

NEW MOLLUSKS FROM THE BAHAMA ISLANDS.

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Some time ago the United States National Museum received from Mr. G. W. Pepper, of Providence, Rhode Island, a collection of Bahama land mollusks for determination. Among these shells are several forms which are sufficiently distinct from those heretofore known from these islands to merit recognition. I have therefore prepared the following descriptions and figures.

Shortly after describing these shells, I had the pleasure of visiting the Bahamas myself, and was able to make large collections there, particularly on Andros Island, which is a collective term applied to a number of minor keys separated by tortuous channels of varying width and depth. Practically each key examined, no matter how small, providing it bears vegetation, excepting those in the Tongue of the Ocean, which are at times dashed over by waves, is inhabited by *Cerions* of the *glans* group. Sufficient differentiation has taken place on each key to enable one to distinguish the shells from the different keys. On some of the keys a series of swales separate an equal number of wooded elevations, each of which is occupied by a different race of these shells. The question naturally presents itself, to what extent are these forms constant? Do they represent stable races with fixed characters, or are they continually changing in form? It seems to me that our systematic treatment of this group will have to depend upon the answer to these questions, for it would be folly to waste time and paper in describing thousands of forms if they are not constant. If they are changing, the question still presents itself, do they pass through a definite cycle of changes? Then the further question arises, are we dealing with a complex Mendelian problem? At all events it seems desirable to study the underlying factors responsible for the phenomena as they are represented, and until such studies have been completed it would be more desirable to stop indiscriminate description of new species of *Cerion*.

I have probably a hundred so-called species which I might describe, of recent years' collecting, as distinct as any that have received names in the past, which will wait for their designation until the

breeding experiments¹ I am now conducting on the Florida keys, under the auspices of the Department of Marine Biology of the Carnegie Institution of Washington, D. C., have been completed.

The *Cerion* described in the present paper is as distinct as any of the described species. Were it part of my collecting I would retain the description until the breeding experiments have given a decision upon the desirability, yes, the necessity, of describing the thousands of races which will be found when exhaustive collecting will have been done in the Bahamas. However, since the present species has been distributed under the above name, it is best that it should have a definite status. For the other forms described, no apologies are necessary.

CERION (STROPHIOPS) PEPPERI, new species.

Plate 3, figs. 1, 3, 7-12.

Shell cylindro-conic, moderately tapering at the apex, chocolate brown, crossed with slender, very retractive, somewhat irregular, whitish, axial riblets, between which appear finer lines of growth. Base rimate, crossed by the continuation of the axial ribs. Aperture small, with a white reflected peristome. Parietal wall provided with a strong fold, which is a little to the right of the middle; the second fold is at the junction of the inner lip and parietal wall.

This species was found common by Mr. G. W. Pepper, 2 miles south of Mastic Point, Andros Islands, Bahamas. The type, Cat. No. 250217, U.S.N.M., figure 10, has 12 whorls and measures: length, 31.0 mm., diameter, 9.0 mm.

With the type lot are a number of smaller specimens which have a completed aperture, but a much lesser number of whorls, figures 9 and 12. They agree in all characters with the species excepting size and number of whorls. One of these has nine whorls and measures: length, 19.9 mm., diameter, 8.2 mm. Another having nine whorls measures: length, 19.0 mm., diameter 9.5 mm.

Still another lot of specimens, of which I have seen three, figures 1, 3, and 11, are intermediate in size between these two. These three have a second lip, starting from within the first peristome, building out a new growth and leaving the original reflected peristome as a broad varix. One of these has ten and one eight turns and measures; length 22.9 mm.; diameter 10.0 mm. It would seem as if these smaller specimens indicated a forced maturity owing probably to the effects of a dry season and that with the return of favorable conditions these three have started a new growth.

Still two other specimens of this species have, probably owing to some injury, assumed a scalariform spire in the later whorls. These two, figures 7 and 8, were collected on a small unnamed key south of Mastic Point, Andros Islands, Bahamas.

¹ See Yearbook, Carnegie Institution, No. 11, pp. 129-131, and the second report in the next yearbook, not yet issued.

CEPOLIS MAYNARDI ELEVATA, new subspecies.

Plate 3, figs. 4-6.

Shell similar to *C. maynardi*, but much more elevated, with the axial sculpture a little more strongly emphasized, the individual whorls are more inflated, the aperture is considerably shorter and tends toward a subcircular rather than an oval outline. Lip edged with pink internally. Color bands absent.

Eight specimens of this species were collected by Mr. Pepper at Mastic Point, Andros Islands, Bahamas. Two of these, cotypes, are in the U. S. National Museum, Cat. No. 250221. These have five whorls and measure: Altitude, 9.8 mm., and 10.2 mm.; greatest diameter, 12.5 mm. and 13.1 mm., respectively.

LEPTINARIA BAHAMENSIS, new species.

Plate 3, fig. 2.

Shell elongate-conic, yellowish white. Whorls seven, well rounded but not inflated, marked by very fine, slender, sinuous, axial threads. Sutures strongly constricted. Periphery of the last whorl well rounded. Base narrowly umbilicated. Aperture oval; posterior angle obtuse; half the outer lip, immediately below the summit, inbent and at the same time slightly protracted into a faint claw-like element; inner lip revolute, provided with a fold a little anterior to its middle. Parietal wall glazed with a thin callus.

The type, Cat. No. 250220 U.S.N.M., was collected by Mr. G. W. Pepper at Mastic Point, Andros Islands, Bahamas. It measures: Length 7.1 mm.; diameter 3.7 mm.

VARICELLA GRACILLIMA BAHAMENSIS, new subspecies.

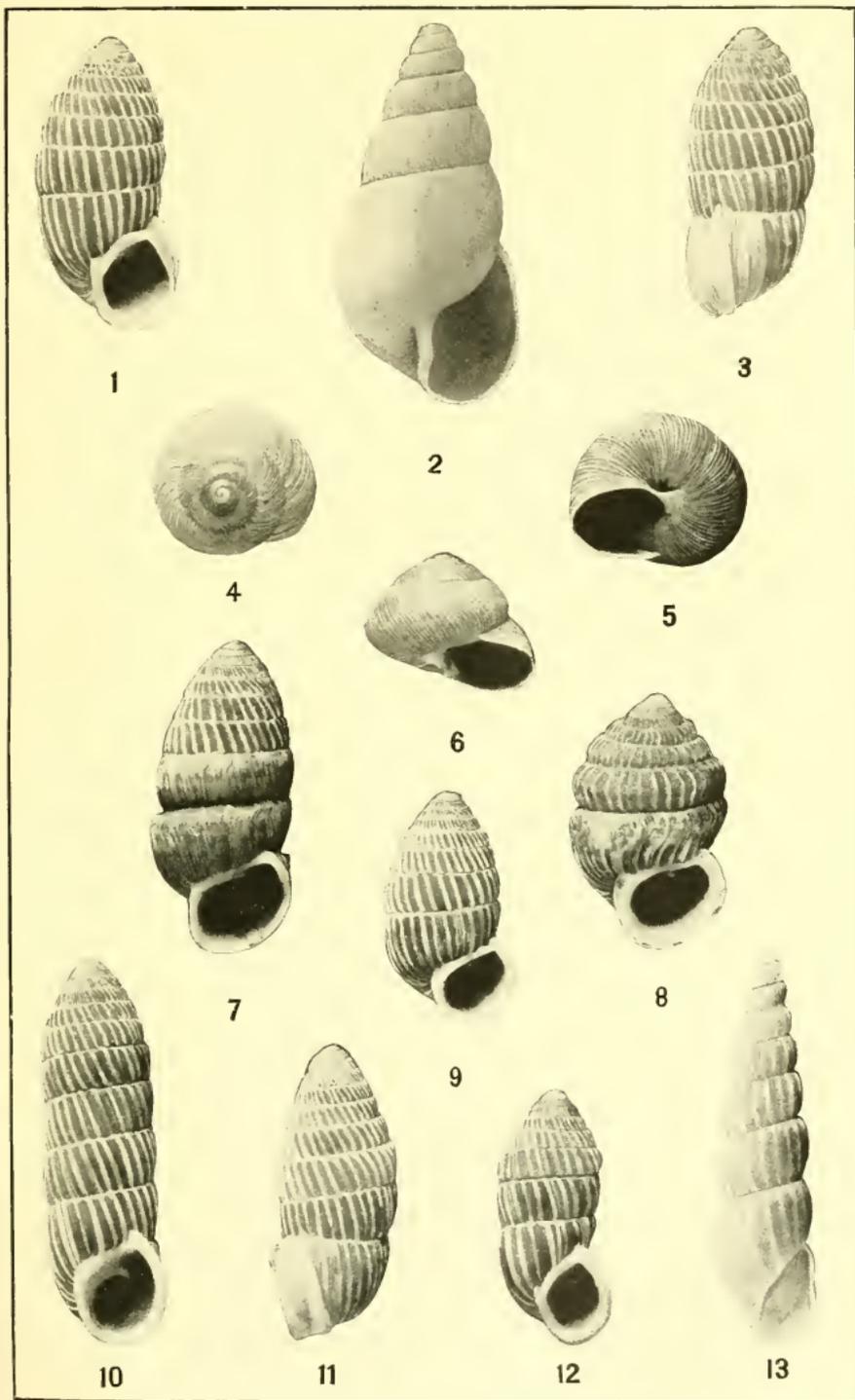
Plate 3, fig. 13.

Shell similar to *V. gracillima*, but having the whorls less inflated, and scarcely at all shouldered at the summit, and the sutures much less constricted. The ribs also in the present form are very poorly developed and much more distantly spaced than in *V. gracillima*.

The type, which has nine whorls, measures: Length 7.5 mm.; diameter 2.0 mm.; it and three specimens, Cat. No. 180661, U.S.N.M., were collected by Owen Bryant on Mangrove Cay, Andros Islands, Bahamas. Cat. No. 180660, U.S.N.M., contains six specimens, which are a little smaller in every way than the type lot, collected by the same gentleman under leaves and bushes on a hillside near Fort Charlotte, Nassau, New Providence. Still another specimen was determined for Mr. G. W. Pepper, collected on Andros Islands.

EXPLANATION OF PLATE 3.

FIGS. 1, 3, 7-12. *Cerion (Strophiope) pepperi*.4-6. *Cepolis maynardi elevata*.2. *Leptinaria bahamensis*.13. *Varicella gracillima bahamensis*.



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FOR EXPLANATION OF PLATE SEE PAGE 109.

