp. A of MBC.

LITERATURE: Abbott, 1974; Dall, 1919; Mattox, 1958; Pruvot-Fol, 1954; Willett, 1944 .

DIAGNOSTIC CHARACTERISTICS:

Animal - (Figure 1)

1. Relaxed animal length 3-4 times width.
2. Cephalic shield 50-65% of body length.
3. Parapodia reaching but not overlaying sides of cephalic shield.
4. Metapodium asymmetrical, not bilobed but longer on right side where posterior corner may extend considerably beyond left or even cover most of the pallial aperture.
5. Pallial lobes equal and rounded (without flagellum), meeting dorsally in a medial sinus as deep as wide.
6. Shell 1/3-1/4 length of relaxed animal (1/2-2/3 length of contracted specimen).
7. Spines of shell lip and columellar flange usually visible through body.
8. No pigment in preserved specimens - all parts of body translucent white.
9. Three subequal fusiform gizzard plates strengthened by a longitudinal rib on their outer faces (similar to *P. scabra* as illustrated in Pruvot-Fol 1954).

Shell - (Figure 2)

1. Shell consisting of about 1 and 1/2 rapidly enlarging whorls.
2. Aperture as long as body whorl, outer lip extends beyond whorl apex.
3. Shell flattened and broad: shell depth (aperture to dorsum) about 0.4 times apertural width; length/width ratio 1.2-1.4/1.
4. Columella usually bearing a flattened flange extending into the aperture. This varies in prominence and is sometimes lacking in juveniles or resorbed in adults. When present it is diagnostic. Columellar callus thin and transparent.
5. Outer lip usually bearing 1-4 sharp spines which project from the ends of the most posterior spiral ribs. Aspinous variants uncommon. Smaller specimens generally with fewer spines.

6. Shell sculptured with 33-43 obliquely spiral rows of punctations (mode 35). The spacing and size of these varies over the shell. Higher numbers of rows result from intercalation of secondary smaller rows in some individuals. Punctations on the most posterior rows frequently obscure.
7. Punctations generally round and either chained or nearly touch those adjacent in the radial row. Separated from those in adjacent radial rows by less than the punctae diameter. Occasional gaps separate the radial rows into groups of 3-20.

#### RELATED SPECIES AND CHARACTER DIFFERENCES:

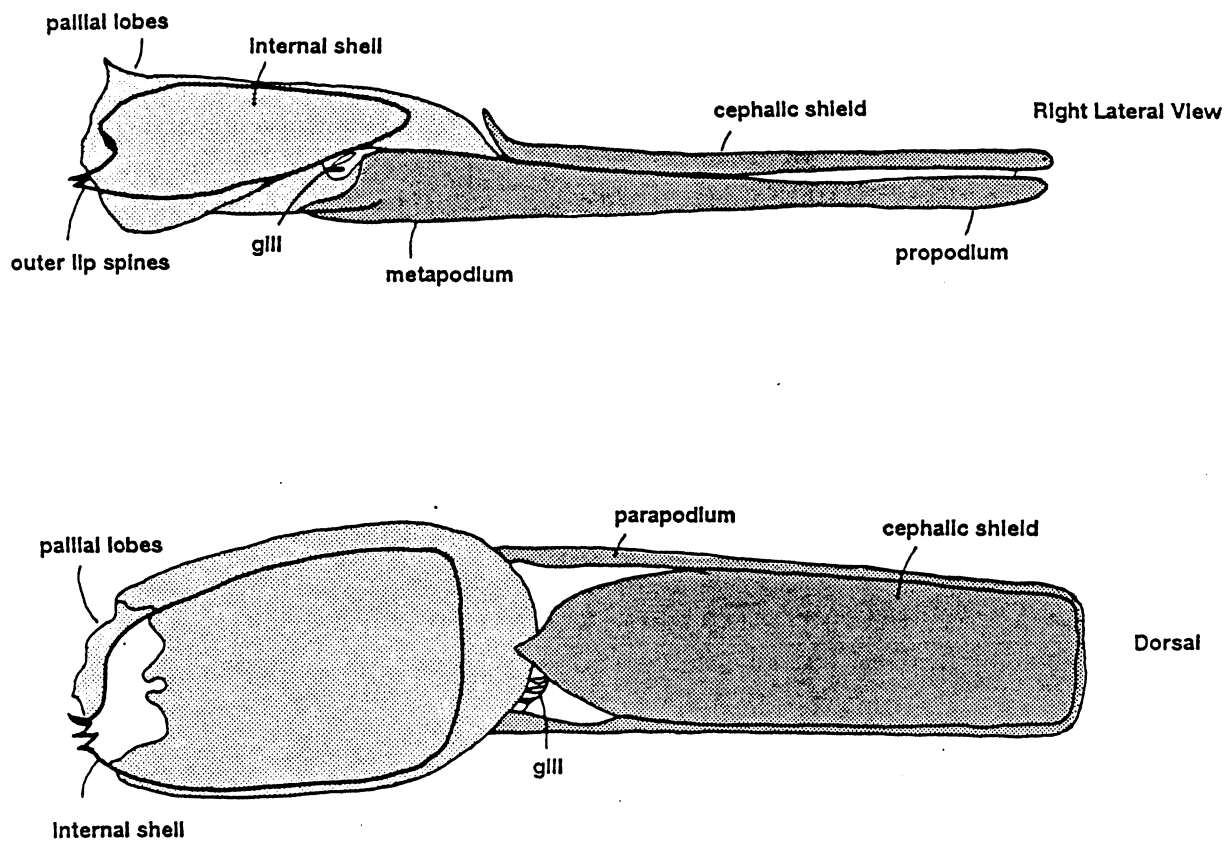
1. *P. californica* has raised reticulate sculpture with spines at each intersection. The animal is completely retractile within the shell (except for the mantle covering of the shell itself) and probably should be removed from the genus (see Willett, 1944).  
RANGE: Redondo Beach to off Pt. Loma; Depth 130-300 m *fish has one from 178' (66m)*
2. *P. alba* is a massive lens shaped animal about as wide as long. The shell is broadly oval, with a very produced outer lip. Both these characters are true at all stages of growth. No spiral striations or punctations adorn the shell. This is the only *Philine* you are likely to take in a trawl (see Mattox, 1958).  
RANGE: San Miguel Island to San Benito Island (Baja California); Depth 100 m
3. *P. bakeri* has a shell with a blunt apex and a narrow, almost cylindrical body whorl separated posteriorly by a sulcus from the outer lip. Animal only about 30% longer than shell, less if strongly contracted. Shell sculpture of small radial rows of punctae separated by more than their diameter from the adjacent radial row. These punctations are sunken below the shell surface. Outer lip crenulate throughout (see Dall, 1919 - DISREGARD Abbott's [1974] description of this species).  
RANGE: Goleta to off So. Coronado Island; Long Beach Harbor, Mission Bay
4. *P. cf. quadrata* lacks spines on the lip and has much finer punctae. Body proportions also differ markedly, with pallial lobes larger than the cephalic shield or foot.  
RANGE: Oceano to off Pt. Sal, San Luis Obispo
5. *P. sinuata* and *P. polaris* (reported from the Arctic or boreal North East Pacific) both lack outer lip spines and shell sculpture.

*Philine* can be separated from the externally similar *Aglaja*, *Melanochlamys*, *Chelidonura*, and *Navanax* by the relationship between the shell and the pallial lobes. In *Philine* the shell is either flattened-quadrate or barrel-shaped and fills most of the pallial lobes. In *Aglaja* and *Melanochlamys* the shell is reduced and occupies half or less of the pallial lobes, with its anterior margin cutting diagonally across them. In *Chelidonura* and *Navanax* the shell is further reduced to a narrow claw-like calcified curve restricted to the most posterior portion of the pallial lobes.

DEPTH RANGE: 8 m - 222 m

DISTRIBUTION: Oceano (San Luis Obispo Co.) to off Pt. Loma (San Diego Co.).

REMARKS: *Philine* sp. A animals range up to 10.5mm in length when relaxed. At this size the maximum width is 2.6 mm and the shell length (excluding spines) is 3.1 mm. They are most common in clayey bay sediments, especially within the Los Angeles - Long Beach Harbors complex, although occurring offshore as well. This species became much more abundant following the 1982-83 winter storm season. It flourished on the "Clay pudding" sediments which were deposited in quiet water areas such as the harbors.



7.8 mm Individual (relaxed)

shell 3.0 mm excluding spines

Figure 1. a) Animal lateral view, b) animal dorsal view.

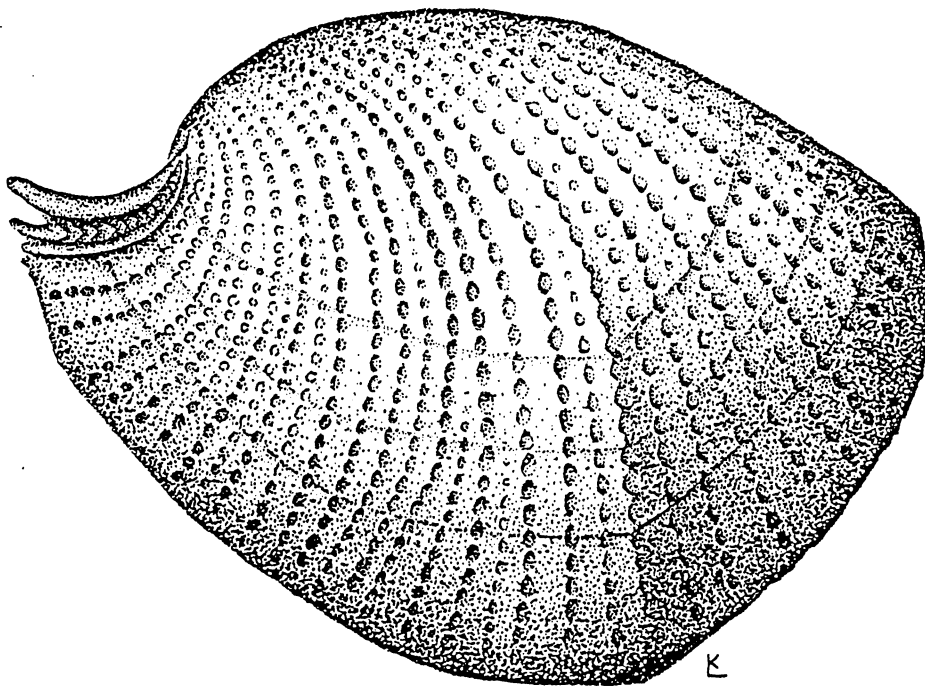


Figure 2. Shell, dorsal view.

(Illustration by Kathy Langan,  
Pt. Loma Biology Lab)