

West American Species of *Lucapinella*

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(Plate 49; 3 Text figures)

THE WEST AMERICAN SPECIES of *Lucapinella* are at present confused in the literature. Panamic specimens previously identified as *L. callomarginata* (DALL) belong to two separate species. One of these species, *L. milleri* BERRY, was described in 1959 but has remained unfigured. Another species misidentified as *L. callomarginata* is described herein. The four west American species are briefly characterized and new information on their distribution is offered.

ACKNOWLEDGMENTS

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Mr. Emery Chace arranged the loan of comparative material from the collection of the San Diego Museum of Natural History (SDNHM). Photographs were made by Museum photographer Mike Hatchimonji and radular drawings were prepared by Christiane Charpides. I am grateful to Dr. A. Myra Keen for criticism of the manuscript.

Lucapinella PILSBRY, 1890

Lucapinella PILSBRY, 1890 (1888-1898), vol. 12, p. 179. - 1891 (1888-1898), vol. 12, p. 195. Type species, by SD of PILSBRY, 1890 (Dec.), p. 96: *Clypidella callomarginata* DALL, 1871.

Diagnosis: Shell elongate, anterior end narrow, fissure centrally located, oval or oblong. Sculpture of imbricating ribs; internal margin thickened, offset by a groove. Shell not covered by mantle margin but animal too large to be contained within the shell.

Radulae of 3 species of west American *Lucapinella* have been examined (Text figures 1 through 3). The

basic features of each species are similar. The central and four inner lateral teeth are broad, with straight cutting edges, and the outermost lateral is large and bears two cusps, a main cusp and a lateral cusp. A lateromarginal plate is present and the number of marginal teeth is large.

Lucapinella is known only from the warm temperate and tropical regions of North and South America, in the Eastern Pacific and Western Atlantic. *Lucapinella limatula* (REEVE, 1850) is the best known Caribbean species (WARMKE & ABBOTT, 1961, p. 38; pl. 6, fig. 9), but the status of other named forms cited in FARFANTE (1943) and USTICKE (1959) is not clear.

Key to the West American Species of *Lucapinella*

1. Shell markedly narrow anteriorly 2
- Shell with sides nearly parallel 3
2. Fissure elongate, its length two times width
..... *L. callomarginata*
- Fissure oval, its length one and one-half times width
..... *L. eleanorae*
3. Fissure relatively large, one-fourth the length of
the shell *L. milleri*
- Fissure relatively small, more than one-fifth the
shell length *L. aequalis*

Lucapinella callomarginata (DALL, 1871)
ex CARPENTER MS

(Plate 49, Figures 1 and 2; Text figure 1)

Clypidella callomarginata DALL, 1871, p. 133, pl. 15, fig. 8*Lucapinella callomarginata* (DALL). - PILSBRY, 1890, p. 96. - 1891 (1888-1898), vol. 12, p. 196, pl. 44, figs. 3-5, pl. 61, figs. 1-5 [animal]. - DALL, 1909, p. 243. - KEEN, 1958, p. 250, fig. 29.

Diagnosis: Shell elongate, relatively large and thick, markedly narrow anteriorly, slopes straight or concave,

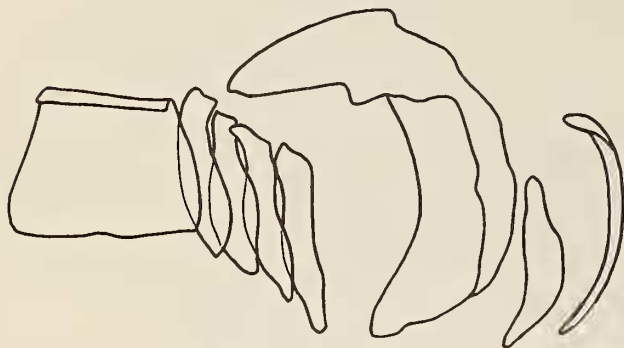


Figure 1

Radula of Lucapinella callomarginata (DALL)

Newport Bay, Orange County, California (LACM). Shown from left to right: rachidian tooth, four inner lateral teeth, the large fifth lateral tooth, the lateromarginal plate and the first of many marginal teeth.

posterior margin of shell slightly elevated. Foramen large, elongate, nearly central, sides of foramen elevated, forming the highest point of the shell. Sculpture of primary and secondary ribs, with tertiary ribs in mature specimens; concentric sculpture imbricate, raised on crossing major ribs. Color cream or buff with radiating bands of gray. Mature specimens with thick internal margin nearly obliterating the marginal crenulation. Muscle scar narrow, apertural callus narrow. Dimensions: long. 19, lat. 10, alt. 4.5 mm (holotype).

Type Material: Holotype, U. S. National Museum, cat. no. 19478 (Plate 49, Figures 1 and 2). Type locality: San Pedro, Los Angeles County, California.

Distribution: Morro Bay, California, to Magdalena Bay, Baja California. Records: Morro Bay, San Luis Obispo County, California (Dept. Zool., Univ. Calif. Berkeley collection); Magdalena Bay, Baja California (LACM; USNM no. 150847). Although the species has been reported from localities in northern California, no authentic specimens from north of Morro Bay have been examined. The species is not known in the Gulf of California or in the Panamic province proper. As suggested by KEEN (1958), records from the Panamic province undoubtedly apply to other species. DALL (1909) recorded the species from Chile but no specimens so labeled have been located in the U. S. National Museum. A record of *L. callomarginata* (DALL) from Puerto Rico given by FARFANTE (1946) is probably adventitious.

Discussion: *Lucapinella callomarginata* occurs on the undersides of rocks and on pilings near aggregations of

Mytilus edulis in bays and channels in southern California. It has not been collected in the sublittoral zone.

Variation of the shell is not extensive. Mature specimens tend to develop thickened shells with a heavy inner margin, obliterating the crenulations.

Only *Lucapinella eleanorae* is as markedly narrow anteriorly as *L. callomarginata*. *Lucapinella callomarginata* has a larger, thicker shell and more elongate foramen than the former.

Lucapinella eleanorae McLEAN, spec. nov.

(Plate 49, Figures 3 and 4; Text figure 2)

Diagnosis: Shell thin, markedly narrow anteriorly, elevation low, base of shell nearly flat. Posterior slope of shell concave. Foramen relatively small, oval, slightly anterior to center. Radial sculpture of approximately 20 primary ribs, 20 secondary ribs and 40 tertiary ribs appearing at later growth stages. Concentric sculpture forming imbrications with the radial ribs, producing short spines on crossing primary ribs. Color reddish buff with radiating bands of gray. Margin crenulated, mature specimens with broad, slightly thickened internal margins. Apertural callus narrow, slightly truncate posteriorly in large specimens. Dimensions: long. 18.5, lat. 11.4, alt. 3.2 mm (holotype); long. 14.3, lat. 8.0, alt. 2.8 mm (paratype).



Figure 2

Radula from Holotype of *Lucapinella eleanorae* McLEAN, spec. nov.

Type Material: Holotype, Los Angeles County Museum of Natural History, cat. no. 1153; paratype, Stanford University, Paleontological Type Collection, cat. no. 9936. Type Locality: Banderas Bay, Jalisco, Mexico. Dredged, 10 fathoms depth, on bottom of cobbles, off the town of La Cruz, northern shore of Banderas Bay (20° 44' N, 105° 29' W), March 24, 1965. James H. McLean and A. Myra Keen on board the "Sea Quest."



Figure 1

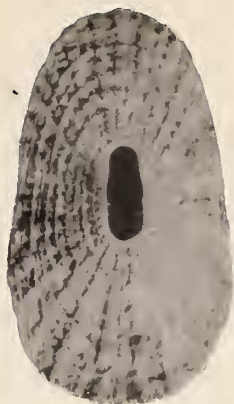


Figure 2



Figure 3



Figure 4



Figure 5



Figure 6



Figure 7



Figure 8

Figures 1 and 2: *Lucapinella callomarginata* (DALL). Holotype USNM 19478, San Pedro, California, x 3.

Figures 3 and 4: *Lucapinella eleanorae* McLEAN, spec. nov. Holotype, LACM 1153, Banderas Bay, Jalisco, Mexico, x 3.

Figures 5 and 6: *Lucapinella milleri* BERRY. Holotype, SUPTC 8588, Puertocitos, Baja California, Mexico, x 6.

Figures 7 and 8: *Lucapinella aequalis* (SOWERBY). SDNHM 30776, Taboga Island, Republic of Panama, x 3.

