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NEW SPECIES OF LANDSHELLS FROM
THE PANAMA CANAL ZONE

WITH TWO PLATES

BY

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NEW SPECIES OF LANDSHELLS FROM THE PANAMA CANAL ZONE¹

(WITH TWO PLATES)

BY WILLIAM H. DALL

Mr. E. A. Goldman, of the U. S. Department of Agriculture, in the course of exploration in connection with the Smithsonian Biological Survey of the Panama Canal Zone and adjacent region, investigated in May, 1912, the Pirri range of mountains to the eastward of the Canal Zone. This range attains a height, in some places, of five thousand feet above the sea and apparently had not been visited by any collector previously. Although it was the dry season he obtained a half dozen landshells of three species, two of which appear to represent new forms.

The well-known *Pleurodonte labyrinthus* Desh., has been obtained by Mr. Pittier from Santa Isabel, Panama, and is represented by fairly large series from various localities in the National Collection. The characters, having regard to difference of age, are very constant and uniform throughout the series. In fact as in the case of *P. tenaculum*, now represented by several specimens, the material from the Canal Zone shows no more variation within the species than would be noted by a careful observer in a similar series of a species from the temperate zone. It is probable that as in many other cases in better known regions, what appear in a miscellaneous lot of specimens without exact locality data to be mere individual variations, would prove, were our knowledge more complete, to be tolerably constant racial or specific characters.

A single specimen was obtained by Mr. Goldman which differs so much from the typical *P. labyrinthus* that I am compelled to regard it as distinct.

PLEURODONTE (LABYRINTHUS) GOLDMANI, new species

(PLATE 2, FIGURES 1, 2)

Shell lenticular, purplish-brown, with a sharply carinate periphery and finely granulate surface, about six and a quarter whorls; the nuclear $2\frac{1}{2}$ whorls are sculptured with fine, slightly vermicular, close-set radial lines in harmony with the lines of growth; this sculpture ceases abruptly and is replaced by the ordinary incre-

¹This paper is the thirteenth dealing with the results of the Smithsonian Biological Survey of the Panama Canal Zone.

mental lines; the aperture is very similar to that of *P. labyrinthus* and is best described differentially; in both the thickened peristome partly overshadows the deep umbilicus, but in *P. goldmani* the commissure is prolonged and turned upward into the umbilicus, nearly reaching the suture of the last whorl; the upper part of the peristome is in line with the parietal lamina and nearly parallel with the opposite part of the peristome, while in *P. labyrinthus* the parietal lamina meets the peristome at a right angle and the area included by the lamina and peristome is nearly triangular; in *labyrinthus* there is a deep cavity on the other side of the parietal lamina caused by the whorl descending as it ends before forming the peristome, while in *goldmani* the whorl does not descend and the area referred to is flattish; in *labyrinthus* the short upper lamina is directly opposite the space between the parietal and outer basal laminae, in *goldmani* the short lamina is opposite the end of the outer basal lamina; finally the sulcus at the end of the carina in *labyrinthus* is shallow, wide, and hardly rises above the carina, while in *P. goldmani* the sulcus is very narrow, recurved, and rises above the carina in a rather large funnel-shaped opening with a thin flaring upwardly directed margin; this opens into the lumen of the whorl behind the armature of the aperture and may serve the same purpose as the opening behind the aperture in *Opisthosiphon*.

Maximum breadth of shell 39.0; minimum do. 31.5; height 15.5 mm. Similar measurements of an average *P. labyrinthus* are 50.0, 42.0, and 20.0 mm. (See plate 2, figs. 3, 4.)

PLEKOACHEILUS PIRRIENSIS, new species

(PLATE I, FIGURES 1, 2)

Shell large, thin, whitish, minutely densely granulose, covered with a rather dark yellow-brown periostracum, painted with narrow oblique zigzag streaks of dark purple-brown, varying in density in different individuals. Nucleus (lost in the specimens); whorls about four and a half; axis barely perforate, the chink overshadowed by the pillar-lip; peristome white or slightly yellowish, with a thick band of callus uniting the pillar and the outer lip over the body; throat whitish, the painted pattern showing through, the peristome conspicuously reflected. Dimensions of four specimens:

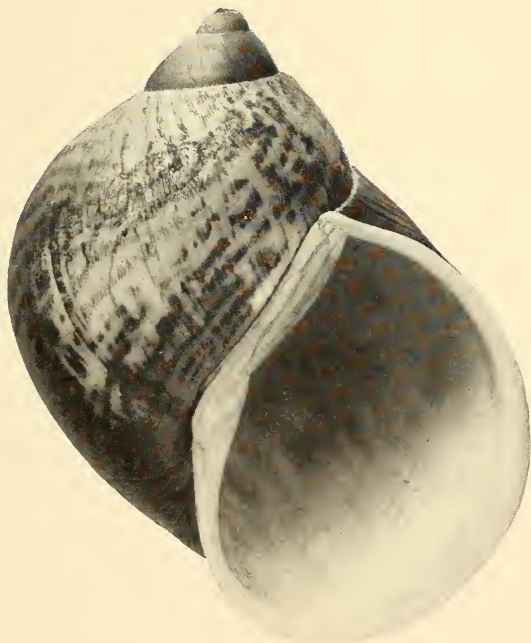
| | A. | B. | C. | D. |
|-----------------------------------|----|----|----|----|
| Height of shell..... | 82 | 83 | 85 | 79 |
| Height of aperture..... | 58 | 55 | 55 | 51 |
| Maximum diameter of shell..... | 67 | 55 | 54 | 57 |
| Maximum diameter of aperture..... | 42 | 38 | 41 | 38 |

This is obviously of the group of *P. coloratus* Nyst, but differs in form and in its white peristome. The umbilicus varies in amplitude in different individuals.

With the above was an immature specimen of *Oxystyla* with a conspicuously minutely reticulate surface, fine spiral threads crossing minute regular axial ridges with equal interspaces, the color purplish, with three narrow pale equidistant spiral bands.

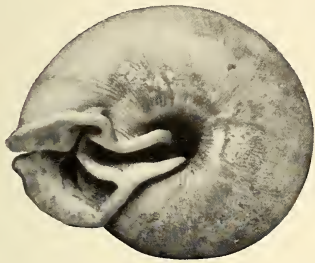


1



2

PLEKOCHILUS PIRRIENSIS, New Species



1



2



3



4

1, 2.—PLEURODONTE (LABYRINTHUS) GOLDMANI, New Species
3, 4.—PLEURODONTE LABYRINTHUS Desh.