
Lacuna porrecta

The wide chink shell

Phylum: Mollusca

Class: Gastropoda, Caenogastropoda

Order: Littorinimorpha

Family: Littorinoidea, Littorinidae, Lacuninae

Description

Size: 2-4 mm high; $\frac{1}{4}$ to $\frac{1}{2}$ size of *Littorina*.

Color: white to golden brown, with some spiral marking; surface wrinkled, with fine, wavy spiral striae (figs. 1, 4). No white band on inside of aperture, no carina (keel) on largest whorl.

Shell:

Shape: broad, compact, globose, only 3 whorls (fig 1); shell thin, outer lip 'effuse' (extended); aperture semi-lunar.

Columella: flattened (fig 4): genus *Lacuna*.

Umbilicus: chink is large, with a sharp ridge (fig 3); this groove between whorl and columella is an important key character of the genus *Lacuna*.

Operculum: 'paucispiral'; flattened on one side (fig 2).

Body: *Lacuna* species have metapodial tentacles, which *Littorina* lack (fig 5).

Possible Misidentifications

Adult Lacunidae can be differentiated from Littorinidae by their much smaller size, metapodial tentacles, and chiefly by their umbilical fissure or chink which Littorinidae lack. (Littorinidae have a columella flush with the large whorl). *Lacuna* are often found in eelgrass; *Littorina* almost never are.

There are several species of *Lacuna* on the Pacific coast:

Lacuna unifasciata is more turbanate than globose, and has a sharp carina or keel around its largest whorl. It is a southern species, its northern boundary being probably at Monterey Bay, California (Carlton and Roth 1975).

Two Puget Sound species have been

identified. Both are larger than our Oregon species: *Lacuna vincta* (= *carinata*, = *solidula*) (Carlton and Roth 1975), is large, about 10 mm long, with 3-4 strong, smooth whorls, a small umbilicus, a white columella, and a strong carina on the last whorl. *Lacuna variegata* is a tall, high-spired form, up to 6 mm high, found in eelgrass (*Zostera*); not described in California keys (Ricketts and Calvin 1971). *L. variegata* has a spreading outer lip, a wide chink, and zig zag markings (Keep 1935).

The species most like *L. porrecta* and often found with it is *Lacuna marmorata*, the marbled chink shell, usually brown and white, but with a carina on the large whorl, a narrow columellar groove, and often with a white stripe inside the base of the aperture (Carlton and Roth 1975). It has been found in Coos Bay (Keen et al 1942), and hybridizes with other *Lacuna* spp., (Friday Harbor) (Morris et al 1980).

Ecological Information

Range: Bering Sea to San Diego, California (Packard 1918).

Local Distribution: Coos Bay, several stations: South Slough (Keen and Doty 1942).

Habitat: in algae, eelgrass (*Zostera*), or around its roots; in tidepool algae at lower littorine level (Keen et al 1942).

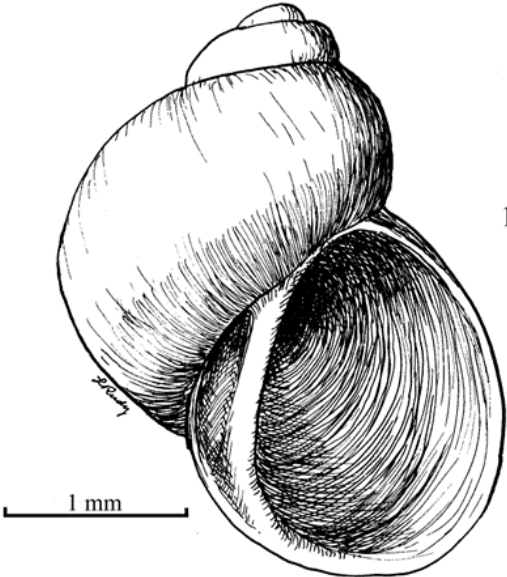
Salinity:

Temperature: genus *Lacuna* essentially a cold water form; few tropical species.

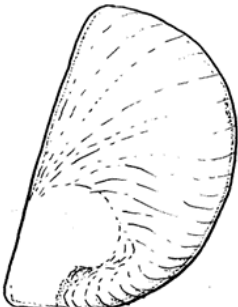
Tidal Level: mid- and low intertidal levels and subtidally; never in upper reaches (Kozloff 1974b).

Associates: hermit crabs, amphipods, littorine snails; encrusted with bryozoans.

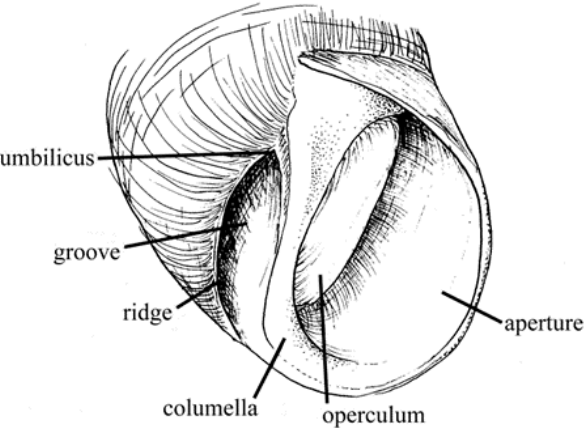
Lacuna porrecta



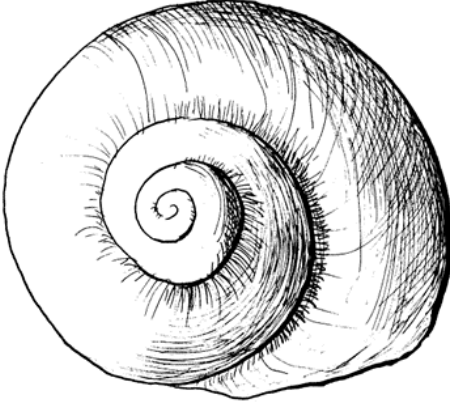
1. *Lacuna porrecta* (anterior view, H:4mm, W:3mm) x30:
3-whorled, thin, globose shell with fine, wrinkled striae;
chink between whorl and columella; outer lip extended..



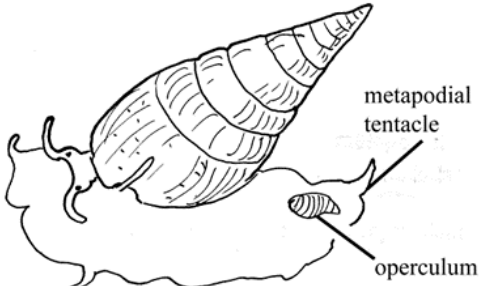
2. Operculum x30



3. Close-up of shell aperture:
umbilicus with sharp ridge, large
groove; flattened columella .



4. (dorsal view)



5. *Nassarius* with metapodial tentacle

5 redrawn from Hyman 1967, Adams 1858

Abundance: not common.

Life-History Information

Reproduction: *Lacuna variegata* has eggs like life preservers: yellow, about 5 mm diameter (Kozloff 1974b).

Larva:

Juvenile:

Longevity:

Growth Rate:

Food: family is herbivorous.

Predators: in eelgrass: seastar *Lepasterias*. Few fishes eat *Lacuna* (Morris et al 1980).

Behavior: it waddles as it moves one side of foot, then the other.

Bibliography

1. CARLTON, J. T., and B. ROTH. 1975. Phylum Mollusca: Shelled Gastropods, p. 467-514. *In*: Light's manual; intertidal invertebrates of the central California coast. S. F. Light, R. I. Smith, and J. T. Carlton (eds.). University of California Press, Berkeley.
2. KEEN, A. M., E. COAN, and C. L. DOTY. 1942. An annotated check list of the gastropods of Cape Arago, Oregon. *Studies in Zoology*. 13.
3. KEEP, J. and J. Longstreth (eds). 1935. West coast shells; a description in familiar terms of principal marine, fresh-water, and land mollusks of the United States, British Columbia, and Alaska, found west of the Sierra. Calif., Stanford University Press; London, H. Milford, Oxford University Press, Stanford University.
4. KOZLOFF, E. N. 1974b. Seashore life of Puget Sound, the Strait of Georgia, and the San Juan Archipelago. University of Washington Press, Seattle & London.
5. MORRIS, R. H., D. P. ABBOTT, and E. C. HADERLIE. 1980. Intertidal invertebrates of California. Stanford University Press, Stanford, California.
6. PACKARD, E. L. 1918. Molluscan fauna

from San Francisco Bay. 14:199-452.

7. RICKETTS, E. F., and J. CALVIN. 1971. Between Pacific tides. Stanford University Press, Stanford, California.

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