

NEW URUGUAYAN MOLLUSKS OF THE GENUS CORBICULA.

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A large collection of Uruguayan *Corbicula* recently received from Dr. Florentino Felippone, of Montevideo, part as a gift to the United States National Museum and part for identification, necessitated a careful study of the South American shells of this genus. At once it became apparent that much of the material received does not fall into any of the known species and in order properly to classify them, it became necessary to describe the eight new species herein named. A specimen and an odd valve from Mr. S. Olea, of Montevideo, have lain in the collection unidentified for about 18 years. An odd valve of the same kind just received from Doctor Felippone further confirms the belief that these shells belong to a new species which is herein described under the name *oleana*. The preeminent *Corbicula* of the Uruguayan and southern Brazilian region is *limosa* Maton, the first species described. It seems to be the most abundant *Corbicula* in the region, but there may be several species or subspecies included under this name. Surely the shells placed here exhibit a wide range of variation in form, size, and color. Some of the southern Brazilian forms are long, but little resembling the typical triangular forms. Abundant material and a study of the distribution in the various river systems is needed to clarify this species.

The narrow radiating lines of color (usually reddish or chestnut) so often seen in some of the species deserve some notice. In specimens of the same species they may or may not be present. They seem to be in the periostracum but in fact they are in the calcareous portion of the shell and are seen through the periostracum. The collection of the National Museum contains a number of specimens in which part of the periostracum has been rubbed away and in which the color rays are very prominent on the calcareous part thus exposed to view. No color rays are to be seen in the periostracum

where it remains but has curled away from the ray in the shelly substance.

The two chief facts which have been discovered in the Corbiculidae since the time at which these mollusks were segregated into a family by themselves lie in a discovery made by Prime and a later one made by Dall. Prime's discovery is given in the following sentence quoted from his Monograph of American Corbiculadae (Recent and fossil).¹ "A peculiarity of the *Corbicula* found in America, which they share with our *Cyrena*, lies in the fact that the pallial impression always terminates in a sinus, whereas in the species from other regions it is simple."

Dall discovered the fact that *Corbicula limosa* and *C. obsoleta* are viviparous. See his Note on *Neocorbicula* Fischer.²

Two specimens from Doctor Felippone from Colonia, Uruguay, contain nepionic young, thus proving anew that at least some of the species are viviparous as pointed out by Dall.

Both shells are quite small, showing that breeding begins at an early stage. One, at least, is positively *Corbicula limosa*. This specimen measures 11 mm. in length and 9 mm. in height. It contains embryos from the egg up to shells of a considerable size, giving one the idea that the production of young must be somewhat continuous, at least during the breeding season, and that it does not take place in a short space of time. The largest of the young, probably ready for extrusion, measures 2 mm. in length and 1.75 mm. in height. This is a considerable size when compared with the size of the parent.

The tip of the young shell is transparent, glasslike, and very small. It is prominent like the tip of the genus *Musculium*. A fairly well-marked concentric groove indicates the first period of development. This is followed by several concentric impressed striae and the later portion of the shell has concentric striae resembling on a small scale those of the adult. These little shells are flesh colored, with bright rays of pale chestnut, not evenly distributed, but arranged singly or in pairs or trios. In coloring, the baby shell thus resembles the mother.

The other specimen mentioned as containing young is of about the same size as the one we have been considering, but it has no rays of color, and it is a little off form for *Corbicula limosa*. The nepionic young in this specimen resemble the mother in having no rays of color.

The nepionic young of a specimen of *Corbicula obsoleta* in the collection of the United States National Museum mimic the mother in

¹ Smiths. Mis. Coll. No. 145, p. 3, Dec. 1865.

² The Nautilus, vol. 16, pp. 82, 83, Nov., 1902.

form. The young have an oblique splash of purple in front and back of the beaks, both splashes pointing in a general way toward the posterior ventral angle. The beaks of the mother shell are much eroded so that purple as splashes can not be seen, but the beak in general is purple.

Data regarding the nepionic young of the various species are woefully lacking, but from what has been observed one gathers the idea that a very careful study of the embryology of the *Corbiculas* would lead to a more accurate understanding of what species there are. This, with geographic distribution, should clarify our knowledge of the South American species of this genus.

CORBICULA (CYANOCYCLAS) CIRCULARIS, new species.

Plate 2, figs. 1-3.

Shell subcircular in outline, very compressed, rather solid, posterior margin very slightly, obliquely truncated. Hinge line much arched, anterior and ventral margins regularly, nearly circularly, curved; beaks not much elevated, posterior and anterior ridges nearly equal in height, the whole surface being nearly of a uniform convexity; color in type bleached straw, becoming greenish around the margin (in the cotype the whole surface is a dirty greenish with an undertone of straw color); sculpture consisting of a number of engraved concentric lines with concentric striae between them and several more plainly marked growth lines. Both cotypes are left valves. The hinge area broad, the middle cardinal tooth bifid, the anterior one smaller but strong, the posterior one very small and weak, long and knifelike. Anterior lateral standing out prominently on the hinge plate, thin, long, slightly bowed, undulated on its edge, coarsely striated and with radiating oblique grooves on its outer surface. Posterior lateral holding the same direction as the third cardinal, slightly bowed, its front end elevated, its edge crenulated, and its outer face rudely striated. The ligamental scar (sinulus) relatively large. Pallial line in type about 5 mm. from ventral margin, well marked, the sinus rather small. Color of interior of both cotypes plain white.

The type, Cat. No. 347860, U.S.N.M., measures: Length, 25 mm.; height, 24 mm.; diameter if both valves were present would be 12 mm. The cotype measures: Length, 20 mm.; height, 18.5 mm. They come from the Uruguay River, Uruguay, and were presented by Doctor Felippone.

The nearly circular outline, the compressed form, and the nearly regular convexity distinguish this species from all others yet known.

CORBICULA (CYANOCYCLAS) COMPACTA, new species.

Plate 2, figs. 10-12.

Shell moderately inflated, thick, compact, subrotund in outline, narrower in front. Ventral margin slightly curved, anterior margin narrowly curved, posterior margin sweepingly curved. Beaks rather high and full, so placed as to give the shell an appearance of being tilted forward. Posterior ridge prominent, obscurely subangular; anterior ridge hardly apparent. Sculpture of rather distant but moderately strong concentric growth striae, which are much stronger on the anterior area. Periostracum clothlike, dull. Color light chestnut brown, with several indistinct, hairlike darker rays. These rays are on the calcareous portion of the shell, but at places may be seen through the translucent periostracum. Beaks eroded, allowing it to be seen that the texture of the shell is of a pink color. Interior rose pink, paler toward the margins. Cardinal teeth widely diverging. In the right valve the first cardinal is reduced to a mere point, the middle cardinal rather strong and bifid, the third about as strong as the second and obscurely bifid. Anterior laterals of the valve rather long, slightly bowed, the inner one the stronger and striated on its upper face, the outer one weak. Posterior laterals of this valve very short, the inner one stronger and weakly striated on its upper face, the outer one very weak. In the left valve the first cardinal tooth is thin and platelike, the second is stronger and obscurely bifid, the third is an elevated, thin plate. The anterior lateral tooth of this valve is bowed and irregularly crenulated and striated. The posterior lateral is extremely short and weakly striated. Adductor scars and pallial line impressed, the pallial sinus very marked.

The type, Cat. No. 349175, U.S.N.M., measures: Length, 25 mm.; height, 22.5 mm.; diameter, 17.5 mm. It comes from Doctor Felipe, who collected it at Paysandu, Uruguay.

The chunky form, compactness, pinkish color, and especially the very small posterior lateral teeth afford easy means of identifying this species.

CORBICULA (CYANOCYCLAS) DELICATA, new species.

Plate 2, figs. 4-6.

Shell moderately compressed, subquadrate in outline, wide posteriorly, where it is roundly truncate. Anterior end shortly rounded, ventral margin slightly rounded, hinge line very lightly arched, beaks a little behind the middle. Posterior ridge moderately high, rounded, posterior dorsal area sloping gently from the ridge to the margin, wide. Sculpture of very fine concentric striae, the rest periods indicated by a deeper line and of dark color. Periostracum clothlike, not

shining. General color light olive green, the margin salmon color, posterior area with three broad rays of salmon color and three rays of greenish. Faint indication of narrow dark rays elsewhere. Interior of the shell purplish gray with whitish margin, the posterior end with three broad rays of purple and three of salmon. Cardinal teeth widely divergent, more plainly bifid than in most *Corbicula*. Anterior laterals of right valve rather long, plainly curved at the lower end, posterior laterals short, high at its upper end. Pallial line and sinus fairly well marked.

The type, Cat. No. 347862, U.S.N.M., measures: Length, 11 mm.; height, 9 mm.; diameter, 4 mm. It was presented by Doctor Felippone, who collected it in the Department of Paysandu, Uruguay. It is a young specimen, but was selected for type as it is the only one of the lot received which is nearly perfect. The species becomes much larger—another specimen measuring: Length, 20 mm.; height, 17 mm.; diameter, 9 mm. Its nearest relative is *limosa* Maton, from which it differs slightly in form and greatly in coloring.

CORBICULA (CYANOCYCLAS) EXQUISITA, new species.

Plate 1, figs. 9, 10, 12.

Shell thin, very inflated, cordate, beaks turning forward, dorsal line lightly arched, posterior margin nearly squarely truncate, distinctly angled above, obscurely angled below. Anterior margin rounded, the anterior portion of the shell advancing, giving the shell a pouting appearance. Ventral margin rounded, posterior ridge high, rounded, posterior area very broad, obscurely, cordately sulcate beaks a little back of the middle of the dorsal line, eroded but retaining traces of rather heavy concentric, raised lines. Color very light chestnut, uniform, but sparingly rayed with very narrow darker chestnut lines. Posterior area with three broad radiating livid stripes. Beaks with a pinkish tinge. Sculpture consisting of numerous concentric raised lines, which are stronger anteriorly and crowded and much finer posteriorly. Periostracum thin, somewhat shining. Ligament very short, close to the beaks. Interior of shell pinkish everywhere. Anterior cardinal tooth of right valve very small, triangular, very sharp, the other two fairly strong, and both of them markedly bifid. Laterals in this valve double, the inner ones crenulate on edge and coarsely striate on upper surface. In left valve the first and second cardinals are fairly strong and slightly bifid, the third cardinal thin, high, platelike, pointed. Anterior lateral crenulated, strongly striate on its outer face and with oblique shallow grooves cutting across the striae. Posterior lateral remote from beaks very high, nearly pointed at its middle, obscurely crenulated and striated.

Pallial line well marked, about 4 mm. from ventral margin, pallial sinus distinct, acutely pointed.

The type, Cat. No. 347866, U.S.N.M., measures: Length, 19 mm.; height, 17 mm.; diameter, 13 mm. It and an odd valve, Cat. No. 347867, U.S.N.M. come from the Department of Colonia, Uruguay, and were collected and presented by Doctor Felippone. His collection (No. 1580) contains one right valve from the same place.

This species is entirely different from any hitherto known and will be easy to recognize. Structure, color, form, and other feature of the shell are so superior to the usual *Corbicula* that they have suggested the specific name. A general pinkish or salmon tinge pervades the whole shell. The valve in Doctor Felippone's collection is decorticated, thus showing the shell color unobscured by the periostracum. It is plainly to be seen that not only the surfaces of the calcareous portion of the shell but the texture of this portion itself is of this color.

CORBICULA (CYANOCYCLAS) FELIPPONEI, new species.

Plate 1, figs. 1, 7, 11.

Shell large, thick, heavy, subcircular in outline, posterior margin slightly truncated. Beaks eroded, high, located just in front of the middle. Anterior margin sloping slightly from the beaks, then curving regularly into the regularly curved ventral margin which joins the posterior margin in a rounded angle. Posterior dorsal area appearing to be pinched. Posterior dorsal ridge rounded but prominent. Sculpture consisting of a number of rude lines of growth, with minor lines between them. Growth lines crowded anteriorly and posteriorly and near the ventral margin. Color of exterior blackish brown, with chestnut tints here and there. Color of interior very striking, of various shades of white, flesh-color, pink, lavender, and purple. Cavity of the beaks white, teeth and a broad irregular band round the whole margin pink, flesh color, or lavender; a broad zone of which the pallial line marks the middle is of various tints of purple. Between the pallial line and the ventral margin are nine or ten purple rays pointing toward the beaks. A broad purple ray extends from near the beak to the upper part of the posterior adductor scar. Cardinal teeth of the usual type but large and thick; between the cardinals and the beginning of the posterior lateral teeth the hinge plate is very broad, somewhat as in *Batissa*. Lateral teeth very strong, double in the right valve, single in the left, all of them rather short. Anterior laterals of right valve nearly straight, the groove between them narrow, the inner one the stronger, its upper edge undulating and crenulated. Posterior laterals of right valve with a wide groove between them, the inner lateral nearly

straight, its edge crenulated and its upper face with several oblique grooves, the outer tooth much arched. Anterior lateral of left rudely crenulate and undulating, posterior lateral of this valve very high, especially at its upper end, its edge finely crenulate and undulating, its upper face with granulous striae and with several oblique shallow grooves. Pallial line about 7 mm. from ventral margin, well marked, the sinus large and acutely pointed, the space between the pallial line and ventral margin radially roughened. Anterior adductor scar deep and with many strongly marked growth lines; posterior scar well marked but not deep, its growth lines hardly visible.

The type, Cat. No. 347868, U.S.N.M., measures: length, 39 mm.; height, 35 mm.; diameter, 20 mm. It comes from the Department of Colonia, Uruguay, and was collected and presented by Dr. Florentino Felippone. A specimen in Doctor Felippone's collection, (his No. 1624) is labelled Rio Uruguay, Uruguay. It measures: length, 32 mm.; height, 25 mm.; diameter, 16 mm.

Two odd valves, Cat. No. 347871, U.S.N.M., from the Uruguay River, Nueva Palmira, Department of Colonia, Uruguay, are more inflated, have a cordate form and have a number of ribs for concentric sculpture. More material may show these to belong to a subspecies.

This is the largest American *Corbicula* known, the nearest approach to it in size being *C. coloniensis* Pilsbry, for one specimen of which Pilsbry gives the measurements as: Length, 32½ mm.; altitude, 27½ mm.; diameter, 15½ mm. In size and coloring *felipponei* reminds one of some of the species from the Far East, but of course this species being South American shows a very well-marked sinus near the posterior end of the pallial line.

CORBICULA (CYANOCYCLAS) FORTIS, new species.

Plate 2, figs. 7-9.

Shell subtriangular, inflated, very thick, especially at the upper portion. Posterior margin long and straight, making a sharp angle with the ventral margin. Anterior margin nearly straight, not quite so long, shortly rounding into the ventral margin, the latter nearly regularly curved. Posterior and anterior ridges both high, the former subangulate, the latter rounded. Posterior area very wide, nearly at right angles to the convexity of the shell. When the valves are closed their united posterior areas are distinctly wedge-shaped. Beaks high and narrow, well separated. Hinge line greatly arched, especially between the third cardinal tooth and the posterior laterals. Sculpture consisting of numerous fine concentric lines of slightly raised lamellae. Color uniform brownish-olive (Saccardo's olive). Color of interior deep purple, white around the margin. In right

valve the first cardinal tooth is a mere point, the second is strong, and thick and weakly bifid, the third is moderately stout, long, and prominently bifid—anterior laterals of this valve short, the inner one very thick and wavyly striated on its upper face, outer one weak, sharp, its lower end abruptly curved to join the inner lateral, groove very wide and deep. In the left valve the first cardinal is triangular, high and sharply pointed, the second is strong and so deeply bifid as to appear like two teeth fused at the base, the third cardinal is long and platelike. Anterior lateral of this valve thick with edge very undulating and it and the upper face coarsely striated. Posterior lateral of this valve thick with both its outer and inner faces coarsely striated. Adductor scars, pallial line and sinus all deeply impressed.

The type, Cat. No. 347874, U.S.N.M., measures: Length, 21 mm.: height, 20 mm.; diameter, 14 mm. It comes from the Department of Colonia and was collected and presented by Doctor Felippone.

Cat. No. 109265, U.S.N.M., contains two small specimens and four odd valves from Arroyo de Pando, Department of Canelones, which were received many years ago from Mr. S. Olea, of Montevideo. Cat. No. 347876, U.S.N.M., contains a number of odd valves from the Department of Paysandu received from Doctor Felippone. Unlike the type, many of them show several radiating lines of color. These lines show on the calcareous portion of several specimens which are almost entirely decorticated, and apparently it is in this part of the shell that the color lines are located, showing through the periostracum when it is present.

The nearest relative of this species is *C. felipponei*, which, however, is much larger, more rounded, not so thick, and of different color.

CORBICULA (CYANOCYCLAS) OLEANA, new species.

Plate 1, figs. 2-4.

Shell cordate, very oblique, very thick, much inflated, slopingly rounded on posterior margin, angularly rounded on anterior margin. Ventral margin regularly rounded. Beaks very high, projecting far above the hinge line, which is much arched. Posterior ridge high, rounded. Upper portion of shell with several very high, thin, concentric ridges, and whole surface with obscure concentric growth striae. Posterior dorsal area with several obscure curved radiating striae. Periostracum smooth, dull, unctuous, of a yellowish-olive color, marked with a number of narrow radiating lavender-colored lines. Area occupied by cardinal and lateral teeth, wide, thick, solid, and strong. Cardinal teeth subparallel, fairly strong, all of them bifid at the top. Laterals of right valve double, short, slightly bowed, the inner ones moderately strong, the outer ones low and weak, the grooves between the outer and inner ones very wide. Laterals of left

valve very thick, especially at the base. Color of interior various shades of purple and ash-gray, the latter color forming a narrow band around the margin, and inside of this are two irregular zones of purple with ash-gray between them. Adductor scars purple and a spot of the same color at the upper end of the lateral teeth of each valve. Cavity of the shell lavender. Adductor scars and sinus of the pallial line deeply impressed.

The type, Cat. No. 109261, U.S.N.M., measures: length, 7.5 mm.; height, 9 mm.; diameter, 9 mm. It and an additional left valve come from Arroyo de Malvin, Department of Montevideo, Uruguay, and were presented by Mr. S. Olea, in whose honor the species is named. It was in specimens of *Corbicula* presented by Mr. Olea that Doctor Dall made the first discovery of viviparity in this genus.

Cat. No. 334554, U.S.N.M., contains a left valve of this species from the Uruguay River, Paysandu, Uruguay, from Doctor Felipe.

The obliquity, the strength, the very cordate form, and especially the concentric ridges on the upper half of each valve make this species easy of identification.

CORBICULA (CYANOCYCLAS) PAYSANDUENSIS, new species.

Plate 1, Figs. 5, 6, 8.

Shell inflated, subquadrate in outline, shortly rounded anteriorly, nearly squarely truncated posteriorly, beaks a little back of the middle, posterior ridge high, subangular, anterior end of shell pouting forward. Periostracum not glossy, smooth, unctuous. Sculpture consisting of a number of elevated concentric ridges near the beaks and similar concentric ridges on most of the anterior area which die out before reaching the main convexity of the shell. There are numerous weak growth striae, but the principal rest periods are well marked by a stronger line and a band of darker color. Posterior area with indications of several weak radiating raised lines. Color dark olive green, with indications of several narrow radiating, chestnut-colored lines. Color of interior purplish gray, the radiating chestnut lines of the exterior showing between the pallial line and the margin. Cardinal teeth moderately diverging. In the right valve the first cardinal is small and pointed, the second is strong and bifid, the third not quite so strong but more deeply bifid. In the left valve the first cardinal is high and pointed, the second bifid on its ventral face, the third long and with a raised point at its lower end. Anterior laterals of right valve nearly straight, subequal in strength, the inner one sharply crenulate. Posterior laterals in this valve remote from beaks, short, much bowed, the inner one crenulate. In the left valve the anterior lateral is thin, crenulated; posterior one

remote from beaks, very short, its middle point high and moderately sharp. Pallial line well marked, the sinus quite large for a shell of this size.

The type, Cat. No. 270895, U.S.N.M., measures: length, 13 mm.; height, 11.5 mm.; diameter, 7 mm. It comes from the Uruguay River, Paysandu, Uruguay, and was collected and presented by Dr. Florentino Felippone. In form this species approaches *C. exquisita*, but differs in color and especially in possessing the strong concentric ridges near the beaks and on the anterior area.

SPECIES OF *CORBICULA* (*CYANOCYCLAS*) CHRONOLOGICALLY ARRANGED AND WITH ORIGINAL GENERIC DESIGNATIONS.

1809. *Tellina limosa* MATON.
Trans. Linn. Soc. London, vol. 10, p. 325, pl. 24, figs. 8-10.
Type locality: Rivers of South America.
1835. *Cyrena variegata* ORBIGNY.
Mag. de Zool., vol. 5, p. 44.
Type locality: Rivers of Uruguay, La Plata River at Buenos Aires, Parana River as far as Corrientes.
A synonym of *limosa* Maton.
1835. *Cyrena paranacensis* ORBIGNY.
Mag. de Zool., vol. 5, p. 44.
Type locality: Parana River from its mouth to above Corrientes.
1844. *Cyrena cuneata* JONAS.
Zeit. für Malak., p. 186.
Type locality: Orinoco River.
1844. *Cyrena globulus* JONAS (in litt.).
Zeit. für Malak., p. 186. (Not described. Here Jonas states that it is the same as *C. cuneata* Jonas.)
1846. *Cyclas paranensis* ORBIGNY.
Voy. Amer. Merid., p. 56, pl. 83, figs. 25-27.
A correction for *Cyrena paranacensis* Orbigny.
1854. *Corbicula brasiliana* DESHAYES.
Bivalves Brit. Mus., p. 232.
Type locality: Para, Brazil.
Deshayes refers to Proc. Zool. Soc. London, p. 232, 1854, as place of original description. No such description occurs there.
1854. *Corbicula convexa* DESHAYES.
Proc. Zool. Soc. London, vol. 22, p. 342.
Type locality: Central America.
1854. *Corbicula incrassata* DESHAYES.
Proc. Zool. Soc. London, vol. 22, p. 342.
Type locality: Unknown.
Prime places it in the synonymy of *Corbicula cuneata* Jonas.
1854. *Corbicula obsolata* DESHAYES.
Proc. Zool. Soc. London, vol. 22, p. 343.
Type locality: Uruguay.
1854. *Corbicula semisulcata* DESHAYES.
Proc. Zool. Soc. London, vol. 22, p. 343.
Type locality: Victoria River, Australia.
Locality evidently an error. Prime and Clessin place this in the synonymy of *Corbicula limosa* Maton.

1860. *Corbicula rotunda* PRIME.
Proc. Acad. Nat. Sci. Phila., p. 80.
Type locality: Surinam River, Guiana.
1865. *Corbicula perplexa* PRIME.
Smiths. Miscell. Coll. No. 145, p. 75.
Type locality: South America.
1870. *Corbicula amazonica* (Anthony) PRIME.
Prime in Ann. Lyc. Nat. Hist., New York, vol. 9, p. 299.
Type locality: Amazon River (in stomach of a fish).
1879. *Corbicula surinamica* CLESSIN.
Conch. Cab., vol 9, pt. 3, p. 178, pl. 31, figs. 7-9.
Type locality: South America (in stomach of a fish, *Doras costatus*).
1896. *Corbicula coloniensis* PILSBRY.
Proc. Acad. Nat. Sci., Phila., p. 562, pl. 26, fig. 9.
Type locality: Rio de la Plata, above Colonia, Uruguay.
1914. *Corbicula approximans* PRESTON.
Ann. and Mag. Nat. Hist., ser. 8, vol. 13, p. 528.
Type locality: Rio Bermejo, a tributary of Rio Chaco, N. Argentina.
1914. *Corbicula bermejocensis* PRESTON.
Ann. and Mag. Nat. Hist., ser. 8, vol. 13, p. 528.
Type locality: Rio Bermejo, a tributary of Rio Chaco, N. Argentina.

SPECIES HERE DESCRIBED.

- Corbicula (Cyanocyclus) circularis*. Type locality: Uruguay River, Uruguay.
- Corbicula (Cyanocyclus) compacta*. Type locality: Barra del Arroyo Sacra, Department of Paysandu, Uruguay.
- Corbicula (Cyanocyclus) delicata*. Type locality: Department of Paysandu, Uruguay.
- Corbicula (Cyanocyclus) exquisita*. Type locality: Department of Colonia, Uruguay.
- Corbicula (Cyanocyclus) felipponei*. Type locality: Department of Colonia, Uruguay.
- Corbicula (Cyanocyclus) fortis*. Type locality: Department of Colonia, Uruguay.
- Corbicula (Cyanocyclus) oleana*. Type locality: Arroyo de Malvin, Department of Montevideo, Uruguay.
- Corbicula (Cyanocyclus) paysanduensis*. Type locality: Uruguay River, Paysandu, Uruguay.

EXPLANATION OF PLATES.

All figures $\times 1\frac{1}{2}$.

PLATE 1.

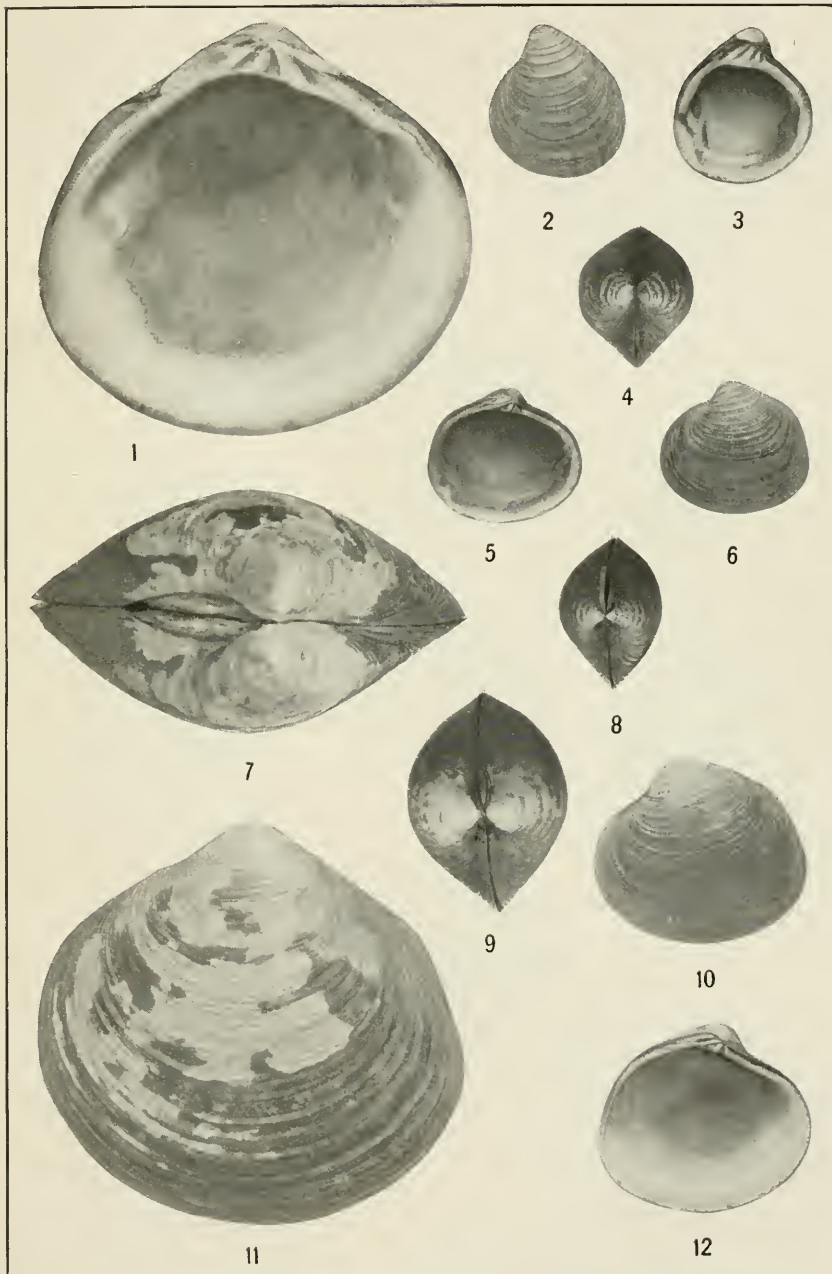
- FIG. 1. *Corbicula (Cyanocyclus) felipponei*, new species. Interior of left valve.
2. *Corbicula (Cyanocyclus) oleana*, new species. Exterior of left valve.
3. *Corbicula (Cyanocyclus) oleana*, new species. Interior of left valve.
4. *Corbicula (Cyanocyclus) oleana*, new species. Dorsal view.
5. *Corbicula (Cyanocyclus) paysanduensis*, new species. Interior of left valve.
6. *Corbicula (Cyanocyclus) paysanduensis*, new species. Exterior of left valve.
7. *Corbicula (Cyanocyclus) felipponei*, new species. Dorsal view.
8. *Corbicula (Cyanocyclus) paysanduensis*, new species. Dorsal view.

9. *Corbicula (Cyanocyclus) exquisita*, new species. Dorsal view.
10. *Corbicula (Cyanocyclus) exquisita*, new species. Exterior of left valve.
11. *Corbicula (Cyanocyclus) felipponci*, new species. Exterior of left valve.
12. *Corbicula (Cyanocyclus) exquisita*, new species. Interior of left valve.

PLATE 2.

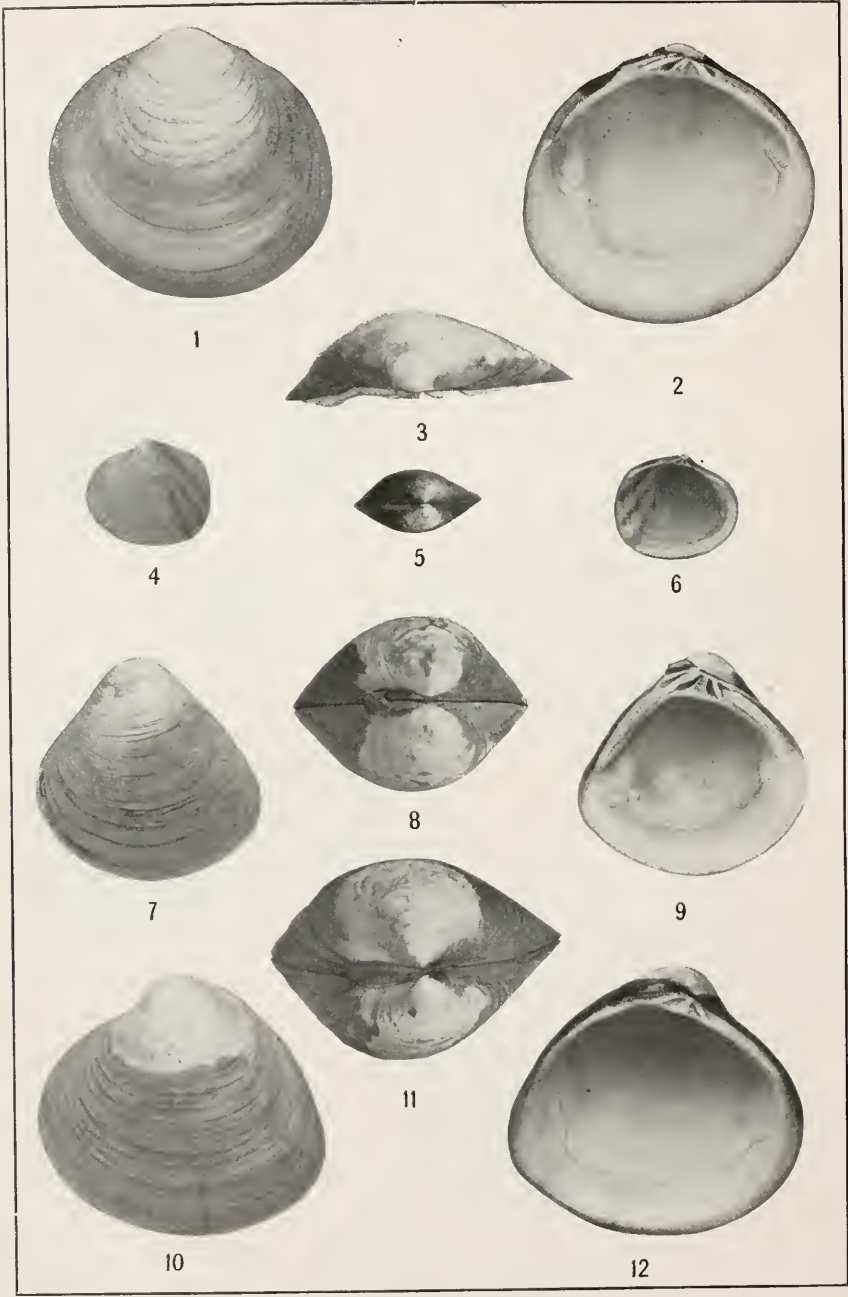
- FIG. 1. *Corbicula (Cyanocyclus) circularis*, new species. Exterior of left valve.
2. *Corbicula (Cyanocyclus) circularis*, new species. Interior of left valve.
 3. *Corbicula (Cyanocyclus) circularis*, new species. Dorsal view of left valve.
 4. *Corbicula (Cyanocyclus) delicata*, new species. Exterior of left valve.
 5. *Corbicula (Cyanocyclus) delicata*, new species. Dorsal view.
 6. *Corbicula (Cyanocyclus) delicata*, new species. Interior of left valve.
 7. *Corbicula (Cyanocyclus) fortis*, new species. Exterior of left valve.
 8. *Corbicula (Cyanocyclus) fortis*, new species. Dorsal view.
 9. *Corbicula (Cyanocyclus) fortis*, new species. Interior of left valve.
 10. *Corbicula (Cyanocyclus) compacta*, new species. Exterior of left valve.
 11. *Corbicula (Cyanocyclus) compacta*, new species. Dorsal view.
 12. *Corbicula (Cyanocyclus) compacta*, new species. Interior of left valve.





NEW URUGUAYAN CORBICULIDAE

FOR EXPLANATION OF PLATE SEE PAGES 11 AND 12



NEW URUGUAYAN CORBICULIDAE

FOR EXPLANATION OF PLATE SEE PAGE 12