

are common to the southern part of Chile, the Magellanic region, and the Falkland Islands.

The largest species of the genus, which reaches 58 mm. long and 28 mm. high, is *P. major* Dall, 1891, ranging from the Pribiloff Islands, Bering Sea, to Boca de Quadra in southern Alaska. It has faint transverse lines of callus but no pits, and the shell is very thin for its size. Lastly *P. galeata* Gould, 1849, has strong pits and props, with a finely threaded, close-set, radial sculpture. It ranges from Unalashka, Aleutian Islands, to the Santa Barbara Islands, California.

A NEW FORM OF BATHYTOMA FROM THE UPPER PLEISTOCENE OF SAN PEDRO, CAL.

BY PROF. J. J. RIVERS.

Plate III, figs. B, C, represent two examples selected from six discovered by Dr. F. C. Clark, who has been for several years an investigator of the coast species of both fossil and recent Mollusca.

Dr. Clark and myself have a partnership in Paleontology, each holding equal rights under the firm name of "Rivers and Clark". Dr. Clark does most of the excavating of strata, while I have the delight to nominate the species when I am able. Our material is great, and unless we can obtain assistance, years will elapse before a complete catalogue will be forthcoming.

Bathytoma clarkiana Rivers. I name this in honor of my colleague, Dr. F. C. Clark of Santa Monica, Cal. The fossil is heavily charged throughout the whole of its structure with carbonate of lime. The columella is thicker than in any described species. If the shell be placed with its aperture downwards, many conchologists would think it an exotic species of *Mitra*. But there are none of the known species of *Bathytoma* that represents this form in its attenuate outline. This figure will explain the oblique condition of the sutures that divide the whorls.

The sculpture has mostly been eroded, but in parts the sculpture remains, resembling that of other members of the genus.

Bathytoma clarkiana if restored, would measure 116 mm, over all, the body whorl measuring 68 mm, the spire 48 mm.

The photos submitted to you have also been sent to the scrutiny of Dr. R. H. Tremper of Ontario, and his reply reads thus;—"The photo is very interesting. I suspect your shell represents some extinct form of *Bathytoma*. I have not seen a specimen of this genus so long, nor so attenuate. Your fossil is not *B. tremperiana* of Dall. The latter is a very different shell and very much smaller, good-sized specimens measuring 67 mm.; body whorl 82 mm., spire 35 mm., making the body whorl shorter than the spire, while in your specimen the body whorl measures 68 mm., and the spire 48 (if restored)."

STUDIES IN NAJADES.

BY A. E. ORTMANN.

(Continued from page 47.)

ALASMIDONTA (PEGIAS) FABULA (Lea) (See: *Pegias* f. Simpson, 1900, p. 661).

Three males and two gravid females (with glochidia) from North Fork Holston River, Saltville, Smyth Co., Va., collected Sept. 17, 1912.

Anal opening separated from the supraanal by a well developed, but rather short mantle-connection. Inner edge of anal crenulated, that of branchial with papillae. Posterior margins of palpi connected for about one third of their length.

Inner lamina of inner gills free in about the posterior half of the length of the abdominal sac, or a little more, so that the connection in front is distinctly longer than usual. Gills of Anodontine structure, in the female only the outer ones are marsupial, have lateral water canals, and are distended at the edge. The glochidia fill the ovisacs in a mass, which



1914. "A new form of Bathytoma from the upper Pleistocene of San Pedro, Cal." *The Nautilus* 28, 64–65.

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