THREE NEW SPECIES OF ANODONTITES FROM BRAZIL.

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Among some Brazilian naiads recently sent to the United States National Museum for identification by Mr. Dias da Rocha of Ceara, Brazil, were two species of Anodontites which appear to be new. They are from Ceara, Brazil. They are not represented in the Museum collection, nor in the collection of the Academy of Natural Sciences of Philadelphia, which I have examined, with the kind assistance of Dr. H. A. Pilsbry. I have been unable to find them described in the literature relating to the genus and have concluded that they belong to an undescribed species. More recently, Mr. da Rocha has sent four additional valves of Anodontites from the same locality. Two of these belong to typical *Anodontites sinuosus* Lamarck, while the other two belong to a new species.

The following descriptions and figures will serve to define the three species:

ANODONTITES SALMONEA, new species.

Plate 67.

Shell moderately thick, rounded in front, obtusely angular behind, widest just posterior to the beaks. Periostracum thin, with a dull polish, marked by obscure rays which are formed by a ruffling of the periostracum itself. Entire surface of the shell marked by concentric impressed lines, which, in the earlier stages of growth are more regular, stronger, and nearly evenly spaced, but which become faint and irregular as growth progresses. Periostracum light yellowish olive, the rest stages indicated by dark lines, and the color gradually darkens from the beaks to the margins. Posterior ridge rounded, but little elevated. Posterior dorsal area with a low rib running from the beak to a point above the posterior angle. Beaks eroded, salmon pink, and this color shows through the periostracum for some distance from the beaks, showing that the material of the shell itself is of this color. Nacre beautiful salmon pink, the color deepest in the cavity of the beak, and becoming paler and more iridescent toward the margins. Prismatic margin dull greenish, or whitish tinged with green. Surface of the nacre marked by innumerable fine radiating lines which are part of the nacre or of the shell substance.

Hinge line slightly arched and not making a sharp angle with the anterior and posterior margins. Sinulus small but very prominent and almost an equilateral triangle.

The type, Cat. No. 273688, U.S.N.M., is a single valve, probably nearly adult, from Ceara, Brazil, and measures: Length, 66 mm.; breadth, 38 mm.; diameter, if both valves were present, would be 24 mm. There is also a younger specimen, which measures: Length, 39 mm.; breadth, 22 mm.; diameter, 14 mm.

This species shows no close relationship to any described species. Its nearest relative is *Anodontites wymani* Lea, but the two species differ in form, color of periostracum and nacre, and especially in the color of the prismatic margin. The sinulus of *wymani* is long and narrow, while that of *salmonea* is nearly an equilateral triangle. The hinge plate of *wymani* is short, broad, and heavy; that of *salmonea* is longer, narrower, and lighter.

ANODONTITES DAROCHAI, new species.

Plate 68.

Shell very thin and fragile, somewhat inflated, regularly rounded in front and angulately rounded behind, somewhat constricted just in front of the middle. Widest near the posterior end of the hinge line. Beak eroded, upper portion of each valve with numerous, obscure, evenly spaced, channeled lines. Periostracum thin, smooth, polished, greenish olive, with the rest periods indicated by a brownish line. Posterior ridge evenly rounded. Posterior dorsal area dark green with two darker green rays. Many other green rays over the entire surface which are widest and darkest posteriorly, while anteriorly they are narrow and faint.

Nacre highly iridescent, suffused with a lurid cast, marked by fine radiating lines in the texture of the shell. Channeled concentric lines of the outer surface showing through. Hinge line straight, making abrupt angles with the anterior and posterior margins. Cavity of the beaks and vicinity of the sinulus diseased, and this disease obscures the character of the sinulus.

The type, Cat. No. 273687, U.S.N.M., is a single valve from Ceara, Brazil. It is not yet fully adult. It measures: Length, 75 mm.; breadth, 45 mm.; diameter, if both valves were present, would be 24 mm.

It is named in honor of the donor, Mr. Dias da Rocha.

A young specimen from the same place sent by Mr. da Rocha possibly belongs to this species, but has a bluish nacre and a light greenish periostracum. *Anodontites sinuosus* is the nearest relative of this species. The former is nearly truncate posteriorly, while the latter is somewhat nasute, and the two species differ in other respects, but it is possible that a large series of specimens would show *A. darochai* to be a variety of *A. sinuosus*.

ANODONTITES AURORA, new species.

Plate 69.

Shell elongately subquadrate, regularly rounded in front, angularly rounded, but somewhat attenuated, posteriorly. Early shell with concentric, channeled lines, posterior dorsal area with evenly spaced, concentric, channeled lines which fade out just in front of the posterior ridge. Anteriorly the shell is nearly smooth. Posteriorly there is a succession of low, broad concentric ribs. Color brownish-olive, glossy, darkening anteriorly to light brown; posterior area very dark brown, almost blackish, the dark color here sharply differentiated from the lighter color of the rest of the shell; entire surface more or less marked with radiating brown lines varying in width and intensity; rest periods five, indicated by darker brownish lines.

Nacre highly iridescent, with a lurid cast, marked by innumerable radiating straiae, which are in the texture of the shell. Cavity of the beak shallow. Upper portion of nacre, including the hinge line, blotched with lavender. Prismatic margin very narrow, bluish-white. Hinge line nearly straight, making an abrupt angle with the anterior margin of the shell, but scarcely any angle with the posterior margin.

The type, Cat. No. 273689, U.S.N.M., consists of a single valve which measures: Length, 110 mm.; height, 86 mm.; diameter, if both valves were present, would be 34 mm. It and one other valve come from Ceara, Brazil.

Superficially this species seems to be most nearly related to *Anodontites trapezialis* Lamarck, but a careful study of form, nacre, color, and other characters shows a closer relationship to *Anodontites sinuosus* Lamarck. *Anodontites trapezialis* narrows in front to such a degree as to give the shell a generally oblique appearance. The narrowing in *A. aurora* is much less, and hence the shell has a more quadrate form. The difference in the thickness of the two species is very great, *trapezialis* being much the thicker and much heavier. The nacre of *trapezialis* is dull, bluish-white while that of *aurora* is highly iridescent and has a lurid cast. In nacre *A. aurora* agrees in practically all respects with *A. sinuosus*.

A. sinuosus has a generally pathologic appearance. The nacre is blotched with purplish-brown and the posterior portion of the shell is rudely constructed and looks like a "bad job." *A. aurora* has the purplish blotches on the nacre, but the posterior portion of the shell neatly finished. It is possible that *A. sinuosus* if grown to perfection would possess the elongated form of *A. aurora* and that the latter would then prove to be a variety of the former.

The name *aurora* is appropriate for the species because of the play of brilliant colors in the nacre.

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ANODONTITES SALMONEA.

FOR EXPLANATION OF PLATE SEE PAGE 527.

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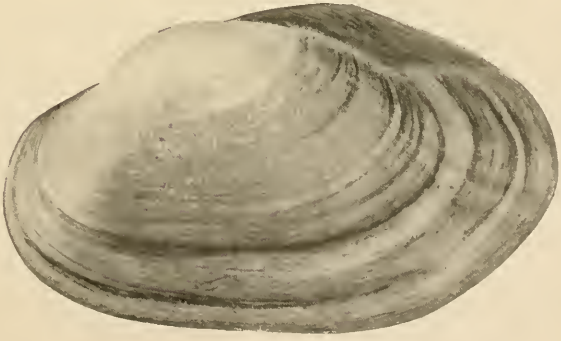

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ANODONTITES DAROCHAI.

FOR EXPLANATION OF PLATE SEE PAGE 528.

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ANODONTITES AURORA

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