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SYNONYMY OF STREPOMATIDÆ

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CONTRIBUTIONS TO CONCHOLOGY.—VOL. 3.

SYNONYMY

OF THE

SPECIES

OF

STREPOMATIDÆ

(MELANIANS)

OF THE UNITED STATES;

WITH CRITICAL OBSERVATIONS ON THEIR AFFINITIES,

AND

DESCRIPTIONS OF LAND, FRESH WATER AND MARINE

MOLLUSCA.

BY GEORGE W. TRYON, JR.,

MEMBER OF THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA, CORRESPONDING MEMBER OF THE BOSTON SOCIETY OF NATURAL HISTORY, THE NEW YORK LYCEUM OF NATURAL HISTORY, THE CALIFORNIA ACADEMY OF NATURAL SCIENCES, &C.

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1865

CONTRIBUTIONS TO CONCHOLOGY.—VOL. 3.

SYNONYMY

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OF

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(PULMONATA)

OF THE UNITED STATES;

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MOLLUSCA.

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PHILADELPHIA:
ACADEMY OF NATURAL SCIENCES.
1862.

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TO

ISAAC LEA, LL.D.,

THIS VOLUME,

Treating
of a subject
which he has so
fully illustrated by his
many publications, extending
through a long series of years, is
RESPECTFULLY DEDICATED,
in recognition of the love of Science and
personal regard which induced him
to spend many hours of valu-
able time in assisting
the Author in its
preparation.

M363799

PREFACE.

The major part of the following volume is occupied by an attempt to give a synonymy of the species of *Strepomatidæ* of the United States. Though supplied with abundant material, and having, besides, access to all the principal collections of these shells, for the purposes of study and comparison, yet the subject is so vast, the species so numerous, and generally so variable, that the author cannot feel that confidence in having well performed the task he had undertaken, which he would like to experience.

The results of my investigations, such as they are, are presented in the hope that they will not prove entirely useless to those who shall pursue the study of these very interesting animals.

We would advise those who shall possess this volume, to have inserted alternate blank leaves, in binding it, for the purpose of adding species that may hereafter be described, and for corrections of the synonymy.

We have given a very full Index of species, arranged alphabetically, under the various genera and subgenera adopted by us. This Index will be found much more complete and useful than those given by Mr. Reeve, and by Dr. Brot, as it includes a very large number of species described since the publication of those gentlemen's works.

April 15th, 1865.

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(From Proceedings of the Academy of Natural Sciences of Philada., May, 1863.)

Contributions towards a Monography of the order of PHOLADACEA, with Descriptions of new Species.—No. 2.

BY GEORGE W. TRYON, JR.

Additions to Bibliography.

Deshayes, G. P. Letter in Zeit. für Malak. p. 44, March, 1845.

Dufo, M. H. "Observations sur les mollusques marins, terrestres et fluviatiles des îles Séchelles et des Amirantes." Ann. des Sc. Nat. p. 221, 1840.

Fischer, P. Note sur l'animal du Jouannetia Cumingi, suivie de la description de deux espèces nouvelles du même genre. Journ. de Conchyl. p. 371, Oct., 1862.

Jonas, J. H. Bemerkungen über einige der von Lamarck in seiner Hist. Natur. des Anim. s. Vertebr. aufgeführten Conchylien Arten, mit besonderer Rücksicht auf die Zusätze des Hernn, Deshayes. Zeit. für Malak. p. 135, Sept., 1844.

Conchyliologische Notizen. Zeit. für Malak. p. 182., Nov., 1845.

Stimpson, Wm. On the genus Diplothyra, Am. Jour. Science, p. 445, May, 1863.

Descriptions of Species.

ROCELLARIA DENTIFERA, Dufo.

Gastrochæna dentifera, Dufo. Ann. des Sc. Nat. p. 221, 1840.

Shell smooth and very thin, having an apophysis in the anterior part of each valve, and having also in each valve, but at the posterior extremity, a rounded and soldered piece.

Hab.—Madrepores, Seychelles and Admiral Islands. Very rare.

JOUANNETIA DUCHASSAINGI, Deshayes.

Jouannetia Duchassaingi, Deshayes, Fischer, Journ. Conchyl. p. 375, t. 15, f. 3, Oct., 1862.

"Testa globosa, solidissima, alba, valvis antice callo solido, longitudinaliter striato, munitis; area antica longitudinaliter costata, transversim dense striata; area postica subtile et oblique striata; appendiculo postico valvæ dextræ elongato, lato, rotundato, intus, lævi; impressionibus muscularibus latis, crassis, lamellas prominentes formantibus.

Diam. antér. post. 50 mill.

Alt. 41 "

Hab.—Panama. (Coll. Deshayes.)

Obs.—This fine species, which surpasses in its size the *Jouan. pectinata*, belongs to the group of *Jouan. Cuminigi;* its specific characters are entirely different, so that it is impossible to confound it with that species."

JOUANNETIA VIGNONI, Fischer.

Jouannetia Vignoni, Fischer, Journ. de Conchyl. p. 376, t. 15, f. 4, Oct., 1862.

"Testa rotundato-ovata globosa, solidiuscula, valvis antice callo inflato munitis; area antica radiatim costata, transversim et valide striata; area postica late sulcata (in valva dextra,) dense et transversim striata (in valva sinistra;) appendiculo valvæ dextræ elongato, rostrato, ad margines serrato; impressionibus muscularibus posticis planis.

Diam. antér. post. 10 millim.

Alt. 7 "

Hab.—West Coast of Africa. (Captain Vignon.)

Obs.—This curious species approaches to the group of *J. globosa* and *pectinata*. It is remarkable for the development of the posterior appendage of the left valve, the inflation of the callous portion, &c.

The above two species are interesting additions to a genus which has hitherto been quite limited in species. The discovery of two (possibly three) new species of *Pholadacea* inhabiting the West Coast of North America, occurring within a few months, proves the truth of the remarks I made on this subject in the Proc. A. N. S., 1862, that, "greatly as the number of species have been increased by modern research, it is evident, from the general diffusion of the Order throughout the world, and from the incompleteness of our researches in those regions, which appear most to abound in them, . . . that the number at present known must be indeed a very small proportion of those which future investigation will probably reveal to us."

ZIRPHÆA GABBII, Tryon, plate 1, fig. 1.

Shell large, transverse, obliquely divided by a deep furrow proceeding from the umbonal apex to the basal margin and forming a corresponding rib on the internal surface of the valve. Posteriorly to the furrow the shell is marked only by growth lines which, in crossing it, are elevated into sharp ribs, in which character they are continued to the anterior margin. The portion of the shell anterior to the radiating furrow is ornamented with numerous longitudinal ribs, approximating in pairs and rendered acutely scabrous at the intersection of the rib-like growth lines.

Ventral anterior margin emarginate. Dorsal anterior margin reflected and closely appressed over the beaks. Posterior dorsal margin declining somewhat to the quadrately rounded posterior lateral end. Color white.

Dimensions.—Length 1¼ inch; breadth 2⅓ inch. Breadth anterior to furrow 9-10 inch; posterior to furrow 1⅓ inch.

Hab.—Coast of Japan?—W. M. Gabb. My cabinet.

Observations.—This species is very closely allied to *Z. crispata* of our Atlantic coast, but may be distinguished by its more numerous and more scabrous ribs, by its greater proportionate width and the very disproportionate size of its anterior and posterior areas.

Can this be the species which Dr. Carpenter, in his Catalogue of our West Coast Mollusca, refers with doubt to *Z. crispata?* In the exchanges of commerce it may have been brought there, or, (no strange distribution in this family) it may even *exist* on both shores of the Pacific.

I received a single valve, somewhat mutilated, from our fellow member, Mr. Wm. M. Gabb, now of San Francisco, Cal., and name it after him, in recognition of the active service he is rendering to the science of Conchology in his adopted State.

XYLOTRYA SETACEA, Tryon, plate 1, fig. 2, 3.

Shell large, of nearly equal length and breadth. Beaks high, narrow, incurved, and thickened, the apex lower than the auricle, which is long, moderately wide, extending more than half the length of the valve and joining the medial portion by a rounded obtuse angle. Anterior area obliquely triangular, not more than half the length of the auricle, its upper edge protected by a rib culminating dorsally in a sort of knob. The anterior margin of the medial portion of the valve is straight, forming an acute angle with the triangular area; the posterior margin is oblique and somewhat convex. The junction of the auricle is marked externally by a depression of the surface, and internally by a projecting ledge. Apophysis short, oblique, broad. Base of valve tuberculate internally.

The valve is white, tinged with pink anteriorly and slightly glossy. The anterior area, which is separated from the body by a deep, narrow, sulcation, is sculptured by about thirty sharply cut, prominent, transverse ribs. The body is marked, first, by a narrow longitudinal area which is closely striate; then by

a narrow double rounded rib, the surface of which is triangularly striate; then by a depressed space equally wide, with its sides accurately defined, and transversely sculptured. The whole surface of the body and auricle posteriorly is unmarked, except by growth lines, and the depression of surface at the commencement of the latter.

Pallet large; the jointed portion about the same length as the stalk, rather wide, with lateral extremities acuminate and inclining upwards. Sides of the joints fringed. These joints number about sixteen or eighteen. Stalk very slender and rounded.

Dimensions.—Length and breadth of valves about $\frac{1}{2}$ inch. Length of pallets $1\frac{1}{4}$ inch. Breadth of upper portion of pallets about $\frac{1}{6}$ inch.

Hab.—Bay of San Francisco, Cal.—Rev. J. Rowell. My cabinet and cabinet of Mr. Rowell.

Observations.—The valves of this species bear a very strong resemblance in size and form to *T. megotara*, Hanley. From *X. bipennata*, Turton, it is distinguished by the basal margins of the auricle and anterior area not being on the same transverse line, and by its broader, more closely jointed and shorter pallets.

From *X. cucullata*, Norman, it is distinguished by its different surface markings and the sharp angle of the anterior area with the body.

X. fimbriata has a shorter pallet and much smaller and differently formed valve; the same may be said of *X. minima*. *X. Stutchburyi* has very *fine* striæ on the anterior area, and the pallets also differ. The latter, in the present species, are somewhat like those of *X. palmulata*, Lam., but are longer than in that species, and differ in the relative length and diameter of the stalks, and also by their fringed joints.

Our fellow member, Dr. A. L. Heermann, informed me some time since, of the existence of a shipworm at San Francisco, which, at the period of his visit there, (several years ago,) was committing great ravages in the destruction of the wharves of that city. It appears since to have become rare, and it was only after diligent inquiry that my friend, Mr. Gabb, found specimens in the collection of Rev. J. Rowell, who kindly sent me one.

—

Note on Diplothyra.

In Am. Journ. Science and Arts, May, 1863, p. 455, is a note by Dr. Stimpson on my genus *Diplothyra*, in which he asserts its identity with *Martesia*, upon the ground that the additional dorsal valve is not a generic character, being sometimes developed by *Martesia cuneiformis*. Although many of the specimens of *Diplothyra Smithii* do not exhibit the double dorsal valve, I attribute it to the *suppression* or *abortion* of that appendage, and regard the double valve as the normal condition of the genus and species. The shells which possess it are generally the largest and best examples, and its non-appearance in others is not surprising when we consider the character of the substance in which they reside, and the evident compression and distortion of many of the specimens. The species of the family *Pholadidæ* are very liable to distortion and to the suppression or division of their dorsal plates; for instance, in *Dactylina dactylus* they are frequently not developed at all; in *Martesia striata* several specimens before me exhibit incipient stages of a division of the umbonal plate into three, but I certainly would not on this account doubt the generic distinctness of *Penitella*, which is characterized by having three valves.

If Dr. Stimpson's *M. cuneiformis*, when perfect specimens are selected, exhibit dorsal valves corresponding with my figure of *D. Smithii*, then either *M. cuneiformis* must be a *Diplothyra*, or else the specimens alluded to are not veritable *cuneiformis*. I have very closely examined many specimens of *cuneiformis*, *striata*, *obtecta*, etc., but have not detected a second proper umbonal valve upon them.

Mr. S. P. Woodward, some years since, regarded the differences in the um-

bonal plates as expressing *specific* value only, but his theory has since found no supporters. I have closely re-examined all the *Pholades* in my collection, and weighed anew the value of the specific and generic characters, and the result is a renewed conviction that *D. Smithii* is a very distinct species and that *Diplothyra* possesses in its umbonal plates a good generic character.

Note on Penicillinæ.

In a review of my work on *Pholadacea*, published in the American Journal of Science, Prof. Gill suggests that *Penicillinæ* be elevated into a family, distinct from *Gastrochænidæ*, on account of the development of tentacles on the mantle-margin of the animal of the former. I have reviewed the subject and find no reason to alter the conclusions to which I originally arrived, namely, to regard this difference in the animal, in connection with differences in the shell, as possessing the value of a subfamily. Indeed, Prof. Gill has himself separated, as a subfamily only, (*Ceriphasinæ*) our American *Melanians*, which differ from the exotic species in having a mantle with a plain instead of fringed or tentaculate margin.

Descriptions of two new Species of Fresh Water Mollusca, from Panama.

BY GEO. W. TRYON, JR.

1. PLANORBIS FIELDII, Tryon, plate 1, fig. 4, 5.

Description.—Shell small, moderately thick, polished, unmarked except by growth lines. Whorls three, almost equally convex above and below, and rapidly enlarging. Spire not much depressed, umbilical region of moderate width and not deep. Outer lip regularly rounded and almost equally expanded above and below the plane of the volutions. The aperture is slightly oblique.

Dimensions.—Diam. maj. 6, min. 4½ millim. Alt. 2½ millim.

Hab.—Panama. Capt. Field, U. S. N. Coll. A. N. S.; my coll.

Observations.—This species resembles some varieties of *Pl. deflectus*, Say, in which the whorl is not deflected at the aperture; but it differs in the sides being regularly rounded instead of carinate, as in that species, and also in the dilation of the aperture above and below the plane of the shell, in this respect resembling somewhat *Pl. corpulentus*, Say.

Pl. Panamensis, Dunker, is a very different shell from *Fieldii*, being more depressed, differently sculptured, etc.

Capt. Field presented to the Academy about a dozen specimens of this species, together with a new *Amnicola* (herein described,) and a few specimens of *Succinea recisa*, Morelet, all collected by himself at Panama.

2. AMNICOLA PANAMENSIS, Tryon, plate 1, f. 6

Description.—Shell conical, smooth and shining, consisting of four rapidly increasing, very convex whorls. Sutures deeply impressed; spire prominent, apex acute. Aperture rounded; umbilical region slightly perforate.

Dimensions.—Length 4½ millim. Diameter 3 millim.

Hab.—Panama. Capt. Field, U. S. N.; coll. A. N. S.

Observations.—This shell is very like *A. decisa*, Hald., in form, but the whorls are more convex and the aperture nearly rotund. It also resembles *A. Cincinnatiensis*, Anth., which is, however, a more slender species. The shell is smaller than either of the above.

I think this is the first species of Amnicola found upon the Isthmus.

Description of a new Exotic Melania.

BY GEORGE W. TRYON, JR.

MELANIA HELENÆ, Tryon, t. 1, f. 7.

Description.—Shell turretted, whorls eight or nine, angulated in the middle, rather flattened above, convex below, sutures deeply impressed. Surface spirally nodulously ridged, the nodules running into waved longitudinal ribs. Aperture narrow, a little produced in front, contracted behind. Outer lip sinuous, angulated in the middle.

Dimensions.—Length 20 mill. Diam. 8 mill.

Hab.—Philippine Islands. My cabinet.

Observations.—This shell is allied to *Melania perfecta*, Mousson, from Java, but differs in being angulated, and in having a longer, narrower aperture; it is also a little smaller and the apicial whorls are sculptured, not smooth. Since the above description was written, I have observed in the collection at the Academy fine specimens of *Melania Mauiensis*, Lea, the sculpturing of which somewhat resembles this species, but they are much stouter, more obtuse shells, with the periphery not angulated.

Descriptions of new Species of Fresh Water Mollusca, belonging to the Families AMNICOLIDÆ, VALVATIDÆ and LIMNÆIDÆ; inhabiting California.

BY GEO. W. TRYON, JR.

The following species of Shells sent to me by my friend Mr. Wm. M. Gabb, were principally collected by Rev. J. Rowell, of San Francisco,—a gentleman who has devoted much time to the study of the Mollusca of the State of California.

It is not without considerable hesitation that I propose new species in genera wherein the variations of form, due to climatal and other influences, are so great, and where the geographical distribution is frequently so extended; and it is only after very extensive comparisons with the related species which have already been characterized, that I select for description those among the suite sent to me which appear to be most distinct, leaving others unnamed, until a more extended exploration of the State shall give us a more perfect knowledge of the extent and relations of the Molluscous fauna inhabiting its waters.

A considerable number of shells belonging to the above families, appear to inhabit the entire breadth of the continent; adding to these the forms ascertained to be peculiar to Oregon and California, we find already decided indications that these States form the metropolis of the fresh-water Pulmonobranchiates of North America.

I have added to the descriptions of new species, a list of those already described, which have been sent to me by Mr. Gabb, because, in most cases, the localities are new and interesting.

AMNICOLIDÆ, Tryon.

1. AMNICOLA ROWELLII, Tryon, t. 1, f. 8, 9.

Description.—Shell depressed, wider than high, consisting of three and a half whorls, which are regularly convex and rapidly enlarging; spire small, but little elevated, apex acute, sutures well marked; base convex, except that the region surrounding the umbilicus is flattened and inclining towards the axis, its outer boundary, consequently, is marked by an angle; umbilicus small but very distinct; aperture half ovate, the labrum well rounded and thin, the labium but slightly rounded, thickened, elevated from the body-whorl, forming an acute angle with the labrum above, and not impinging on the umbilicus. Surface marked with close, regular, minute striæ, which become enlarged in

the flattened umbilical region into sharp crowded lines visible without a glass.

Color light horn or yellowish, operculum darker. Operculum paucispiral, the lines of accretion very distinct and regular.

Dimensions.—Length 2·5 mill. Diam. maj. 4. mill., min. 3 mill. Length of apert. 2 mill., breadth 1½ mill.

Hab.—Clear Lake, California. Rev. J. Rowell. My cabinet and cabinet of Mr. Rowell.

Observations.—This species cannot be compared with any other hitherto described, being much more depressed, and widely distinct in the form of the umbilical region.

It may possibly form a species of the genus *Somatogyrus*, recently proposed by my friend, Mr. Theo. Gill, for a small Mollusc from Iowa, which I described in the Proceedings of the Academy for September, 1862.

2. Pomatiopsis Binneyi, Tryon, t. 1, f. 10.

Description.—Shell minute, elongated, consisting of four to five very convex whorls; apex somewhat obtuse; aperture ovate or nearly suborbicular, both lips rounded; umbilicus very small. Color light-horn.

Dimensions.—Length 3 mill. Diam. 1·6 millim. Length apert. 1·25 mill., breadth 1 mill.

Hab.—Bolinas, California. Rev. J. Rowell. My cabinet and cabinet of Mr. Rowell.

Observations.—Seven specimens of this very small and exceedingly fragile species were sent to me; they exhibit, however, all the stages of growth from the very young to adult form. None of them retained the operculum.

It is much smaller than any other species of *Pomatiopsis*, and is not likely to be confounded with any of them. It approaches nearest in form to two European species of *Bythinia*, *B. acuta* and *B. viridis*: the former, however, has a more lengthened, acute spire, and the latter is a more robust and ventricose shell.

Amnicola protea, Gould, from Colorado Desert, described in Proc. Bost. Soc. N. Hist. v. 129, Oct., 1855, (read Dec. 20, 1854,) is the same as *Melania exigua*, Conrad, from same locality. Described in Proc. Acad. Nat. Sci. p. 269, Feb., 1855. (Read Feb. 13th, 1855.) The shell belongs to a new genus of the family Amnicolidæ. Some small fossil shells sent to me by my friend, Dr. F. B. Meek, appear to belong to the same genus. Of course Mr. Conrad's specific name will take precedence over that of Dr. Gould.

VALVATIDÆ.

3. Valvata virens, Tryon, t. 1, f. 11.

Description.—Shell turbiniform, consisting of four well rounded whorls, spire elevated, apex acute, sutures deeply indented; periphery almost angulated; umbilicus very wide; aperture oval or nearly round, the peristome merely touching the body above. Surface closely striate. Color varying from brilliant to dark green.

Dimensions.—Height 5 mill. Diam. maj. 5 mill., min. 4 mill. Length, apert. 2·5 mill., breadth 2 mill.

Hab.—Clear Lake, California. Wm. M. Gabb. My cabinet and cabinet of Mr. Gabb.

Observations.—A number of specimens of this species are before me, most of them being about two-thirds grown. It has no American analogue.

LIMNÆIDÆ.

4. Limnæa Adelinæ, Tryon, t. 1, f. 12.

Description.—Shell thin, semi-transparent, body whorl large, wide, convex; spire small, consisting of five convex volutions, attenuating rapidly to an acute apex, sutures impressed; inner lip thin, reflected, but not covering the umbili-

cal fissure, which is narrow; columella twisted; color light-horn, polished within the aperture, outer lip tinged with red within.

Dimensions.—Length 14 mill. Diam. maj. 8·5 mill. Length of aperture 9 millim., width 5 millim.

Hab.—San Francisco, California. Rev. J. Rowell. My cabinet and cabinet of Mr. Rowell.

Observations.—This shell is nearly allied to *L. catascopium*, Say, and perhaps more nearly to *L. intermedia*, Mich., of Europe. From the former it may be distinguished by being more fragile, more transverse, with a smaller, more rapidly attenuating spire, but principally by the presence of an umbilical fissure, which in *catascopium* is entirely concealed by the appression of the labium. In this and other respects it is very near to *L. intermedia*, which, however, has a shorter spire, of fewer volutions. I name this species after my sister, Miss Adeline S. Tryon, who has evinced much interest in conchological pursuits.

5. Limnæa Traskii, Tryon, t. 1, f. 13.

Description.—Shell elongated, the spire drawn out and apex acute. Whorls six, convex, almost shouldered, sutures deeply impressed. Aperture small, oval, labrum well rounded, labium slightly rounded, not appressed below, nor covering the umbilicus, which, though small, is very distinct. Color light-horn or cinereous.

Dimensions.—Length 16 mill., diam. 8 mill. Length of aperture 7 mill.; breadth 5 mill.

Hab.—Mountain Lake, California. Rev. J. Rowell. My cabinet and cabinet of Mr. Rowell.

Observations.—At first I was disposed to regard this shell as a variety of *L. proxima*, Lea, but a comparison with the type specimens of that species shows the following differences: the volutions are not so oblique, and are more rounded, the aperture is also more rounded and the shell is umbilicated.

Named in honor of Dr. J. B. Trask, one of the pioneers of Californian Conchology.

Limnæa caperata, Say. San Francisco. Oakland.

Limnæa fragilis, Linn. San Francisco. Mountain Lake.

Limnæa umbrosa, Say. San Francisco. Mountain Lake.

Limnæa reflexa, Say. Mountain Lake.

6. Physa Gabbii, Tryon, t. 1, f. 14.

Description.—Shell large, thin, closely striated by the lines of growth; body whorl inflated, its upper half flattened so that the labrum appears angulated in the middle; spire moderate, apex acute, whorls six, convex, with distinct sutures.

Color light corneous, very much polished within; lip margined with red.

Dimensions.—Length 25 mill., diam. 13 mill., length of aperture 15 mill., breadth 8 mill.

Hab.—Mountain Lake, California; Rev. J. Rowell. Santa Ana River, Los Angelos Co., California; Wm. M. Gabb. My cabinet and cabinets of Mr. Rowell and Mr. Gabb.

Observations.—Several specimens of this fine large species were communicated to me by my friend Mr. Wm. M. Gabb, after whom I take great pleasure in naming it. It is a much larger, thinner species than *Ph. heterostropha*, Say, and is at once distinguished by the peculiar flattening of the superior portion of the body whorl. The same character will also distinguish it from *Ph. bullata*, Gould, in which species the aperture moreover is proportionately longer.

Physa gyrina, Say. Mountain Lake.

Physa costata, Newcomb. Clear Lake. (Original loc.)

Physa humerosa, Gould. Colorado Desert. (Orignal loc.)

PHYSA VIRGATA, Gould. Santa Ana River, Los Angelos Co.

PHYSA HETEROSTROPHA, Say. Dry Creek, Butte Co. Clear Lake, Centerville, Oakland.

7. ANCYLUS FRAGILIS, Tryon, t. 1, f. 15.

Description.—Shell very small and fragile, sides nearly parallel or slightly incurved in the middle, but diverging anteriorly; ends rounded. Apex elevated, acute, curved backwards, with about two-thirds of the shell anterior to it.

Dimensions.—Size of the largest specimen. Length 4 mill., breadth 1·15 mill., heigth 1 mill. Most of the specimens do not exceed two-thirds of these dimensions.

Hab.—Laguna Honda, California. Rev. J. Rowell. My cabinet and cabinet of Mr. Rowell.

Observations.—This species is smaller, thinner, and wants the convex lateral margins of our *Anc. rivularis*, Say. It agrees with that shell, however, in the greater width of its anterior end, while in the shape of its lateral margins it resembles *Anc. parallelus*, Hald. It is much the smallest of our species.

PLANORBIS AMMON, Gould. Pajaro River, Monterey Co.

PLANORBIS TRIVOLVIS, Say. Mountain Lake.

PLANORBIS GRACILENTUS, Gould. Mountain Lake.

PLANORBIS VEMICULARIS, Gould. Mountain Lake.

PLANORBIS ORERCULARIS, Gould. Mountain Lake

PLANORBIS NEWBERRYI, Lea. Clear Lake.

(From Proceedings of the Academy of Natural Sciences of Philada., Oct. and Nov., 1863.)

Description of a New Species of PLEUROCERA.

BY GEORGE W. TRYON. JR.

PLEUROCERA PLICATUM, Tryon, t. 2, f. 6.

Description.—Shell ovate-conical, spire attenuate, the upper whorls closely plicate, the lower ones smooth or obsoletely concentrically striate. Whorls but slightly convex, sutures well impressed. Color light green, with usually a lighter band below the sutures, and ornamented with narrow or broad brown bands. Aperture canaliculately produced ; outer lip thin; columella twisted.

Dimensions. L. ·7, diam. ·35 inch.

Hab. Nashville, Tenn.

Remarks. I owe to Dr. Gould the opportunity of describing this beautiful little species. It differs from *P. grossum*, Anth., in being more slender, different in color, and in having bands. The aperture is not nearly so large, proportionally, and the plicæ are finer.

Description of a new species of TEREDO, from New Bedford, Mass.

BY GEORGE W. TRYON, JR.

TEREDO THOMSONII, Tryon, t. 2, f. 3, 4, 5.

Description.—Valves convex, longer than wide; the body rather stout. Anterior auricle moderate, obliquely sub-triangular; the posterior auricle small, not very wide, short, somewhat reflected outwards. The dorsal margin does not rise above the beak, and the basal margin does not extend so far down the body, (which it joins almost at right angles,) as the anterior area.

The transverse sculpture of the anterior area is sharply sculptured, and becoming much more crowded towards its basal margin. The body, which is surmounted by a narrow beak, and terminates below rather obtusely, has the usual depressed narrow radiating area much more depressed than in the other species, only obsoletely sculptured, and defined anteriorly by a quite prominent rib.

The separation of the posterior auricle is determined by a rather strong sulcation. Internally, the shell is glossy and rather smooth; the posterior auricle overhangs, with a sharp, nearly straight projection. Immediately above this it is concave, then convex; and is marked by semicircular strong growth lines. Beak with an oblique tubercle. Body with a well developed depression corresponding to the radiating area outside. The usual internal rib is scarcely developed, but the posterior tubercle is very prominent. Apophysis thin, blade-shaped, a little wider at its termination, situated obliquely to the direction of the body, with one edge turned slightly towards it. Pallets obliquely, or sometimes regularly, obovate. The style is short and directed backwards. The margins of the blade are convex, sometimes regularly rounded, and sometimes heart-shaped at the end. From the style an elevated ridge extends around a portion of each side of the blade, and is smooth, while the centre, extending to the end, is lunately striate. The style extends in the form of a lamina through the centre of the other side of the blade. Tube not concamerated, rather thick, and frequently much twisted.

Hab.—Marine Railway and Cedar Buoys, Harbor of New Bedford, Mass.—J. H. Thomson.

Station.—Three or four feet below low water mark.

Observation.—This new species of Teredo differs from all the others in the very small proportionate size of the posterior auricle, and its not extending basally as low down as the anterior area, in the depressed obsoletely sculptured radiating area of the body, and the corresponding internal depression

and in many other minor respects. The pallets are not unlike those of *T. dilatata*, Stimpson, but the shell differs very much.

I am much indebted to my valued correspondent, John H. Thomson, Esq., of New Bedford, for over a hundred specimens of this species, and take great pleasure in dedicating it to him as a slight recognition of the services which he has rendered to most of the Conchologists of the United States.

In a recent letter, referring to this species, he writes, "I am sorry to say that their name is legion, even the Cedar buoys in the Harbor only last one season.

Teredo navalis, Linn. Accompanying the above were a few valves and tubes of this species.

Xylotrya fimbriata, Jeffreys. I also found among the New Bedford *Teredæ*, two pallets, apparently belonging to this species.

Xylotrya setacea, Tryon. Mr. Gabb writes to me that this Californian species, which I supposed was quite rare, when I described it, is committing great ravages in the harbor of San Francisco, and is unfortunately very numerous in individuals.

Descriptions of two new species of Mexican Land Shells.

BY GEORGE W. TRYON, JR.

HELIX RÉMONDI, Tryon, t. 2, f. 1.

Description.—Shell narrowly umbilicated, thin, turbinately globose. Epidermis very thin, light corneus, with a single narrow chestnut band encircling the periphery and visible just above the sutures of the spire. Substance of shell thin and appearing smooth to the naked eye, but under a lens minutely punctate. Whorls four, slightly convex, the last rounded, scarcely descending. Base of the shell convex, but with a narrow angle around the umbilicus. Aperture rotundately semi-lunar; lip slightly expanded and reflected; the margins not approaching on the columella, which is entirely free from callus.

Dimensions.—Diam. maj. 17. min, 15, alt. 12 mill.

Habitat.—Cinaloa, near Mazatlan. Auguste Rémond.

Observations.—This pretty species resembles, in some respects, *H. Trypanomphala* Pfr. from "Sierra Maestra, Mexico," but evidently differs somewhat in form, and particularly in that of the lip.

I name it after our Corresponding Member, M. Auguste Rémond, of the Calfornia Survey, who collected it and kindly sent it to me for description. The two specimens before me are almost precisely alike in form and size.

Helix ventrosula, Pfr. Near Mazatlan; M. Rémond. Not previously reported from the West Coast of Mexico.

Glandina turris, Pfr. Near Mazatlan, M. Rémond.

CYCLOTUS COOPERI, Tryon, t. 2, f. 2.

Description.— Shell widely umbilicate, globosely turbinate, rather thick, covered with a corneous epidermis, unmarked except by crowded and rather deeply cut growth lines. Spire conoidal, more or less depressed. Whorls 4½ to 5, convex. Lip simple, straight, acute; the junction of the margins scarcely angulated, and merely touching the body of the shell above. Aperture white and shining within. Operculum?

Dimensions.—Diam. maj. 16, min. 14, alt. 12 mill. Long. apert. 7 mill.

Habitat.—Cinaloa, near Mazatlan. Auguste Rémond.

Observations.—This species is not unlike *C. translucidum*, Sby., in form, but has a wider umbilicus, is much thicker in texture, and the growth lines are strongly impressed.

Named after Dr. J. G. Cooper, Zoologist of the California State Geological Survey.

Synonymy of the species of STREPOMATIDÆ, a Family of Fluviatile Mollusca, inhabiting North America.

Part I.

BY GEORGE W. TRYON, JR.

The following synonymy of the very numerous species of North American shells, heretofore considered Melanians, is offered as the result of a year's study of the extensive collections of the Smithsonian Institution and of the Academy of Natural Sciences, as well as those of Messrs. Lea, Haldeman, Anthony, and Gould, together with my own, and several smaller collections.

The present publication is preliminary to that of a complete illustrated Monograph of the Family, prepared at the request of the Smithsonian Institution, (the MSS. of which is nearly completed); and is intended to invite criticism.

Naturalists are requested to communicate to the author, without delay, any information they may possess regarding any of the species.

As many of these species, being rare, have not been sufficiently studied to determine satisfactorily their true position with regard to allied forms, or in other words, their range of variation, it is particularly requested that Naturalists residing near localities inhabited by the *Strepomatidæ*, would collect and transmit to the Smithsonian Institution, extensive suites of specimens, for which, if desired, a named suite will be returned.

Family *STREPOMATIDÆ*, Haldeman.

Strepomatidæ, Hald., Proc. Acad. Nat. Sci., Sept. 1863.

Melaniana, Lam., Extr. d'un Cours., 1812. Hist. Anim. Sans. Vert., vi. p. 163, 1822. Edit. 2, viii. p. 425, 1838. Deshayes, Encyc. Meth., iii. p. 431 and 553, 1832. Reeve, Zool. Proc., p. 76, 1841. Conch. Syst., ii. p. 119, 1842. Sowerby, Conch. Man., Ed. 2, p. 187, 1842. Catlow, Conch. Nomenc., p. 185, 1845.

Melanidæ, (part) Latreille, Fam. Nat., 1825. Lea, Proc. Philos. Soc., iii. p. 164, 1843.

Melanianæ, (part) Swainson, Malacol, p. 198, 340, 1840.

Melaniadæ, (part) Gray, Syn. Brit. Mus., 1840. Turton's Manual, ed. 2, p. 79, 85. Zool. Proc., part 15, p. 152, 1847.

Melaniidæ, (part) Adams, Genera, p. 293, 1854.

Ceriphasinæ, Gill, Proc, Acad. Nat. Sci., p. 34. 35, Feb. 1863.

Synopsis of Genera.

A. Aperture produced into a more or less obvious canal in front. *Trypanostomoid Section.*

1. Shell fusiform, inflated, spire and canal produced, columella without deposit of nacre ..... Genus *Io*, Lea.
   Shell conical or oval, canal not so much produced ..... Subgenus *Pleurocera*, Raf.
2. Shell oval, or turbiniform, or fusiform, with a revolving row of nodules on the periphery, canal short. Columella callously thickened above and below ..... Genus *Angitrema*, Hald.
   Shell oval or oblong, smaller, either smooth or adorned with nodules around the upper portion of the body whorl ..... Subgenus *Lithasia*, Hald.
   Canal retrorse ..... Subgenus *Strephobasis*, Lea.

B. Aperture merely angulated in front, with no canal, and the columella perfectly plain, not twisted, frequently callously thickened above. *Goniobasic Section.*

3. Shell heavy, oval, oblong, or turrited, aperture entire above..... ... Genus *Goniobasis*, Lea.

4. Aperture with a sutural, pleurotomose slit above..... Genus *Schizostoma*, Lea.

C. Aperture entire and rounded in front.

5. Shell oval, heavy, columella callously thickened above..... Genus *Anculosa*, Say.

Genus IO, Lea.

Io, Lea, Trans. Phil. Soc., iv. p. 122, 1831. Sowerby, Conch. Man. 2d Edit., p. 167, 1842. DeKay, Moll. New York, p. 103, 1843. Hermannson, Indicis Generum Malacozoorum, p. 562, 1846.

Io, Lea, (sp.) Gray, Proc. Zool. Soc., pt. 15, p. 153, 1847. Jay, Catalogue, 4th Edit., p. 277, 1852. H. and A. Adams, Genera i. p. 299. Chenu, Man. de Conchyl. i. p. 290, 1859. Anthony, Proc. Acad. Nat. Sci., p. 69, 1860. Reeve, Monog. Io, April, 1860. Binney, Check List, June, 1860. Brot, Cat. Syst. des Mélaniens, p. 29, 1862.

Melafusus, Swainson, Malacol. p. 201, 341, 1840. Woodward, Manual, p. 131, 1851.

Fusus, (sp.) Say, Jour. Acad. Nat. Sci., 1st series, v. pt. 1, p. 129, Nov., 1825.

Melania, (sp.) Catlow and Reeve, Conch. Nomenc., 1845.

SPECIES.

A. *Shell smooth or only slightly tuberculate.*

1. I. fluvialis, Say.

Fusus fluvialis, Say, Jour. Acad. Nat. Sci., v. p. 129, Nov. 1825. Conrad, New Fresh Water Shells, p. 12.

Io fluvialis, Say, Binney, Check List, No. 400.

Pleurocera fluvialis, Say, Haldeman, Iconog. Encyc., ii. p. 84.

Io fluviatilis, Say, Woodward, Manual, t. 8, f. 27. Hanley, Conch. Misc., t. 6, f. 50. Reeve, Monog. Io, t. 1, f. 5. Brot, List, p. 29.

Io fusiformis, Lea, Phil. Trans., iv. p. 122, t. 15, f. 37. a. b. Obs., i. p. 132. Ravenel. Cat., p. 11. Reeve, Monog. Io, t. 1, f. 6. DeKay, Moll. N.Y., p. 103. Wheatley, Cat. Shells U. S., p. 28. Jay, Cat. 4th Edit., p. 277. Troost, Cat.

Io tenebrosa, Lea, Philos. Proc., ii. p. 34, April, 1841. Phil. Trans., ix. p. 17. Obs. iv. p. 17. Wheatley, Cat. Shells U. S., p. 29. Binney, Check List, No. 404.

Io verrucosa, Reeve, Monog. Io, t. 1, f. 2, April, 1860. Brot, List, p. 29.

2. I. inermis, Anthony.

Io inermis, Anthony, Proc. Acad. Nat. Sci., Feb. 1860, p. 70. Binney, Check List, No, 401. Reeve, Monog. Io, t. 3, f. 21.

Io lurida, Anthony, Reeve, Monog. Io, t. 3, f. 20.

B. *Shell spinose.*

3. I. spinosa, Lea.

Io spinosa, Lea, Philos. Trans., v. p. 112, t. 19, f. 79. Obs., i. p. 224. Troost, Cat. Wheatley, Cat. Shells U. S., p. 29. Jay, Cat. 4th Edit., p. 277. Binney, Check List, No. 402. Reeve, Monog. Io, t. 1. f. 7.

Io gibbosa, Anthony, Reeve, Monog. Io, t. 3, f. 17.

Io recta, Anthony, Reeve. Monog. Io, t. 3, f. 21.

Io rhombica, Anthony, Reeve, Monog. Io, t. 3, f. 16.

4 I. brevis, Anthony.

Io brevis, Anthony, Proc. Acad. Nat. Sci., Feb. 1860, p. 69. Binney, Check List, No. 399. Reeve, Monog. Io, t. 1. f. 4.

Io Spirostoma, Anthony, Proc. Acad. Nat. Sci., Feb. 1860, p. 70. Binney, Check List, No. 403. Reeve, Monog. Io, t. 1, f. 1.

5. I. turrita, Anthony.

Io turrita, Anthony, Proc. Acad. Nat. Sci., Feb. 1860, p. 69. Binney, Check List, No. 405. Reeve, Monog. Io, t. 3, f. 19.

Spurious Species.

Io nodosa, robusta, variabilis, Spillmanii, modesta, viridula, gracilis, nobilis, of Lea.

These are species of Pleurocera.

Subgenus PLEUROCERA, Rafinesque.

Pleurocera, Rafinesque, Jour. de Phys. Bruxelles, tome 88, p. 423, 1819, Blainville, Dict. Sc. Nat., xxxii. p. 236, 1824, xli. p. 376, 1826, Man. Malacologie, p. 441, 1825. Rang, Man. Conchyl. p. 374, 1829. Menke. Syn. Method, Edit. 2, p. 43, 1830. Ferussac, Bull. Zool., p. 93, 1835. Sowerby, Conch. Man. Edit. 2, p. 231, 1842. Hermannson, Indicis Gen. Malacoz., i. p. 296. 1846. Haldeman, Iconog. Encyc., p. 84.

Ceriphasia, Swainson, Malacol., p. 204, 342, 1840. Gray, Syn. Brit. Mus., 1844. Hermannson, Indic. Gen. Mal., i. p. 208, 1846. Gray, Zool. Proc. pt. 15, p. 153, 1847. H. and A. Adams, Genera, Recent, Moll. i. p. 297, 1854. Chenu, Manuel de Conchyl. i. p. 288, 1859.

Telescopella, Gray, Proc. Zool. Soc., pt. 15, p. 153, 1847.

Elimia, (part) H. and A. Adams, Genera, i. p. 300, 1854. Chenu, Man. de Conchyl .i. p. 290, 1859.

Megara, (part) H. and A. Adams, Genera, i. p. 306, 1854. Chenu, Man. de Conchyl. i. p. 293, 1859.

Trypanostoma, Lea, Proc. Acad. Nat. Sci., p. 169, April 1862. Jour. Acad. Nat. Sci., 2d ser. v. pt. 3, p. 268, March, 1863. Obs., ix. p. 90, March, 1863.

Melania, (sp.) of authors. Binney, Check List. Reeve, Monog. Mel., Nov., 1859, to June, 1861. Brot, Cat. Syst., p. 30, 1862.

SPECIES.

A. *Tuberculate.*

1. P. alveare, Conrad.

Melania alveare, Conrad, New Fresh Water Shells, p. 54, t. 4, f. 7, 1834. DeKay, Moll. N. Y., p. 94. Wheatley, Cat. Shells U. S., p. 24. Jay, Cat. 4th Edit., p. 272. Binney, Check List, No. 11. Brot, List, p. 30. Hanley, Conch. Misc., t. 8, f. 74.

Megara alveare, Conrad, Chenu, Manual, i. f. 2022.

Melania torquata, Lea, Philos. Proc., ii. p. 242, Dec., 1842. Philos. Trans. ix. p. 27. Obs., iv. p. 27. Wheatley, Cat. Shells U. S., p. 27. Binney, Check List, No. 271.

Melania pernodosa, Lea, Philos. Proc. iv. p. 105, Aug., 1845. Philos. Trans. x. p. 66, t. 9, f. 49. Obs., iv. p. 66, t. 9, f. 49. Binney, Check List, No. 202.

Melania nupera, Say, (young) American Conchol. pt. 1, t. 8, middle figure.

Melania producta,* Lea, Philos. Proc., ii. p. 243, Dec., 1842. Philos. Trans., ix. p. 28. Obs., iv. p. 28. Wheatley, Cat. Shells, U. S., p. 26. Binney, Check List, No. 217. Brot, List, p. 36.

Melania grossa,* Anthony, Proc. Acad. Nat. Sci., p. 59, Feb., 1860. Brot, List, p. 40. Reeve, Monog. f. 411.

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* *M. productum* and *grossa* are the young of a large variety of *alveare*.

2. P. Foremani,* Lea.
Melania Foremani, Lea, Philos. Proc., ii. p. 242. Philos, Trans., ix. p. 27. Obs., iv. p. 27. Binney, Check List, No. 111. Brot. List, p. 30. Reeve, Monog., f. 432.
Melania Foremanii, Lea, Wheatley, Cat. Shells, U. S., p. 25.

3. P. undulatum,† Say.
Melania undulata, Say, New Harmony Dissem., p. 261. Reprint, p. 17. Binney's Edit., p. 142. Reeve, Monog., f. 307. Haldeman, Am. Jour. Sci., xlii. p. 216, Dec., 1841. Anthony's List, 1st and 2d Edit. DeKay, Moll. N. Y., p. 92. Wheatley, Cat. Shells U. S., p. 27. Jay, Cat., 4th Edit., p. 275. Binney, Check List, No. 281. Brot. List, p. 31. Hanley, Conch. Misc., t. 1, f. 10. Catlow, Conch. Nomenc. p. 189.
Megara undulata, Say, Chenu, Man. Conchyl. i. f. 2025,

4. P. excuratum, Conrad.
Melania excurata, Conrad, New Fresh Water Shells, p. 49, t. 4, f. 6, 1834. Anthony, List, 1st and 2d Edit. Jay, Cat., 4th Edit., p. 273. DeKay, Moll. N. Y., p. 96. Binney, Check List, No. 103.
Melania excurvata,‡ Conrad, Wheatley, Cat. Shells U. S., p. 25.
Melania rorata, Reeve, Monog. Mel., sp. 306. Brot. List., p. 31.
Io Spillmanii,§ Lea, Proc. Acad. Nat. Sci., p. 394, 1861. Jour. Acad. Nat. Sci., v. pt. 3, p. 348, t. 39, f. 215. Obs. ix. p. 170.

5. P. moniliferum,‖ Lea.
Trypanostoma moniliferum, Lea, Proc. Acad. Nat. Sci., p. 172, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 295, t. 36, f. 125, March, 1863. Obs., ix. p. 117.
Io nodosa, Lea, Proc. Acad. Sci. p. 393, 1861. Jour. Acad. Nat. Sci., v. pt. 3, p. 346, t. 39, f. 212, March, 1863. Obs., ix. p. 168.
Io variabilis,¶ Lea, Proc. Acad. Nat. Sci., p. 393, 1861. Jour. Acad. Nat. Sci., v. pt. 3, p. 347, t. 39, f. 214, March, 1863. Obs., ix. p. 169.

6. P. nobile, Lea.
Melania nobilis, Lea, Philos. Proc., iv. p. 165, Aug., 1845. Philos. Trans. x. p. 65, t. 9, f. 48. Obs., iv. p. 65. Binney, Check List, No. 179.

7. P. robustum,** Lea.
Io robusta, Lea, Proc. Acad. Nat. Sci., p. 393, 1861. Jour. Acad. Nat. Sci., v. pt. 3, p. 346, t. 39, f. 213, March, 1863. Obs. ix. p. 168.

B. *Sulcate.*††

8. P. canaliculatum, Say.
Melania canaliculata, Say, Jour. Acad. Nat. Sci., ii. p. 175, January, 1821.

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* = *Prasinatum*, Conrad?
† = *Canaliculatum*, Say?
‡ The tpyical *excuratum* differs widely enough from *undulatum* Say, but there exist intermediate forms of a nature to perplex the naturalist. Among these may be mentioned *ponderosum*, Anth., (*dux*, Lea) with the tubercles and canal nearly obsolete, and the revolving striæ vevy faint, so that the surface of the shell appears at first sight to be flat and smooth; also *annuliferum*, Con., in which the revolving lines are more strongly developed. These shells partake of one general type, and form a natural group of closely related species *at the least.*
§ Juvenile shell.
‖ Not so narrow in its proportions as *excuratum*, more frequently banded, and having the upper whorls of the spire smooth, whereas in *excuratum* they are striate. This difference is more apparent in comparing young specimens.
¶ Juvenile shell.
** Not so much angled on the periphery as *undulatum*, with the inferior portion of the body whorl longer and more convex. It bears the same general relation to *undulatum* as *Troostii* does to *canaliculatum*; and the four may be but one species.
†† The deep sulcus which distinguishes Mr. Say's *Melania canaliculata* in its typical form, shades off so gradually into a smooth flattened surface, that not only is it difficult to arrange the species of this group, but it is even doubtful whether many of the species which are placed in other groups are really distinct.

Binney's Reprint, p. 65. Binney, Check List, No. 45. DeKay, Moll. N. Y., p. 94. Wheatley, Cat. Shells U. S., p. 24. Ravenel, Cat., p. 11. Jay, Cat., 4th Edit., p. 273. Anthony, List, 1st and 2d Edit Kirtland, Report Zool. Ohio, p. 174. Catlow, Conch. Nomenc., p. 185. Brot, List, p. 30. Reeve, Monog. Mel., sp. 304.

Ceriphasia canaliculata, Say, Chenu, Manuel, Conchyl. i. f. 1959.

Melania conica,* Say, Jour. Acad. Nat. Sci., ii. p. 176, January, 1821. Binney's Reprint, p. 70. Binney, Check List, No. 65. Reeve, Monog. Mel., sp. 252. DeKay, Moll., N. Y., p. 95. Ravenel, Cat., p. 11. Haldeman, Monog. Limniades, No. 7, p. 4 of Cover. Brot. List, p. 30. Kirtland, Rep. Zool. Ohio, p. 174. Anthony, List, 1st and 2d Edit. Jay, Cat., 4th Edit., p. 273. Wheatley, Cat. Shells U. S., p. 24. Catlow, Conch. Nomenc., p. 186.

Melania substricta,† Haldeman, Suppl. to Monog. of Limniades.

Strombus Sayi, Wood, Index Testaceol. Suppl., t. 4, f. 24.

Melania Sayi, Wood. Short and Eaton, Notices, p. 82. Anthony, List, 1st and 2d Edit.

Melania Sayi, Ward. Wheatley, Cat. Shells U. S., p. 27.

Melania Sayii, Ward. Kirtland, Rept. Zool. Ohio, p. 174. Jay, Cat., 4th Edit., p. 274. Higgins, Cat., p. 7.

Melania Sayii, Deshayes, Catlow, Conch. Nomenc., p. 188.

Melania exarata, Menke, Syn. Meth., p. 135, 1830. Binney, Check List, No. 100.

Melania ligata, Menke, Syn. Meth., p. 136, 1830. Binney, Check List, No. 162.

Melania auriscalpium, Menke, Syn. Meth., p. 136, 1830. Binney, Check List, No. 25.

9. P. filum,‡ Lea,

Melania filum, Lea, Philos. Proc., iv. p. 165. Philos. Trans., x. p. 62, t. 9, f. 41. Obs., iv. p. 62. Binney, Check List, No. 109. Brot, List, p. 30. Reeve, Monog. Mel., sp. 402?

Elimia filum, Lea, Chenu, Man. Conchyl. i. f. 1980.

10. P. ponderosum,§ Anthony.

Melania ponderosa, Anthony, Proc. Acad. Nat. Sci.. Feb., 1860, p. 59. Binney, Check List, No. 213. Brot, List, p. 59.

Trypanostoma dux, Lea, Proc. Acad. Nat. Sci., p. 170, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 283, t. 36, f. 105. Obs., ix. p. 105.

11. P. olivaceum, Lea.

Trypanostoma olivaceum, Lea, Proc. Acad. Nat. Sci., p. 172, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 290, t. 36, f. 117. Obs., ix. p. 112.

12. P. Troostii,‖ Lea.

Trypanostoma Troostii, Lea, Proc. Acad. Nat. Sci., p. 171, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 285, t. 36, f. 107. Obs., ix. p. 107.

Trypanostoma viride,¶ Lea, Proc. Acad. Nat. Sci., p. 172. 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 291, t. 36, f. 119. Obs., ix. p. 113.

Trypanostoma ligatum,** Lea, Proc. Acad. Nat. Sci., p. 171, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 288, t. 36, f. 114. Obs., ix. p. 110.

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* Juvenile shell.

† Proposed under the impression that *conica* was preoccupied.

‡ Distinguished from *canaliculatum* by its more elevated spire, more prominent carina, and flattened whorls. It almost entirely replaces *canaliculatum* in the waters of Tennessee, and if specifically identical with that species, must at least be distinguished as a local variety.

§ Appears to be doubtfully distinct from *canaliculatum*, *excuratum*, &c. It is doubtful, indeed, whether the whole group contains more than one species.

‖ More inflated and more convex than *canaliculatum*, with the inferior half of the body whorl longer and more convex.

¶ ** Young shells of *Troostii* in different stages of growth.

13. P. moriforme, Lea.
Trypanostoma moriforme, Lea, Proc. Acad. Nat. Sci., p. 172, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 290, t. 36, f. 118. Obs., ix. p. 112.

14. P. Pybasii, Lea.
Trypanostoma Pybasii, Lea, Proc. Acad. Nat. Sci., p. 172, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 289, t. 36, f. 115. Obs., ix. p. 111.

15. P. Showalterii, Lea.
Trypanostoma Showalterii, Lea, Proc. Acad. Nat. Sci., p. 172, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 293, t. 36, f. 122. Obs., ix. p. 115.

C. *Angulate, striate below the periphery.*

16. P. Thorntonii,* Lea.
Trypanostoma Thorntonii, Lea, Proc. Acad. Nat. Sci., p. 170, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 284, t. 36, f. 106. Obs., ix. p. 106.

17. P. infrafasciatum, Anthony.
Melania infrafasciata, Anthony, Proc. Acad. Nat. Sci., p. 57, Feb., 1860. Binney, Check List, No. 148. Brot. List, p. 30. Reeve, Monog. Melania, sp. 301.

18. P. Postellii,† Lea.
Trypanostoma Postellii, Lea, Proc. Acad. Nat. Sci., p. 171, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 286, t. 36, f. 110. Obs., ix. p. 108.

19. P. incurvum,‡ Lea.
Trypanostoma incurvum, Lea, Proc. Acad. Nat. Sci., p. 171, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 286, t. 36, f. 109. Obs., ix. p. 108.

20. P. Alabamense,§ Lea.
Trypanostoma Alabamense, Lea, Proc. Acad. Nat. Sci., p. 171, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 288, t. 36, f. 113. Obs., ix. p. 110.

21. P. Florencense,‖ Lea.
Trypanostoma Florencense, Lea, Proc. Acad. Nat. Sci., p. 171, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 287, t. 36, f. 112. Obs. ix. p. 109.

22. P. canalitium, Lea,
Trypanostoma canalitium, Lea, Proc. Acad. Nat. Sci., p. 175, 1862. Jour. Acad. Nat. Sci,, v. pt. 3, p. 292, t. 36, f. 121. Obs., ix. p. 114.

23. P. Clarkii,¶ Lea.
Trypanostoma Clarkii, Lea, Proc. Acad. Nat. Sci., p. 171, 1862. Jour. Acad. Nat Sci., v. pt. 3, p. 285, t. 36, f. 108. Obs., ix. p. 107.

24. P. Anthonyi, Lea.
Trypanostoma Anthonyi, Lea, Proc. Acad. Nat. Sci., p. 172, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 293, t. 36, f. 123. Obs., ix. p. 115.

25. P. prasinatum, Conrad.
Melania prasinata,** Conrad, Am. Jour. Sci., 1st ser. xxv. p. 342, t. 1, f. 14, January, 1834. Jay, Cat., 4th Edit., p. 274. Binney, Check List,

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* This species is shorter in the canal, has broader bands, and wants the tubercles of *moniliferum*, which it otherwise much resembles.

† Distinguished from *infrafasciatum* by its whorls being more flattened, and by its narrow form.

‡ Differs from *Postellii* by its singularly incurved edge of the outer lip.

§ Very distinct from the preceding two species in the more developed spire and canal.

‖ Inhabits the waters of Indiana, also. No. 20, (*Alabamense*) may prove to be the young of this species.

¶ Doubtfully distinguished from *canalitium* by its broader proportions, better developed carina and recurved canal.

** The figure given by Mr. Conrad is not a good representation of this species.

No. 216. Brot, List, p. 33. Catlow, Conch. Nomenc., p. 188. DeKay Moll. N. Y., p. 98. Reeve, Monog. Melania, sp. 403,

Melania incrassata, Anthony, Ann. Lyc. N. Y., vi. p. 99, t. 2. f. 17, March, 1854. Binney, Check List, No. 144. Brot. List, p. 34.

Trypanostoma Hartmanii, Lea, Proc. Acad. Nat. Sci., p. 173, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 270, t. 36, f. 80. Obs. ix. p. 92.

Trypanostoma Jayi, Lea, Proc. Acad. Nat. Sci., p. 173, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 270, t. 36, f. 81. Obs., ix. p. 92.

26. P. tortum, Lea.

Trypanostoma tortum, Lea, Proc. Acad. Nat. Sci., p. 174, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 275, t. 36, f. 89. Obs., ix. p. 97.

27. P. dignum, Lea.

Trypanostoma dignum, Lea, Proc. Acad. Nat. Sci., p. 273, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 350, t. 39, f. 219. Obs., ix. p. 172.

D. *Carinate, striate Pleurocerœ.*

28. P. bicostatum, Anthony.

Melania bicostata, Anthony, Proc. Acad. Nat. Sci., p. 56, February, 1860. Binney, Check List, No. 33. Brot. List, p. 30. Reeve, Monog. Melania, sp. 246.

Melania rigida,* Anthony, Proc. Acad. Nat. Sci., p. 62, February, 1860. Binney, Check List, No. 229. Reeve, Monog. Melania, sp. 270.

29. P. subulare, Lea.

Melania subularis, Lea, Philos. Trans., iv. p. 100, t. 15, f. 30. Obs., i. p. 110, t. 15, f. 30. Ravenel, Cat., p. 11. DeKay, Moll. N. Y., p. 92, t. 7, f. 138. Wheatley, Cat. Shells U. S., p. 27. Jay, Cat., 4th Edit., p. 275. Binney, Check List, No. 257. Brot, List, p. 35. Reeve, Monog. Melania, sp. 428. Whiteaves, Canad. Naturalist, viii. p. 102, April, 1863.

30. P. subulæforme, Lea.

Trypanostoma subulœforme, Lea, Proc. Acad. Nat. Sci., p. 174, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 289, t. 36, f. 116. Obs., ix. p. 111.

31. P. Henryanum,* Lea.

Trypanostoma Henryanum, Lea, Proc. Acad. Nat. Sci., p. 272, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 351, t. 39, f. 222. Obs., ix. p. 173.

32. P. Lewisii,† Lea.

Trypanostoma Lewisii, Lea, Proc. Acad. Nat. Sci., p. 172, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 292, t. 36, f. 120. Obs., ix. p. 114.

33. P. annuliferum, Conrad.

Melania annulifera, Conrad, New Fresh Water Shells, p. 51, t. 8, f. 2, 1834. Jay, Cat., 4th Edit., p. 272. Binney, Check List, No. 17. DeKay, Moll. N. Y., p. 94. Wheatley, Cat. Shells U. S., p. 24. Brot. List, p. 30. Catlow, Conch. Nomenc., p. 185. Reeve,* Monog. Melania, sp. 308.

Melania annulata, Conrad, Jay, Cat., 2d Edit., p. 455.

Melania Ordiana, Lea, Philos. Proc., ii. p. 242, Dec., 1842. Philos. Trans. ix. p. 26. Obs., iv. p. 26. Wheatley, Cat. Shells U. S., p. 26. Binney, Check List, No. 191. Brot, List, p. 30.

34. P. Brumbyi, Lea.

Melania Brumbyi, Lea, Philos. Trans., x. p. 298, t. 30, f. 5. Obs., v. p.

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* Juvenile shell,

† Probably the young of *subulœforme*.

‡ This may only be a striate form of *elevatum*, Say.

◊ Mr. Reeve's figure represents the variety described by Mr. Lea as *Mel. Ordiana*.

54. Binney, Check List, No. 40. Brot. List, p. 30. Reeve, Monog. Melania, sp. 277.

35. P. Currierianum, Lea.
Trypanostoma Currierianum, Lea, Proc. Acad. Nat. Sci., p. 155, May, 1863.

E. *Plicate Pleuroceras.*

36. P. Sycamorénse, Lea.
Trypanostoma Scyamorénse, Proc. Acad. Nat. Sci., p. 175, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 283, t. 36, f. 104. Obs., ix. p. 105.

37. P. plicatum, Tryon.
Pleurocera plicatum, Tryon, Proc. Acad. Nat. Sci., Oct., 1863.

F. *Smooth, Angulate Pleurocerœ.*

38. P. elevatum,* Say.
Melania elevata, Say, Jour. Acad. Nat. Sci., ii. p. 176, Jan'y, 1821. Binney, Reprint, p. 70. Binney, Check List, No. 97. Jay, Cat., 4th Edit., p. 273. Lapham, Cat. Moll. Wisconsin, p. 368. DeKay, Moll. N. Y., p. 96. Wheatley, Cat. Shells U. S., p. 25. Catlow, Conch. Nomenc., p. 186. Brot. List, p. 30. Reeve, Monog. Melania, sp. 442.
Ceriphasia elevata, Say, Chenu, Manuel, i. f. 1961.
Melania elongata, Lea, Philos. Trans., iv. p. 121, t. 15, f. 29. Obs., i. p. 130. Troost, Cat. Binney, Check List, No. 99. Wheatley, Cat. Shells U. S., p. 25. Brot, List, p. 30.
Ceriphasia elongata, Lea, Chenu, Manuél, i. f. 1959.

39. P. gradatum, Anthony.
Melania gradata, Anthony, Ann. Lyc. N. Y., vi. p. 112, t. 3, f. 12, March, 1854. Binney, Check List, No. 130. Brot. List, p. 30. Reeve, Monog. Melania, sp. 261.
Melania eximia,† Anthony, Ann. Lyc. N. Y., vi. p. 107, t. 3, f. 7, March, 1854. Binney, Check List, No. 106. Brot. List, p. 58. Reeve, Monog. Melania, sp. 408.
Trypanostoma curtatum, Lea, Proc. Acad. Nat. Sci., p. 155, May, 1863.

40. P. aratum, Lea.‡
Melania aratum, Lea, Philos. Proc., ii. p. 242, Dec., 1842. Philos. Trans., ix. p. 24. Obs., iv. p. 24. DeKay, Moll. N. Y., p. 98. Brot, List, p. 30.
Melania exarata, Lea, Philos. Proc. ii. p. 14, Feb., 1841. Philos. Trans., viii. p. 183, t. 6, f. 44. Obs., iii. p. 21. Troost, Cat. Binney, Check List, No. 101. Catlow, Conch. Nomenc., p. 186.

41. P. lativittatum, Lea.
Trypanostoma lativittatum, Lea, Proc. Acad. Nat. Sci., p. 273, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 352, t. 39, f. 223. Obs., ix. p. 174.

41, a. P. strictum, Lea.§
Trypanostoma strictum, Lea, Proc. Acad. Nat. Sci., p. 272, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 352, t. 39, f. 224. Obs., ix. p. 174.

42. P. modestum, Lea.
Io modesta, Lea, Proc. Acad. Nat. Sci., p. 394, 1861. Jour. Acad. Nat. Sci., v. pt. 3, p. 348, t. 39, f. 216. Obs., ix. p. 170.

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* *Lewisii* may prove to be a variety of this species.
† Juvenile shell.
‡ = Preceding?
§ *P. lativittatum* has a line below the angle of the periphery, which this species has not.

43. P. Leaii, Tryon.*
Io viridula, Lea, Proc. Acad. Nat. Sci., p. 394, 1861. Jour. Acad. Nat. Sci., v. pt. 3, p. 349, t. 39, f. 218. Obs., ix. p. 171.

44. P. fastigiatum, Anthony.
Melania fastigiata, Anthony, Ann. N. Y. Lyc., vi. p. 113, t. 3, f. 13, March, 1854. Binney, Check List, No. 108. Brot. List, p. 30. Reeve, Monog. Melania, sp. 302.

45. P. Tuomeyi, Lea.
Trypanostoma Tuomeyi, Lea, Proc. Acad. Nat. Sci., p. 171, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 287, t. 36, f. 111. Obs., ix. p. 109.

46. P. gracile, Lea,
Io gracilis, Lea, Proc. Acad. Nat. Sci., p. 394, 1861. Jour. Acad. Nat. Sci., v. pt. 3, p. 349, t. 39, f. 217. Obs., ix. p. 171.

47. P. Spillmanii, Lea.
Trypanostoma Spillmanii, Lea, Proc. Acad. Nat. Sci., p. 173, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 271, t. 36, f. 82. Obs., ix. p. 86.

48. P. planogyrum, Anthony.
Melania planogyra, Anthony, Ann. Lyc. N. Y., vi. p. 111, t. 3, f. 11, March, 1854. Binney, Check List, No. 207. Brot, List, p. 30. Reeve, Monog. Melania, sp. 382.

49. P. pyrenellum, Conrad.
Melania pyrenella, Conrad, New Fresh Water Shells, p. 52, t. 8, f. 5, 1834. DeKay, Moll. N. Y., p. 99. Wheatley, Cat. Shells U. S., p. 26. Binney, Check List, No. 226. Brot, List, p. 30. Reeve, Monog. Melania, sp. 303.

50. P. Conradi,† Tryon.

51. P. regulare, Lea.
Melania regularis, Lea, Philos. Proc., ii. p. 12, Feb., 1841. Philos. Trans., viii. p. 170, t. 5, f. 16. Obs., iii. p. 8. DeKay, Moll. N. Y., p. 94. Higgins, Cat. Troost, Cat. Jay, Cat., 4th Edit., p. 274. Wheatley, Cat. Shells U. S., p. 26. Binney, Check List, No. 227. Catlow, Conch. Nomenc., p. 188. Brot, List, p. 30.
Ceriphasia regularis, Lea, Chenu, Manuél, i. f. 1956.

52. P. validum, Anthony.
Melania valida, Anthony, Proc. Acad. Nat. Sci., p. 59, Feb., 1860. Binney, Check List, No. 282. Brot, List, p. 33. Reeve, Monog. Melania, sp. 317.

G. *Smooth species, not angulated.*

53. P. glandulum, Anthony.
Melania glandula, Anthony, Proc. Acad. Nat. Sci., p. 60, Feb., 1860. Binney, Check List, No. 124. Brot, List, p. 39. Reeve, Monog. Melania, sp. 393.
Melania glans, Anthony, Ann. N. Y. Lyc., vi. p. 123, t. 3, f. 23. March, 1354.

54. P. Christyi,‡ Lea.

* The name *viridula* being preoccupied by Mr. Anthony, I gladly avail myself of the opportunity to dedicate this species to a gentleman who, by his immense labors pursued during a period of nearly forty years, with their splendid results, has done more for the science of Conchology, than any other American Naturalist.

† This name is proposed for a long slender species, with flattened whorls and brown color, which Mr. Anthony has extensively distributed as *pyrenellum*, Conrad. Mr. Lea has regarded it as doubtfully identical with his *elongatum*.

‡ Distinguished from *labiatum* principally by its more ponderous, flattened volutions.

Trypanostoma Christyi, Lea, Proc. Acad. Nat. Sci., p. 173, 1862. Jour. Acad. Nat. Sci., v. pt. 3, 272, t. 36, f. 83. Obs., ix. p. 94.

55. P. labiatum,* Lea.
Trypanostoma labiatum, Lea, Proc. Acad. Nat. Sci., p. 173, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 272, t. 36, f. 84. Obs., ix. p. 94.
Trypanostoma pallidum, Lea, Proc. Acad. Nat. Sci., p. 174, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 275, t. 36, f. 90. Obs., ix. p. 97.

56. P. neglectum, Anthony.
Melania neglecta, Anthony, Ann. Lyc. N. Y., p. 128, t. 3, f. 29, March, 1854. Binney, Check List, No. 173. Brot. List, p. 34. Currier, Shells of Grand River Valley, Mich., 1859. Reeve, Monog. Melania, sp. 247.

57. P. vestitum, Conrad.
Melania vestita, Conrad, New Fresh Water Shells, p. 57, t. 8, f. 12, 1834. DeKay, Moll. N. Y., p. 101. Wheatley, Cat. Shells U. S., p. 27. Binney, Check List, No. 287. Brot. List, p. 31. Reeve, Monog. Melania, sp. 322.
Melania mucronata,† Lea, Proc. Acad. Nat. Sci., p. 119, 1861.
Trypanostoma mucronatum, Lea, Jour. Acad. Nat. Sci., v. pt. 3, p. 277, t. 36, f. 93. Obs., ix. p. 99.

58. P. strigosum, Lea.
Melania strigosa, Lea, Philos. Proc., ii. p. 13, Feb., 1841. Philos. Trans., viii. p. 175, t. 5, f. 24. Obs., iii. p. 131. DeKay, Moll., N. Y., p. 95. Troost, Cat. Binney, Check List, No. 250. Wheatley, Cat. Shells U. S., p. 27. Catlow, Conch. Nomenc., p. 188. Brot. List, p. 38. Reeve, Monog. Melania, sp. 320.

59. P. tenebrocinctum, Anthony.
Melania tenebrocincta, Anthony, Proc. Acad. Nat. Sci., p. 58, Feb., 1860. Binney, Check List, No. 266. Brot. List, p. 31. Reeve, Monog. Melania, sp. 271.
Trypanostoma parvum, Lea, Proc. Acad. Nat. Sci., p. 174, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 276, t. 36, f. 91. Obs., ix. p. 98.

60. P. Vanuxemii, Lea.
Trypanostoma Vanuxemii, Lea, Proc. Acad. Nat Sci., p. 175, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 280, t. 36, f. 98. Obs. ix. p. 102.

61. P. Chakasahaense, Lea.
Trypanostoma Chakasahaense, Lea, Proc. Acad. Nat. Sci. p. 175, 1862. Jour. Acad. Nat. Sci., v., pt. 3, p. 280, t. 36, f. 99. March, 1863. Obs. ix. p. 102.

62. P. Knoxense, Lea.
Trypanostoma Knoxense, Lea, Proc. Acad. Nat. Sci., p. 175, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 281, t. 36, f. 101. Obs. ix., p. 103.

63. P. altipetum, Anthony.
Melania altipeta, Anthony, Ann. N. Y. Lyc., vi. p. 87, t. 2, f. 5. Binney, Check List, No. 442. Brot. List, p. 34. Reeve, Monog. Mel., sp. 280.

64. P. hastatum, Anthony.
Melania hastata, Anthony, Ann. N. Y. Lyc,, vi. p. 85, t. 2, f. 3, March, 1854. Binney, Check List, No. 136. Brot. List, p. 31. Reeve, Monog. Mel., sp. 394.

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* Larger than *neglectum*, Anth., also more convex, lighter in color and differing in the form of the canal. The typical *pallidum* in Mr. Lea's collections appears distinct, but I have seen numerous specimens collected in different parts of Ohio which connect the two species.

† Having seen author's types of *vestitum*, I have no doubt that *mucronatum* is the same species. Mr. Lea's description refers to the shell when not fully grown; it is curious that in his description he mentions six whorls, and in his "Remarks" he gives it eight, while his figure exhibits ten.

65. P. Lyonii, Lea.
Trypanostoma Lyonii, Lea, Proc. Acad. Nat. Sci., p. 155, May, 1863.

66. P. viridulum, Anthony.
Melania viridula, Anthony, Ann. Lyc. N. Y., vi. p. 84, t. 2, f. 2, March, 1854. Binney, Check List, No. 293. Brot. List, p. 31. Reeve, Monog. Mel., sp. 243.

67. P. uncíale, Haldeman.
Melania uncialis, Hald., Monog. Limniades, No. 4, p. 3 of Cover, Oct. 5, 1841. Jay, Cat. 4th Edit., p. 275. Binney, Check List, No. 279. Brot. List, p. 37. Reeve, Monog. Mel. sp. 435.

68. P. sugillatum,* Reeve,
Melania sugillata, Reeve, Monog. Mel., sp. 319, September, 1860. Brot. List, p. 31.

69. P. striatum, Lea.
Trypanostoma striatum, Lea, Proc. Acad. Nat. Sci., p. 173, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 294, t. 36, f. 124. Obs. ix., p. 116.
Trypanostoma rostellatum, Lea, Proc. Acad. Nat. Sci., p. 272, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 353, t. 39, f. 225. Obs. ix., p. 175.

70. P. Knoxvillense,† Lea.
Trypanostoma Knoxvillense, Lea, Proc. Acad. Nat. Sci., p. 173, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 274, t. 36, f. 87. Obs. ix., p. 96.

71. P. Whitei, Lea.
Trypanostoma Whitei, Lea, Proc. Acad. Nat. Sci., p. 173, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 272, t. 36, f. 85. Obs. ix., p. 95.

72. P. attenuatum, Lea.
Trypanostoma attenuatum, Lea, Proc. Acad. Nat. Sci., p. 174, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 274, t. 36, f. 88. Obs. ix., p. 96.

73. P. Estabrookii, Lea.
Trypanostoma Estabrookii, Lea, Proc. Acad. Nat, Sci., p. 173, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 273, t. 36, f. 86. Obs. ix., p. 95.

74. P. modestum, Lea.
Trypanostoma modestum, Lea, Proc. Acad. Nat, Sci., p. 174, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 276, t. 36, f. 92. Obs. ix., p. 98.

75. P. luteum, Lea.
Trypanostoma luteum, Lea, Proc. Acad. Nat. Sci., p. 273, 1863. Jour. Acad. Nat. Sci., v. pt. 3. p. 350, t. 39, f. 220. Obs. ix., p. 172.
Trypanostoma Carolinense, Lea, Proc. Acad. Nat. Sci., p. 273, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 351, t. 39, f. 221. Obs. ix., p. 173.

76. P. curvatum, Lea.
Melania curvata, Lea, Philos. Proc. ii., p. 243. Philos. Trans. ix., p. 28. Obs. ix., p. 28. Wheatley, Cat. Shells U. S., p. 25. Brot, List, p. 30. Binney, Check List, No. 81.

77. P. simplex, Lea.
Trypanostoma simplex, Lea, Proc. Acad. Nat. Sci.. p. 174, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 277, t. 36, f. 94. Obs. ix., p. 99.

78. P. bivittatum, Lea.
Trypanostoma bivittatum, Lea, Proc. Acad. Nat. Sci., p. 175, 1862. Jour. Acad. Nat. Sci. v. pt. 3, p. 279, t. 36, f. 97. Obs. ix., p. 101.

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* This shell appears to be very closely allied to *uncíale*. judging from the figure.
† I doubt whether this is distinct from *Sycamorense*.

79. P. trivittatum, Lea.
Trypanostoma trivittatum, Lea, Proc. Acad. Nat. Sci., p. 175, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 282, t. 36, f. 102. Obs. ix., p. 104.

80. P. turgidum, Lea.
Melania turgida, Lea, Philos. Proc. ii. p. 82, Oct. 1841. Philos. Trans. ix., p. 18. Wheatley, Cat. Shells U. S., p. 27. Binney, Check List, No. 278. Brot. List, p. 33.

81. P. minor, Lea.
Trypanostoma minor, Lea, Proc. Acad. Nat. Sci., p. 174, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 278, t. 36, f. 95. Obs. ix., p. 100.

82. P. pumilum, Lea.
Trypanostoma pumilum, Lea, Proc. Acad. Nat. Sci., p. 174, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 279, t. 36, f. 96. Obs. ix., p. 101.

83. P. Tennesseénse, Lea.
Trypanostoma Tennesseénse, Lea, Proc. Acad. Nat. Sci., p. 175, 1862. Jour. Acad. Nat. Sci. v. pt. 3, p. 281, t. 37, f. 100. Obs. ix., p. 103.

84. P. trochulus, Lea.
Trypanostoma trochulus, Lea, Proc. Acad. Nat. Sci., p. 175, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 282, t. 37, f. 103. Obs. ix., p. 104.

Genus ANGITREMA, Haldeman.

Angitrema, Haldeman, Cover of No. 2, Monog. Limniades, Jan. 1841.
Potadoma, Swainson, sp. H. & A. Adams, Genera i., p. 299, 1854.
Glotella, Gray, Zool. Proc., pt. 15, p. 154, 1847.
Io, Lea, (sp.) H. & A. Adams, Genera, i. p. 299, 1854. Chenu, Man. Conchyl. i. p. 290, 1859. Reeve, Monog. Io, April, 1860. Brot, Syst. Cat. Mel., p. 29, 1862.
Lithasia, Haldeman, sp. H. & A. Adams, Genera of Recent Mollusca, i. p. 308, 1854.
Anculotus, Say, (sp.), Jay, Cat. Shells., 4th Edit., p. 276, 1850.
Melania, (sp.) Authos.

A. *Body whorl with a coronal of tubercles.*

1. A. geniculata, Haldeman.
Lithasia geniculata, Haldeman, suppl. to No. 1, Monog. of Limniades, Oct. 1840. Binney, Check List, No. 299.
Anculotus genicnlatus, Haldeman, Jay, Cat. Shells, 4th Edit., p. 276. Hanley, Conch. Misc. t. 5, f. 41. Reeve, Monog. Anculotus t. 1, f. 7.
Leptoxis geniculata, Haldeman, Brot, List, p. 24.
Lithasia genicula, Lea, Wheatley, Cat. Shells U. S., p. 28.

2. A. Salebrosa, Conrad.
Melania salebrosa, Conrad, New Fresh Water Shells, p. 51, t. 4, f. 5, 1834. Chenu, Reprint, p. 24, t. 4, f. 13. Dekay, Moll. N. Y., p. 100. Wheatley, Cat. Shells U. S., p. 26. Jay, Cat. 4th Edit., p. 274.
Anculotus salebrosus, Conrad, Reeve, Monog. Anc. t. 1, f. 6, (bad figure.)
Leptoxis salebrosa, Conrad, Brot. List, p. 25.
Lithasia salebrosa, Conrad, Binney, Check List, No. 303.

3. A. subglobosa, Lea.
Lithasia subglobosa, Lea, Proc. Acad. Nat. Sci., p. 55, Feb. 1861. Jour. Acad. Nat. Sci., v. pt. 3, p. 261, t. 35, f. 70. Obs. ix., p. 83.
4. A. Tuomeyi, Lea.
Lithasia Tuomeyi, Lea, Proc. Acad. Nat. Sci., p. 55, Feb. 1861. Jour. Acad. Nat. Sci., v. pt. 3, t. 35, f. 68. Obs. ix., p. 81.
Anculotus Florentianus, Lea, Reeve, Monog. Anc. t. 1, f. 4.

A. *Body whorl encircled above the aperture by two rows of tubercles, of which the inferior one is most prominent.*

5. A. Jayana, Lea.
Melania Jayana, Philos. Proc. ii. p. 83. Philos. Trans. ix., p. 20. Obs. iv., p. 20. Wheatley, Cat. Shells U. S. p. 25. Jay, Cat. Shells, 4th Edit., p. 274. Binney, Check List, No. 154.
Io Jayana, Lea, Brot. List, p. 29.
Melania robulina, Anthony, Bost. Proc. iii., p. 363, Dec. 1850. Binney, Check List, No. 230.
Io robulina, Anthony, Reeve, Monog. Io, species 15.

C. *Body whorl with a central row of tubercles.*

6. A. rota, Reeve.
Io rota, Reeve, Monog. Io, species 13, April, 1860. Brot, List, p. 29.

7. A. armigera, Say.
Melania armigera, Say, Jour. Acad. Nat. Sci., 1st ser., ii. p. 178, Jan. 1821. Binney's Reprint, p. 71. Binney, Check List No. 21. Dekay, Moll. N. Y., p. 93. Jay, Cat. 4th Edit., p. 272. Troost. Cat. Wheatley, Cat. Shells, U. S., p. 24. Catlow, Conch. Nomenc. p. 185. Hanley, Conch. Misc. Melania, t. 7, f, 60.
Io armigera, Say, Reeve, Monog. Io, fig. 11.

8. A. Duttoniana, Lea.
Melania Duttoniana, Lea, Philos. Proc., ii. p. 15. Philos. Trans., viii. p. 189, t. 6, f. 54. Obs. iii., p. 26. Catlow, Conch. Nomenc. p. 186. Binney, Check List, No. 92. Jay, Cat. 4th Edit., p. 273.
Io Duttoniana, Lea, Reeve, Monog. Io, fig. 9. Brot. List, p. 29.
Io fasciolata, Reeve, Monog. Io, fig. 14.

9. A. stygia, Say.
Melania stygia, Say, New Harmony Dissem., p. 261, Aug. 28, 1829. Reprint, p. 17. Binney's Reprint, p. 142. Binney, Check List, No. 251. Wheatley, Cat. Shells U. S., p. 27. Jay, Cat. 4th Edit., p. 275. Dekay, Moll. N. Y., p. 93, Reeve, Monog. Mel. sp. 400. Brot. List, p. 40.
Melania tuberculata, Lea, Philos. Trans. iv., p. 101 t. 15, f. 31. Obs. i., p. 111. Dekay, Moll. N. Y., p. 93. Wheatley, Cat. Shells. U. S., p. 27. Binney, Check List, No. 277. Jay, Cat., 4th Edit., p. 275. Catlow, Conch. Nomenc, p. 189.
Juga tuberculata, Lea, Chenu, Man. Conchyl. i. f. 2017.
Melania Spixiana, Lea, Philos. Trans. vi. p. 93. Obs., v. p. 93.
Melania nodata, Reeve, Monog. Mel. fig. 422.

10. A. funiculata, Reeve.
Io funiculata, Reeve, Monog. Io, t. 2, f. 8. April, 1860. Brot, List, p. 29.

11. A. lima, Conrad.
Melania lima, Conrad, New Fresh Water Shells, p. 54, t. 8, f. 8, 1834. Chenu, Reprint. Dekay, Moll., N. Y. p. 97. Wheatley, Cat. Shells U. S., p. 26. Jay, Cat. 4th Edit., p. 274. Catlow, Conch. Nomenc. p. 187. Brot, List, p. 33.
Anculotus lima, Conrad, Reeve, Monog. Anc. t. 1, f. 1.
Lithasia lima, Conrad, Binney, Check List, No. 300.

12. A. verrucosa, Rafinesque.
Pleurocera verrucosa, Rafinesque, Annals of Nature, p. 11, 1820.
Melania nupera, Say, New Harmony Dissem. p. 260. Amer. Conch. Pt. 1. t. 8, f. 1, 2. Binney's Reprint, p. 157, t. 8. Chenu's Reprint p. 16. t. 2, f. 3. Dekay, Moll. N. Y. p. 97. Wheatley, Cat. Shells. U. S. p. 26. Brot. List, p. 40. Jay, Cat. Shells, 4th Edit. p. 274.

Anculotus nuperus, Say, Reeve, Monog. Anc. t. 1, f. 5.
Lithasia nupera, Say, Binney, Check List, No. 302.
Melanopsis semigranulosa, Deshayes, Encyc. Meth. Vers. ii. p. 438. Lamarck, Anim. Sans. Vert. 2d edit. vii. p. 491.

Sub-genus LITHASIA, Haldeman.

Lithasia, Haldeman, Supp. to Monog. Limniades, No. 1, Oct. 1840. Binney, Check List, Feb. 1860. Lea, Proc. Acad. Nat. Sciences, p. 54, Feb., 1861. Lea, Jour. Acad. Nat. Sci. v, p. 258 and 354, Mar. 1863. Observations ix. p. 80 and 176.
Lithasia, Haldeman, (part.), H. & A. Adams, Genera 1, p. 308, Feb. 1854.
Lithasia, Lea, 1845, Chenu, Man. Conchyl. i. p. 296, 1859.
Megara (*part.*) Adams, Genera, i. p. 306, Feb. 1854.
Anculotus (*part.*) Say, Gray, Genera, Zool. Proc. pt. 15, p. 153, 1847. Reeve, Monog. Ancul., Apr., 1860.
Anculosa and *Melania* (Sp.) Auct.

SPECIES.

A. *Shell large, oval, inflated.*

1. L. fuliginosa, Lea.
Melania fuliginosa, Lea, Philos. Proc. Philos. Trans. viii. p. 170, t. 5, f. 17. Obs. iii. p. 8. DeKay Moll. N. Y., p. 94. Troost, Cat. Wheatley, Cat. Shells, U. S. p. 25. Binney, Check List, No. 113. Catlow, Conch. Nomenc., p. 186. Brot. List, p. 40. Reeve, Monog. Melania, sp. 401.

2. L. Florentiana, Lea.
Melania Florentiana, Lea, Philos. Proc. Philos. Trans. viii. p. 188, t. 6, f. 53. Obs. iii. p. 26. DeKay, Moll. N. Y., p. 99. Wheatley, Cat. Shells U. S., p. 25. Binney, Check List, No. 110. Catlow, Conch. Nomenc., p. 186. Brot. List, p. 40.

3. L. venusta, * Lea.
Melania venusta, Lea, Philos. Proc. Philos. Trans. viii. p. 187, t. 6, f. 52. Obs., iii. p. 25. DeKay, Moll. N. Y., p. 99. Jay, Cat. 4th Edit. p. 275. Troost, Cat. Wheatley, Cat. Shells U. S., p. 27. Binney, Check List, No. 285. Catlow, Conch. Nomenc. p. 189. Brot. List, p. 40. Reeve, Monog. Mel., sp. 315.

4. L. dilatata, Lea.
Lithasia dilatata, Lea, Proc. A. N., S. p. 55, 1861. Jour. A. N. S., v. pt. 3, p. 260, t. 35, f. 69. Obs. ix. p. 82.

5. L. imperialis, Lea.
Lithasia imperialis, Lea, Proc. A. N. S., p. 55, 1861. Jour. A. N. S., v. pt. 3, p. 258, t. 35, f. 67. Obs. ix. p. 80.

B. *Shell small, compact oval-elliptical.*

6. L. vitatta, Lea.
Lithasia vittata, Lea, Proc. A. N. S., p. 273, 1862. Jour. A. N. S., v. pt. 3, p. 354, t. 35, f. 67. Obs. ix. p. 176.

7. L. Showalterii, † Lea.
Lithasia Showalterii, Lea, Proc. A. N. S., p. 188, 1850. Jour. A. N. S., v. pt. 3, p. 262, t. 35, f. 72. Obs. ix. p. 84.
Melania Showalterii, Lea, Reeve, Monog. sp. 423. Brot, List. p. 33.

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* More cylindrical, lighter colored, and more ponderous, though not so large as *L. Florentiana*.
† More cylindrical than *vittata*, with the aperture wider, lip more curved, and the spine shorter and more rapidly accuminate.

8. L. nuclea, Lea.
Lithasia nuclea, Lea, Proc. A. N. S., p. 188, 1860. Jour. A. N. S., v. pt. 3, p. 263, t. 35, f. 73. Obs. ix. p. 85. Binney, Check List, No. 301.
Melania nuclea, Lea, Reeve, Monog., sp. 423. Brot. List., p. 33.

9. L. nucleola, Anthony.
Melania nucleola, Anthony, Proc. Boston, Soc. N. H. iii. p. 360, Dec. 1850. Binney, Check List, No. 181. Brot, List, p. 40. Reeve, Monog. sp. 348.

10. L. undosa, Anthony,
Melania undosa, Anthony, Ann. N. Y. Lyc., vi. p. 124, t. 3, f. 25, Mar. 1854. Binney, Check List, No. 280. Brot. List p. 39. Reeve, Monog. Mel. sp. 447.
Melania varinodosa, Anthony, MSS. Reeve, Monog. sp. 268. Brot. List, p. 39.

11. L. obovata, Say.
Melania obovata, Say, New Harmony Dissem. No. 18, p. 276, Sept. 9, 1829. Reprint, p. 18, 1840. Binney's Reprint, p. 143. DeKay, Moll. N. Y. p. 98. Wheatley, Cat. Shells U. S., p. 26. Catlow, Conch. Nomenc. p. 188. Jay, Cat., 2d Edit. p. 45.
Anculotus obovatus, Say, Jay, Cat. 4th Edit., page 276. Reeve, Monog. Mel. fig. 21.

Leptoxis obovata, Say, Hald. Monog. Lept. p. 2, t. 1. f. 27—34. Binney, Check List, No. 374. Brot. List p. 25.
Lithasia obovata, Say, Chenu, Manuel i. f. 2056—8.
Anculosa obovata, Say, Wheatley, Cat. Shells U. S., p. 26.
Melania Hildrethiana,* Lea, Philos. Proc. Philos. Trans. viii. p. 164, t. 5, f. 1. Obs. iii. p. 2, t. 5, f. 1. DeKay, Moll. N. Y., p. 92. Wheatley, Cat. Shells U. S., p. 25. Binney, Check List, No. 138. Catlow, Conch. Nomenc. p. 187.

12. L. consanguinea, Anthony.
Melania consanguinea, Anthony, Ann. N. Y. Lyc. vi. p. 125, t. 3, f. 26, Mar. 1854. Binney, Check List, No. 66. Brot. List, p. 39.
Anculotus consanguineus, Anthony, Reeve, Monog. Anc. sp. 2.

C. *Shell obliquely flattened.*

Melania compacta, Anthony, Ann. N. Y. Lyc., vi. p. 122, t. 3, f. 22, Mar. 1854. Binney, Check List, No. 62. Brot, List, p. 32. Reeve, Monog. sp. 343.

14. L. obliqua, Anthony, MSS.

D. *Shell sub-cylindrical.*

15. L. brevis, Lea.
Melania brevis, Lea, Philos. Proc. ii. p. 242. Philos. Trans. ix. p. 26. Obs. iv. p. 26. Wheatley, Cat. Shells U. S. p. 24. Binney, Check List, No. 38. Brot, List, p. 32. Reeve, Monog. sp. 344.
Anculosa solida, Lea, Phil. Proc. ii. p. 243. Philos. Trans. ix. p. 29, t. 9, f. 29. Obs. iv. p. 29. Wheatley, Cat. Shells U. S. p. 28.
Leptoxis solida, Lea, Binney, Check List, No. 384. Brot, List, p. 25.
Milania trivittata, Reeve, Monog. sp. 420.

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* Young Shell.

16. L. fusiformis, Lea.
Lithasia fusiformis, Lea, Proc. A. N. S. p. 54, 1861. Jour. A. N. S., v. pt. 3. p. 261, t. 35, f. 71. Obs. ix. p. 71.

17. L. Downiei, Lea.
Lithasia Downiei, Lea, Proc. A. N. S., p. 273, 1862. Jour. A. N. S., v. pt. 3, p. 354, t. 39, f. 227. Obs. ix. p. 176.

Sub-Genus STREPHOBASIS, Lea.

Strephobasis, Lea, Proc. Acad. Nat. Sci. p. 96, Apr. 1861. Jour. A. N. S., v. pt. 3, p. 264 and 355. Obs. ix. p. 86, 177.
Megara, (sp.) H. & A. Adams, Genera i. p. 306, Feb. 1854.

A. *Shell ovate-conical.*

1. Strephobasis curta, Haldeman.
Melania curta, Haldeman, Monog. Limniades, No. 3, p. 3 of Cover. Binney Check List, No. 80. Brot. List, p. 32. Reeve, Monog. sp. 345.
Melania solida, Lea, Philos. Proc. iv. p. 9, f. 27. Obs. iv. p. 57. Binney, Check List, No. 245. Brot, List, p. 31. Reeve, Monog. Melania, f. 454.
Strepholasis solida, Lea, Jour. A. N. S., v. pt. 3, p. 266, t. 35, f. 77. Obs. ix. p. 88.

2. Strephobasis pumila, Lea.
Melania pumila, Lea, Philos. Proc. iv. p. 166, Aug. 1845. Philos. Trans. x. p. 60, t. 9, f. 36. Obs. iv. p. 60. Binney, Check List, No. 223. Brot. List. p. 33. Reeve, Monog. sp. 446.

3. Strepho. carinata, Lea.
Strephobasis carinata, Lea, Proc. A. N. S. p. 273, 1862. Jour. A. N. S., v. pt. 3, p. 355, t. 39, f. 228. Obs. ix. p. 177.

B. *Shell cylindrical.*

4. Strepho. olivaria, Lea.
Strephobasis olivaria, Lea, Proc. A. N. S., p. 273, 1862. Jour. A. N. S., v. pt. 3, p. 356, t. 39, f. 229. Obs. ix. p 178.

5. Strepho. plena, Anthony.
Melania plena, Anthony, Ann. Lyc. N. H. New York, vi. p 121, t. 3, f. 21, Mar. 1854. Binney, Check List, No. 210. Brot, List, p. 33. Reeve, Monog. Mel. sp. 450.
Strephobasis Spillmanii, Lea, Proc. A. N. S., p. 96, 1861 Jour. A. N. S. v. pt. 3, p. 264, t. 35, f. 74. Obs. ix. p. 86.

6. Strepho. cornea, Lea.
Strephobasis cornea, Lea, Proc. A. N. S., p. 96, 1861. Jour. A. N. S., v. pt. 3, p. 265, t. 35, f. 75 Obs. ix. p. 87.

7. Strepho. corpulenta, Anthony.
Melania corpulenta, Anthony, Ann. Lyc. N. H., vi. p. 127, t. 3, f. 28, Mar. 1854. Binney, Check List, No. 70. Brot. List, p. 32.

8. Strepho. bitæniata, Conr.
Melania bitæniata, Conrad, New Fresh Water Shells, p. 52, t. 8, f., 6, 1834. DeKay, Moll. N. Y., p. 94. Wheatley, Cat. Shells U. S., p. 24. Binney, Check List, No. 34. Brot. List, p. 32. Hanley, Conch. Misc. t. 8, f. 73.
Anculotus bitæniatus, Conrad, Reeve, Monog. Anculotus t. 3, f. 25.
Strephobasis Clarkii, Lea, Proc. A. N. S., p. 66, 1861. Jour. A. N. S., v. pt. 3, p. 265, t. 35, f. 76. Obs. ix. p. 87.

Synonymy of the Species of STREPOMATIDÆ, a Family of Fluviatile Mollusca inhabiting North America.

Part 2.

BY GEORGE W. TRYON, JR.

Goniobasic Section.

Genus GONIOBASIS, Lea.

Goniobasis, Lea, Proc. Acad. Nat. Sci. p. 262, May, 1862. Journ. Acad. Nat. Sci. v. pt. 3, p. 217, March, 1863. Obs. ix. p. 39.
Ceriphasia, Swainson, (sp.) H. and A. Adams, Genera i. p. 298, Feb. 1854. Chenu, Man. de Conchyl. i. p. 290, 1859.
Pachycheilus, Lea, (sp.) H. and A. Adams, Genera i. p. 298, Feb. 1854.
Potadoma, Swainson, (sp.) H. and A. Adams, Genera i. p. 299, Feb. 1854. Chenu, Man. de Conchyl. i. p. 290, 1859.
Elimia, (sp.) H. and A. Adams, Genera i. p. 300, Feb. 1854. Chenu, Man. de Conchyl. i. p. 290, 1859.
Melasma, (sp.) H. and A. Adams, Genera i. p. 300, Feb. 1854. Chenu, Man. de Conchyl. i. p. 292, 1859.
Hemisinus, Swainson, (sp.) H. and A. Adams, Genera i. p. 302, Feb. 1854.
Juga, (sp.) H. and A. Adams, Genera i. p. 304, Feb. 1854. Chenu, Man. de Conchyl. i. p. 293, 1859.
Megara, (sp.) H. and A. Adams, Genera i. p. 306, Feb. 1854. Chenu, Man. de Conchyl. i. p. 293, 1859.
Pleurocera, Rafinesque, Haldeman, Proc. Acad. Nat. Sci. p. 274, 1863.
Melania, (sp.) Auct.*

SPECIES.

A. *Shell spirally ridged.*

1. G. procissa, Anthony.†
Melania procissa, Anthony, Ann. Lyc. Nat. Hist. N. Y. vi. p. 109, t. 3, f. 9, March, 1854. Binney, Check List, No. 218. Brot, List, p. 59. Reeve, Monog. Melania, sp. 342.

B. *Shell tuberculate or nodulous.*

2. G. gratiosa, Lea.
Melania gratiosa, Lea, Proc. Acad. Nat. Sci. p, 122, May, 1861.
Goniobasis gratiosa, Lea, Jour. Acad. Nat. Sci. v. pt. 3, p. 241, t. 35, f. 43, March, 1863. Obs. ix. p. 63.

2*a*. G. lachryma, Anthony.‡
Melania lachryma, Anthony, Reeve, Monog. Melania, sp. 473, May, 1861. Brot, List, p. 32.

3. G. gibberosa, Lea.
Goniobasis gibberosa, Lea, Proc. Acad. Nat. Sci. p. 266, 1862. Jour. Acad. Nat. Sci. v. pt. 3, p. 312, t. 37, f. 155, March, 1863. Obs. ix. p. 134, t. 37, f. 155.

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* Mr. Lea is the first naturalist who has properly defined this genus, and his name *Goniobasis* must therefore stand, in preference to any of the prior names given to artificial sections by the Messrs. Adams.

Of course these gentlemen are wrong in including species of this genus in the genera *Pachycheilus*, *Ceriphasia*, *Potadoma* and *Hemisinus*, which are all intended to embrace very different groups of species. Prof. Haldeman is also mistaken in placing here the *Pleurocera* of Rafinesque, a genus which undoubtedly = *Trypanostoma*, Lea.

† This may be only an elevated form of *Anculosa canalifera*, Anthony.

‡ This species and the preceding (*gratiosa*) are identical. Both descriptions bear the same date of publication, and I am therefore unable to decide which has priority.

4. G. nubila, Lea.*
Melania nubila, Lea, Proc. Acad. Nat. Sci. p. 118, 1861.
Goniobasis nubila, Lea, Jour. Acad. Nat. Sci. v. pt. 3, p. 235, March, 1863. Obs. ix. p. 57.

5. G. varians, Lea.†
Melania varians, Lea, Proc, Acad. Nat. Sci. p. 120, 1861.
Goniobasis varians, Lea, Jour. Acad. Nat. Sci. v. pt. 3, p. 219, t. 34, f. 2, March, 1863. Obs. ix. p. 41.

6. G. Hydeii, Conrad.
Melania Hydeii, Conrad, New Fresh-Water Shells, p. 50, t. 8, f. 1, 1834. Reeve, Monog. Melania, sp. 248. DeKay, Moll. N. York, p. 93. Wheatley, Cat. Shells U. S. p. 25. Binney, Check List, No. 141.
Melania Hydei, Conrad, Jay, Cat. Shells, 4th edit. p. 273. Brot, List, p. 32. Hanley, Conch. Misc. t. 1, f. 3.
Melania Hydii, Conrad, Catlow, Conch. Nomenc. p. 187.

7. G. decorata, Anthony.
Melania decorata, Anthony, Proc. Acad. Nat. Sci. p. 55, Feb. 1860. Reeve, Monog. Melania, sp. 251. Binney, Check List, No. 86. Brot, List, p. 32.
Goniobasis Tryoniana,‡ Lea, Proc. Acad. Nat. Sci. p. 272, 1862. Jour. Acad. Nat. Sci. v. pt. 3, p. 342, t. 38, f. 207, March, 1863. Obs. ix. p. 164, t. 38, f. 207.
Goniobasis granata, Lea, Proc. Acad. Nat. Sci. p. 272, 1862. Jour. Acad. Nat. Sci. v. pt. 3, p. 343, t. 38, f. 209, March, 1863. Obs. ix. p. 165.

8. G. cælatura, Conrad.
Melania cælatura, Conrad, Proc. Acad. Nat. Sci. iv. p. 154, Feb. 1849. Journ. Acad. Nat. Sci. i. pt. 4, p. 278, t. 38, f. 3, Jan. 1850. Binney, Check List, No. 58. Brot, List, p. 32. Reeve, Monog. Melania, sp. 245.
Goniobasis Stewardsoniana,§ Lea, Proc. Acad. Nat. Sci. p. 272, 1862. Jour. Acad. Nat. Sci. v. pt. 3, p. 344, t. 38, f. 210, March, 1863. Obs. ix. p. 166.
Goniobasis Tryoniana, Lea, Description in part.

9. G. occata, Hinds.
Melania occata, Hinds, Ann. and Mag. Nat. Hist. xiv. p. 9. Zool. Voy. Sulphur. Mollusca, ii. p. 56, t. 15, f. 5. Catlow, Conch. Nomenc. p. 188. Brot, List, p. 34. Lea, Proc. Acad. Nat. Sci. p. 81, April, 1856. Reeve, Monog. Melania, sp. 267.
Juga occata, Hinds, Chenu, Man. de Cohchyl. i. f. 2016.
Melania Shastaensis,‖ Lea, Reeve, Monog. Melania, sp. 318.

10. G. catenaria, Say.
Melania catenaria, Say, Jour. Acad. Nat. Sci. ii. p. 379, Dec. 1822. Binney, Reprint, p. 111. Binney, Check List, No. 52. Reeve, Monog. Melania, sp. 336. DeKay, Moll. N. York, p. 93. Wheatley, Cat. Shells U. S. p. 24. Gibbes, Rep't. S. Carolina, p. 19. Jay, Cat. 4th edit. p. 273. Catlow, Conch. Nomenc. p. 185. Brot, List, p. 34.

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* Closely allied to *G. oliva*, Lea, but is larger, longer and tuberculate.
† Nearly always tuberculate, and shouldered below the sutures.
‡ *G. decorata* is a young shell, and, as is usual in this group, is sharply angulated at the periphery. *G. granata* represents a half grown shell, and here the angle is almost obsolete, while *G. Tryoniana* is the mature form. The entire identity of these several descriptions is proved by a series of over two hundred specimens before me,
Mr. Lea's *figure* of *Tryoniana* belongs here, but his *description* of that species is made to include the next species, *cælatura*, Conr. The green variety of *granata* is a shell of much heavier texture, and may prove distinct.
§ Half grown shell of *cælatura*.
‖ The *Shastaensis* of Mr. Lea is a very different shell, and certainly ought never to have been confounded with this species, which it does not resemble in any particular.

*Melania sublirata,** Conrad, Jour. Acad. Nat. Sci. 2d ser. i. pt. 4, p. 277, t. 38, f. 1, Jan. 1850. Brot, List, p. 37. Reeve, Monog. Melania, sp. 339.
Melania Floridensis,† Reeve, Monog. Melania, sp. 334. Brot, List, p. 34.

11. G. catenoides,‡ Lea.
Melania catenaria, Lea, Proc. Philos. Soc. i. p. 289. Oct. 1840, (preoc.)
Melania catenoides, Lea, Philos. Trans. viii. p. 228, t. 6, f. 60. Obs. iii. p. 66. DeKay, Moll. N. Y. p. 101. Wheatley, Cat. Shells U. S. p. 24. Jay, Cat., 4th edit., p. 273. Binney, Check List, No. 53. Catlow, Conch. Nomenc. p. 185. Brot, List, p. 34. Reeve, Monog. Melania, sp. 298.
Elimia catenoides, Lea, Chenu, Man. de Conchyl. i. f. 1982.

12. G. Etowahensis, Lea.§
Melania Etowahensis, Lea, Reeve, Monog. Mel. sp. 426, May, 1861. Brot, List, p.
Goniobasis Canbyi, Lea, Proc. Acad. Nat. Sci. p. 271, 1862. Jour. Acad. Nat. Sci. v. pt. 3, p. 340, t. 38, f. 204, March, 1863. Obs. ix. p. 162.

13. G. Hallenbeckii, Lea.‖
Goniobasis Hallenbeckii, Lea, Proc. Acad. Nat. Sci. p. 271, 1862. Jour. Acad. Nat. Sci. v. pt. 3, p. 339, t. 38, f. 203, March, 1863. Obs., ix. p. 161.
Melania Hallenbeckii, Lea, Reeve, Monog. Melania, sp. 332.

14. G. Boykiniana, Lea.
Melania Boykiniana, Lea, Proc. Philos. Soc. i. p. 289, Oct. 1840. Philos. Trans. viii. p. 228, t. 6, f. 59. Obs. iii. p. 66. DeKay, Moll. N. Y., p. 100. Wheatley, Cat. Shells U. S. p. 24. Reeve, Monog. Melania, sp. 77. Jay, Cat. Shells, 4th edit. p. 273. Binney, Check List, No. 37. Catlow, Conch. Nomenc., p. 185. Brot, List, p. 34.
Elimia Boykiniana, Lea, Chenu, Man. de Conchyl. i. f. 1978.

15. G. Bentoniensis, Lea.¶
Goniobasis Bentoniensis, Lea, Proc. Acad. Nat. Sci. p. 271, 1862. Jour. Acad. Nat. Sci. v. pt. 3, p. 336, t. 38, f. 198, March, 1863. Obs. ix. p. 158.

16. G. papillosa, Anthony.
Melania papillosa, Anthony, Reeve, Monog. Melania, sp. 467, May, 1861. Brot, List, p. 34.
Goniobasis Downieana, Lea, Proc. Acad. Nat. Sci. p. 272, 1862. Jour. Acad. Nat. Sci. v. pt. 3, p. 341, t. 38, f. 206, March, 1863. Obs. ix. p. 163.

17. G. Couperii, Lea.
Goniobasis Couperii, Lea, Proc. Acad. Nat. Sci. p. 271, 1862. Jour. Acad. Nat. Sci. v. pt. 3, p. 341, t. 38, f. 205, March, 1863. Obs. ix. p. 163.

18. G. inclinans, Lea.
Goniobasis inclinans, Lea, Proc. Acad. Nat. Sci. p. 267, 1862. Jour. Acad. Nat. Sci. v. pt. 3, p. 318, t. 37, f. 166, March, 1863. Obs. ix. p. 140.

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* † I have seen several author's examples of *catenaria*. and they uniformly represent shells not adult. As I have not seen specimens of *sublirata* and *Floridensis*, I rely on the figures and descriptions only, in considering them to be the adults of the same species.
‡ *G. catenoides* may prove to be a variety only of *catenaria* and I at first united them, but I have recently come to the conclusion that they are distinct species, though nearly allied.
§ I presume it was Mr. Lea's first intention to describe this species under the name of *Etowahensis*, as a specimen is before me which that gentlemen sent to Mr. Anthony under that name. This very specimen was sent to Mr. Reeve and published by him, prior to the publication of *Canbyi* by Mr. Lea.
It is extremely difficult to distinguish this species from varieties of *papillosa*, Anth.
‖ Dr. Brot considers this a synonym of *Boykiniana*, but it is very different.
¶ Doubtfully distinct from *papillosa*, Anth.

19. G. Postellii, Lea.
Melania Postellii, Lea, Proc. Acad. Nat. Sci. p. 166, July, 1858. Binney, Check List, No. 214. Brot, List, p. 34.
Melania Portellii, Lea, Reeve, Monog. Melania, sp. 427.
Goniobasis Postellii, Lea, Jour. Acad. Nat. Sci., v. pt. 3, p. 343, t. 38, f. 208, March, 1863. Obs. ix. p. 165.

20. G. arachnoidea, Anthony.
Melania arachnoidea, Anthony, Ann. Lyc. Nat. Hist. N. Y., vi. p. 95, t. 2, f. 14, March, 1854. Binney, Check List, No. 19. Brot, List, p. 34. Reeve, Monog. Melania, sp. 83.
Melania intertexta, Anthony,* Proc. Acad. Nat. Sci., p. 62, February, 1860. Binney, Check List, No. 151. Brot, List, p. 34. Reeve, Monog. Melani, sp. 296.

21. G. Conradi, Brot.†
Melania Conradi, Brot, List, p. 36.
Melania symmetrica, Conrad, Proc. Acad. Nat. Sci., iv. p. 155, Feb., 1849. Journ. Acad. Nat. Sci., i. pt. 4, p. 278, t. 38, f. 5, Jan., 1850. Binney, Check List, No. 260.

22. G. carinifera, Lam.
Melania carinifera, Lamarck, Anim. sans Vert. Deshayes, Anim. sans Vert., 2d edit., viii. p. 433. Wheatley, Cat. Shells U. S., p. 24. Binney, Check List, No. 48. Catlow, Conch. Nomenc., p. 185. Brot, List, p. 36. Reeve, Monog. Melania, sp. 273.
Melania bella,‡ Conrad, New Fresh-Water Shells, Appendix, p. 6, t. 9, f. 4, 1834. Binney, Check List, No. 29. Brot, List, p. 36. Reeve, Monog. Melania, sp. 269.
Melania perangulata, Conrad, Proc. Acad. Nat. Sci., iv p. 154, Feb., 1849. Jour. Acad. Nat. Sci., i. pt. 4, p. 278, t. 38, f. 6. Binney, Check List, No. 199. Brot, List, p. 36. Reeve, Monog. Melania, sp. 285.
Melania percarinata, Conrad. Proc. Acad. Nat. Sci., iv. p. 155, Feb., 1849. Jour. Acad. Nat. Sci., 2d ser., i. pt. 4, p. 278, t. 38, f. 10. Binney, Check List, No. 200. Brot, List, p. 36.
Melania nebulosa, Conrad, Proc. Acad. Nat. Sci., iv. p. 155, Feb., 1849. Jour. Acad. Nat. Sci., i. pt. 4, p. 278, t. 38, f. 9. Binney, Check List, No. 172. Brot, List, p. 36.
Melania bella-crenata, Haldeman, Monog. Limniades, No. 4, p. 3 of cover, Oct. 5, 1841. Jay, Cat., 4th ed., p. 273. Binney, Check List, No. 30. Brot, List, p. 36.
Melania monilifera, Anthony, Jay, Cat., 4th ed., p. 474.

C. *Shell plicate.*

23. G. obesa, Anthony.
Melania obesa, Anthony, Reeve, Monog. Melania, sp. 469, May, 1861. Brot, List, p. 33.

24. G. blanda, Lea.§
Melania blanda, Lea, Proc. Acad. Nat. Sci., p. 122, 1861.
Goniobasis blanda, Lea, Jour. Acad. Nat. Sci., v. pt. 3, p. 242, t. 35, f. 44, March, 1863. Obs. ix. p. 64, t. 35, f. 44.

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* Half-grown shell.
† Dr. Brot proposed the name *Conradi* for this species, as *symmetrica* is preoccupied by Prof. Haldeman. I doubt whether it is distinct from *G. carinifera*, Lam.
‡ That all the species here quoted are synonyms of *carinifera* does not admit of doubt. The species is rather a variable one in respect of proportions and ornamentation.
§ The name of this species must be changed because preoccupied by Mr. Lea himself.

25. G. substricta, Haldeman.*
Melania substricta, Haldeman, Monog. Limniades, vii. p. 4 of cover, Jany., 1844. Wheatley, Cat. Shells U. S., p. 27. Binney, Check List, No. 256. Brot, List, p. 36.

26. G. aequalis, Haldeman.†
Melania æqualis, Haldeman, Monog. Limniades, No. 4, p. 3 of cover, Oct. 5, 1841. Jay, Cat , 4th ed., p. 272. Binney, Check List, No. 7.

27. G. semigradata, Reeve.
Malania semigradata, Reeve, Monog. Melania, sp. 472, May, 1861. Brot, List, p. 33.

28. G. carinocostata,‡ Lea.
Melania carinocostata, Lea, Philos. Proc., iv. p. 165, 1845. Philos. Trans., x. p. 62, t. 9, f. 40. Obs. iv. p. 62. Binney, Check List, No. 49. Brot, List, p. 35, Reeve, Monog. Melania, sp. 333.
Goniobasis strenua, Lea, Proc. Acad. Nat. Sci., p. 267, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 316, t. 37, f. 161, March, 1863. Obs. ix. p. 138.
Goniobasis Leidyana, Lea, Proc. Acad. Nat. Sci., p. 268, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 322, t. 38, f. 173, March, 1863. Obs. ix. p. 144.
Melania scabrella, Anthony, Reeve, Monog. Melania, sp. 388.
Melania scabriuscula, Brot, List, p. 36.

29. G. Lecontiana,§ Lea.
Melania Lecontiana, Lea, Philos. Proc., ii. p. 13, Feb. 1841. Philos. Trans., viii. p. 177, t. 5, f. 29. Dekay, Moll. N. York, p. 96. Wheatley, Cat. Shells U. S., p. 26. Brot, List, p. 35. Jay, Cat., 4th edit., p. 274. Binney, Check List, No. 160. Catlow, Conch. Nomenc., p. 187.
Melasma Lecontiana, Lea, Chenu, Man. Conchyl., i. f. 2002.

30. G. cadus, Lea.‖
Goniobasis cadus, Lea, Proc. Acad. Nat. Sci., p. 272, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 345, t. 38, f. 211, March, 1863. Obs. ix. p. 167.

31. G. obtusa, Lea.¶
Melania obtusa, Lea, Philos. Proc., ii. p. 13, Feb., 1841. Philos. Trans., viii. p. 176, t. 5, f. 28. Obs. iii. p. 14. Dekay, Moll. New York, p. 96. Binney, Check List, No. 183. Troost, Cat. Shells Tennessee. Wheatley, Cat. Shells U. S., p. 26. Catlow, Conch. Nomenc., p. 188. Brot, List, p. 59.

32. G. amoena, Lea.
Goniobasis amœna, Lea, Proc. Acad. Nat. Sci., p. 268, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 323, t. 38, f. 175, March, 1863. Obs. ix. p. 145, t. 38, f. 175.

33. G. Tuomeyi, Lea.
Goniobasis Tuomeyi, Lea, Proc. Acad. Nat. Sci., p. 266, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 311, t. 37, f. 153, March, 1863. Obs. ix. p. 133.

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* Somewhat like *gracilis*, Lea, but is a stouter, more ponderous species.
† Allied to *carinocostata*, Lea, but in that species the plicæ are terminated by an acute angle or rib on the body whorl and the spire is angled or carinate.
‡ A very variable species. The *M. scabrella* of Anthony is a half-grown shell; in which state the plicæ and carinæ are more distinct than in the adult form. *Scabrella* being preoccupied by an European author, M. Brot changed the name to *scabriuscula*.
§ Mr. Reeve's figure 404 does not represent this species; it is nearer to *decorata*, Anthony. This shell is closely allied to *carinocostata* and *æqualis*.
‖ Allied to *G. obtusa*, but appears to differ in not being so closely plicate as that species. It may possibly = *Lecontiana*.
¶ Is this the young shell of *cadus* or *carinocostata*?

34. G. Christyi, Lea.
Goniobasis Christyi, Lea, Proc. Acad. Nat. Sci., p. 269, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 328, t. 38, f. 185, March, 1863. Obs. ix. p. 150.
Goniobasis instabilis, Lea, Proc. Acad. Nat. Sci., p. 269, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 329, t. 38, f. 186, March, 1863. Obs. ix, p. 151.

35. G. interveniens, Lea.*
Goniobasis interveniens, Lea, Proc. Acad. Nat. Sci., p. 268, 1862. Journ. Acad. Nat. Sci., v. pt. 3, p. 320, t. 38, f. 169, March, 1863. Obs. ix. p. 142.

36. G. olivella, Lea.
Goniobasis olivella, Lea, Proceed. Acad. Nat. Sci., p. 269, 1862. Journ. Acad. Nat. Sci., v. pt. 3, p. 327, t. 38, f. 182, March, 1863. Obs. ix. p. 149.

37. G. interrupta, Haldeman.
Melania interrupta, Haldeman, Supplement to No. 1, Monog. Limniades, Oct. 1840. Wheatley, Cat. Shells U. S., p. 25. Jay, Cat., 4t edit., p. 274. Brot, List, p. 34. Reeve, Monog. Melania, sp. 398.
Goniobasis ornatella, Lea, Proceed. Acad. Nat. Sci., p. 269, 1862. Journ. Acad. Nat. Sci., v. pt. 3, p. 326, t. 38, f. 181, March, 1863. Obs. ix. p. 148.

38. G. crispa, Lea.†
Goniobasis crispa, Lea, Proc. Acad. Nat. Sci., p. 269, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 326, t. 38, f. 180, March, 1863. Obs. ix. p. 148.

39. G. formosa, Conrad.‡
Melania formosa, Conrad, New Fresh-Water Shells, Appendix, p. 5, t. 9, f. 3, 1834. Wheatley, Cat. Shells U. S., p. 25. Binney, Check List, No. 112.
Melania formosa, Anthony, Reeve, Monog. Melania, sp. 387. Brot, List, p. 35.

40. G. mediocris, Lea.
Goniobasis mediocris, Lea, Proceed. Acad. Nat. Sci., p. 269, 1862. Journ. Acad. Nat. Sci., v. pt. 3, p. 326, t. 38, f. 179, March, 1863. Obs. ix. p. 148.

41. G vesicula, Lea.
Melania vesicula, Lea, Proc. Acad. Nat. Sci., p. 118, 1861.
Goniobasis vesicula, Lea, Jour. Acad. Nat. Sci., v. pt. 3, p. 242, t. 35, f. 45, March, 1863. Obs. ix, p. 64.

42. G. Duttonii, Lea.§
Goniobasis Duttonii, Lea, Proceed. Acad. Nat. Sci., p. 266, 1862. Journ. Acad. Nat. Sci., v. pt. 3, p. 314, t. 37, f. 158, March, 1863. Obs. ix. p. 136.

43. G. laqueata, Say.
Melania laqueata, Say, New Harmony Disseminator, p. 275, September, 1829. Say's Reprint, p. 17. American Conchology, No. 5, t. 47, f. 1. Binney's edition, pp. 143 and 200. Binney, Check List, No. 158. De-Kay, Moll. New York, p. 97. Wheatley, Cat. Shells U. S., p. 25. Jay, Cat., 4th ed., p. 274. Reeve, Monog. Melania, sp. 281, 288? Brot, List, p. 35. Catlow, Conch. Nomenc., p. 187.

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* Very like *Curreyana*, Lea, in the plicæ, but differs in form.
† More convex and with more regular striæ than *G. nassula*, Conrad.
‡ Close to *G. nassula*, Conrad, but is striate, and the aperture is more rounded.
§ Differs from *G. Tuomeyi*, Lea, in the form of the aperture. The specimens before me are not all two-banded, some of them being without bands, and of a light yellowish color.

Melania monozonalis, * Lea, Philos. Proc., ii. p. 13, February, 1841. Philos. Trans., viii. p. 178, t. 6, f. 31. Obs. iii. p. 16. DeKay, Moll. New York, p. 96. Binney, Check List, No. 168. Troost, Cat. Shells Tennessee. Wheatley, Cat. Shells U. S., p. 26. Catlow, Conch. Nomenc., p. 187. Brot, List, p. 40.

44. G. Pybasii, Lea.
Goniobasis Pybasii, Lea, Proc. Acad. Nat. Sci., p. 266, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 313, t. 37, f. 157, March, 1863. Obs., ix. p. 135, t. 37, f. 157.

45. G. induta, Lea.
Goniobasis induta, Lea, Proc. Acad. Nat. Sci., p. 267, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 319, t. 37, f. 166, March, 1863. Obs., ix. p. 141.

46. G. versipellis,† Anthony.
Melania versipellis, Anthony, Proc. Acad. Nat. Sci., p. 60, February, 1860. Binney, Check List, No. 286. Brot, List, p. 59. Reeve, Monog. Melania, sp. 436.

47. G. gracilis,‡ Lea.
Melania gracilis, Lea, Philos. Proc., ii. p. 12, Feb. 1841. Philos. Trans., viii. p. 168, t. 5, f. 11. Obs. iii. p. 6. DeKay, Moll. N. York, p. 94. Troost, Cat. Shells Tenn. Wheatley, Cat. Shells U. S., p. 25. Binney, Check List, No. 128. Catlow, Conch. Nomenc., p. 187. Brot, List, p. 38.
Potadoma gracilis, Lea, Chenu, Manuel de Conchyl., i. f. 1968.

48. G. paucicosta, Anthony.
Melania paucicosta, Anthony, Proc. Acad. Nat. Sci., p. 57, February, 1860. Binney, Check List, No. 198. Brot, List, p. 36. Reeve, Monog. Melania, sp. 255.

49. G. tenebrosa, Lea.
Melania tenebrosa, Lea, Philos. Proc., ii. p. 13, February, 1841. Philos. Trans., viii. p. 176, t. 5, f. 26. Obs. iii. p. 14. DeKay, Moll. N. Y., p. 95. Troost, Cat. Shells Tenn. Wheatley, Cat. Shells U. S., p. 27. Binney, Check List, No. 267. Catlow, Conch. Nomenc., p. 189. Reeve, Monog. Melania, sp. 443. Brot, List, p. 39.

50. G. coracina, Anthony.
Melania coracina, Anthony, Bost. Proc., iii. p. 361, Dec., 1850. Binney, Check List, No. 67. Brot, List, p. 58.
Melania Sellersiana, Lea, Philos. Trans., x. p. 299, t. 30, f. 8. Obs., v. p. 55. Binney, Check List, No. 239.

51. G. intersita, Haldeman.
Melania intersita, Haldeman, Monog. Limniades, No. 4, p. 4 of cover, Dec. 28, 1841. Binney, Check List, No. 150. Brot, List, p. 35. Reeve, Monog. Melania, sp. 376.

52. G. columella, Lea.
Melania columella, Lea, Philos. Proc., ii. p. 13, Feb., 1841. Philos. Trans., viii. p. 179, t. 6, f. 33. Obs. iii. p. 17. DeKay, Moll. N. Y., p. 96. Binney, Check List, No. 60. Troost, Cat. Shells Tenn. Wheatley, Cat. Shells U. S., p. 24. Catlow, Conch. Nomenc., p. 186. Brot, List, p. 35. Reeve, Monog. Melania, sp. 441.

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*This is only a rather wide, young specimen of *laqueata*, as I have ascertained by the inspection of some hundreds of specimens of that species.

† *Versipellis* resembles a young *laqueata*, but its texture is quite heavy although small.

‡ Described by Mr. Lea as a smooth species, but among a hundred perfect specimens before me, over eighty are more or less plicate on the spire.

53. G. blanda, Lea.
Melania blanda, Lea, Philos. Proc., ii. p. 13, Feb. 1841. Philos. Trans., viii. p. 79, t. 6, f. 34. Obs. iii. p. 17. DeKay, Moll. N. Y., p. 97. Binney, Check List, No. 36. Troost, Cat. Shells Tennessee. Wheatley, Cat. Shells U. S., p. 24. Catlow, Conch. Nomenc., p. 185. Brot, List, p. 35.

54. G. nitens, Lea.
Melania nitida,* Lea, Philos. Proc., ii. p. 14, February, 1841.
Melania nitens, Lea, Philos. Trans., viii. p. 182, t. 6, f. 40. Obs. iii. p. 20. DeKay, Moll. N. Y., p. 98. Binney, Check List, No. 178. Troost, Cat. Shells Tennessee. Wheatley, Cat. Shells U. S., p. 26. Catlow, Conch. Nomenc., p. 187. Brot, List, p. 36.

55. G. mutata, Brot.
Melania Deshayesiana,† Reeve, Monog. Melania, sp. 278, September, 1860.
Melania mutata, Brot, List, p. 37.

56. G. suturalis, Haldeman.
Melania suturalis, Haldeman, Suplement to Monog. Limniades, No. 1, Oct., 1840. Wheatley, Cat. Shells U. S., p. 27. Jay, Cat., 4th ed., p. 275.

57. G. mutabilis,‡ Lea.
Goniobasis mutabilis, Lea, Proc. Acad. Nat. Sci., p. 270, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 331, t. 38, f. 189, March, 1863. Obs., ix. p. 153.

58. G. Viennaensis, Lea.
Goniobasis Viennaensis, Lea, Proc. Acad. Nat. Sci., p. 267, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 315, t. 37, f. 160, March, 1863. Obs., ix. p. 137.

59. G. Curreyana, Lea.
Goniobasis Curreyana, Lea, Philos. Proc., ii. p. 13, Feb. 1841. Philos. Trans., viii. p. 180, t. 6, f. 36. Obs., iii. p. 18. Wheatley, Cat. Shells U. S., p. 25. Binney, Check List, No. 79. DeKay, Moll. N. Y., p. 97. Reeve, Monog. Melania, sp. 286. Troost, Cat. Shells, Tennessee. Catlow, Conch. Nomenc., p. 186. Brot. List, p. 35.
Melasma Curreyana, Lea, Chenu, Man. de Conchyl. i. f. 2003.

60. G. costifera,§ Haldeman.
Melania costifera, Haldeman, Monog. Melania., No. 2, p. 3 of Cover, Jan. 1841. Binney, Check List, No. 72. Brot, List, p. 34. Reeve, Monog. Melania, sp. 440.

61. G. Deshayesiana, Lea.
Melania plicatula,‖ Lea, Proc. Philos. Soc., ii. p. 14, Feb. 1841. Philos. Trans., viii. p. 182, t. 6, f. 41. Obs., iii. p. 20. Troost, Cat. Shells Tenn. Jay, Cat., 4th Edit., p. 274. Catlow, Conch. Nomenc., p. 188. Brot, List, p. 34.
Melasma plicatula, Lea, Chenu, Man. de Conchyl. i. f. 1998.
Melania Deshayesiana, Lea, Philos. Proc., ii. p. 242, Dec. 1842. Philos. Trans., ix. p. 24. Obs., ix. p. 24. DeKay, Moll. N. Y. p. 98. Wheatley, Cat. Shells U. S., p. 25. Troost, Cat. Shells Tennessee. Jay, Cat. Shells, 4th Edit., p. 273. Binney, Check List, No. 88. Brot, List, p. 34.

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* Preoccupied.
† Preoccupied by Mr. Lea, and the name changed to *mutata* by M. Brot.
‡ Very closely allied to *suturalis*, but differs in the form of the aperture.
§ Differs from *Curreyana* by its more numerous plicæ, more acuminated spire, and by the mouth being more rounded at base.
‖ Preoccupied, and changed to *Deshayesiana*.

Melania Deshaysii, Lea, Reeve, Monog. Melania, sp. 330.

62. G. Abbevillensis, Lea.
Goniobasis Abbevillensis, Lea, Proc. Acad. Nat. Sci., p. 268, 1862. Journ. Acad. Nat. Sci. v. pt. 3, p. 323, t. 38, f. 174, Mar. 1863. Obs., ix. p. 145.

63. G. Doolyensis, Lea.
Goniobasis Doolyensis, Lea, Proc. Acad. Nat. Sci., p. 266, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 315 t. 37, f. 159., Mar. 1863. Obs., ix. p. 137.

64. G. inconstans,‡ Lea.
Goniobasis inconstans, Lea, Proc. Acad. Nat. Sci., p. 269, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 325, t. 38, f. 178, Mar. 1863. Obs., ix. p. 147.

65. G. continens, Lea.
Goniobasis continens, Lea, Proc. Acad. Nat. Sci., p. 268, 1862. Jour. Acad. Nat. Sci., pt. 3, p. 324, t. 38, f. 176. Mar. 1863. Obs., ix. p. 146.
Goniobasis proletaria, Lea, Proc. Acad. Nat. Sci., p. 268, 1862. Jour. Acad. Sci., v. pt. 3, p. 325, t. 38, f, 177, Mar. 1863. Obs., ix, p. 147.

66. G. viridicata, Lea.
Goniobasis viridicata, Lea, Proc. Acad. Nat, Sci., p. 268, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 322, t. 38, f. 172, Mar, 1863. Obs., ix. p. 144.

67. G. purpurella, Lea.
Giniobasis purpurella, Lea, Proc. Acad. Nat. Sci., p. 269, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 327, t. 38, f, 183, Mar. 1863. Obs., ix. p. 149.

68. semicostata, Conrad.
Melania semicostata, Conrad, New Fresh-Water Shells, App. p. 7, t. 9, f. 6, 1834. Binney, Check List, No. 241. Brot, List, p. 59.

69. G. dislocata, Ravenel.
Melania dislocata, Ravenel, Cat. Shells, p. 11, 1834. Binney, Check List, No. 90. Brot, List, p. 35. Reeve, Monog. Melania, sp. 380.
Goniobasis Lindsleyi, Lea, Proc. Acad. Nat. Sci., p. 267, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 319, t. 37, f. 167, Mar. 1863. Obs. ix. p. 141.

70. G. paupercula,§ Lea.
Goniobasis paupercula, Lea, Proc. Acad. Nat Sci., p. 268, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 324, t. 38, f. 176, Mar. 1863. Obs. ix., p. 146.

71. G. corneola, Anthony.
Melania corneola, Anthony, Proc. Acad. Nat. Sci., p. 61, Feb. 1860. Binney, Check List, No. 68. Brot, List, p. 35. Reeve, Monog. Melania, sp. 456.

72. G. nassula, Conrad.
Melania nassula, Conrad, New Fresh-Water Shells, p. 55, t. 8, f. 9, 1834. Binney, Check List, No. 171. DeKay, Moll. New York, p. 97. Jay, Cat. 4th Edit., p. 274. Wheatley, Cat. Shells U. S., p. 26. Brot, List, p. 34. Reeve, Monog. Melania, sp. 412. Catlow, Conch. Nomenc., p. 187.

73. G. perstriata, Lea.
Melania perstriata, Lea, Philos. Trans., x. p. 296, t. 30, f. 2. Obs., v. p. 52. Binney. Check List, No. 203. Brot, List, p. 36.

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‡I doubt whether this is more than the young of *Doolyensis*.
§= *dislocata*, young?

74. G. rugosa, Lea.
Melania corrugata, Lea, Philos. Proc. ii. p. 13, Feb. 1841. Philos. Trans. viii. p. 177, t. 5, f. 30. Obs., iii. p. 15. Troost, Cat. Shells Tenn. Wheatley, Cat. Shells U. S., p. 24.
Melania rugosa,* Lea, Philos. Proc. ii. p. 237, Dec. 1842. Philos. Trans. viii. p. 248. Obs., iii. p. 86. DeKay, Moll. New York, p. 96. Binney, Check List, No. 235. Catlow, Conch. Nomenc., p. 188. Brot, List, p. 34.

75. G. costulata, Lea.
Melania costulata, Lea, Philos. Proc., ii. p. 14, Feb. 1841. Philos. Trans. viii. p. 181, t. 6, f. 39. Obs., iii. p. 19. Binney, Check List, No. 73. DeKay, Moll. N. Y., p. 98. Jay, Cat. 4th Edit., p. 273. Troost, Cat. Shells Tennessee. Wheatley, Cat. Shells U. S., p. 24. Reeve, Monog. Melania, sp. 272, 360. Brot, List, p. 35.

76. G. cinerella, Lea.
Goniobasis cinerella, Lea, Proc. Acad. Nat. Sci., p. 269, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 328, t. 38, f. 184, Mar. 1863. Obs., ix. p. 150.

77. G. Edgariana, Lea.
Melania Edgariana, Lea, Philos. Proc., ii. p. 14, Feb. 1841. Philos. Trans., viii. p. 180, t. 6, f. 37. Obs., iii. p. 18. DeKay, Moll. N. Y., p. 97. Jay, Cat. 4th Edit., p. 273. Binney, Check List, No. 94. Troost, Cat. Shells Tenn. Reeve, Monog. Melania, sp. 430. Wheatley, Cat. Shells U. S., p. 25. Catlow, Conch. Nomenc., p. 186.
Melasma Edgariana, Lea, Chenu, Man. de Conchyl, i. f. 1997.

78. G. caliginosa, Lea.
Melania caliginosa, Lea, Philos. Proc. ii. p. 15, Feb. 1841. Philos. Trans., viii. p. 189, t, 6, f. 56. Obs., iii. p. 27. Wheatley, Cat. Shells U. S., p. 24. Reeve, Monog. Melania, sp. 293. DeKay, Moll. New York, p. 100. Binney, Check List, No. 44. Troost, Cat. Shells Tenn. Jay, Cat. 4th Edit., p. 273. Catlow, Conch. Nomenc. p. 185. Brot, List, p. 34.

79. G. nodulosa, Lea.
Melania nodulosa, Lea, Philos. Proc. ii. p. 15, Feb. 1841. Philos. Trans., viii. p. 190, t. 6, f. 57. Obs., iii. p. 28. DeKay, Moll. N. Y., p. 100. Binney, Check List, No. 180. Troost, Cat. Shells Tennessee. Wheatley, Cat. Shells U. S., p. 26. Catlow, Conch. Nomenc. p. 188. Brot, List, p. 34. Reeve, Monog. Melania, sp. 276.

80. G. glauca, Anthony.
Melania glauca, Anthony, Proc. Acad. Nat. Sci., p. 57, Feb. 1860. Binney, Check List, No. 125. Brot, List, p. 35. Reeve, Monog. Melania, sp. 389.
Goniobasis Lyonii, Lea. Proc. Acad. Nat. Sci., p. 266. Jour. Acad. Nat. Sci., v. pt. 3, p. 313, t. 37, f. 156, Mar. 1863. Obs., ix. p. 135.

81. G. difficilis,† Lea.
Goniobasis difficilis, Lea, Proc. Acad. Nat. Sci. p. 267, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 317, t. 37. f, 163, Mar. 1863. Obs., ix. p. 139.

82. G. sparus, Lea.
Goniobasis sparus, Lea, Proc. Acad. Nat. Sci., p. 267, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 316, t. 37, f. 162, Mar. 1863. Obs., ix, p. 138.
Goniobasis cerea, Lea, Proc. Acad. Nat. Sci., p. 268, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 321, t. 38, f. 171, Mar. 1863. Obs. ix. p. 143.

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* Preoccupied.
† Resembles *G. glauca*, but the whorls are more convex. *G. baculum* is more cylindrical than this species.

83. G. Thorntonii, Lea.
Goniobasis Thorntonii, Lea, Proc. Acad. Nat. Sci., p. 268, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 320, t. 38, f. 168, Mar. 1863. Obs., ix. p. 142.

84. G. cancellata,* Say.
Melania cancellata, Say, New Harmony Disseminator, p. 260, Aug. 1829. Say's Reprint, p. 16. Binney's Edit., p. 141. Binney, Check List, No. 46. DeKay, Moll. N. Y., p. 93. Wheatley, Cat. Shells U. S., p. 24. Brot, List, p. 34.

85. G. circincta, Lea.
Melania circincta, Lea, Philos. Proc. ii. p. 15, Feb. 1841. Philos. Trans., viii. p. 187, t. 6, f. 51. Obs., iii. p. 25. DeKay, Moll., N. Y., p. 99. Troost, Cat. Shells Tenn. Wheatley, Cat. Shells U. S., p. 24. Catlow, Conch. Nomenc., p. 186. Brot, List, p. 31. Reeve, Monog. Melania, sp. 289.
Melania circinnata, Lea, Binney, Check List, No. 54.
Juga circinnata, Lea, Chenu, Man. de Conchyl., i. f. 2015.

86. G. athleta, Anthony.
Melania athleta, Anthony, Ann. Lyc. Nat. Hist. N. Y., vi. p. 83, t. 2, f. 1, Mar. 1854. Binney, Check List, No. 23. Brot, List, p. 34. Reeve, Monog. Mel., sp. 258.

87. G. curvicostata, Anthony.
Melania curvicostata, Anthony, MSS. Reeve, Monog. Melania, sp. 462. Brot, List, p. 35.
Melania densecostata, Reeve, Monog. Melania, sp. 465. Brot, List, p. 35.

88. G. striatula, Lea.
Melania striata,† Lea, Philos. Proc. ii. p. 15, Feb. 1841. Philos. Trans., viii. p. 186, t. 6. f. 49. Obs., iii. p. 24. Troost, Cat. Shells Tenn. Wheatley, Cat. Shells U. S., p.

Juga striata, Lea, Chenu. Man. de Conchyl. i. f. 2018.
Melania striatula, Lea, Philos. Proc. ii. p. 237, Dec. 1842. Philos. Trans. viii. p. 248. Obs. iii. p. 86. DeKay, Moll. New York, p. 99. Jay. Cat. 4th Edit., p. 275. Binney, Check List, No. 249. Catlow, Conch. Nomenc. p. 188. Reeve, Monog. Melania, sp. 466. Brot, List, p. 35.

89. G. tripartita, Reeve.
Melania tripartita, Reeve, Monog. Melania, sp. 364, Dec. 1860. Brot, List, p. 37.

90. G. decora, Lea.
Melania decora, Lea, Philos. Proc. ii. p. 14, Feb. 1841. Philos. Trans., viii. p. 181, t. 6, f. 38. Obs., iii. p. 19. DeKay, Moll. N. Y., p. 98. Binney, Check List, No. 85. Troost, Cat. Shells Tenn. Wheatley, Cat. Shells U. S., p. 25. Reeve, Monog. Melania, sp. 292. Catlow, Conch. Nomenc. p. 186. Brot, List, p. 35.

91. G. crebricostata, Lea.
Melania crebricostata, Lea, Philos. Proc. ii. p. 13, Feb. 1841. Philos. Trans., viii. p. 179, t. 6, f. 35. Obs., iii. p. 17. DeKay, Moll. New York, p. 97. Jay, Cat. 4th Edit., p. 273. Troost, Cat. Shells Tenn. Wheatley Cat. Shells U. S., p. 24. Reeve, Monog. Melania, sp. 374. Binney, Check List, No. 74. Brot, List, p. 35.
Melasma crebricostata, Lea, Chenu, Man. de Conchyl. i. f. 1999.

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* I am unable to find specimens of this shell in any of our cabinets, and as it has never been figured, I assign it the position it occupies in this catalogue from the description only.
† Name preoccupied.

92. G. comma, Conrad.
Melania comma, Conrad, New Fresh Water Shells, p. 53, t. 8, f. 7, 1834. Wheatley, Cat. Shells U. S., p. 24. Reeve, Monog. Melania, sp. 107. Binney, Check List, No. 61. DeKay, Moll. New York, p. 95. Jay, Cat. 4th Edit., p. 273. Brot, List, p. 35. Catlow, Conch. Nomenc. p. 186.

93. G. acuta, Lea.
Melania acuta, Lea. Philos. Trans., iv. p. 101, t. 15, f. 32. Obs. i. p. iii. Troost, Cat. Shells Tennessee. Wheatley, Cat. Shells U. S., p. 24. Binney, Check List, No. 4. Brot, List, p. 3. Reeve, Monog, Melania, sp. 274.

94. G. subcylindracea, Lea.
Melania subcylindracea, Lea, Philos. Proc. ii. p. 12, Feb. 18 41. Philos. Trans., viii. p. 169, t. 5, f. 14. Obs., iii. p. 7. DeKay, Moll. New York, p. 94. Troost, Cat. Shells Tenn. Binney, Check List, No. 253. Wheatley, Cat. Shells U. S., p. 27. Catlow, Conch. Nomenc. p. 188. Brot, List, p. 39. Reeve, Monog. Melania, sp. 399.

95. G. baculum, Anthony.
Melania baculum, Anthony, Ann. N. Y. Lyc. Nat. Hist. vi. p. 98, t. 2. f. 16, Mar. 1854. Binney, Check List, No. 27. Brot, List, p. 34. Reeve, Monog. Melania, sp. 431.

96. G. concinna,* Lea.
Melania concinna, Lea, Philos. Proc. ii. p. 14, Feb. 1841. Philos. Trans., viii. p. 183, t. 6, f. 42. Obs. iii., p. 21. DeKay, Moll. New York, p. 98. Troost, Cat. Shells Tennessee. Wheatley, Cat. Shells U. S., p. 24. Catlow, Conch. Nomenc. p. 186. Binney, Check List, No. 63. Brot, List, p. 34.

97. G. eliminata, Anthony,
Melania eliminata, Anthony, Ann. New York Lyc. Nat. Hist., vi., p. 97, t. 2, f. 15, Mar. 1854. Binney, Check List, No. 98. Brot, List, p. 34.

98. G. teres, Lea.
Melania teres, Lea, Philos. Proc.. ii. p. 13, Feb. 1841. Philos. Trans.. viii. p. 176, t. 5, f. 27. Obs., iii. p. 14. DeKay, Moll. New York, p. 96. Troost, Cat. Shells Tenn. Wheatley, Cat. Shells U. S., p. 27. Binney, Check List, No. 269. Jay, Cat. 4th Edit., p. 275. Catlow, Conch. Nomenc. p. 189. Brot, List, p. 35.
Melania terebralis,† Lea, Philos. Proc., ii, p. 13, Feb. 1841. Philos. Trans., viii. p, 178, t. 6, f. 32. Obs., iii. p. 16. DeKay, Moll. New York, p. 96. Troost, Cat. Shells Tenn. Wheatley, Cat. Shells U. S., p. 27. Binney, Check List, No. 268. Catlow, Conch. Nomenc. p. 189. Brot, List, p. 36.

99. G. gracillima, Anthony.
Melania gracillima, Anthony, Proc. Acad. Nat. Sci., p. 62, Feb. 1860. Binney, Check List, No. 129. Brot, List, p. 36. Reeve, Monog. Melania, sp. 437.

100. G. Clarkii, Lea.
Melania Clarkii, Lea, Philos. Trans., x. p. 297, t. 30, f. 4. Obs., v. p. 53. Binney, Check List, No. 56. Brot, List, p. 34. Reeve, Monog. Melania, sp. 356.

101. G. DeCampii, Lea.
Goniobasis DeCampii, Lea, Proc. Acad. Nat. Sci., p. 154, May, 1863.

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* Extensively distributed by Mr. Anthony as *M. comma*, Conrad, variety.
† Half grown shell of *G. teres*.

102. G. abbreviata, Anthony.

Melania abbreviata, Anthony, Bost. Proc., iii. p. 360, Dec., 1850. Binney, Check List, No. 4. Reeve, Monog. Melania, sp. 424.

Melania elegantula, Anthony, Ann. Lyc. Nat. Hist. N. Y., vi. p. 103, t. 3, f. 2, March, 1854. Binney, Check List, No. 96. Brot, List, p. 32. Reeve, Monog. Melania, sp. 346.

Melania coronilla, Anthony, Ann. Lyc. Nat. Hist. N. Y., vi. p. 126, t. 3, f. 27, March, 1854. Binney, Check List, No. 69. Brot, List, p. 32. Reeve, Monog. Melania, sp. 418.

Melania chalybæa, Anthony, Brot, List, p. 37.

103. G. plicifera, Lea.

Melania plicifera, Lea, Philos. Trans. vi. p. 93, t. 23, f. 90. Obs. ii. p. 93. Wheatley, Cat. Shells U. S., p. 26. Jay, Cat., 4th ed., p. 274. Binney, Check List, No. 211. Reeve, Monog. Melania, sp. 284. Cooper, Report, p. 374. Brot, List, p. 36. Gould, Moll. Expl. Exped., p. 143, f. 165.

Melasma plicifera, Lea, Chenu, Manuel, i. f. 2001.

104. G. silicula, Gould.

Melania silicula, Gould, Bost. Proc., ii. p. 224, June, 1847. Otia Conchologica, p. 46. Moll. Expl. Exped., p. 141, f. 164, 164a. Cooper, Report, p. 374. Binney, Check List, No. 243. Brot, List, p. 52.

Melania Shastaensis, Lea, Proc. Acad. Nat. Sci., viii. p. 80, April, 1856. Binney, Check List, No. 242. Cooper, Report, p. 374.

Goniobasis Shastaensis, Lea, Jour. Acad. Nat. Sci., v. pt. 3, p. 337, t. 38, f. 199, March, 1863. Obs. ix. p. 159.

Melania rudens, Reeve, Monog. Melania, sp. 224, May, 1860. Brot, List, p.

105. G. nigrina,* Lea.

Melania nigrina, Lea, Proc. Acad. Nat. Sci., p. 80, April, 1856.

Goniobasis nigrina, Lea, Jour. Acad. Nat. Sci., v. pt. 3, p. 302, t. 37, f. 137, March, 1863. Obs. ix. p. 124. Binney, Check List, No. 177.

106. G. rubiginosa, Lea.

Goniobasis rubiginosa, Lea, Proceed. Acad. Nat. Sci., p. 270, 1862. Journ. Acad. Nat. Sci., v. pt. 3, p. 333, t. 38, f. 193, March, 1863. Obs. ix. p. 155.

107. G. Bairdiana, Lea.

Goniobasis Bairdiana, Lea, Proc. Acad. Nat. Sci., p. 267, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 317, t. 37, f. 164, March, 1863. Obs. ix. p. 139, t. 37, f. 164.

D. *Shell angulate.*

108. G. trochiformis,† Conrad.

Melania trochiformis, Conrad, New Fresh-Water Shells, p. 56, t. 8, f. 11, 1834. DeKay, Moll. New York, p. 100. Wheatley, Cat. Shells U. S., p. 27. Binney, Check List, No. 275. Brot, List, p. 31.

109. G. cristata,‡ Anthony.

Melania cristata, Anthony, Ann. Lyc. Nat. Hist. N. Y., vi. p. 108, t. 3, f. 8, March, 1854. Binney, Check List, No. 77. Brot, List, p. 32. Reeve, Monog. Melania, sp. 413.

110. G. cruda, Lea.

Goniobasis cruda, Lea, Proc. Acad. Nat. Sci., p. 270, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 332, t. 38, f. 190, March, 1863. Obs. ix. p. 154.

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* Differs from *silicula* in being more cylindrical, with the apical whorls carinate.

† The figure of this species in Mr. Conrad's work is not recognizable, but it will probably be found to = *cristata*, Anth., young.

‡ = *proteus*, Lea?

111. G. Whitei, Lea.
Goniobasis Whitei, Lea, Proc. Acad. Nat. Sci., p. 266, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 310, t. 37, f. 151, March, 1863. Obs. ix. p. 132.

112. G. casta, Anthony.
Melania casta, Anthony, Ann. N. Y. Lyc. Nat. Hist., vi. p. 100, t. 2, f. 19, March, 1854. Binney, Check List, No. 50. Brot, List, p. 32. Reeve, Monog. Melania, sp. 381.

113. G. rhombica, Anthony.
Melania rhombica, Anthony, Ann. N. Y. Lyc. Nat. Hist., vi. p. 116, t. 3, f. 16, March, 1854. Binney, Check List, No. 228. Brot, List, p. 38. Reeve, Monog. Melania, sp. 347.

114. G. angulata, Anthony.
Melania angulata,* Anthony, Ann. N. Y. Lyc. Nat. Hist., vi. p. 117, t. 3, f. 17, March, 1854. Binney, Check List, No. 14. Brot, List, p. 37. Reeve, Monog. Melania, sp. 386.
Melania cinnamomea, Anthony, Reeve, Monog. Melania, sp. 379. Brot, List, p. 35.
Goniobasis intercedens, Lea, Proceed. Acad. Nat. Sci., p. 265, 1862. Journ. Acad. Nat. Sci., v. pt. 3, p. 305, t. 37, f. 143. Obs. ix. p. 127.

115. G. Bridgesiana, Lea.
Goniobasis Bridgesiana, Lea, Proc. Acad. Nat. Sci., p. 265, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 305, t. 37, f. 142, March, 1863. Obs. ix. p. 173, t. 37, f. 142.

116. G. cubicoides, Anthony.
Melania cubicoides,† Anthony, Proc. Acad. Nat. Sci., p. 60, Feb., 1860. Binney, Check List, No. 78. Brot, List, p. 39. Reeve, Monog. Melania, sp. 445.

117. G. Spillmanii, Lea.
Goniobasis Spillmanii, Lea, Proceed. Acad. Nat. Sci., p. 264, 1862. Journ. Acad. Nat. Sci., v. pt. 3, p. 302, t. 37, f. 138, March, 1863. Obs. ix. p. 124.

118. G. plebeius, Anthony.
Melania plebejus, Anthony, Bost. Proc., iii. p. 362, Dec., 1850. Reeve, Monog. Melania, sp. 414.
Melania plebeius, Anthony, Binney, Check List, No. 209.
Melania plebeia, Anthony, Brot, List, p. 38.

119. G. opaca,‡ Anthony.
Melania opaca, Anthony, Proc. Acad. Nat. Sci., p. 58, Feb., 1860. Binney, Check List, No. 189. Brot, List, p. 38. Reeve, Monog. Melania, sp. 384.
Melania iostoma, Anthony, Proc. Acad. Nat. Sci., p. 62, February, 1860. Binney, Check List, No. 152. Brot, List, p. 31. Reeve, Monog. Melania, sp. 351.
Melania nigrostoma,? Anthony, Reeve, Monog. Melania, sp. 463, 367. Brot, List, p. 38.

120. G. pallidula, Anthony.
Melania pallidula, Anthony, Ann. N. Y. Lyc. Nat. Hist., vi. p. 115, t. 3, f. 15, March, 1854. Binney, Check List, No. 197. Brot, List, p. 38. Reeve, Monog. Melania, sp. 417.

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* Juvenile shell. The adult is described under the names of *cinnamomea* and *intercedens*.
† The longitudinal ribs attributed to this species by Mr. Anthony are very faint on the type shell, and do not exist at all on other specimens.
‡ = *ovoidea*, Lea. ? *G. ebenum* of Lea appears to be more rounded in the base of the aperture, and the periphery not angulated; still it may be the same.
? Young specimens.

121. G. vicina,* Anthony.
Melania vicina, Anthony, Ann. N. Y. Lyc. Nat. Hist., vi. p. 114, t. 3, f. 14, March, 1854. Binney, Check List, No. 288. Brot, List, p. 39. Reeve, Monog. Melania, sp. 291.

122. G. Spartenburgensis,† Lea.
Goniobasis Spartenburgensis, Lea, Proc. Acad. Nat. Sci., p. 265, 1862. Jour. Acad. Nat. Sci., 2d ser., v. pt. 3, p. 307, t. 37, f. 147, March, 1863. Obs. ix. p. 129.

123. G. modesta, Lea.
Melania modesta, Lea, Philos. Proc., iv. p. 166, Aug., 1845. Philos. Trans., x. p. 60, t. 9, f. 34. Obs. iv. p. 60. Binney, Check List, p. 36.

E. *Whorls very strongly carinated.*

124. G. pagodiformis, Anthony.
Melania pagodiformis, Anthony, Ann. N. Y. Lyc. Nat. Hist., vi. p. 106, t. 3, f. 6, March, 1854. Binney, Check List, No. 195. Brot, List, p. 36. Reeve, Monog. Melania, sp. 260.
Melania torulosa, Anthony, Ann. N. Y. Lyc. Nat. Hist., vi. p. 110, t. 3, f. 10. March, 1854. Binney, Check List, No. 273. Brot, List, p. 37. Reeve, Monog. Melania, sp. 370.

125. G. Gerhardtii, Lea.
Goniobasis Gerhardtii, Lea, Proceed. Acad. Nat. Sci., p. 270, 1862. Journ. Acad. Nat. Sci., v. pt. 3, p. 330, t. 38, f. 187, March, 1863. Obs., ix. p. 152.
Goniobasis infuscata, Lea, Proceed. Acad. Nat. Sci., p. 270, 1862. Journ. Acad. Nat. Sci., v. pt. 3, p. 330, t. 38, f. 188, March, 1863. Obs. ix. p. 152.

126. G. oblita, Lea.‡
Melania oblita, Lea, Philos. Trans., x. p. 298, t. 30, f. 6. Obs. v. p. 54. Binney, Check List, No. 182. Brot, List, p. 36.

127. G. acutocarinata,§ Lea.
Melania acutocarinata, Lea, Philos. Proc., ii. p. 14, Feb., 1841. Philos. Trans., viii. p. 184, t. 6, f. 46. Obs. iii. p. 22. DeKay, Moll. N. Y., p. 99. Troost, Cat. Shells Tenn. Wheatley, Cat. Shells U. S., p. 24. Binney, Check List, No. 5. Catlow, Conch. Nomenc., p. 185. Brot, List, p. 36.
Elimia acutocarinata, Lea, Chenu, Manuel de Conchyl., i. f. 1979.

F. *Body whorl bi-multiangulated.*

128. G. tabulata, Anthony.
Melania tabulata, Anthony, Ann. N. Y. Lyc. Nat. Hist., vi. p. 118, t. 3, f. 18, March, 1854. Binney, Check List, No. 262. Brot, List, p. 39.

129. G. Catawbaea,‖ Haldeman. (MSS.)

130. G. vittata, Anthony.
Melania vittata, Anthony, Ann. Lyc. Nat. Hist. N. Y., vi. p. 89, t. 2, f. 7, March, 1854. Binney, Check List, No. 294. Brot, List, p. 37. Reeve, Monog. Melania, sp. 262.

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* Described as from Alabama, but all the specimens before me are labelled "Kentucky" by Mr. Anthony, and I think the latter habitat is correct.
† I fear the Northern specimens of this species are not distinct from *depygis*, Say.
‡ Differs from *symmetrica* in being striate.
§ This shell is believed by Prof. Haldeman to = *simplex*, Say, but I doubt it. *Acutocarinata*, it is true, is not always carinate, but, it appears to me, is always narrowly lengthened.
‖ A wider species than others of the group; none of the specimens are banded.

Melania pulcherrima,* Anthony, Proc. Acad. Nat. Sci., p. 58, Feb., 1860. Binney, Check List, No. 222. Brot, List, p. 37. Reeve, Monog. Melania, sp. 336.

131. G. subangulata,† Anthony.
Melania subangulata, Anthony, Ann. N. Y. Lyc. Nat. Hist., vi. p. 91, t. 2, f. 9, March, 1854. Binney, Check List, No. 252. Brot, List, p. 37. Reeve, Monog. Melania, sp. 242.
Melania paula, Lea, Proc. Acad. Nat. Sci., p. 122, 1861. Jour. Acad. Nat. Sci., v. pt. 3, p. 244, t. 35, f. 48, March, 1863. Obs. ix. p. 66.

132. G. symmetrica,‡ Haldeman.
Melania symmetrica, Haldeman, Monog. Lim., No. 4, p. 3 of Cover, October 5, 1841. Binney, Check List, No. 261. Jay, Cat., 4th ed., p. 275. Brot, List, p. 35. Reeve, Monog. Melania, sp. 328.
Melania imbricata, Anthony, Ann. N. Y. Lyc. Nat. Hist., vi. p. 105, t. 3, f. 5, March, 1854. Binney, Check List, No. 142. Brot, List, p. 36. Reeve, Monog. Melania, sp. 259.
Melania bicineta, Anthony, Proc. Acad. Nat. Sci., p. 56, Feb., 1860. Binney, Check List, No. 31. Brot, List, p. 36. Reeve, Monog. Melania, sp. 327.
Melania assimilis, Anthony, Proc. Acad. Nat. Sci., p. 60, Feb. 1860. Brot, List, p. 36. Reeve, Monog. Melania, sp. 464.
Melania assimilis, Lea, (mistake,) Binney, Check List, No. 22.
Goniobasis Uchéensis, Lea, Proc. Acad, Nat. Sci., p. 270, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 334, t. 38, f. 194, March, 1863. Obs. ix. p. 156.
Goniobasis Barrattii, Lea, Proc. Acad. Nat. Sci., p. 271, 1862. Journ. Acad. Nat. Sci., v. pt. 3, p. 335, t. 38, f. 196, March, 1863. Obs. ix. p. 157.

133. G. iota, Anthony.
Melania iota, Anthony, Ann. N. Y. Lyc. Nat. Hist. vi. p. 86, t. 2, f. 4, March, 1854. Brot, List, p. 36. Binney, Check List, No. 153.

134. G. nigrocincta, Anthony.
Melania nigrocincta, Anthony, Ann. N. Y. Lyc. Nat. Hist. vi. p. 90, t. 2, f. 8, March, 1854. Brot, List, p. 36. Binney, Check List.

135. G. tecta, Anthony.
Melania tecta, Anthony, Ann. N. Y. Lyc. Nat. Hist. vi. p. 105, t. 3, f. 4, Mar. 1854. Binney, Check List, No. 265. Brot, List, p. 37. Reeve, Monog. Melania, sp. 253.
Goniobasis macella, Lea, Proc. Acad. Nat. Sci., p. 270, 1862. Jour. Acad. Nat. Sci. v. pt. 3, p. 333, t. 38, f. 192, March, 1863. Obs. ix. p. 155.

136. G. hybrida,§ Anthony.
Melania hybrida, Anthony, Proc. Acad. Nat. Sci. p. 60, Feb. 1860. Binney, Check List, No. 140. Brot, List, p. 36.
Melania subcarinata, Anthony, Reeve, Monog. Melania, sp. 282.

137. G. fuscocincta, Anthony.
Melania fuscocincta, Anthony, Ann. N. Y. Lyc. Nat. Hist. vi. p. 120, t. 3, f. 20, March, 1854. Binney, Check List, No. 118. Brot, List, p. 40. Reeve, Monog. Melania, sp. 415.
138. G. congesta,‖ Conrad.

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* *G. pulcherrima* is the juvenile form.
† Differs from *vittata*, Anth., in having a more rounded aperture.
‡ The various synonyms of this species, inhabiting North and South Carolina, Alabama and Tennessee, are all characterized by an identical form, although varying somewhat in color. Having examined several hundred specimens, I find them to vary so much in that respect that I cannot unite any of the so-called species.
§ Differs from *symmetrica* in being more cylindrical, with the whorls more flattened.
‖ I can obtain no information regarding this species except the meagre description. It has never been figured, and I cannot find specimens in our cabinets.

Melania congesta, Conrad, Amer. Jour. Sci., 1st ser. xxv. p. 343, Jan. 1834. DeKay, Moll. N. Y., p. 96. Wheatley, Cat. Shells U. S., p. 24. Binney, Check List, No. 64. Jay, Cat., 4th Edit., p. 273. Brot, List, p. 36.

G. *Short clavate, smooth species.*

139. G. auriculæformis, Lea.*
Melania auriculæformis, Lea, Philos. Proc., iv. p. 166. Philos. Trans., x. p. 62, t. 9, f. 39. Obs. iv. p. 62, t. 9, f. 39. Binney, Check List, No. 24. Brot, List, p. 32. Reeve, Monog. Melania, sp. 409.

140. G. Nickliniana, Lea.
Melania Nickliniana, Lea, Philos. Proc., ii. p. 12, Feb., 1841. Philos. Trans., viii. p. 171, t. 5, f. 18. Obs. iii. p. 9. DeKay, Moll. N. Y., p. 95. Reeve, Monog. Melania., sp. 375. Wheatley, Cat. Shells U. S., p. 26. Catlow, Conch. Nomenc., p. 187.
Leptoxis Nickliniana, Lea, Binney, Check List, No. 371.

141. G. aterina, Lea.†
Goniobasis aterina, Lea, Proc. Acad. Nat. Sci., p. 155, May, 1863.

142. G. Binneyana, Lea.
Goniobasis Binneyana, Lea, Proc. Acad. Nat. Sci., p. 266, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 310, t. 37, f. 152, March, 1863. Obs. ix. p. 132.

143. G. ebenum, Lea.‡
Melania ebenum, Lea, Philos. Proc. ii. p. 12, Feb. 1841. Philos. Trans., viii. p. 166, t 5, f. 7. Obs. iii. p. 4. DeKay, Moll. New York, p 93. Jay, Cat., 4th Edit., p. 273. Binney, Check List, No. 93. Troost, Cat. Shells Tenn. Wheatley, Cat. Shells U. S., p. 25. Reeve, Monog. Melania, sp. 350. Catlow, Conch. Nomenc., p. 186. Brot, List, p. 31.
Anculotus ebenum, Lea, Reeve, Monog. Anculotus t. 4, f. 31.
Melania brunnea, Anthony, Ann. N. Y. Lyc. Nat. Hist. vi. p. 92, t. 2, f. 10, March, 1854. Binney, Check List, No. 41. Brot, List, p. 39. Reeve, Monog. Melania, sp. 319.
Melania Paula, Anthony, Brot, List, p. 40.

144. G. Vauxiana, Lea.
Goniobasis Vauxiana, Lea, Proc. Acad. Nat. Sci., p. 265, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 309, t. 37, f. 150, March, 1863. Obs. ix. p. 131.

145. G. larvæformis, Lea.
Melania larvæformis, Lea, MSS., Reeve, Monog. Melania, sp. 357, Dec., 1860. Brot, List, p. 38.

146. G. auricoma, Lea.
Goniobasis auricoma, Lea, Proc. Acad. Nat. Sci., p. 265, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 308, t. 37, f. 148, March, 1863. Obs. ix. p. 130.

147. G. glabra, Lea.§
Melania glabra, Lea, Proc. Acad. Nat. Sci., ii. p. 82, Oct., 1841. Philos. Trans., ix. p. 18. Obs. iv. p. 18. Wheatley, Cat. Shells U. S., p. 25. Binney, Check List, No. 123. Brot, List, p. 38. Reeve, Monog. Melania, sp. 439.

148. G. graminea, Haldeman, MSS.

149. G. gibbosa, Lea.
Melania gibbosa, Lea, Philos. Proc., ii. p. 34, April, 1841. Philos. Trans. x.

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*This shell reminds us of a young *olivula*, Con., but differs from that species in texture.
† Differs from *ebenum*, Lea, in being smaller, narrower, and more angulate at the periphery.
‡ Lighter colored and more rounded than *iostoma*, Anthony. Mr. Lea considers that species to be identical with *ebenum*.
§ = *Simplex*, Say?

p. 301, t. 30, f. 12. Obs. v. p. 57, t. 30. f. 12. Binney, Check List, No. 121. Brot, List, p. 40.

150. G. Vanuxemii, Lea.
Goniobasis Vanuxemii, Lea, Proc. Acad. Nat. Sci., p. 265, 1862. Jour. Acad. Nat. Sci., v. p. 307, t. 37, f. 146. Obs. ix. p. 129.

151. G. cognata, Anthony.
Melania cognata, Anthony, Proc. Acad. Nat. Sci., p. 60, Feb., 1860. Binney, Check List, No. 59. Brot, List, p. 39. Reeve, Monog. Melania, sp. 458,

152. G. Georgiana, Lea.
Goniobasis Georgiana, Lea, Proc. Acad. Nat. Sci., p. 265, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 308, t. 37, f. 149. Obs. ix. p. 130.

153. G. abrupta, Lea.
Melania abrupta, Lea, Philos. Proc., iv. p. 165. Philos. Trans., x. p. 59, t. 9, f. 32. Obs. iv. p. 59, t. 9, f. 32. Binney, Check List, No. 2. Brot, List, p. 37. Reeve, Monog. Melania, sp. 397.

154. G. depygis, Say.
Melania depygis, Say, New Harmony Disseminator, p. 291. Say's Reprint, p. 19. Am. Conchology, Part 1, t. 8, f. 4, 5. Binney's Reprint, p. 145 and 157, t. 8. Binney, Check List, No. 87. Lapham, Cat. Moll. Wisconsin. Kirtland, Am. Jour. Sci. Kirtland, Rep. Zool. Ohio, p. 174. Shaffer, Catalogue. Higgins, Catalogue. Anthony, List, 1st and 2d Edit. Sager, Rept. Michigan Moll., p. 15. Wheatley, Cat. Shells U. S. p. 25. DeKay, Moll. N. Y., p. 89, t. 7, f. 135. Stimpson, Shells of New England, p. 32. Jay, Cat. Shells, 4th Edit., p. 273. Adams, Am. Jour. Sci., xl. p. 366. Adams, Thompson's Hist. Vermont, p. 152. Catlow, Conch. Nomenc., p. 186. Brot, List, p. 37. Deshayes, Lamark, Anim. sans. Vert., viii. p. 441. Reeve, Monog. Melania, sp. 373.
Melania occulta, Anthony, Proc. Acad. Nat. Sci., p. 5, Feb., 1860. Binney, Check List, No. 185. Brot, List, p. 38. Reeve, Monog. Melania, sp. 254.

155. G. livescens, Menke.
Melania livescens, Menke, Syn. Meth., p. 135, 1830. Binney, Check List, No. 163. Gould, Lake Superior, p. 245. Jay, Cat., 4th Edit., p. 274. Reeve, Monog. Melania, sp. 229. Brot, List, p. 38. Currier, Shells of Grand River Valley, Mich., 1859.
Melania Niagarensis,* Lea, Philos. Proc., ii. p. 12, Feb., 1841. Philos. Trans., viii. p. 173, t. 5, f. 21. Obs. iii. p. 11. DeKay, Moll. N. Y., p. 90. Wheatley, Cat. Shells U. S., p. 26. Binney, Check List, No. 175. Catlow, Conch. Nomenc., p. 187. Brot, List, p. 38. Currier, Shells of Grand River Valley, Mich. Bell, Canad. Naturalist, iv. pt. 3, p. 213, June, 1859.
Melania napella, Anthony, Bost. Proc., iii. p. 362, Dec., 1850. Binney, Check List, No. 170. Brot, List, p. 59.
Melania cuspidata, Anthony, Bost. Proc., iii. p. 362, Dec., 1850. Binney, Check List, No. 83. Reeve, Monog. Melania, sp. 283.
Melania correcta, Brot, List, p. 39.

156. G. Milesii, Lea.†
Goniobasis Milesii, Lea, Proc. Acad. Nat. Sci., p. 154, May, 1863.

157. G. simplex, Say.
Melania simplex, Say, Jour. Acad. Nat. Sci., v. p. 126, Sept., 1825. Binney's Edition, p. 115. Binney, Check List, No. 244. Dekay, Moll. N. Y., p.

*In considering this species to be the same as *livescens*, I am sustained by the opinion of almost every American Conchologist.
† Larger, more convex, and of thinner texture than *livescens*.

100. Wheatley, Cat. Shells U. S., p. 27. Reeve, Monog. Melania, sp. 148. Jay, Cat., 4th Edit., p. 275. Brot, List, p. 38.

Melania Warderiana, Lea,* Philos. Proc., ii. p. 14, Feb., 1841. Philos. Trans., viii. p. 185, t. 6, f. 47. Obs. iii. p. 23. DeKay, Moll. N. Y., p. 99. Catlow, Conch. Nomenc., p. 189. Binney, Check List, No. 297. Brot, List, p. 39. Reeve, Monog. Melania, sp. 353.

Melania Wardiana, Lea, Wheatley, Cat. Shells U. S., p. 27.

Potadoma Warderiana, Lea, Chenu, Manual de Conchyl., i. f. 1972.

Melania densa, Anthony, Bost. Proc., iii. p. 360. Dec., 1850. Binney, Check List, No. 89. Brot, List, p. 31. Reeve, Monog. Melania, sp. 250.

158. G. Potosiensis, Lea.†

Melania Potosiensis, Lea, Philos. Proc., ii. p. 14, Feb., 1841. Philos. Trans., viii. p. 184, t. 6, f. 45. Obs. iii. p. 22. DeKay, Moll. N. Y., p. 99. Wheatley, Cat. Shells U. S., p. 26. Binney, Check List, No. 215. Catlow, Conch. Nomenc., p. 188. Brot, List, p. 36. Reeve, Monog. Melania, sp. 295.

159. G. torta, Lea.

Melania torta, Lea, Philos. Proc. iv. p. 165, Aug. 1845. Philos. Trans., x. p. 58, t. 9, f. 30. Obs. iv. p. 58. Binney, Check List, No. 272. Brot, List, p. 39. Reeve, Monog. Melania, sp. 377.

160. G. Saffordi, Lea.

Melania Saffordi, Lea, Philos., Trans. x. p. 300, t. 30, f. 10. Obs. v. p. 56. Binney, Check List, No. 236. Brot, List, p. 38. Reeve, Monog. Melania, sp. 365.

Melania virens, Anthony, Ann. N. Y. Lyc. Nat. Hist. vi. p. 93, t. 2, f. 11, Mar, 1854. Binney, Check List, No. 289. Brot, List, p. 40.

161. G. Newberryi, Lea.

Goniobasis Newberryi, Lea, Proc. Acad. Nat. Sci. March 20, 1860. Jour. Acad. Nat. Sci. v. pt. 3, p. 300, t. 37, f. 135, Mar. 1863. Obs. ix. p. 122. Binney, Check List, No. 174. Brot, List, p. 38.

162. G. bulbosa,‡ Gould.

Melania bulbosa, Gould, Bost. Proc. ii. p. 225, July, 1847. Otia Conchologica, p. 46. Moll. Expl. Exped. p. 142, f. 163, 163a. 1852. Binney, Check List, No. 43. Brot, List, p. 58.

163. G. Lithasioides, Lea.

Goniobasis Lithasioides, Lea, Proc. Acad. Nat. Sci., May, 1863.

164. G. infantula, Lea.

Goniobasis infantula, Lea, Proc. Acad. Nat. Sci., May, 1863.

165. G. Louisvillensis, Lea.

Goniobasis Louisvillensis, Lea, Proc. Acad. Nat. Sci., May, 1863.

H. *Smooth, elevated species.*

166. G. pulchella,§ Anthony.

Melania pulchella, Anthony, Bost. Proc. iii. p. 361, Dec. 1850. Higgins, Catalogue, p. 7. Reeve, Monog. Melania, sp. 257. Binney, Check List, No. 221. Brot, List, p. 38. Currier, Shells of Grand River Valley, Mich.

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* I am much indebted to Prof. Haldeman for the opportunity of studying the excellent suite of specimens collected by himself in Holston River, which conclusively proves the identity of these species.

† Were it not for the wide difference of habitat, I should suspect this to be the same as *simplex* of Say.

‡ This species is exactly similar in outline to Mr. Lea's *Newberryi*, but none of the specimens of *bulbosa* that I have seen, (including Dr. Gould's types), exhibit the slightest indication of bands, while Mr. Lea declares his species to be always banded.

§ Shell more elevated than *depygis*, which it resembles in color and ornamentation.

167. G. cinerea, Lea.
Goniobasis cinerea, Lea, Proc. Aad. Nat. Sci., p. 265, 1862. Jour. Acad. Nat. Sci. v. pt. 3, p. 306, t. 37, f. 145. Obs. ix. p. 128.

168. G. gracilior, Anthony.
Melania gracilis, * Anthony, Cover of No. 4. Haldeman's Monog. Limniades, Dec. 28, 1841. Shells of Cincinnati, 1st Edit. Newberry, Proc. American Association for Adv. of Science, v. p. 105. Jay, Cat. 4th Edit., p. 273.
Melania gracilior, Anthony, Ann. N. Y. Lyc. Nat. Hist. vi. p. 129, t. 1, f. 5, 1854. Higgins, Cat. p. 7. Binney, Check List, No. 127. Reeve, Monog. Melania, sp. 244.
Melania gracilis, Lea, Reeve, Monog. Melania, sp. 369.

169. G. Etowahensis,† Lea.
Goniobasis Etowahensis, Lea, Proc. Acad. Nat. Sci., p. 264, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 299, t. 37, f. 133, Mar. 1863. Obs. ix. p.

170. G. translucens, Anthony, (MSS.)

171. G. ovoidea,‡ Lea.
Melania ovoidea, Lea, Philos. Proc. iv. p. 167, Aug. 1845. Philos. Trans., x. p. 61, t. 9, f. 38. Obs. iv. p. 61. Binney, Check List, No. 193. Brot, List, p. 38.

172. G. grata, Anthony.
Melania grata, Anthony, Proc. Acad. Nat. Sci., p. 61, Feb. 1860. Binney, Check List, No. 131. Brot, List, p. 34. Reeve, Monog. Melania, sp. 433.
Goniobasis Prairiensis,§ Lea, Proc. Acad. Nat, Sci., p. 264, 1862. Jour. Acad. Nat. Sc., v. pt. 3, p, 299, t. 37, f. 132., Mar. 1863. Obs. ix. p. 121.

173. G. quadricincta, Lea, (MSS).

174. G. flava, Lea.
Goniobasis flava, Lea, Proc. Acad. Nat. Sci., p. 264, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 303, t. 37, f. 139, Mar. 1863. Obs. ix. p. 125.

175. G. tenebrovittata, Lea.
Goniobasis tenebrovittata, Lea, Proc. Acad. Nat. Sci., p. 264, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 301, t. 37, f. 136, Mar. 1863. Obs. ix. p. 123.

176. G. tenera, Anthony.
Melania tenera,‖ Anthony, Reeve, Monog. Melania, sp. 407, Apr. 1861. Brot, List, p. 39.
Goniobasis Brumbyi, Lea, Proc. Acad. Nat. Sci., p. 263, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 296, t. 37, f. 127, Mar. 1863. Obs. ix. p. 118.

G. spurca,¶ Lea.
Melania spurca, Lea, Philos, Proc. iv. p. 166, Aug. 1845. Philos. Trans., x. p. 59, t. 9, f. 31. Obs. iv. p. 59. Binney, Check List, No. 248. Brot, List, p. 31.

178. G. Elliottii, Lea.
Goniobasis Elliottii, Lea, Proc. Acad. Nat. Sci., p. 271, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p 338, t. 38, f. 201, Mar. 1863. Obs. ix. p. 160.

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* Preoccupied by Mr. Lea.
† Preoccupied for a nodose species, also from Georgia.
‡ Mr. Reeve's figure 405, intended for this species, represents a species of *Lithasia*.
§ Mr. Lea described this species under the misapprehension that the wider shell, which he now proposes to call *quadricincta*, was the species described as *grata* by Mr. Anthony, whereas, Mr. Anthony's types are of the narrow form.
‖ *G. tenera* is the young shell.
¶ Mr. Reeve's figure 340 does not represent this species.

179. G. pallescens, Lea.
Melania pallescens, Lea, Philos. Proc. iv. p. 166, Aug. 1845. Philos. Trans., x. p. 63, t. 9, f. 43. Obs. iv. p. 63. Binney, Check List, No. 196. Brot, List, p. 31.
Goniobasis inosculata,* Lea, Proc. Acad. Nat. Sci., p. 270, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 334, t. 38, f. 195, Mar. 1863. Obs. ix. p. 156.

180. G. parva, Lea.
Goniobasis parva, Lea, Proc. Acad. Nat. Sci., p. 264, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 297, t. 37, f. 129, Mar. 1863. Obs. ix. p. 119.

181. G. Ocoëensis,† Lea.
Melania Ocoëensis, Lea, Philos. Proc. ii. p. 12, Feb. 1841. Philos. Trans., viii., p. 169, t. 5, f. 13. Obs. iii. p. 7. DeKay, Moll. N. Y., p. 94. Troost, Cat. Shells Tennessee. Brot, List, p. 38. Wheatley, Cat. Shells U. S., p. 26. Catlow, Conch. Nomenc. p. 188.
Melania Ocoensis, Lea, Binney, Check List, No. 186.
Potadoma Ocoensis, Lea, Chenu. Man. de Conch. i. f. 1969.

182. G. Anthonyi, Lea.
Goniobasis Anthonyi, Lea, Proc. Acad. Nat. Sci., p 264, 1862. Jour. Acad. Nat. Sci, v. pt. 3, p. 303, t. 37, f. 140, Mar. 1863. Obs. ix. p. 125.

183. G. Cahawbensis, Lea.
Melania Cahawbensis, Lea, Proc. Acad. Nat. Sci., p. 121, 1861.
Goniobasis Cahawbensis, Lea, Jour. Acad. Nat. Sci., v. pt. 3, p. 223, Mar. 1863. Obs. ix. p. 45.

184. G. Estabrookii, Lea.
Goniobasis Estabrookii, Lea, Proc. Acad. Nat. Sci., p. 264, 1862. Jour. Acad. Nat. Sci. v. pt. 3, p. 298, t. 37, f. 131, Mar. 1863. Obs. ix. p. 120.

185. G. Gabbiana, Lea.
Goniobasis Gabbiana, Lea, Proc. Acad. Nat. Sci., p. 265, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 304, t. 37, f. 141, Mar. 1863. Obs. ix. p. 126.

186. G. subsolida,‡ Lea.
Melania subsolida, Philos. Proc. ii. p. 12, Feb. 1841. Philos. Trans., viii. p. 168, t. 5, f. 12. Obs. iii. p. 6. Troost, Cat. Shells Tenn. Binney, Check List, No. 255. Wheatley, Cat. Shells U. S., p. 27. DeKay, Moll. N. Y., p. 94. Catlow, Conch. Nomenc. p. 188. Brot, List, p. 39.
Melania sordida, Lea, Philos. Proc. ii. p. 12, Feb. 1841. Philos. Trans., viii. p. 170 t. 5. f. 15. Obs., iii. p. 8. DeKay, Moll. N. Y., p. 94. Reeve, Monog. Melania, sp. 449. Jay, Cat. 4th Edit., p. 275. Troost, Cat. Shells Tennessee. Catlow, Conch. Nomenc. p. 188. Wheatley, Cat. Shells U. S., p. 27. Binney, Check List, No. 246. Brot, List, p. 33.
Potadoma sordida, Lea, Chenu, Manuel de Conchyl. i. f. 1971.
Melania perfusca, Lea, Philos. Proc. ii. p. 82, Oct. 1841. Philos. Trans., ix. p. 18. Obs. iv. p. 18. Wheatley, Cat. Shells U. S., p. 26. Jay, Cat. 4th Edit., p. 274. Binney, Check List, No. 201. Brot, List, p. 31. Reeve, Monog. Melania, sp. 354.
Melania incurta, Anthony, Reeve, Monog. Melania, sp. 300. Brot, List, p. 38.

187. G. clavaeformis, Lea.
Melania clavæformis, Lea, Philos. Proc. ii. p. 12, Feb. 1841. Philos. Trans. viii. p. 168, t. 5, f. 10. Obs., iii. p. 6. DeKay, Moll. N. Y., p. 93. Jay, Cat. 4th Edit., p. 273. Troost, Cat. Shells Tennessee. Wheatley, Cat. Shells U. S., p. 25. Reeve, Monog. Melaina, sp. 396. Binney, Check List, No. 57. Catlow, Conch. Nomenc, p. 186. Brot, List, p. 37.

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*I regard this as the half grown shell of *pallescens*.
†Mr. Reeve's figure 335 does not represent this species.
‡An extensive suite of specimens before me, furnished through the kindness of Messrs. Gould and Haldeman, convinces me that the above descriptions all apply to one variable species.

188. G. castanea, Lea.
Melania castanea, Lea, Philos. Proc. ii. p. 11. Philos. Trans., viii., p. 164, t. 5, f. 2. Obs, iii. p. 2. DeKay, Moll. N. Y., p. 92. Troost, Cat. Shells Tennessee. Wheatley, Cat. Shells U. S., p. 24. Reeve, Monog. Melania, sp. 337.

189. G. Cumberlandiensis, Lea.
Goniobasis Cumberlandiensis, Lea, Proc. Acad. Nat. Sci., p. 155, May, 1863.

190. G. funebralis,* Anthony.
Melania funebralis, Anthony, Proc. Acad. Nat. Sci., p. 56, Feb. 1860. Binney, Check List, No. 114. Brot, List, p. 38. Reeve, Monog. Melania, sp. 372.

191. G. adusta, Anthony.
Melania adusta, Anthony, Proc. Acad. Nat. Sci., p. 55, Feb. 1860. Binney, Check List, No. 2. Brot, List, p. 37. Reeve, Monog. Melania, sp. 338.

192. G. furva, Lea.
Melania furva, Lea, Philos. Trans., x. p. 299, t. 30, f. 7. Obs., v. p. 55. Binney, Check List, No. 115. Brot, List, p. 38.

193. G. dubiosa, Lea.
Melania dubia,† Lea, Philos. Proc. ii. p. 11, Feb. 1841.
Melania dubiosa, Lea, Philos. Trans., viii. p. 166, t. 5, f. 6. Obs. iii. p. 4. DeKay, Moll. N. Y., p. 93. Binney, Check List, No. 91. Troost Cat. Shells Tennessee. Wheatley, Cat. Shells U. S., p. 25. Jay, Cat. 4th Edit., p. 273. Catlow, Conch. Nomenc. p. 186. Brot, List, p. 37.

194. G. laevigata,‡ Lea.
Melania lævis, Lea, Philos. Proc. ii. p. 237, Dec. 1842. Philos. Trans., viii. p. 248. Obs. ii. p. 86.
Melania lævigata, Lea, Proc. Philos. Soc. ii. p. 237. Philos. Trans., vii. p. 165, t. 5, f. 3. Obs. iii. p. 3. Wheatley, Cat. Shells U. S., p. 26. Catlow, Conch. Nomenc. p. 187. Reeve, Monog. Melania, sp. 459.
Melania Leaii,§ Brot, List, p. 34.

195. G. interlineata, Anthony, (MSS.)

196. G. Ohioensis, Lea.
Goniobasis Ohioensis, Lea, Proc. Acad. Nat. Sci., p. 265, 1852. Jour. Acad. Nat. Sci., v. pt. 3, p. 306, t. 37, f. 144. Obs. ix. p. 128.

197. G. brevispira, Anthony.
Melania brevispira, Anthony, Bost. Proc. iii. p. 361, Dec. 1850. Binney, Check List, No. 39. Jay, Cat. 4th Edit., p. 474. Brot, List, p. 37. Reeve, Monog. Melania, sp. 263.

198. S. semicarinata,‖ Say.
Melania semicarinata, Say, New Harmony Disseminator, p. 261. Reprint, p. 16. American Conchology, Part 5, t. 47, f. 4. Binney's Reprint, p. 142, 200. Binney, Check List, No. 240. DeKay, Moll. N. Y., p. 100. Reeve, Monog. Melania, sp. 368. Wheatley, Cat. Shells U. S. p. 27. Jay, Cat. Shells 4th Edit., p. 275. Catlow, Conch. Nomenc, p. 188. Brot, List, p. 38. Kennicott, Trans. Ills. State Agricul. Soc. p. 595.

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* Narrower and more lengthened than the nearly allied *G. adusta*. It has not the pale yellowish sutural band of that species.

† Preoccupied.

‡ I doubt whether this is more than an immature stage of *dubiosa*.

§ Proposed by Mr. Brot, because *lævigata* is preoccupied in *Melania*; but that name must stand, as it is *not* preoccupied in *Goniobasis*.

‖ The shells included in the above extensive synonymy present some variation in form and coloration, but in an examination of several thousand specimens I was unable to separate the so-called species satisfactorily. *G. semicarinata*, Say, is the young shell, which, when old, varies in form, being narrow in *angustispira* and *exilis*, and broader in the other synonyms. The species inhabits an extensive range of country.

Melania angustispira, Anthony, Proc. Acad. Nat. Sci., p. 55, Feb. 1860. Binney, Check List, No. 16. Brot, List, p. 37.
Melania angusta, Anthony, Reeve, Monog. Melania, sp. 359.
Melania exilis, Haldeman, suppl. to No. 1 Monog, Limniades, Oct. 1840.
Melania rufula, Haldeman, Monog. Limniades, No. 2, p. 3 of Cover, January, 1841. Binney, Check List, No. 234. Brot, List, p. 39.
Melania Kirtlandiana, Lea, Philos. Proc. ii. p. 11, Feb. 1841. Philos. Trans., viii., p. 165, t. 5, f. 4. Obs. iii. p. 3. Anthony, Cat. 1st Edit. Higgins, Cat. DeKay, Moll. N. Y., p. 92. Wheatley, Cat. Shells U. S., p. 25. Reeve, Monog. Melania, sp. 361. Binney, Check List, No. 155. Brot, List, p. 36. Catlow, Conch. Nomenc, p. 187.
Melania Kirtlandia, Lea, Philippi, Beschreib, Neuer Conchyl. Melania, t. 3. f. 8.
Melania elata, Anthony, Bost. Proc. iii. p. 362, Dec. 1850. Binney, Check List, No. 95. Brot, List, p. 37. Reeve, Monog. Melania, sp. 331.
Melania bicolorata, Anthony, Bost. Proc. iii. p. 361, Dec. 1850. Binney, Check List, No. 32. Brot, List, p. 58.
Melania bicolor, Anthony, Reeve, Monog. Melania, sp. 265
Melania inornata, Anthony, Bost. Proc. iii. p. 360. Dec. 1850.
Melania succinulata, Anthony, Bost. Proc. iii. p. 363, Dec. 1850. Binney, Check List, No. 258. Brot, List, p. 59.
Melania varicosa, Ward, Haldeman, Monog. Limniades, Part iii. p. 3 of Cover, Mar. 13, 1854. Anthony, List, 1st and 2d Editions. Jay, Cat. 4th Edit., p. 275. Binney, Check List, No. 284. Catlow, Conch. Nomenc. p. 189.
Melania livida, Reeve, Monog. Melania, sp. 434. Brot, List, p. 30.
Goniobasis Grosvenorii, Lea, Proc. Acad. Nat. Sci., p. 263, 1862. Jour. Acad. Nat. Sci. v. pt. 3, p. 297, t. 37, f. 128, Mar. 1863. Obs. ix. p. 119.
Melania babylonica,* Lea, Philos. Proc. ii. p. 14, Feb. 1841. Philos. Trans., viii. p. 183, t. 6, f. 43. Obs. iii. p. 21. DeKay, Moll, N. Y., p. 98. Wheatley, Cat. Shells U. S. p. 24. Binney, Check List, No. 26. Catlow, Conch. Nomenc. p. 185. Brot, List, p. 36.

199. G. Haldemani, Tryon, (MSS.)
Melania acuta, Lea, Bell, Canadian Nat. iv. pt. 3, p. 213. Lewis, Bost. Proc. vi. p 2.
Melania exilis, Haldeman, Adams, Moll. Vermont.

200. G. curvilabris, Anthony.
Melania curvilabris, Anthony, Ann. N. Y. Lyc. Nat. Hist. vi. p. 102, t. 3, f. 1, Mar. 1854. Binney, Check List, No. 82. Brot, List, p. 31. Reeve, Monog. Melania, sp. 378.

201. G. informis, Lea.
Goniobasis informis, Lea, Proc. Acad. Nat. Sci., p. 154, May, 1863.

202. G. vittatella, Lea.
Goniobasis vittatella, Lea, Proc. Acad. Nat. Sci., p. 155, May, 1863.

203. G. Alexandrensis, Lea.
Melania Alexandrensis, Lea, Philos. Proc. iv. p. 167. Philos. Trans., x. p. 61, t. 9, f. 37. Obs. iv. p. 61. Binney, Check List, No. 8. Brot, List, p. 37.

204. G. Haleiana, Lea.
Melania Haleiana, Lea, Philos. Proc. iv. p. 167, Aug. 1845. Philos. Trans., x. p. 60. t. 9, f. 35. Obs. iv. p. 60. Binney, Check List, No. 134. Reeve, Monog. Melania, sp. 406.

205. G. rubella, Lea.
Goniobasis rubella, Lea, Proc. Acad. Nat. Sci., p. 270, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 332, t. 38, f. 191, Mar. 1863. Obs. ix. p. 154.

* A scalariform monstrosity.

206. G. spinella, Lea.

Goniobasis spinella, Lea, Proc. Acad. Nat. Sci., p. 264, 1862. Jour. Acad. Nat. Sc., v. pt. 3, p. 298, t. 37, f. 130, Mar. 1863. Obs. ix. p. 120.

207. G. Draytonii, Lea.

Goniobasis Draytonii, Lea, Proc. Acad. Nat. Sci., p. 264, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 300, t. 37, f. 134, March, 1863. Obs. ix. p. 122.

Goniobasis nigrina, Lea, Proc. Acad. Nat. Sc., p. 263, 1862. Jour. Acad. Nat. Sci. v. pt. 3, p. 299, t. 37, f. 133. Obs. ix. p. 121.

208. G. proxima, Say.

Melania proxima, Say, Jour. Acad. Nat. Sci., p. 126, Sept. 1825. Reeve, Monog. Melania, sp. 275. Binney's Edit. of Say, p. 115. Binney, Check List, No. 220. DeKay, Moll. N. Y., p. 99. Wheatley, Cat. Shells U. S., p. 26. Gibbes' Report, p. 19. Jay, Cat. 4th Edit., p. 274. Brot, List, p. 38.

Melania carinata,* Ravenel, Cat. p. 11, 1834. Wheatley, Cat. Shells U. S., p. 24. Binney, Check List, No. 47.

Melania Taitiana, Lea, Philos. Proc., ii. p. 11, Feb., 1841. Philos. Trans. viii. p. 165, t. 5, f. 5. Obs. iii. p. 3. DeKay, Moll. N. Y., p. 92. Wheatley, Cat. Shells U. S., p. 27. Jay, Cat., 4th edit., p. 275. Binney, Check List, No. 264. Catlow, Conch. Nomenc., p. 189. Reeve, Monog. Melania, sp. 444. Brot, List, p. 37.

Melania rufa, Lea, Philos. Proc., ii. p. 12, Feb., 1841. Philos. Trans., viii. p. 167, t. 5, f. 8. Obs. iii. p. 5. Troost, Cat. Shells Tennessee. Wheatley, Cat. Shells U. S., p. 26. Catlow, Conch. Nomenc., p. 188.

Melania rufescens, Lea, DeKay, Moll. N. Y., p. 93. Jay, Cat., 4th edit., p. 274. Binney, Check List, No. 233. Brot, List, p. 37.

Melania approximata, Haldeman, Monog. Limniades, No. 4, p. 4 of Cover, Dec. 28, 1841. Jay, Cat., 4th edit., p. 272. Binney, Check List, No. 18. Brot, List, p. 36.

Melania abjecta,† Haldeman, Reeve, Monog. Melania, sp. 341. Brot, List, p. 34.

Goniobasis rubricata, Lea, Proc. Acad. Nat. Sci., p. 271, 1862. Jour. Acad. Nat. Sci. v. pt. 3, p. 335, t. 38, f. 197. Obs. ix. p. 157, t. 38, f. 197.

I. *Striate species, spire elevated.*

209. G. Virginica, Gmelin.

Buccinum Virginica, Gmelin, Syst. Nat. . Green, Trans., Alb. Inst., i. p. 135. Wood, Index Test., t. 24, f. 154.

Paludina Virginica, Say, Nicholson's Encyc., iii. t. 2, f. 4.

Melania Virginica, Say, Am. Conch., pt. 5, t. 47, f. 2. App. to Long's Exped., ii. p. 265. Binney's Edit., p. 131 and 199. Binney, Check List, No. 291. Catlow, Conch. Nomenc., p. 189. Philippi, Neüer Conchylien Melania, t. 2, f. 12. Hildreth, Am. Jour. Science, xxxi. p. 53. Sager, Rept. Zool. Mich., p. 15. Conrad, Am. Jour. Science, N. S., i. p. 407. Haldeman, Rupps Hist. Lancaster County, Pa., p. 479. Haldeman, Am. Jour. Sci., xli. p. 22. DeKay, Moll. N. Y., p. 90, t. 7, f. 141. Wheatley, Cat. Shells U. S., p. 27. Hartman, Catalogue Shells Chester Co., Pa. Brot, List, p, 35. Girard, Proc. National Inst., i. No. 2, p. 82. Jay, Cat,, 4th edit., p. 275. Reeve, Monog. Melania, sp. 321.

Limnæa Virginica, Say, Short and Eaton, Notices, p. 82.

Juga Virginica, Say, Chenu, Man. de Conchyl. i. f. 2019.

Melania multilineata, Say, Jour. Acad. Nat Sci., ii. p. 380, Dec. 1822. Am.

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* I make this a synonym on the authority of Dr. Jay.

† I doubt whether this shell really came from Arkansas, although the *established* geographical distribution of *proxima* is very great.

Conchology, pt. 5, t. 47, f. 2. Binney's Edit., p. 111 and 199. Binney, Check List, No. 169. DeKay, Moll. Rept. to Regents, p. 32. Moll. N. York, p. 97. Wheatley, Cat. Shells U. S., p. 26. Hartman, Cat. Shells Chester Co., Penna. Catlow, Conch. Nomenc., p. 187. Girard, Proc. Nat. Inst., i. No. 2, p. 82, March, 1856. Philippi, Neüer Conchyl. Melania, t. 2, f. 13.

Melania auriscalpium,* Menke.

Melania curta, Menke, Syn. Meth., p. 135, 1830.

Melania fasciata, Menke, Syn. Meth., p. 136, 1830.

Melania bizonalis, DeKay, Moll. N. Y., p. 91, t. 7, f. 140, a. b. 1843. Binney, Check List, No. 35.

Melania Buddii, DeKay, Wheatley, Cat. Shells U. S., p. 24.

Melania gemma,† DeKay, Moll. N. Y., p. 91, t. 7, f. 142, 1843. Binney, Check List, No. 119. Brot, List, p. 38.

Melania striggilata, Muhlfeldt,‡ in Litt.

Melania inemta, Anthony, Bost. Proc., iii., p. 362, Dec., 1850. Binney, Check List, No. 145. Brot, List, p. 58.

210. G. sulcosa, Lea.ʔ

Melania sulcosa, Lea, Philos. Proc. ii. p. 14, Feb., 1841. Philos. Trans., viii. p. 185, t. 6, f. 48. DeKay, Moll. N. Y., p. 99. Troost, Cat. Shells Tenn. Catlow, Conch. Nomenc., p. 189. Binney, Check List, No. 259. Wheatley, Cat. Shells U. S., p. 27. Brot, List, p. 35.

Ceriphasia sulcosa, Lea, Chenu, Man. de Conchyl. i. f. 1957.

211. G. Buddii, Lea.

Melania Buddii, Lea, Philos. Proc. iv. p. 165. Philos. Trans. x. p. 64, t. 9, f. 44. Obs. iv. p. 64. Binney, Check List, No. 42. Jay, Cat., 4th Edit., p. 273. Reeve, Monog. Melania, sp. 324.

212. G. Troostiana, Lea.

Melania Troostiana, Lea, Philos. Proc., ii. p. 34, April, 1841. Philos. Trans., p. 92, t. 23, f. 86. Obs. ii. p. 92. DeKay, Moll. N. York, p. 100. Wheatley, Cat. Shells U. S., p. 27. Binney, Check List, No. 276. Troost, Cat. Shells Tenn. Jay, Cat., 4th Edit., p. 275. Catlow, Conch. Nomenc., p. 189. Brot, List, p. 35. Reeve, Monog. Melania, sp. 339.

213. G. latitans, Anthony.

Melania latitans, Anthony, Ann. Lyc. Nat. Hist. New York, vi. p. 88, t. 2, f. 6, March, 1854. Binney, Check List, No. 159. Brot, List, p. 34.

214. G. porrecta, Lea.

Goniobasis porrecta, Lea, Proc. Acad. Nat. Sci., p. 155, May, 1863.

215. G. sculptilis, Lea.

Melania sculptilis, Lea, Philos. Trans., x. p. 297, t. 30, f. 3. Obs. v. p. 53, t. 30, f. 3. Binney, Check List, No. 238. Brot, List, p. 38.

216. G. crenatella, Lea.

Melania crenatella, Lea, Proc. Acad. Nat. Sci., v. pt. 3, p. 268, t. 35, f. 79, March, 1863. Obs. ix. p. . Binney, Check List, No. 76. Brot, List, p. 34. Reeve, Monog. Melania, sp. 457.

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*Prof. Haldeman was the first naturalist who identified the various descriptions of Menke with *Virginica*. Philippi has since figured some of these as varieties of that species.

† This shell has been referred both to *Virginica* and to *depygis* by American Authors. I do not give a confident opinion as to its proper place. About *bizonalis* of DeKay there can be no doubt.

‡ Teste Philippi, Neuer Conchyl.

ʔ When perfect specimens of this shell are obtained, it may prove to be a *Pleurocera* instead of a *Goniobasis*.

Synonymy of the Species of STREPOMATIDÆ, a Family of Fluviatile Mollusca inhabiting North America.

Part 3.

BY GEORGE W. TRYON, JR.

Genus SCHIZOSTOMA, Lea.

Schizostoma, Lea, Philos. Proc. ii. p. 242, Dec. 1842, iv. p. 167, Aug. 1845. Philos. Trans. x. p. 67, 1847., Obs. iv. p. 41, 1847. Proc. Acad. Nat. Sci., May, 1860. Jour. Acad. Nat. Sci. v. pt. 3, p. 245, Mar., 1863. Obs. ix. p. 67.

Schizocheilus, Lea, Philos. Trans. x. p. 295, 1853. Obs. v. p. 51, 1853.

Gyrotoma, Shuttleworth, Mittheil, Naturforsch. Bern. p. 88, July 22, 1845. Adams, Genera, i. p. 305, Feb., 1854. Gray, Guide to Mollusca, i. p. 103, 1857. Chenu, Man. de Conchyl. i. p. 293, 1859. Anthony, Proc. Acad. Nat. Sci., p. 63, Feb., 1860. Binney, Check List, June, 1860. Brot, List, p. 27, 1862.

Melatoma, Anthony, Gray, Zool. Proc., p. 153, 1847. Woodward, Manual, p. 131, 1851. Reeve, Conch. Icon., Mar., 1860.

Apella, Mighels, MSS.

SYNOPTICAL TABLE OF SPECIES.*

Fissure direct, narrow, and deep.	*Fissure oblique, short, and wide.*
1. Shell striate or ridged.	
a. *Shell conical, spire lengthened, sharply carinate.*	
1. S. Cariniferum, Anthony. *S. Showalterii*, Lea.	15. S. pagodum, Lea.
2. S. castaneum, Lea.	16. S. pyramidatum, Shutt. 17. S. Wetumpkaense, Lea. *S. ornata*, Anth. *S. pagoda*, Lea, of Reeve.
b. *Shell conic-cylindrical; spire obtuse, not carinate.*	
3. S. ovoideum, Shuttleworth.	18. S. Alabamense, Lea. 19 S. Anthonyi, Lea.
4. S. excisum, Lea.	20. S. babylonicum, Lea. *Spillmanii*, Lea.
c. *Shell globosely-ovate, spire moderate.*	
5. S. pumilum, Lea. *Globosum*, Lea. *Alabamense*, Lea, of Reeve. *Showalterii*, Lea, of Reeve.	21. S. Buddii, Lea. *S. funiculatum*, Lea. *S. pagodum*, Lea, of Reeve.
2. Shell smooth.	
d. *Shell elliptic.*	
6. S. ellipticum, Anthony. 7. S. laciniatum, Lea.	
e. *Shell quadrately cylindrical.*	
8. S. amplum, Anthony. 9. S. nuculum, Anthony.	22. S. demissum, Anth. *S. Hartmanii*, Lea. 23. S. constrictum, Lea. *S. rectum*, Anth.

* The *Schizostomæ* contain two nearly equal groups, characterized respectively by a narrow direct, and an oblique, short, wide slit.

In the above table the opposite species in the two groups are generally exactly similar except in the character of the slit!

10. S. cylindraceum, Mighels.

24. S. salebrosum, Anth.
S. robustum, Anth.
S. rectum, Anth., of Reeve.

f. *Shell ovate, whorls obliquely flattened, spire obtuse.*

11. S. bulbosum, Anthony.
S. ovalis, Anthony.
12. S curtum, Mighels.*

25. S. glandulum, Lea.
26. S. incisum, Lea.
S. virens, Lea.
S. quadratum, Anthony.
S. obliquum, Anthony.

13. S. glans, Lea.

g. *Shell globose.*

14. S. sphæricum, Anthony.

SPECIES.

1. S. cariniferum, Anthony.
Gyrotoma carinifera, Anthony, Proc. Acad. Nat. Sci., p. 66, Feb., 1860. Binney, Check List, No. 310. Brot, List, p. 27,
Melatoma cariniferum, Anthony, Reeve, Monog. Melatoma, t. 2, f. 13.
Schizostoma Showalterii,† Lea, Proc. Acad. Nat. Sci., p. 93, Mar., 1860. Jour. Acad. Nat. Sci., t. 35, f. 49, Mar., 1863. Obs. ix. p. 68.
Gyrotoma Showalterii, Lea, Binney, Check List, No. 334. Brot, List, p. 28.

2. S. castaneum, Lea.
Schizostoma castaneum, Lea, Proc. Acad. Nat. Sci., p. 186, May, 1860. Jour. Acad. Nat. Sci., v. pt. 3, t. 35, f. 50. Obs. ix. p. 69.
Gyrotoma castanea, Lea, Binney, Check List, No. 311. Brot, List, p. 27.

3. S. ovoideum, Shuttleworth.
Gyrotoma ovoideum, Shuttleworth, Mittheil., Bern. Nat. Gesell., No. 50, p. 88, July 22, 1845. H. & A. Adams, Genera, iii. t. 32, f. 4.

4. S. excisum, Lea.‡
Melania excisa, Lea, Philos. Proc., p. 242, Dec., 1842. Philos. Trans. ix. 1846. Jay, Cat., 4th edit., p. 273.
Schizostoma excisa, Lea, Wheatley, Cat. Shells U. S. p. 28.
Gyrotoma excisa, Lea, Binney, Check List, No. 317. Brot, List, p. 27.
Melatoma excisum, Lea, Reeve, Monog. sp. 2.

5. S. pumilum, Lea.
Schizostoma pumilum, Lea, Proc. Acad. Nat. Sci., p. 187, May, 1860. Jour. Acad. Nat. Sci., v. pt. 3, t. 35, f. 57, Mar., 1863. Obs. ix. p. 74.
Gyrotoma pumila, Lea, Binney, Check List, No. 328. Brot, List, p. 27.
Schizostoma globosum,§ Lea, Proc. Acad. Nat. Sci., p. 187, May, 1860. Jour. Acad. Nat. Sci., v. pt. 3, t. 35, f. 58, Mar., 1863. Obs. ix. p. 74.
Gyrotoma globosa, Lea, Binney, Check List, No. 321. Brot, List, p. 27.
Melatoma globosum, Lea, Reeve, Monog. t. 3, f. 18.
Melatoma Alabamense, Lea, of Reeve, Monog. sp. 20.
Melatoma Showalterii, Lea, of Reeve, Monog. sp. 23?

6. S. ellipticum, Lea.‖
Melatoma ellipticum, Anthony, MSS. Reeve, Monog., t. 3, f. 21, Apr. 1861.
Gyrotoma elliptica, Anthony, Brot, List, p. 27.

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*Synonym of *bulbosum*?

† Mr. Reeve's figure 23 of *Melatoma Showalterii* does not represent this species, but *S. pumilum*, Lea.

‡ Mr. Reeve and Dr. Brot, place *ovoideum*, Shutt., in the synonymy of this species. As I have no means of comparing specimens of the latter with Mr. Lea's species, I have preferred to separate them at present. *S. Babylonicum* is a larger, wider, more robust species.

§ The young of *pumilum*.

‖ Distinguished from *bulbosum*, Anth., by its more lengthened form, and by the regularly convex outline of the body whorl and spire.

7. S. laciniatum, Lea.
Schizostoma laciniatum, Lea, Philos. Proc. iv. p. 167, Aug., 1845. Philos. Trans. x. p. 69, t. 9, f. 57, 1853.
Gyrotoma laciniata, Lea, Binney, Check List, No. 324. Brot, List, p. 27.

8. S. amplum, Anthony.
Gyrotoma ampla, Anthony, Proc. Acad. Nat. Sci., p. 66, Feb., 1860. Binney, Check List, No. 306. Brot, List, p. 27.
Melatoma amplum, Anthony, Reeve, Monog. t. 3, sp. 16.

9. S. nuculum, Anthony.
Melatoma nucula, Anthony, MSS. Reeve, Monog. t. 3, f. 19, Apr., 1861.
Gyrotoma nucula, Anthony, Brot, List, p. 27.

10. S. cylindraceum,* Mighels.
Schizostoma cylindracea, Mighels, Bost. Proc. i. p. 189, Oct., 1844.
Gyrotoma cylindracea, Müll.,† Binney, Check List, No. 315.
Gyrotoma cylindracea, Gould, Brot, List, p. 27.

11. S. bulbosum,‡ Anthony.
Gyrotoma bulbosa, Anthony, Proc. Acad. Nat. Sci., p. 65, Feb., 1860. Binney, Check List, No. 309. Brot, List, p. 27.
Melatoma bulbosum, Anthony, Reeve, Monog. sp. 22.
Gyrotoma ovalis, Anthony, Proc. Acad. Nat. Sci., p. 65, Feb., 1860. Binney, Check List, No. 325. Brot, List, p. 27.

12. S. curtum,§ Mighels.
Schizostoma curta, Mighels, Bost. Proc. i. p. 189, Oct., 1844.
Gyrotoma curta, Mighels, Binney, Check List, No. 314.
Gyrotoma curta, Gould, Brot, List, p. 27.

13. S. glans,‖ Lea.
Schizostoma glans, Lea, Proc. Acad. Nat. Sci., p. 186, May, 1860. Jour. Acad. Nat. Sci., v. pt. 3, t. 35, f. 52, Mar., 1863. Obs. ix. p. 70.
Gyrotoma glans, Lea, Binney, Check List, No. 320. Brot, List, p. 27.

14. S. sphæricum, Anthony.
Melatoma sphæricum, Anthony, MSS., Reeve, Monog. sp. 8, Apr., 1861.

15. S. pagoda,¶ Lea.
Schizostoma pagoda, Lea, Philos. Proc. iv. p. 167, Aug., 1845. Philos. Trans., x. p. 67, t. 9, f. 52, 1853.
Gyrotoma pagoda, Lea, Chenu, Manuel, i. f. 2020. Binney, Check List, No. 327. Brot, List, p. 27.

16. S. pyramidatum, Shuttleworth.**
Gyrotoma pyramidatum, Shuttleworth, Mitt. Bern. Nat. Gesell., No. 50, p. 88, July 22, 1845. Binney, Check List, No. 329. Brot, List, p. 27.

17. S. Wetumpkaense, Lea.
Schizostoma Wetumpkaense, Lea, Proc. Acad. Nat. Sci., p. 187, May, 1860. Jour. Acad. Nat. Sci., v. pt. 3, t. 35, f. 56, Mar., 1863. Obs. ix. p. 73.
Gyrotoma Wetumpkaensis, Lea, Binney, Check List, No. 336. Brot, List, p. 28.
Melatoma Wetumpkaense, Lea, Reeve, Monog. t. 3, f. 17.

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* I have not seen this species.
† Typographical error.
‡ Having examined many specimens of *bulbosum* and *ovalis*, I find no difference of specific weight.
§ I have not seen this species.
‖ More inflated, heavier, much lighter in color, not so strongly striated, and with narrower bands than *S. globosum*, Anth. In a very fine specimen before me, the body whorl is disposed to be tuberculate below the suture.
¶ Mr. Reeve figures two distinct species for this shell; his fig. 1 a. is *S. Wetumpkaense*, Lea, and fig. 1 b. is *S. Buddii*, Lea.
** I have seen no authentic specimens of this species.

Melatoma ornata,* Anthony, MSS., Reeve, Monog. fig. 11.
Melatoma pagoda, Lea, Reeve, Monog. fig. 1, a. (not 1 b).

18. S. Alabamense,† Lea.
Schizostoma Alabamense, Lea, Proc. Acad. Nat. Sci., p. 187, May, 1860. Jour. Acad. Nat. Sci., v. pt. 3, t. 35, f. 54. Obs. ix. p. 72.
Gyrotoma Alabamensis, Lea, Binney, Check List, No. 305. Brot, List, No. 27.

19. S. Anthonyi, Reeve.
Melatoma Anthonyi, Reeve, Monog. sp. 12, Apr., 1861.
Gyrotoma Anthonyi, Reeve, Brot, List, p. 27.

20. S. babylonicum, Lea.
Schizostoma babylonicum, Lea, Philos. Proc., iv. p. 167, Aug., 1845. Philos. Trans. x. p. 68, t. 9, f. 54.
Gyrotoma babylonicum, Lea, Binney, Check List, No. 307. Chenu, Manuel de Conchyl. i. f. 2021. Brot, List, p. 27.
? Melatoma babylonicum, Lea, Reeve, Monog. sp 6.
Schizostoma Spillmanii, Lea, Proc. Acad. Nat. Sci., p. 54, Feb., 1861. Jour. Acad. Nat. Sci., v. pt. 3, t. 35, f. 55. Obs. ix. p. 72.

21. S. Buddii, Lea.‡
Schizostoma Buddii, Lea, Philos. Proc. iv. p. 167, Aug., 1845. Philos. Trans. x. p. 68, t. 9, f. 53.
Gyrotoma Buddii, Lea, Binney, Check List, No. 308. Brot, List, p. 27.
Schizostoma funiculatum, Lea, Philos. Proc., iv. p. 167, Aug., 1845. Philos. Trans. x. p. 69, t. 9, f. 56.
Gyrotoma funiculata, Lea, Binney, Check List, No. 318. Brot, List, p. 27.
Melatoma funiculatum,§ Lea, of Reeve, Monog., sp. 5.
Melatoma pagoda, Lea, of Reeve, Monog., sp. 1, b.

22. S. demissum,‖ Anthony.
Gyrotoma demissa, Anthony, Proc. Acad. Nat. Sci., p. 64, Feb., 1860. Binney, Check List, No. 316. Brot, List, p. 27.
Melatoma demissum, Anthony, Reeve, Monog., sp. 9.
Schizostoma Hartmanii, Lea, Proc. Acad. Nat. Sci., p. 187, May, 1860. Jour. Acad. Nat. Sci., v. pt. 3, t. 35, f. 51. Obs. ix. p. 69.
Gyrotoma Hartmanii, Lea, Binney, Check List, No. 322. Brot, List, p. 27.

23. S. constrictum,¶ Lea.
Schizostoma constrictum, Lea, Philos. Proc., iv. p. 167, Aug., 1845. Philos. Trans., x. p. 68, t. 9, f. 55.
Gyrotoma constricta, Lea, Binney, Check List, No. 302. Brot, List, p. 27.
Gyrotoma recta, Anthony, Proc. Acad. Nat. Sci., p. 64, Feb. 1860. Binney, Check List, No. 331. Brot, List, p. 27.
Melatoma rectum, Anthony, Reeve, Monog. sp. 10, not sp. 7, a.

24. S. salebrosum, Anthony.**
Gyrotoma salebrosa, Anthony, Proc. Acad. Nat. Sci., p. 66, Feb., 1860. Binney, Check List, No. 333.

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*Never published by Mr. Anthony, who sent a specimen with label attached, marked "Proc. A. N. S." to Mr. Reeve. Mr. Reeve, misled by this reference, refers in his description to *Anc. ornata*, Anthony, and consequently assigns North Carolina as the habitat. No species of *Schizostoma* is known to exist out of Coosa River, Alabama. *S. ornata* is the young of *Wetumpkaense*.

†Mr. Reeve's figure 20, intended for this species, I refer to *S. babylonicum*, Lea. *Alabamense* is distinguished from *babylonicum* by the regularity of its striæ.

‡Mr. Reeve's figure (3) of this speecies is a *Goniobasis læta*, Jay.

§This figure does not so well represent *funiculatum* as fig. 1, b, intended for *S. pagoda*.

‖Mr. Lea, (Jour. Acad. Nat. Sci., v. pt. 3), makes this species to equal his *S. constrictum*. I do not consider them the same; *constrictum* is longer and narrower.

¶Mr. Reeve's figure 7, a, represents rather a smooth variety of *salebrosum*, Anth.

**In a large number of specimens before me, the distinctive features of *salebrosum* and *robustum* become so completely and insensibly merged together that I cannot separate them, and believe them to be identical.

Melatoma salebrosum, Anthony, Reeve, Monog. sp. 8 and 15.
Gyrotoma robusta, Anthony, Proc. Acad. Nat. Sci., p. 67, Feb., 1860. Binney, Check List, No. 332. Brot, List, p. 28.
Melatoma robustum, Anthony, Reeve, Monog. sp. 14, a, b.
Melatoma rectum, Anthony, of Reeve, Monog. sp. 7, a.

25. S. glandula,*‡Lea.
Schizostoma glandula, Lea, Proc. Acad. Nat. Sci., p. 187, 1860. Jour. Acad. Nat. Sci., v. pt. 3, t. 35, f. 53, Mar., 1863. Obs. ix. p. 71.
Gyrotoma glandula, Lea, Binney, Check List, No. 319. Brot, List, p. 27.

26. S. incisum,† Lea.
Anculosa (*Schizostoma*) *incisa*, Lea, Philos. Proc., ii. p. 243, Dec., 1842. Philos. Trans. ix. p. ——.
Schizostoma incisa, Lea, Wheatley, Cat. Shells, U. S. p. 28. Hanley, Conch. Misc. Melania, t. 5, f. 44, 45.
Gyrotoma incisa, Lea, Binney, Check List, No. 323. Brot, List, p. 27.
Melatoma incisum, Lea, Reeve, Monog. sp. 4.
Melania incisa, Lea, Jay, Cat., 4th Edit., p. 274.
Leptoxis incisa, Lea, Binney, Check List, No. 363. Haldeman, Monog. p. 2, t. 1, f. 24—26.
Gyrotoma quadrata, Anthony, Proc. Acad. Nat. Sci., p. 65, Feb., 1860. Binney, Check List, No. 330.
Melatoma quadratum, Anthony, Reeve, Monog. fig. 7, b, (not 7 a, or 8).
Schizostoma virens, Lea, Proc. Acad. Nat. Sci., p. 187, 1860. Jour. Acad. Nat. Sci., v. pt. 3, t. 35, f. 59. Obs. ix. p. 75.
Gyrotoma virens, Lea, Binney, Check List, No. 335. Brot, List, p. 28.
Gyrotoma obliqua, Anthony, MSS.

Species unknown to me.

Gyrotoma conica, Shuttleworth, (ubi) Brot, List, p. 27.

3d Section: aperture entire and rounded below.

Genus ANCULOSA, Say.

Anculosa, Say, Jour. Acad. Nat. Sci., ii. p. 178, Nov. 1821. Conrad, Am. Jour. Sci. xxv. p. 342, 1834. Muller, Syn. Test. Viv. p. 39, 1836. Swainson, Manual Malacol. 1840. Haldeman, Suppl. to Monog. Limniades, Oct. 1840. Sowerby, Conch. Manual, Edit. 2, p. 66, 1842. Wheatley, Cat. Shells U. S. p. 27, 1845. Lea, Philos. Trans. ix. p. 14, 1846. Anthony, Proc. Acad. Nat. Sci. p. 67, Feb. 1860.
Anculosa, Conrad, Hermannson Indices Gener. Malac. i. p. 51, 1846.
Anculotus, Say, Jour. Acad. Nat. Sci., v. pt. 1, p. 128, Aug. 1825. Conrad, New Fresh Water Shells, p. 62, 1834. Couthuoy, Bost. Jour. ii. p. 184, Feb. 1839. Anthony, Bost. Jour., iii. p. 278, Jan. 1840. DeKay, Moll. N. York, p. 101, 1843. Chenu, Bibl. Conch. i. iii. Conrad, p. 26, 1845. Gray, Genera, Zool. Proc. xv. p. 153, 1847. Woodward, Manual, i. p. 131, 1851. Jay, Cat. 4th Edit., p. 276, 1852. Reeve, Conch. Iconica, Sept. 1860.
Ancylotus, Say, Hermannson, Indices. Gen. Mal. i. p. 51, 1846.
??Leptoxis, Rafinesque, Journ. de Phys. lxxxviii. p. 424, 1819. Haldeman, Monog. Lept. H. & A. Adams, Genera, i. p. 307, Feb. 1854. Chenu, Man. de Conchyl. i. p. 294, 1859. Binney, Check List, p. 10, June, 1860. Brot, List, p. 23, 1862.
Mudalia, Haldeman, Suppl. to Monog. Limn., Oct. 1840.
Nitocris, H. & A. Adams, Genera, i. p. 308, Feb. 1854.

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* Closely allied to *S. incisum*, but may be distinguished by being heavier, of different color, higher spire, and more convex outline.
† Mr. Lea, (Obs. ix. p. 67), considers *quadratum*, Anth., to be a synonym of his *S. incisum*, in which decision I entirely agree with him. To these I unite *S. virens*, Lea, which I find to be the young shell of the same species.

1. *Nodulous species.*

1. A. Anthonyi, Budd.
Anculosa Anthonyi, Budd, Redfield, Ann. Lyc. N. Hist., vi. p. 130, t. 1, f. 6, Apr., 1854.
Leptoxis Anthonyi, (Budd) Redfield, Brot, List, p. 23. Binney, Check List, No. 341.
Anculotus Anthonyi, (Budd) Redfield, Reeve, Monog. Anc. t. 2, f. 17.

2. A. plicata, Conrad.
Anculotus plicatus, Conrad, New Fresh water Shells, p. 61, t. 8, f. 18, 1834. DeKay, Moll. N. York, p. 103. Jay, Catalogue, 4th Edit., p. 276. Reeve, Monog. t. 3, f. 22.
Anculosa plicata, Conrad, Wheatley, Cat. Shells U. S., p. 28.
Leptoxis plicata, Conrad, Binney, Check List, No. 379. Haldeman, Monog. Lept., p. 3, t. 2, f. 35—39.
Anculosa bella, Lea, Philos. Proc., ii. p. 83, Oct., 1841. Wheatley, Cat. Shells U. S., p. 28.
Anculosa tuberculata, Lea, Philos. Proc., ii. p. 83, Oct., 1841. Phil. Trans., ix. p. 21. Obs., iv. p. 21. Wheatley, Cat. Shells U. S., p. 28. Binney, Check List, No. 392.
Anculotus Smaragdinus, Reeve, Monog. t. 3, f. 23, Apr., 1860.

2. *Sulcate species.*

3. A. Showalterii, Lea.
Anculosa Showalterii, Lea, Proc. Acad. Nat. Sci., p. 93, 1860. Jour. Acad. Nat. Sci., 2d Ser., v. pt. 3, p. 255, t. 35, f. 62, Mar., 1863. Obs., ix. p. 77, t. 35, f. 62.
Leptoxis Showalterii, Lea, Binney, Check List, No. 385. Brot, List, p. 25.
Anculotus sulcosus, Anthony, MSS., Reeve, Monog. Anculotus, t. 6, f. 44, Apr., 1861.
Leptoxis sulcosa, Anthony, Brot, List, p. 26.

4. A. canalifera, Anthony.
Anculosa canalifera, Anthony, Proc. Acad. Nat. Sci., p. 68, Feb., 1860.
Anculotus canaliferus, Anthony, Reeve, Monog. Anculotus, t. 5, f. 39.
Leptoxis canalifera, Anthony, Binney, Check List, No. 345. Brot, List, p. 24.

3. *Striate species.*

5. A. littorina, Haldeman.
Anculosa littorina, Haldeman, Spec. Number of Monog. Cover of No. 1, Monog., July, 1840.
Leptoxis littorina, Haldeman, Monog. Lept., p. 4, t. 4, f. 110. Binney, Check List, No. 368. Brot. List, p. 24.
Melania pilula, Lea, Philos. Proc., ii. p. 15, Feb., 1841. Philos. Trans., viii. p. 186, t. 6, f. 50. Obs., iii. p. 24, t. 6, f. 50. DeKay, Moll. N. York, p. 99. Troost, Cat. Moll. Tennessee. Wheatley, Cat. Shells U. S., p. 26. Binney, Check List, No. 204. Catlow, Conch. Nomenc., p. 188.

6. A. costata,* Anthony.
Anculotus costatus, Anthony, Bost. Jour. Nat. Hist., iii. p. 278, t. 3, f. 1, Jan., 1840. DeKay, Moll. N. York, p. 102, t. 7, f. 139. Reeve, Monog. Anculotus, t. 5, f. 41.
Anculosa costata, Anthony, List of Shells of Cincinnati, 2d Edit. Wheatley, Cat. Shells U. S., p. 28.
Leptoxis costata, Anthony, Binney, Check List, No. 349.
Melania occidentalis, Lea, Philos, Proc., ii. p. 12, Feb., 1841. Philos. Trans., viii. p. 172, t. 5, f. 20. Obs., iii. p. 10, t. 5, f. 20. DeKay, Moll. N. Y.,

* *M. occidentalis*, Lea, is the mature form, and *costata* the young, of this species. They are *not* identical with *trilineata*, Say, as supposed by Prof. Haldeman. The latter species is not found in the upper Ohio, where *costata* abounds.

p. 95. Wheatley, Cat. Shells U. S., p. 26. Jay, Cat., 4th Edit., p. 274. Binney, Check List, No. 184. Catlow, Conchologist's Nomenc., p. 188.

7. A. rubiginosa, Lea.

Anculosa rubiginosa, Lea, ii. p. 83, Oct., 1841. Philos. Trans., ix. p. 20. Obs., iv. p. 20.

Anculotus rubiginosus, Lea, Jay, Cat., 4th Edit., p. 276. Reeve, Monog. Ancul., t. 2, f. 12, t. 6, f. 47.

Leptoxis rubiginosa, Lea, Haldeman, Monog. Lept., f. 59 to 70. Binney, Check List, No. 383. Chenu, Manuel, i. f. 2035, 2036.

Anculosa Griffithiana, Lea, Philos. Proc., ii. p. 83, Oct., 1841. Philos. Trans., ix. p. 20. Obs., iv. p. 20. Wheatley, Cat. Shells U. S., p. 28.

Anculotus Griffithsianus, Lea, Reeve, Monog. Anculotus, t. 1, f. 8.

Leptoxis Griffithiana, Lea, Binney, Check List, No. 362.

4. *Angulated species.*

8. A. dissimilis, Say.

Paludina dissimilis, Say, Nicholson's Encyc., 3d Am. Edit., 1819.

Anculotus dissimilis, Say, Ravenel, Cat., p. 11. Jay, Cat., 4th Edit., p. 276. Reeve, Monog. Ancul. t. 4, f. 27.

Anculosa dissimilis, Say, Wheatley, Cat. Shells U. S., p. 28. Haldeman, in Ruppell's Lancaster County, p. 479.

Leptoxis dissimilis, Say, Haldeman, Monog. Lept., p. 4, t. 4, f. 85—100. Brot. List, p. 24. Binney, Check List, No. 355.

Helix subcarinata, Wood, Index, Test. Lister, t. 111, f. 5.

Anculotus carinatus, DeKay, Moll. N. Y., p. 101, 1843. Jay, Cat., 4th Edit., p. 276.

Anculosa carinata, DeKay, Wheatley, Cat. Shells U. S., p. 28.

Leptoxis carinata, DeKay, Binney, Check List, No. 343. Brot, List, p. 24.

Variety a.

Anculosa carinata, Lea, Proc. Philos., ii. p. 34, Apr., 1841. Philos. Trans., ix. p. 15. Obs. iv. p. 15.

Leptoxis carinata, Lea, Binney, Check List, No. 344.

Anculosa, variabilis, Lea, Philos. Proc. ii. p. 34, Apr. 1841. Philos. Trans. ix. p. 15. Obs. iv. p. 15. Wheatley, Cat. Shells U. S. p. 28.

Leptoxis variabilis, Lea, Chenu, Manuel, i. f. 2037—39. Binney, Check List, No. 394. Brot, List, p. 26. Haldeman, Monog. Leptoxis, p. 4, t. 4, f. 102—9.

Variety b.

Anculotus nigrescens, Conrad, New Fresh Water Shells, p. 64, t. 8, f. 17, 1834. DeKay, Moll. N. Y., p. 102. Wheatley, Cat. Shells U. S. p. 28. Jay, Cat., 4th Edit. p. 276.

Leptoxis nigrescens, Conrad, Binney, Check List, No. 372.

Anculotus trivittatus, DeKay, Moll. N. Y., p. 102, t. 7, f. 137, 1843.

Leptoxis trivittata, DeKay, Binney, Check List, No. 390.

Variety c.

Anculotus monodontoides, Conrad, New Fresh-Water Shells, p. 61, t. 8, f. 16, 1834. DeKay, Moll. N. Y., p. 102. Jay, Cat., 4th Edit., p. 276. Wheatley, Cat. Shells U. S., p. 28. Reeve, Monog. Anc. t. 5, f. 37.

Mudalia monodontoides, Conrad, Chenu, Manuel, i. f. 2046—8.

Leptoxis monodontoides, Conrad, Haldeman. Monog. Leptoxis, p. 5, t. 4, 5 f. 124—133. Binney Check List, No. 370.

Anculotus dentatus, Couthuoy, Am. Journ. Sci. xxxvi. p. 390, July, 1839. Bost. Journ. Nat. Hist. ii. p. 185, t. 4, f. 7, Feb. 1839. Reeve, Monog. Anc. t. 5, f. 36. DeKay, Moll. N. Y., p. 102. Jay, Cat., 3d Edit., p. 63.

Anculosa dentata, Couthuoy, Wheatley, Cat. Shells U. S., p. 28.

Leptoxis dentata, Couthuoy, Binney, Check List, No. 352.

Anculosa dentata, Lea, Philos Proc. ii. p. 34, Apr. 1841.
Leptoxis dentata, Lea, Binney, Check List, No. 353.
Anculosa (Mudalia) affinis, Haldeman, Monog. Limniades, Cover of No. 3, Mar. 13th, 1841.
Anculotus affinis, Haldeman, Reeve, Monog. Anculotus, t. 6, f. 53.
Leptoxis affinis, Haldeman, Binney, Check List, No. 337. Brot, List, p. 23.

9. A. dilatata,* Conrad.
Melania dilatata, Conrad, New Fresh-Water Shells, Appendix, p. 6, t. 9, f. 5, 1834.
Anculotus dilatatus, Conrad, Reeve, Monog. Anculotus, t. 5, f. 38.
Anculosa dilatata, Conrad, Am. Journ. Science, n. s., i. p. 407. Hanley, Conch. Misc. t. 5, f. 38.
Mudalia dilatata, Conrad, Chenu, Manuel de Conchyl. i. f. 2043—5.
Leptoxis dilatata, Conrad, Haldeman, Monog. Leptoxis, p. 4, t. 4, f. 111—120. Binney, Check List, No. 354. Brot, List, p. 24.
Melania Rogersii,† Conrad, New Fresh-Water Shells, Appendix, p. 7, t. 9, f. 7, 1834. Jay, Cat., 4th Edit., p. 274.
Anculotus Rogersii, Conrad, Reeve, Monog. Anculotus, t. 4, f. 28.
Leptoxis Rogersii, Conrad, Binney, Check List, No. 382.
Anculotus carinatus, Anthony, Bost. Journ. Nat. Hist., iii. pt. 3, p. 394, t. 3, f. 5, July, 1840. Reeve, Monog. Anculotus, t. 5, f. 42.
Leptoxis carinata, Anthony, Binney, Check List, No. 342.
Anculotus Kirtlandianus, Anthony, Bost. Journ. Nat. Hist., iii. pt. 3, p. 295, t. 3, f. 4, July, 1840. Jay, Cat., 4th Edit., p. 276. Reeve, Monog. Anculotus, t. 4, f. 29.
Anculosa Kirtlandiana, Haldeman, Wheatley, Cat. Shells U. S., p. 28.
Melania inflata, Lea, Philos. Trans. vi. p. 17, t. 23, f. 98. Obs. ii. p. 17. Wheatley, Cat. Shells U. S., p. 25. Binney, Check List, No. 147.
Leptoxis rapæformis, Haldeman, Monog. Leptoxis, p. 4, t. 4, f. 123. Brot, List, p. 25.

10. A. corpulenta,‡ Anthony.
Anculosa corpulenta, Anthony, Proc. Acad. Nat. Sci. p. 68, Feb. 1860.
Anculotus corpulentus, Anthony, Reeve, Monog. Anculotus, t. 1, f. 9.
Leptoxis corpulenta, Anthony, Binney, Check List, No. 348. Brot, List, p. 24.

11. A. melanoides, Conrad.
Anculotus melanoides, Conrad, New Fresh-Water Shells, p. 64, t. 8, f. 19, 1834. DeKay, Moll. N. Y., p. 102. Wheatley, Cat. Shells U. S., p. 26, Reeve, Monog. Anculotus, t. 6, f. 48.
Leptoxis melanoides, Conrad, Haldeman, Monog. Leptoxis, p. 5, t. 5, f. 145, 146. Binney, Check List, No. 369.
Anculosa (Mudalia) turgida, Haldeman, Supplement to No. 1, Monog. Limniades, Oct. 1840. Wheatley, Cat. Shells U. S., p. 28.
Leptoxis turgida, Haldeman, Monog. Leptoxis, p. 5, t. 5, f. 151. Binney, Check List, No. 393. Brot, List, p. 26.

5. *Shell smooth, globose, or flattened above.*

12. A. trilineata, Say.
Melania trilineata, Say, New Harmony Dissem., No. 18, p. 227, Sept. 9, 1829. Say's Reprint, p. 19, 1840. Binney's Edition, p. 144. Catlow, Conch. Nomenc. p. 189.

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* I had at first united this to *dissimilis*, and I am yet doubtful whether it is really distinct from that protean species.
† Young of *dilatata*. In placing all these specific names together as synonyms, I am sustained by the decisions of Mr. Lea, (Philos. Trans. viii. p. 171,) Haldeman, Monog. Leptoxis, and Anthony, Proc. Bost. Soc. Nat. Hist. i. p. 5.
‡ Most nearly allied to the heavy, obsoletely angulated form of *dissimilis*.

Anculosa trilineata, Say, DeKay, Moll. N. Y., p. 100. Wheatley, Cat. Shells U. S., p. 27. Jay, Cat. Shells, 3d Edit., p. 62.
Anculotus trilineatus, Say, Jay, Cat., 4th Edit., p. 276. Reeve, Monog. Anculotus, t. 5, f. 41, b.
Leptoxis trilineata, Say, Haldeman, Monog. Leptoxis, p. 5, t. 5, f. —. Binney, Check List, No. 389. Brot, List, p. 26.

Variety.

Melania viridis,* Lea, Philos. Proc. ii. p. 12, Feb. 1841. Philos. Trans., viii. p. 172, t. 5, f. 19. Obs. ii. p. 12. DeKay, Moll. N. Y., p. 95. Wheatley, Cat. Shells U. S., p. 27. Binney, Check List, No. 292. Catlow, Conch. Nomenc. p. 189.

13. A. subglobosa, Say.
Melania subglobosa, Say, Journ. Acad. Nat. Sci. v. p. 128, Sept. 1825. Binney's edit. p. 116. Binney, Check List, No. 254. Catlow, Conch. Nomenc. p. 188. Jay, Cat. 3d Edit., p. 62.
Anculotus subglobosus, Say, Conrad, New Fresh-Water Shells, p. 60, t. 8, f. 14. DeKay, Moll. N. Y., p. 103. Reeve, Monog. Anculotus, t. 1, f. 10. Jay, Cat. 4th Edit., p. 276.
Anculosa subglobosa, Say, Wheatley, Cat. Shells U. S., p. 28.
Leptoxis subglobosa, Say, Haldeman, Monog. p. 3, t. 2, f. 40—58. Chenu, Manuel de Conchyl. i. f. 2040—42. Binney, Check List, No. 387. Brot, List, p. 25.
Melania subglobosa, Lea, Troost, Cat. Shells Tenn., p. 42.
Anculosa gibbosa, Philos. Proc. ii. p. 34, Apr. 1841. Philos. Trans. ix. p. 15. Obs. iv. p. 15. Wheatley, Cat. Shells U. S., p. 28.
Anculotus gibbosus, Lea, Reeve, Monog. Anculotus, t. 1, f. 3.
Leptoxis gibbosa, Lea, Binney, Check List, No. 361. Brot, List, p. 25.
Melania globula,† Lea, Philos. Proc. ii. p. 12, Feb. 1841. Philos. Trans. viii. p. 174, t. 5, f. 22. Obs. iii. p. 12. DeKay, Moll. N. Y., p. 95. Troost, Cat. Shells, Tennessee. Wheatley, Cat. Shells U. S., p. 25. Binney, Check List, No. 126. Catlow, Conch. Nomenc. p. 187.

Variety.

Anculosa tintinnabulum‡, Lea, Philos. Proc. iv. p. 167, Aug. 1845. Philos. Trans. x. p. 67, t. 9, f. 51. Obs. iv. p. 67.
Anculotus tintinnabulum, Lea, Reeve, Monog. Anculotus, t. 2, f. 13. a, b.?
Melania virgata,§ Lea, Philos. Proc. ii. p. 13, Feb. 1841. Philos. Trans. viii. p. 175, t. 5, f. 25. Obs. iii. p. . DeKay, Moll. N. Y., p. 95. Troost, Cat. Shells Tenn. Binney, Check List, No. 290. Catlow, Conch. Nomenc. p. 189. Wheatley, Cat. Shells U. S., p. 27.

14. A. praerosa, Say.
Melania prærosa, Say, Jour. Acad. Nat. Sci. ii. p. 177, Jan. 1824. Binney's Edit., p. 70. Catlow, Conch. Nomenc. p. 188. Sowerby, Conch. Man. f. 314.

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* In treating *viridis* as a synonym of *trilineata*, I agree with the opinions expressed by Messrs. Haldeman, Brot, Binney and Anthony. The two former gentlemen, together with Dr. Jay, consider *costatus*, Anthony, and *occidentalis*, Lea, as synonyms also. In this opinion I cannot coincide. The two species appear to me to be well separated by the costæ of Mr. Anthony's species, and the uniformly smooth surface of *trilineatus*. Mr. Reeve's figure of *trilineatus* is very poor; the bands are so represented as to appear like ribs.
It is by no means certain that *trilineata* is an *Anculosa*. Its general appearance suggests affinities with the *Amnicolidæ*, to which family several small species, hitherto considered to be *Anculosæ*, have been recently removed. It differs from all the *Amnicolæ*, however, in its colored bands.
Mr. Lea's *M. viridis* is the Var. B. of Mr. Say's description of *trilineata*.
† Juvenile shell.
‡ Distinguished by possessing three brown bands or rows of maculations. It is a beautiful variety.
§ Young shell of var. *tintinnabulum*.

Anculotus prærosus, Say, Conrad, New Fresh-Water Shells, p. 59, t. 8, f. 13. Jay, Cat. 4th Edit., p. 276. Reeve, Monog. Anculotus, t. 2, f. 15, 16.
Anculotus præmorsa, Say, Woodward, Manuel, t. 8, f. 28.
Anculosa prærosa, Say, Ravenel, Cat. p. 11. Wheatley, Cat. Shells U. S., p. 28. Anthony, List, 1st and 2nd Edits. Kirtland, Rep. Zool. Ohio, p. 174. DeKay, Moll. N. Y., p. 103.
Leptoxis prærosa, Say, Haldeman, Monog. Lept. p. 2, t. 1, f. 1—18. Chenu, Manuel, i. f. 2030—34. Binney, Check List, No. 380. Brot, List, p. 25.
*Melania angulosa**, Menke, Syn. Meth., 1st Edit., p. 81, 1828. 2nd Edit. p. 135, 1830. Binney, Check List, No. 15.
Melania cruentata, Menke, Syn. Meth., 1st Edit., p. 80, 1828. 2nd Edit. p. 134, 1830.
Melonia ovularis, Menke, Syn. Meth., 1st Edit., p. 80. 2nd Edit. p. 134. Binney, Check List, No. 194.
Melanopsis neritiformis, Deshayes, Encyc. Meth. Vers. ii. p. 438, No. 14. Anim. Sans. Vert., 2nd Edit., viii. p. 492, 1838.
Anculotus angulatus,† Conrad, New Fresh-Water Shells, p. 60, t. 8, f. 15, 1834. Dekay, Moll. N. Y., p. 102. Wheatley, Cat. Shells U. S., p. 27. Reeve, Monog. Anculotus, t. 6, f. 51. Jay, Cat. Shells, 4th Edit., p. 276.
Leptoxis angulata, Conrad, Binney, Check List, No. 340.
Melania Cincinnatiensis‡, Lea, Philos. Proc. i. p. 66, Dec. 1838. Philos. Trans. viii. p. 190, t. 6, f. 58. Obs. iii. p. 28. Jay, Cat. 4th Edit., p. 273. Catlow, Conch. Nomenc. p. 186.
Anculotus Cincinnatiensis, Lea, DeKay, Moll. N. Y., p. 95. Troost, Cat. Shells Tenn.
Leptoxis Cincinnatiensis, Lea, Binney, Check List, No. 346.

15. A. crassa, Haldeman.
Anculosa crassa, Haldeman, Monog. Limniades, No. 4, p. 3 of Cover, Oct. 5, 1841.
Anculotus crassus, Haldeman, Jay, Cat., 4th Edit., p. 276. Reeve, Monog. Anculotus, t. 2, f. 14.
Leptoxis crassa, Haldeman, Monog. Lept. p. 2, t. 1, f. 19—23. Binney, Check List, No. 350. Brot, List, p. 24.

16. A. tæniata,§ Conrad,
Anculotus tæniatus, Conrad, New Fresh-Water Shells, p. 63, 1834. DeKay, Moll. N. Y., p. 103. Jay, Cat., 4th Edit., p. 276. Reeve, Monog. Anculotus, t. 6, f. 50, *non* t. 2, f. 15.
Anculosa tæniata, Conrad, Wheatley, Cat. Shells U. S., p. 28.
Leptoxis tæniata, Conrad, Haldeman, Monog. Leptoxis, t. 3, f. 71—73. Binney, Check List, No. 388. Brot, List, p. 26.
Anculosa coosæensis,‖ Lea, Proc. Acad, Nat. Sci. p. 54, 1861. Jour. Acad. Nat. Sci. v. pt.3, p. 257, t. 30, f. 65, Mar. 1863. Obs. ix. p. 76.

17. A. Troostiana, Lea,
Anculosa Troostiana, Lea, Philos. Proc. ii. p. 34. Philos. Trans. ix. p. 15. Obs. iv. p. 15. Wheatley, Cat. Shells U. S., p. 28.
Anculotus Troostianus, Lea, Reeve, Monog. Anculotus, t. 4, f. 30.
Leptoxis Troostiana, Lea, Haldeman, Monog. Leptoxis, p. 4, t. 3, f. 81. Binney, Check List, No. 391. Brot, List, p. 26.

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* The various descriptions by Menke and Deshayes all certainly belong to this species, as Messrs. Haldeman and Anthony long ago decided.
† This is a half grown shell which still retains the angle on the periphery in Alabama, while, in specimens of more northern location, it is only visible in the quite young.
‡ Undoubtedly the quite young shell of *prærosa*.
§ Intermediate in form between *rubiginosa* and *prærosa* and distinguished by its elongated body whorl, concavely flattened around its upper half.
‖ Young Shell.

18. A. pinguis, Lea.
Melania pinguis, Philos. Trans. x. p. 301, t. 30, f. 11. Obs. v. p. 57. Binney, Check List, No. 206. Brot, List, p. 40. Reeve, Monog. Melania, sp. 355.

19. A. pisum, Haldeman.
Leptoxis pisum, Haldeman, Monog. Lept. p. 4, t. 3, f. 82. Binney, Check List, No. 378. Brot, List, p. 25.

20. A. contorta, Lea.
Anculosa contorta, Lea, Proc. Acad. Nat. Sci. p. 187, 1860. Jour. Acad. Nat. Sci. v. pt. 3, p. 258, t. 35, f. 66, Mar. 1863. Obs. ix. p. 80.
Leptoxis contorta, Lea, Binney, Check List, No. 347. Brot, List, p. 24.

21. A. vittata, Lea.
Anculosa vittata, Lea, Proc. Acad. Nat. Sci. p. 188, 1860. Jour. Acad. Nat. Sci. v. pt. 3, p. 256, t. 35, f. 63, Mar. 1863. Obs. ix. p. 78.
Leptoxis vittata, Lea, Binney, Check List, No. 397. Brot, List, p. 26.

22. A. planospira, Anthony.
Melania planospira, Anthony, Ann. Lyc. Nat. Hist. N. Y., vi. p. 123, t. 3, f. 24, Mar. 1854. Binney, Check List, No. 208. Brot, List, p. 40. Hanley, Conch. Misc. Melania, t. 8, f. 67.
Anculotus planospira, Anthony, Reeve, Monog. Anculotus, t. 2, f. 11.

23. A. ampla, Anthony.
Anculosa ampla, Anthony, Ann. N. Y., Lyc. Nat. Hist. vi. p. 159, t. 5, f. 22, 23.
Leptoxis ampla, Anthony, Binney, Check List, No. 339. Brot, List, p. 23.

Variety a.

Anculosa elegans, Anthony, Proc. Acad. Nat. Sci. p. 69, Feb. 1860.
Anculotus elegans, Anthony, Reeve, Monog. Anculotus, t. 6, f. 49.
Leptoxis elegans, Anthony, Binney, Check List, No. 356. Brot, List, p. 24.

Variety b.

Anculosa formosa, Lea, Proc. Acad. Nat. Sci. p. 187, 1860. Jour. Acad. Nat. Sci. v. pt. 3, p. 254, Mar. 1863. Obs. ix. p. 76.
Leptoxis formosa, Lea, Binney, Check List, No. 358. Brot, List, p. 24.

24. A. zebra,* Anthony.
Anculosa zebra, Anthony, Proc. Acad. Nat. Sci. p. 69, Feb. 1860.
Anculotus zebra, Anthony, Reeve, Monog. t. 6, f. 52.
Leptoxis zebra, Anthony, Binney, Check List, No. 398. Brot, List, p. 26.

25. A. picta, Conrad.
Anculosa picta, Conrad, Am. Jour. Science, 1st Ser., xxx. p. 342, t. 1, f. 15, Jan. 1834. Wheatley, Cat. Shell U. S., p. 28. Hanley, Conch. Misc. Melania, t. 5, f. 39.
Anculotus pictus, Conrad, New Fresh-Water Shells, p. 62, 1834. Reeve, Monog. Anculotus, t. 3, f. 20. Jay, Cat. 4th Edith., p. 276. DeKay, Moll. N. Y., p. 103.
Leptoxis picta, Conrad, Haldeman, Monog. Lept. t. 3, f. 74—80. Binney, Check List, No. 377. Brot, List, p. 25.
Anculosa Foremani, Lea, Philos. Proc. ii. p. 243, Dec. 1842. Philos. Trans. ix. p. 29. Obs. iv. p. 29. Wheatley, Cat. Shells U. S., p. 28.
Leptoxis Foremani, Lea, Binney, Check List, No. 359.
Anculosa flammata, Lea, Philos. Proc. ii. p. 243. Philos. Trans. ix. p. 30. Obs. iv. p. 30.

* Differs in form from *picta*, Con., but so much resembles in coloring the variety *flammata*, described by Mr. Lea, that I doubt whether it is distinct.

Anculotus flammatus, Lea, Reeve, Monog. Anculotus, t. 3, f. 18.
Leptoxis flammata, Lea, Binney, Check List, No. 357.

26. A. ornata, Anthony,
Anculosa ornata, Anthony, Proc. Acad. Nat. Sci. p. 67, Feb. 1860.
Anculotus ornatus, Anthony, Reeve, Monog. Anculotus, t. 3, f. 24.
Leptoxis ornata, Anthony, Binney, Check List, No. 375.

27. A. Lewisii, Lea.
Anculosa Lewisii, Lea, Proc. Acad. Nat. Sci. p. 54, 1861. Jour. Acad. Nat. Sci. v. pt. 3, p. 257, t. 35, f. 64, Mar. 1863. Obs. ix. p. 79.

28. A. squalida, Lea.
Anculosa squalida, Lea, Philos. Proc. iv. p. 167, Aug. 1845. Philos. Trans. x. p. 66, t. 9, f. 50. Obs. iv. p. 66.
Anculotus squalidus, Lea, Reeve, Monog. Anculotus, t. 3, f. 26 ?
Leptoxis squalida, Lea, Binney, Check List, No. 386. Brot, List, p. 25.

29. A. patula, Anthony.
Anculosa patula, Anthony, Proc. Acad. Nat. Sci. p. 68, Feb. 1860.
Anculotus patulus, Anthony, Reeve, Monog. Anculotus, t. 4, f. 32.
Leptoxis patula, Anthony, Binney, Check List, No. 376. Brot, List, p. 25.

30. A. viridula,* Anthony.
Anculosa viridula, Anthony, Proc. Acad. Nat. Sci. p. 68, Feb. 1860.
Anculotus viridulus, Anthony, Reeve, Monog. Anculotus, t. 4, f. 34.
Leptoxis viridula, Anthony, Binney, Check List, No. 396.

31. A. humerosa, ? Anthony.
Paludina humerosa, Anthony, Proc. Acad. Nat. Sci. p. 71, 1860.

32. A. ligata,† Anthony.
Anculosa ligata, Anthony, Proc. Acad. Nat. Sci. p. 67, Feb. 1860.
Anculotus ligatus, Anthony, Reeve, Monog. Anculotus, t. 3, f. 19.
Leptoxis ligata, Anthony, Binney, Check List, No. 367. Brot, List, p. 24.

33. A. turbinata, Lea.
Anculosa turbinata, Lea, Proc. Acad. Nat. Sci. p. 54, 1861. Jour. Acad. Nat. Sci. v. pt. 3. p. 254, Mar. 1863. Obs. ix. p. 76.

Doubtful and Spurious Species.

A. (*Paludina*) *nuclea*, Lea, = *Amnicola.*
A. (*Paludina*) *virens*, Lea, = *Amnicola.*
A. Spixiana, Lea, Reeve and Brot, = *Angitrema.*
A. incisa, Lea, Haldeman, Monog., = *Schizostoma.*
A. cingenda, Anthony, MSS., = young of *carinata*, *Lea*, a variety of *dissimilis.*
A. planulata, Lea, Wheatley, Cat. Shells, p. 28, Alabama, (desc. not published.) = *ampla*, Anth. ?
? *Mel. carinata*, Ravenel, Cat. p. 11, Yadkin River, N. C.
? *Mel. costata*, Ravenel, Cat. p. 11, Dan River, Va. = *dissimilis.*?
? *A. subcarinata*, Ravenel, Cat. p. 11, Susquehannah, = *dissimilis.* ?
A. integra, Sap, = *Somatogyra.*
A. subglobosa, Say, = *Somatogyra.*
A. (*Paludina*) *altilis*, Lea, = *Somatogyra.*
Paludina altilis, Ravenel. = *Somatogyra.*

* Mr. Reeve thinks this = *Rogersii.* Conr., and Dr. Brot believes it to be *dilatata*, Conr. Although it approaches very closely to *dilatata*, it is a distinct species. It occurs also in North Carolina.

† Close to *Coosæensis*, Lea, (*tæniata*, Conr.) but is more constricted, has three bands only, and is not maculate. It is stouter and more conical.

Synonymy of the Species of STREPOMATIDÆ, a Family of Fluviatile Mollusca inhabiting North America.

Part 4.

BY GEORGE W. TRYON, JR.

The first, second and third parts of this paper* included all the species then known to science, except a peculiar group, of about sixty species of *Goniobasis*, inhabiting principally the Coosa River, Alabama. The species of this group are distinguished from others of the genus by their heavy, bulbous or cylindrical, or pupæform shapes, and their very short spires. I was not satisfied that they belonged to the genus *Goniobasis*, and therefore reserved them for further study.

Mr. Lea has since eliminated from this group principally, his excellent genus *Eurycælon*, which still leaves most of the species, however, in *Goniobasis*. Finding that I am still unable to make a satisfactory separation, I have concluded to finish the synonymy, treating these shells as *Goniobases*.

I avail myself of this opportunity to publish those additions and corrections in the synonymy of the first three parts, which the kind assistance of my friends, and particularly of Mr. Lea, together with my own investigations have enabled me to make.

Including the species of the present paper, my Catalogue now embraces about five hundred species and three hundred synonyms†.

IO, Lea.

1. I. fluvialis, Say.
   Io fluviatilis, H. and A. Adams' Genera i. p. 299. Brot, Malaco Blatt. ii. p. 114, July, 1860.
   Io fusiformis, Lea, Chenu, Man. Conchyl. i. f. 1977.
   Io fusiformis, Say, H. and A. Adams' Genera i. p. 299.
   Io tenebrosa, Lea, H. and A. Adams' Genera i. p. 299. Troschel, Archiv fur Naturgesch. ii. p. 130, 1843.

3. I. spinosa, Lea.
   Io spinosa, Lea, Chenu, Man. de Conchyl. i. f. 1973. Morch, Yoldi, Cat. p. 56. Adams' Genera i. p. 299.

PLEUROCERA, Raf.

1. P. alveare, Con.
   Melania alveare, Conr., Müller, Synopsis, p. 46, 1836.
   Megara alveare, Con., Adams' Genera i. p. 306.
   Megara torquata, Lea, Adams' Genera i. p. 306.
   Io pernodosa, Lea, Adams' Genera i. p. 299.

2. P. Foremani, Lea.
   Gyrotoma Foremani, Lea, ? Adams' Genera i. p. 305.

3. P. undulatum, Say.
   Melania undulata, Say, Brot, Mal. Blatt. ii. p. 106, July, 1860.
   Megara undulata, Say, Adams' Genera i. p. 306.

4. P. excuratum, Conrad.
   Melania excurata, Conr., Müller, Synopsis, p. 43, 1836.

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* Proceedings Acad. Nat. Sciences, Nov., 1863, p. 306; Feb., 1864, p. 24; April, 1864, p. 92.

† The species, published by Mr. Lea in the Proceedings of the Academy for 1864, are not all included in this paper, as the short diagnoses do not allow me to place them in a satisfactory manner. As soon as the full descriptions and figures are published in our Journal, I will indicate their proper places in this list.

6. P. nobile, Lea.
Io nobilis, Lea, Adams' Genera i. p. 299.

8. P. canaliculatum, Say.
Io canaliculata, Say, Morch, Yoldi, Cat. p. 56.
Ceriphasia canaliculata, Say, Adams' Genera i. p. 297.
Melania conica, Say, Sowerby, Mollusca, Fauna Boreali Americana, iii. p. 316, 1836.
Gyrotoma conica, Say, Adams' Genera i. p. 305.
Melania Sayi, Deshayes, Encyc. Meth. Vers. ii. p. 427, 1830.

9. P. filum, Lea.
Elimia filum, Lea, Adams' Genera i. p. 300.

11. P. olivaceum, Lea.
This species should follow No. 21.

16*a*. P. trivittatum, Lea.*
Synonymy, Part 1st, No. 79.

17*a*. P. fastigiatum, Anthony.
Synonymy, Part 1st, No. 44.

28. P. unciale, Haldeman.
P. unciale, Hald., Synonymy, Part 1st, No. 67.
P. bicostatum and *rigidum*, Anth., ibid. No. 28.
P. sugillatum, Reeve, ibid. No. 68.
G. oblita, Lea, Synonymy, Part 2, No. 126.

29. P. subulare, Lea.
Ceriphasia subularis, Lea, Adams' Genera i. p. 297.

29*a*. P. intensum, Anthony.
Melania intensa, Anthony, Reeve, Monog. sp. 371. Brot, List, p. 30.

33. P. annuliferum, Conrad.
Melania annulifera, Conr., Müller, Synopsis, p. 44.
Ceriphasia annulifera, Conr., Adams' Genera i. p. 297.
Ceriphasia Ordiana, Lea, ibid. p. 297.

38. P. elevatum, Say.
Elimia elevata, Lea, Adams' Genera i. p. 300.
Ceriphasia elongata, Lea, ibid. p. 297, not *Ceriph. elevata*, Say, of Chenu, Man. i. f. 1961.

40. P. aratum, Lea.
Ceriphasia exarata, Lea, Adams' Genera i. p. 297.

44. P. fastigiatum, Anthony.
Should be No. 17*a*.

49. P. pyrenellum, Conrad.
Melania pyrenella, Conrad, Müller, Synopsis, p. 45.

51. P. regulare, Lea.
Ceriphasia regularis, Lea, Adams' Genera i. p. 297.

55. P. labiatum, Lea.

55*a*. P. pallidum, Lea.†

57. P. vestitum, Conrad.‡

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* Perhaps = *Thorntonii*.
† After a thorough examination of the specimens of *labiatum* and *pallidum*, I incline to the belief that they are distinct.
‡ *G. spinalis*, Lea, may be identical with this species.

Melania vestita, Conrad, Müller, Synopsis, p. 47.

57*a*. P. lugubre, Lea.
Melania lugubris, Lea, Philos. Proc. iv. p. 166, August, 1845. Philos. Trans. x. p. 58, t. 9, f. 29. Obs. iv. p. 58. Binney, Check List, No. 164. Brot, List, p. 31.
Goniobasis spurca, Lea, Synopsis, Part 2d, No. 177.
Ceriphasia spurca, Lea, H. and A. Adams' Genera i. p. 297.

58*a*. P. pictum, Lea.
Melania picta, Lea, Philos. Proc. ii. p. 82, Oct., 1841. Philos. Trans. ix. p. 19. Obs. iv. p. 19. Wheatley, Cat. Shells, U. S. p. 26. Binney, Check List, No. 205. Reeve, Monog. Melania, sp. 290.
Melania picturata, Reeve,* Errata to Monog. Melania. Brot, List, p. 38.

63*a*. P. Ocoéense, Lea.
Goniobasis Ocoéensis, Lea, Synonymy, Part 2d, No. 181.

67. P. unciale, Haldeman.
Synonymy, Part 1st, = No. 28.

68. P. sugillatum, Reeve,
Synonymy, Part 1st, = No. 28.

76. P. curvatum, Lea.
Gyrotoma curvata, Say, ? Adams' Genera i. p. 305.

79. P. trivittatum, Lea.
Synonymy, Part 1st, = No. 16*a*.

83. P. opaca, Anthony.
G. opaca, iostoma and *nigrostoma*, Anthony, Synonymy, Part 2d, No. 119.
P. Tennesséense, Lea, Synonymy, Part 1st, No. 83.

ANGITREMA, Haldeman.

1. A. geniculata, Haldeman.
Lithasia genicula, Lea, Adams' Genera i. p. 308.

2. A. salebrosa, Conrad.
Melania salebrosa, Conrad, Müller, Synopsis, p. 44.
Lithasia salebrosa, Conrad, Adams' Genera i. p. 308.

5. A. Jayana, Lea.
Io Jayana, Lea, Brot, Mal. Blatt. ii. p. 115, July, 1860.
Io robulina, Anthony, Chenu, Manuel de Conchyl. i. f. 1976. Adams' Genera i. p. 299.

7. A. armigera, Say.
Io armigera, Say, Adams' Genera i. p. 299.

8. A. Duttoniana, Lea.
Io Duttoniana, Lea, Chenu, Man. de Conchyl. i. f. 1974. Adams' Genera, i. p. 299.

9. A. stygia, Say.
Io tuberculata, Lea, Adams' Genera i. p. 299.

11. A. lima, Conrad.
Melania lima, Conr. Müller, Synopsis, p. 46.
Megara lima, Conr., Adams' Genera i. p. 306.

12. A. verrucosa, Rafinesque.
Potadoma depygis, Say, Chenu, Manuel de Conchyl. i. f. 1970.
Lithasia semigranulosa, Deshayes, Adams' Genera i. p. 308.

* As a *Pleurocera*, the name of *picta* is not preoccupied.

LITHASIA, Haldeman.

1. L. fuliginosa, Lea.
Leptoxis fuliginosa, Lea, Adams' Genera i. p. 307.

2. L. Florentiana, Lea.
Io Florentiana, Lea, H. and A. Adams' Genera i. p. 299.

9. L. nucleola, Anthony.
L. obliqua, Anthony, Synonymy, Part 1st, No. 14.

11. L. obovata, Say.
Lithasia obovata, Say, Adams' Genera i. p. 308.
Leptoxis Hildrethiana, Lea, Adams' Genera i. p. 307.

14. L. obliqua, Anthony.
Synonymy, Part 1st, = *L. nucleola*, Anthony, No. 9.

STREPHOBASIS, Lea.

1. S. curta, Haldeman.
Megara solida, Lea, Adams' Genera i. p. 306.

2. S. pumila, Lea.
Megara pumila, Lea, Adams' Genera i. p. 306.

8. S. bitaeniata, Conrad.
Melania bitæniata, Conrad, Müller, Synopsis, p. 45.

GONIOBASIS, Lea.

2. G. gratiosa, Lea.

2*a*. G. lachryma, Anthony.
Both=EURYCÆLON.

3. G. gibberosa, Lea.
=EURYCÆLON.

4. G. nubila, Lea.
=EURYCÆLON.

6. G. Hydeii, Conrad.
Melania Hydeii, Conrad, Müller, Synopsis, p. 44.

8. G. caelatura, Conrad.

8*a*. G. Stewardsoniana, Lea.*

8b. G. flavescens, Lea.†

Goniobasis flavescens, Lea, Proc. Acad. Nat. Sciences, p. 271, 1862—Journal Acad. Nat. Sci., v. pt. 3, p. 339, t. 38, f. 202, March, 1863. Obs. ix. p. 161.

10. G. catenaria, Say.
Elimia catenaria, Lea, Adams' Genera i. p. 300.

11. G. catenoides, Lea.
Elimia catenoides, Lea, Adams' Genera i. p. 300.

14. G. Boykiniana, Lea.
Elimia Boykiniana, Lea, Adams' Genera i. p. 300.
Juga Troostiana, Lea, Chenu, Man. de Conchyl. i. f. 2017.

22. G. carinifera, Lamarck.
Elimia bella, Conrad, Adams' Genera i. p. 300.

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*Differs from *G. cælatura* in color, being dark green. It is also a more inflated species, with shorter spire.
†Nearly allied to *cælatura*, but is narrower, more cylindical and lighter in color.

22*a*. G. abbreviata, Anthony.
Melania abbreviata, Anth., Bost. Proc., iii. p. 360, Dec., 1850. Binney, Check List, No. 433. Reeve, Monog. Melania, sp. 424.
Melania elegantula, Anthony, Ann. N. Y. Lyc., vi. p. 103, t. 3, f. 2, Mar., 1854. Binney, Check List, No. 96. Brot. List, p. 32. Reeve, Monog. Melania sp. 346.
Melania coronilla, Anth., Ann. Lyc., N. H., New York, vi. p. 126, t. 3, f. 27, Mar., 1854. Binney, Check List, No. 69. Brot. List, p. 32, Reeve, Monog. Mel., sp. 418.
Melania chalybœa, Anth., Brot. List, p. 37.

22*b*. G. vesicula, Lea.
Synonymy, Part. 2, No. 41.

25. G. substricta, Haldeman.
Synonymy, Part 2=No. 31. *G. obtusa*, Lea.

28. G. carinocostata, Lea.
Elimia carinocostata, Lea, Adams' Genera, i. p. 300.

28*a*. G. strenua, Lea.
G. Leidyana, Lea.
G. carinocostata, Lea, Synonymy, Part 2.

28*b*. G. perstriata, Lea.
Synonymy, Part 2, No. 73.

29. G. Lecontiana, Lea.
Melasma Lecontiana, Lea, Adams' Genera i. p. 300.

30. G. cadus, Lea.
Synonymy, Part 2=*G. obtusa*, Lea, No. 31.

31. G. obtusa, Lea.
G. substricta, Haldeman, Synonymy, Part 2, No. 25.
G. cadus, Lea, Synonymy, Part 2, No. 30.

34. G. Christyi, Lea, is a Synonym of No. 37.

37. G. interrupta, Haldeman.
G. Christyi, Lea. *G. instabilis*, Lea, Synonymy, Part 2, No. 34.
G. ornatella, Lea, is a Synonym, of No. 39.

39. G. formosa, Conrad.
G. ornatella, Lea, Synonymy, Part 2, No. 37.

41. G. vesicula, Lea.
See No. 22, *b*.

43. G. laqueta, Say.
Melasma laqueata, Say, Adams' Genera i. p. 300.

47. G. gracilis, Lea.
Potadoma gracilis, Lea, H. and A. Adams' Genera i. p. 299.

53. G. blanda, Lea.
Melasma blanda, Lea, Adams' Genera i. p. 300.

54. G. nitens, Lea.
Melasma nitens, Lea, Adams' Genera i. p. 300.

55. G. mutata, Brot.*

59. G. Curreyana, Lea.
Melasma Curreyana, Lea, Adams' Genera i. p. 300.

*Much resembles *G. difficilis*, Lea, No. 81.

61. G. Deshayesiana, Lea.
Melasma plicatula, Lea, Adams' Genera i. p. 300.
Melasma Deshayesiana, Lea, Adams' Genera i. p. 300.

69*a*. G. Lindsleyi,* Lea.
Syn. of *dislocata*, Rav., Part 2, Synonymy, No. 69.

72. G. nassula, Conrad.
Melania nassula, Conr., Müller, Synopsis, p. 46.
G. Edgariana, Lea, Synonymy, Part 2, No. 77.
Melasma Edgariana, Lea, Adams' Genera i. p. 300.

75. G. costulata, Lea.
Melasma costulata, Lea, Adams' Genera i. p. 300.

77. G. Edgariana, Lea.
Vide, No. 72.

78. G. caliginosa, Lea.
Elima caliginosa, Lea, Adams' Genera i. p. 300.

79. G. nodulosa, Lea.
Elimia nodulosa, Lea, Adams' Genera, No. 300.

80. G. glauca, Anthony.
= *G. athleta*, Anthony, No. 86.

84. G. cancellata, Say.
Elimia cancellata, Say, Adams' Genera i. No. 84.

85. G. circincta, Lea.
Juga circincta, Lea, Adams' Genera i. p. 294.

86. G. athleta, Anthony.
G. glauca, Anthony, Synonymy, Part 2, No. 80.

88. G. striatula, Lea.
Juga striata, Lea, Adams' Genera i. p. 304.

91. G. crebicostata, Lea.
Melasma crebricostata, Lea, Adams' Genera i. p. 300.

92. G. comma, Conrad.
Melania comma, Conr., Müller, Synopsis, p. 45.
Melasma comma, Conr., Adams' Genera i. p. 300.

93. G. acuta, Lea.
Ceriphasia acuta, Lea, Adams' Genera i. p. 297.

94. G. subcylindracea, Lea.
Potadoma subcylindracea, Lea, Adams' Genera i. p. 299.

96. G. concinna, Lea.
Melasma concinna, Lea, Adams' Genera i. p. 300.

103. G. plicifera, Lea.
Melania plicifera, Lea, Troschel, Archiv fur Naturgesch. ii. p. 227.
Melasma plicifera, Adams' Genera i. p. 300.

104. G. silicula, Gould.
Juga silicula, Gould, Adams' Genera i. p. 304.

108. G. trochiformis, Conrad.
Melania trochiformis, Conr., Müller, Synopsis, p. 47.

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* The aperture is differently shaped from *dislocata*. The plicæ are also more crowded, and decussated by one or two lines under the sutures.

111*a*. G. expansa, Lea.*

118. G. plebeius, Anthony.
=*G. sordida*, Lea, No. 186.

119. G. opaca, Anthony.
=*Pleurocera opaca*, Anthony, No. 83.

123. G. modesta, Lea.†

124. G. pagodiformis, Anthony.
=*G. acutocarinata*, Lea, No. 127.

125. G. Gerhardtii, Lea.‡

126. G. oblita, Lea.
=*Pleurocera unciale*, Hald., Synonymy, Part 1, No. 28.

127. G. acutocarinata, Lea.
G. pagodiformis, Anthony. *G. torulosa*, Anth., No. 124.
Elimia acutocarinata, Lea, Adams' Genera i. p. 300.

129. G. Catawbaea, Haldeman.
Goniobasis Catawbœa, Hald., Amer. Jour. Conch. vol. 1, No. 1, Feb. 25, 1865.

132. G. symmetrica, Haldeman.
Ceriphasia symmetrica, Hald. Adams' Genera i. p. 297.

138. G. congesta, Conrad.
Melania congesta, Conr., Müller, Synopsis, p. 43.

139. G. auriculaeformis, Lea.
Megara auriculæformis, Lea, Adams' Genera i. p. 306.

140. G. Nickliniana, Lea.
Leptoxis Nickliniana, Lea, Adams' Genera i. p. 307.

143. G. ebenum, Lea.§
Nitocris ebena, Lea, Adams' Genera i. p. 308.
Melania brunnea, Anth.=*G. sordida*, Lea, No. 186.

148. G. graminea, Haldeman.
Goniobasis graminea, Hald., American Journ. Conch. i. No. 1. Feb. 25, 1865.

150. G. Vanuxemii, Lea.
Changed to *G. Prestoniana*, Proc. Acad., 1864, p. 3, *Vanuxemii* being preoccupied.
=*G. simplex*, Say, No. 157.

153. G. abrupta, Lea.
Leptoxis abrupta, Lea, Adams' Genera i. p. 307.

154. G. depygis, Say.
Potadoma depygis, Say, Adams' Genera i. p. 298.

155. G. livescens, Menke.
Potadoma Niagarensis, Lea, Adams' Genera i. p. 299.

157. G. simplex, Say.
G. subsolida, Lea, No. 186, excl. synonyms.

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*Very closely allied to, or perhaps=*G. Whitei*, No. 111.
†Perhaps=*Pleurocera lugubris*, Lea.
‡This is probably the same as *G. semigradata*, No. 27.
§Mr. Lea agrees with me in considering this species distinct from *iostoma*, Anth.; and also in making *brunnea* a synonym of *sordida* instead of *ebenum*.

G. Vanuxemii, Lea, No. 150.
Pachycheilus simplex, Say, Adams' Genera i. p. 298.
Potadoma Warderiana, Lea, Adams' Genera i. p. 299, Chenu, Manuel, i. f. 1972.

158. G. Potosiensis, Lea.
Elimia Potosiensis, Lea, H. and A. Adams' Genera i. p. 300.

160*a*. G. virens, Anthony.*
Syn. of *G. Saffordi*. Synonymy, Part 2d, No. 160.

167. G. cinerea, Lea.†

170. G. translucens, Anthony.
Goniobasis translucens, Anthony, Am. Journ. Conch. i., Feb. 25, 1865.

171. G. ovoidea, Lea.
Potadoma ovoideus, Lea, Adams' Genera i. p. 299.

173. G. quadricincta, Lea.
Goniobasis quadricincta, Lea, Proc. Acad. Nat. Sci., Apr. 1864, p. 112.

177. G. spurca, Lea.
= *Pleurocera*, No. 57*a*.

181. G. Ocoëensis, Lea.
Potadoma Ocoëensis, Lea, Adams' Genera i. p. 299. = Pleurocera, No. 63*a*.

184. G. Estabrookii, Lea.
= *G. dubiosa*.

186. G. subsolida, Lea.
= *G. simplex*, Say, No. 157.
Potadoma subsolida, Lea, H. and A. Adams' Genera i. p. 299.

186*a*. G. sordida, Lea.
Potadoma sordida, Lea, H. and A. Adams' Genera i. p. 299.
G. plebeia, Anth., Synonymy, Part 2d, No. 118.
G. brunnea, Anth., Synonymy, Part 2d, No. 143.

187. G. clavaeformis, Lea.
Melasma clavaeformis, Lea, H. and A. Adams' Genera i. p. 300.

191. G. adusta, Anthony.
G. Cumberlandiensis, Lea, Synonymy, Part 2d, No. 189.
G. funebralis, Anthony, Synonymy, Part 2d, No. 190.

193. G. dubiosa, Lea,
G. Estabrookii, Lea, Synonymy, Part 2d, No. 184.

194. G. laevigata, Lea.
Potadoma lævigata, Lea, H. and A. Adams' Genera i. p. 299.

195. G. interlineata, Anthony.
Goniobasis interlineata, Anthony, Am. Jour. Conch. vol. i., Feb. 25, 1865.

196. G. Ohiensis, Lea.‡

197. G. brevispira, Anthony.
Melasma brevispira, Anth., Adams' Genera i. p. 300.

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* Appears to be distinct from *G. Saffordi*. The shell is less solid, the aperature is not exactly of the same form, and the color is lighter and more brilliant.
† Most likely the locality given for this species is incorrect. It is probably identical with *pulchella*, Anthony.
‡ Probably = *G. semicarinata*, Say, No. 198.

198. G. semicarinata, Say.
Juga exilis, Hald., Adams' Genera i. p. 304.
Ceriphasia Kirtlandiana, Adams' Genera i. p. 297.
Potadoma inornatus, Adams' Genera i. p. 299.

199. G. Haldemani, Tryon.
Goniobasis Haldemani, Tryon, Am. Journ. Conch. i., Feb. 25, 1865.

203. G. Alexandrensis, Lea.*
Ceriphasia Alexandrensis, Lea, Adams' Genera i. p. 297.

204. G. Haleiana, Lea.
Ceriphasia Haleiana, Lea, Adams' Genera i. p. 297.

208. G. proxima, Say.
Juga proxima, Say, Adams' Genera i. p. 304.

208*a*. G. rufescens, Lea.†
Potadoma rufescens, Lea, Adams' Genera i. p. 299.

209. G. Virginica, Gmel.
Buccinum Virginica, Gmel. Syst. Nat. p. 3505. Schröter, Einleit. i. p. 414, 1783. Martini, Berlin Mag. iv. p. 348, t. 10, f. 48. Schreibers, Einleit. Conchyl. t. 113, f. 7.
Melania Virginica, Say, Villa., Cat. Syst. p. 36, 1841.
Io Virginica, Say, Morch, Yoldi Cat. p. 56.
Ceriphasia Virginica, Gmel., Adams' Genera i. p. 297.
Juga Virginica, Say, Adams' Genera i. p. 304.
Juga multilineata, Say, Adams' Genera i. p. 304.

210. G. Sulcosa, Lea.
Ceriphasia sulcosa, Lea, Adams' Genera i. p. 297.

211. G. Buddii, Lea.
Juga Buddii, Say, H. and A. Adams' Genera i. p. 304.

212. G. Troostiana, Lea.
Melania Troostiana, Lea, Troschel, Archiv fur Naturgesch. ii. p. 227.
Juga Troostiana, Lea, Adams' Genera i. p. 304.

J. Heavy, pupæform or cylindrical species.

217. G. cylindracea, Conrad.
Melania cylindracea, Con., New Fresh-Water Shells, p. 55, t. 8, f. 10, 1834. Müller, Synopsis, p. 47, 1836. Binney, Check List, No. 84.
Melania cylindrica, Con., Wheatley, Cat. Shells, U. S., p. 25. Reeve, Monog. Melania, sp. 311. Brot, List, p. 32.
Melania oppugnata, Lea, Philos. Trans. x. p. 300, t. 30, f. 9. Observations, v. p. 56. Binney, Check List, No. 190.

218. G. pupoidea, Anthony.‡
Melania pupoidea, Anthony, Ann. Lyc. Nat. Hist. N. Y., vi. p. 104, t. 3, f. 3, April, 1854. Brot, List, p. 33. Binney, Check List, No. 224. Reeve, Monog. Melania, sp. 249.
Melania propinqua, Lea, Proc. Acad. Nat. Sci., p. 119, 1861.
Goniobasis propinqua, Lea, Journ. Acad, Nat. Sci., v. pt. 3, p. 234, t. 34, f. 29, March, 1863. Obs. ix. p. 56.

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* May be a *Pleurocera*.
† This is a longer and narrower species than *G. proxima*, the color is also darker.
‡ Without the large series of specimens before me, I should have acquiesced in the institution of *propinqua* as a distinct species; but I find every grade of form between the two. The shorter forms approach closely to *olivula*, Con., with which they have been confounded. They are distinguished by difference in color, and principally of texture, *olivula* being much heavier.

219. G. lita, Lea.*
Melania lita, Lea, Proc. Acad. Nat. Sciences, 1861, p. 121.
Goniobasis lita, Lea, Journ. Acad. Nat. Sci., v. pt. 3, p. 239, t. 34, f. 40, March, 1863. Obs. ix. p. 61.

220. G. fallax, Lea.
Melania fallax, Lea, Proc. Acad. Nat. Sciences, 1861, p. 120.
Goniobasis fallax, Lea, Journ. Acad. Nat. Sci. v. pt. 3, p. 231, t. 34, f. 24, March, 1863. Obs. ix. p. 53.

221. G. inosculata, Lea.†
Goniobasis inosculata, Lea, Proc. Acad. Nat. Sci. p. 263, 1862. Journ. Acad. Nat. Sci. v. pt. 3, p. 296, t. 37, f. 126, March, 1863. Obs. ix. p. 118.

222. G. Alabamensis, Lea.
Melania Alabamensis, Lea, Proc. Acad. Nat. Sci. 1861, p. 121.
Goniobasis Alabamensis, Lea, Jour. Acad. Nat. Sci. v. pt. 3, p. 232, t. 34, f. 26, March, 1863. Obs. ix. p. 54.

223. G. rara, Lea.
Melania rara, Lea, Proc. Acad. Nat. Sci. p. 121, 1861.
Goniobasis rara, Lea, Journ. Acad. Nat. Sci. v. pt. 3, p. 220, t. 34, f. 3, March, 1863. Obs. ix. p. 42.

224. G. punicea, Lea. ‡
Melania punicea, Lea, Proc. Acad. Nat. Sci., p. 119, 1861.
Goniobasis punicea, Lea, Journ. Acad. Nat. Sci. v. pt. 3. p. 232, t. 34, f. 27, March, 1863. Obs. ix. p. 54.

225. G. pudica, Lea.
Melania pudica, Lea, Proc. Acad. Nat. Sci. v. pt. 3, p. 222, t. 34, f. 7, Mar. 1863. Obs. ix.

226. G. fabalis, Lea.
Goniobasis fabalis, Lea, Proc. Acad. Nat. Sci. p. 266, 1862. Journ. Acad. Nat. Sci. v. pt. 3, p. 311, t. 37, f. 154, March, 1863. Obs. ix. p. 133.

227. G. Shelbyensis, Lea §
Melania Shelbyensis, Lea, Proc. Acad. Nat. Sci. p. 121, 1861.
Goniobasis Shelbyensis, Lea, Journ. Acad. Nat. Sci. v. pt. 3, p. 228, t. 34, f. 18, March, 1863. Obs. ix. p. 50.

228. G. fumea, Lea.
Melania fumea, Lea, Proc. Acad. Nat. Sci. 1861, p. 123.
Goniobasis fumea, Lea, Journ. Acad. Nat. Sci. v. pt. 3, p. 222, t. 34, f. 6, March, 1863. Obs. ix. p. 44.

229. G. aequa, Lea.
Melania æqua, Lea, Proc. Acad. Nat. Sci. 1861, p. 122.
Goniobasis æqua, Lea, Journ. Acad. Nat. Sci. v. pt. 3, p. 240, t. 34, f. 41, March, 1863. Obs. ix. p. 62.

230. G. solidula, Lea.
Melania solidula, Lea, Proc. Acad. Nat. Sci. 1861, p. 121.
Goniobasis solidula, Lea, Journ, Acad. Nat. Sci. v. pt. 3, p. 230, t. 34, f. 23. Obs. ix. p. 52.

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*I doubt whether this is distinct from *G. Haysiana*. In all the specimens I have examined, the aperture is white within, instead of purple as described by Mr. Lea,
†The whorls are more convex and brighter in color than *G. fallax*. This species is constantly ornamented by four dark bands.
‡Very closely allied to *pudica*, if not identical with that species.
§Differs from *pudica* in the form of the aperture, the whorls are also flatter.

231. G. olivula, Conrad.
Melania olivula, Con., Am. Journ. Science, 1st Series, xxv. p. 342, t. 1, f. 13, Jan., 1834. Müller, Synopsis, p. 42, 1836. Wheatley, Cat. Shells, U. S., 26. DeKay, Moll. New York, p. 98. Jay, Cat. Shells, 4th Edit. p. 274. Reeve, Monog. Melania, sp. 455.* Binney, Check List, No. 188. Brot, List, p. 33. Hanley, Conch. Miscellany, t. 1, f. 2.
Megara olivula, Con., Chenu, Manuel, i. f. 2027. Adams' Genera i. p. 306.
Melania olivata, Con., Jay, Cat. 3d Edit. p. 45. Catlow, Conch. Nomenc. p. 188.
Melania propria, Lea, Proc. Acad. Nat. Sciences, 1861, p. 123.†
Goniobasis lepida, Lea, Journ. Acad. Nat. Sciences, v. pt. 3, p. 227, t. 34, f. 17, March, 1863. Obs. ix. p. 49.

232. G. fascinans, Lea.
Melania fascinans, Lea, Proc. Acad. Nat. Sciences, p. 119, 1861.
Goniobasis fascinans, Lea, Journ. Acad. Nat. Sci. v. pt. 3, p. 229, t. 34. f. 20, March, 1863. Obs. ix. p. 51.

233. G. Showalterii, Lea.
Melania Showalterii, Lea, Proc. Acad. Nat. Sciences, 1861, p. 120.
Goniobasis Showalterii, Lea, Jour. Acad. Nat. Sci. v. pt. 3, p. 220, t. 34, f. 4. Obs. ix. p. 42.

234. G. clausa, Lea.
Melania clausa, Lea, Proc. Acad. Nat. Sciences, 1861, p. 120.
Goniobasis clausa, Lea, Jour. Acad. Nat. Sci. v. pt. 3, p. 231, t. 34, f. 25, March, 1863. Obs. ix. p. 53.

235. G. crepera, Lea.
Melania crepera, Lea, Proc. Acad. Nat. Sci. 1861, p. 123.
Goniobasis crepera, Lea, Journ. Acad. Nat. Sci. v. pt. 3, p. 240, t. 34, f. 42, March, 1863. Obs. ix. p. 62.

236. G. abscida, Anthony.
Melania abscida, Anthony, Proc. Acad. Nat. Sciences, 1860, p. 56. Binney, Check List, No. 435. Brot, List, p. 32. Reeve, Monog. Melania, sp. 395.

237. G. Vanuxemiana, Lea.
Melania Vanuxemiana, Lea, Proc. Philos. Soc. ii. p. 242, Dec., 1842. Philos. Trans. ix. p. 25. Obs. ix. p. 25. Reeve, Monog. Melania, sp. 453. Brot, List, p. 33.
Melania Vanuxemensis, Lea, Wheatley, Cat. Shells, U. S., p. 27. Binney, Check List, No. 283.
Megara Vanuxemiana, Lea, Adams' Genera i. p. 306.

238. G. Coosaensis, Lea.‡
Melania Coosaensis, Lea, Proc. Acad. Nat. Sci. 1861, p. 118.
Goniobasis Coosaensis, Lea, Journ. Acad. Nat. Sciences, v. pt. 3, p. 234, t. 34, f. 30. March, 1863. Obs. ix. p. 56.

238. G. rubicunda, Lea.
Melania rubicunda, Lea, Proc. Acad. Nat. Sciences, 1861, p. 118.
Goniobasis rubicunda, Lea, Journ. Acad. Nat. Sci., v. pt. 3, p. 235 t. 34, f. 32, March, 1863. Obs. ix. p. 57.

240. G. Haysiana, Lea.
Melania Haysiana, Lea, Philos. Proc. ii. p. 242, Dec., 1842. Philos. Trans.

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* Reeve figures for this shell also sp. 309, but the figure does not represent the species.
† Preoccupied. *Showalterii* and *fascinans* are also probably synonyms of *olivula*.
‡ Differs from *G. Haysiana* in the form of the apertnre.

ix. p. 25. Obs. iv. p. 25. Wheatley, Cat. Shells, U. S., p. 25. Jay, Cat. Shells, 4th Edit. p. 273. Binney, Check List, No. 137. Brot, List, p. 32. Brot, Mal. Blatt. ii. p. 108, July, 1860.* Reeve, Monog. Melania, sp. 310. Hanley, Conch. Miscel. Melania, t. 1, f. 6.

Megara Haysiana, Lea, Chenu, Manuel, i. f. 1981. Adams' Genera i. p. 306.

241. G. arctata, Lea.

Melania arctata, Lea, Philos. Proc. iv. p. 166. Philos. Trans. x. p. 64, t. 9. f. 46. Obs. iv. p. 64. Binney, Check List, No. 20. Brot, List, p. 32.

Megara arctata, Lea, Chenu, Manuel, i. f. 2024. Adams' Genera i. f. 306.

242. G. ampla, Anthony.

Melania ampla, Anthony, Ann. N. Y. Lyceum, vi. p. 93, t. 2, f. 12, 1854. Binney, Check List, No. 13. Brot, List, p. 39. Reeve, Monog. Melania, sp. 312.

Melania Hartmaniana, Lea, Proc. Acad. Nat. Sciences, 1861.

Goniobasis Hartmanii, Lea, Journ. Acad. Nat. Sci. v. pt. 3, p. 218, t. 34, f. 1, 1863. Obs. ix. p. 40.

243. G. mellea, Lea.

Melania mellea, Lea, Proc. Acad. Nat. Sciences, 1861, p. 120.

Goniobasis mellea, Lea, Journ. Acad. Nat. Sci. v. pt. 3, p. 224, t. 34, f. 10, 1863. Obs. ix. p. 46.

244. G. ambusta, Anthony.

Melania ambusta, Anthony, Ann. Lyc. Nat. Hist. vi. p. 94, t. 2, f. 13, 1854. Binney, Check List, No. 12. Brot, List, p. 39. Reeve, Monog. Melania, sp. 352.

245. G. laeta, Jay.

Melania laeta, Jay, Cat. Shells, 3d Edit. p. 122, t. 7, f. 11, 1839. Jay, Cat. Shells, 4th Edit. p. 274. Wheatley, Cat. Shells, U. S., p. 26. Binney, Check List, No. 156. Catlow, Conch. Nomenc. p. 187. Brot, List, p. 32.

Melania robusta, Lea, Philos. Proc. ii. p. 83, October, 1841. Philos. Trans. ix. p. 19. Obs. iv. p. 19. Wheatley, Cat. Shells, U. S., p. 26. Binney, Check List, No. 231.

Melatoma Buddii, Lea,† Reeve, Monog. Melatoma, sp. 3.

Melania tæniolata,‡ Anthony, Proc. Acad. Nat. Sciences, 1860, p. 59. Binney, Check List, No. 263. Brot, List, p. 31. Reeve, Monog. Melania, sp. 392.

246. G. harpa, Lea.

Melania harpa, Lea, Philos. Proc. iv. p. 166, August, 1845. Philos. Trans. x. p. 64, t. 9, f. 45. Obs. iv. p. 64. Binney, Check List, No. 135. Brot, List, p. 32. Reeve, Monog. Melania, sp. 313, 314.

Megara harpa, Lea, Adams' Genera i. p. 306.

Melania textilosa, Anthony,§ Ann. Lyc. Nat. Hist. vi. p. 101, t. 2, f. 20, 1854. Binney, Check List, No. 270. Brot, List, p. 40. Reeve, Monog. Melania, sp. 391.

247. G. oliva, Lea.‖

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* Dr. Brot considers *arctata*, *robusta*, *brevis* and *basalis* synonyms.

† It is curious that Mr. Reeve has figured and described this shell for the *Schizostoma* (*Melatoma*,) *Buddii*, Lea.

‡ Half grown shell. It presents a very different appearance from the adult.

§ Half grown shell.

‖ This shell is narrower than *G. laeta*, resembling *harpa* in form; but the aperture is wider and more rounded below. It is very closely allied to *G. excavata*,—which is a smooth species, however.

Melania oliva, Lea, Philos. Proc. ii. p. 242, 1842. Philos. Trans., ix. p. 27. Obs. iv. p. 127. Wheatley, Cat. Shells U. S., p. 26. Binney, Check List, No. 187. Brot, List, p. 33.
Megara oliva, Lea, Adams' Genera i. p. 306.

248. G. proteus, Lea.
Melania proteus, Lea, Philos. Proc. iv. p. 166, 1845. Philos. Trans., x. p. 57, t. 9, f. 28. Obs. iv. p. 57. Binney, Check List, No. 219. Brot, List, p. 33.
Juga proteus, Lea, Adams' Genera i. p. 304.

249. G. grisea, Anthony.
Melania grisea, Anthony, Proc. Acad. Nat. Sciences, 1860, p. 61. Reeve, Monog. Melania, sp. 390. Brot, List, p. 32.

250. G. culta, Lea.
Melania culta, Lea, Proc. Acad. Nat. Sciences, p. 121, 1861.
Goniobasis culta, Lea, Jour. Acad. Nat. Sci., v. p. 13, p. 237, t. 34, f. 36. Mar., 1863. Obs. ix. p. 59.
Melania suavis,* Lea, Proc. Acad. Nat. Sci., p. 169, 1861.
Goniobasis suavis, Lea, Jour. Acad. Nat. Sci., v. pt. 3, p. 228 t. 34, f. 19. Mar., 1863. Obs. ix. p. 50.

251. G. luteola, Lea.
Melania luteola, Lea, Proc. Acad. Nat. Sci., p. 119, 1861.

Goniobasis luteola, Lea, Jour. Acad. Nat. Sci., v. pt. 3, p. 230, t. 34, f. 22, Mar., 1863. Obs. ix. p. 52.
Melania straminea,† Lea, Proc. Acad. Nat. Sci., 1861, p. 121.
Goniobasis straminea, Lea, Jour. Acad. Nat. Sci., v. pt. 3, p. 227, t. 34, f. 16, Mar., 1863. Obs. ix. p. 49.

252. G. gravida, Anthony.
Melania gravida, Anth., Proc. Acad. Nat. Sci. p. 59, Feb., 1860. Reeve, Monog. Melania. Brot, List.

253. G. germana, Anthony.
Melania germana, Anth., Proc. Acad. Nat. Sci. p. 61, Feb., 1860. Binney, Check List, No. 120. Brot, List, p. 40. Reeve, Monog. Melania, sp. 383.

254. G. variata, Lea.
Melania variata, Lea, Proc. Acad. Nat. Sci. p. 119, 1861.
Goniobasis variata, Lea, Jour. Acad. Nat. Sci. v. pt. 3, p. 224, t. 34, f. 11, March, 1863. Obs. ix. p. 46.

255. G. ovalis, Lea.
Melania ovalis, Lea, Philos. Proc. ii. p. 242, Dec. 1842. Philos. Trans. ix. p. 25. Obs. ix. p. 25. Wheatley, Cat. Shells U. S. p. 26. Binney, Check List, No. 192. Reeve, Monog. Melania, sp. 448 and sp. 309.‡

Megara ovalis, Lea, Adams' Genera i. p. 306.
Melania copiosa, Lea, Proc. Acad. Nat. Sci. p. 122, 1861.
Goniobasis copiosa, Lea, Jour. Acad. Nat. Sci. v. pt. 3, p. 239, t. 34, f. 39. Obs. ix. p. 61.
Melania orbicula, Lea, Proc. Acad. Nat. Sci. p. 118, 1861.
Goniobasis orbicula, Lea, Jour. Acad. Nat. Sci. v. pt. 3, p. 238, t. 34, f. 37, March, 1863. Obs. ix. p. 60.

256. G. virgulata, Lea.
Melania virgulata,† Lea, Proc. Acad. Nat. Sci. p. 119, 1861.

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* Young shell.
† Young shell.
‡ Figured as *olivula*, Conr., but name corrected in Errata.

Goniobasis virgulata, Lea, Jour. Acad. Nat. Sci. v. pt. 3, p. 223, t. 34, f. 9, March, 1863. Obs. ix. p. 45.
Melania glandaria,* Lea, Proc. Acad. Nat. Sci. p. 120, 1861.
Goniobasis glandaria, Lea, Jour. Acad. Nat. Sci. v. pt. 3, p. 226, t. 34, f. 14, March, 1863. Obs. ix. p. 48.

257. G. clara, Anthony.
Melania clara, Anth., Ann. N. Y. Lyc. vi. p. 119, t. 3, f. 19, March, 1854. Binney, Check List, No. 55. Brot, List, p. 32.

258. G. inflata, Haldeman.†
Melania inflata, Hald., Cover of No. 3, Monog. Limniades, March, 1841. Binney, Check List, No. 146. Brot, List, p. 40. Reeve, Monog. Melania, sp. 410.

259. G. fusiformis, Lea. ‡
Melania fusiformis, Lea, Philos. Proc. ii. p. 12, Feb., 1841. Philos. Trans., viii. p. 167, t. 5, f. 9. Obs. iii. p. 5. DeKay, Moll. N. Y., p. 93. Troost. Cat. Shells Tenn. Wheatley, Cat. Shells U. S., p. 25. Binney, Check List, No. 117. Catlow, Conch. Nomenc., p. 186. Brot, List, p. 40.

260. G. bellula, Lea.
Melania bellula, Lea, Proc. Acad. Nat. Sci., p. 122, 1861.
Goniobasis bellula, Lea, Jour. Acad. Nat. Sci., v. pt. 3, p. 237, t. 34, f. 35, Mar., 1863. Obs. ix. p. 59.

261. G. calculoides, Lea.
Melania calculoides, Lea, Proc. Acad. Nat. Sci., p. 118, 1861.
Goniobasis calculoides, Lea, Jour. Acad. Nat. Sci. v. pt. 3, p. 238, t. 34, f. 38, Mar., 1863. Obs. ix. p. 60.

262. G. basalis, Lea, §
Melania basalis, Lea, Philos. Proc. iv. p. 166. Philos. Trans., x. p. 59, t. 9, f. 33. Obs. iv. p. 59. Binney, Check List, No. 28. Brot, List, p. 32. Reeve, Monog. Melania, sp. 471.
Anculotis basalis, Lea, Reeve, Monog. Anculotus, t. 5. f. 40.
Megara basalis, Lea, Adams' Genera i. p. 306.

263. G. Lewisii, Lea.
Melania Lewisii, Lea, Proc. Acad. Nat. Sci. p. 118, 1861.
Goniobasis Lewisii, Lea, Jour. Acad. Nat. Sci. v. pt. 3, p. 243, t. 35, f. 46, Mar., 1863. Obs. ix. p. 65.

264. G. ellipsoides, Lea.
Melania gracilior, Lea, ‖ Proc. Acad. Nat. Sci. 1861, p. 118.
Goniobasis ellipsoides, Lea, Jour. Acad. Nat. Sci. v. pt. 3, p. 234, t. 34, f. 31, Mar., 1863. Obs. ix. p. 56.

265. G. elliptica, Lea.
Melania elliptica, Lea, Proc. Acad. Nat. Sci. p. 118, 1861.
Goniobasis elliptica, Lea, Jour. Acad. Nat. Sci. v. pt. 3, p. 225, t. 34, f. 13, Mar., 1863. Obs. ix. p. 47.

266. G. bullula, Lea.
Melania bullula, Lea, Proc. Acad. Nat. Sci. p. 121, 1861.

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* This is the young, and *glandaria* the adult shell of the same species.
† Differs from *G. virgulata* by its obtusely angled whorls and somewhat diamond-shaped aperture.
‡ Much like *G. ambusta* when young, but more inflated, and the aperture more obtusely rounded below.
§ Resembles *glandaria*, but is thinner, the outer lip is more expanded, and the aperture rather larger. It is closely allied also to *fusiformis*, Lea.
‖ Preoccupied.

Goniobasis bullula, Lea, Jour. Acad. Nat. Sci. v. pt. 3, p. 221, Mar., 1863. Obs. ix. p. 43, t. 34, f. 5.

267. G. excavata, Anthony.*
Melania excavata, Anthony, Ann. Lyc. N. Y., vi. p. 99, t. 2, f. 18, Mar., 1854. Binney, Check List, No. 102. Brot, List, p. 32. Reeve, Monog. Melania, sp. 385.

268. G. purpurea, Lea.
Melania purpurea, Lea, Proc. Acad. Nat. Sci. p. 120.
Goniobasis purpurea, Lea, Jour. Acad. Nat. Sci. v. pt. 3, p. 225, t. 34, f. 12, Mar., 1863. Obs. ix. p. 47.

269. G. quadrivittata, Lea.
Melania quadrivittata, Lea, Proc. Acad. Nat. Sci. 1861, p. 119.
Goniobasis quadrivittata, Lea. Jour. Acad. Nat. Sci. v. pt. 3, p. 226, Mar., 1863. Obs. ix. p. 48.

270. G. propria, Lea.
Melania propria, Lea, Proc. Acad. Nat. Sci., p. 118, 1861.
Goniobasis propria, Lea, Jour. Acad. Nat. Sci., v. pt. 3, p. 229, t. 34, f. 21, Mar., 1863. Obs. ix. p. 52.

271. G. negata, Lea.
Goniobasis negata, Lea, Proc. Acad. Nat. Sci., p. 271, 1862. Jour. Acad. Nat. Sci., v. pt. 3, p. 337, t. 38, f. 200, Mar. 1863. Obs. ix. p. 159.

272. G. impressa, Lea.
Melania impressa, Lea, Philos. Proc. ii. p. 83, Oct. 1841. Philos. Trans, ix. p. 19. Obs. iv. p. 19. Wheatley, Cat. Shells U. S., p. 25. Jay, Cat. Shells, p. 274. Binney, Check List, No. 143. Brot, List, p. 32. Reeve, Monog. Melania, sp. 316, 349. Hanley, Conch. Miscel. Melania, t. 8, f. 69.
Megara impressa, Lea, Chenu, Manuel i. f. 2023, Adams' Genera i. p. 306.
Melania crebristriata, Lea,† Philos. Proc. iv. p. 166. Philos. Trans., x. p. 65, t. 9, f. 47. Obs. iv p. 65. Binney, Check List, No. 75. Catlow, Conch. Nomenc., p. 186. Brot, List, p. 32.
Megara crebristriata, Lea, Adams' Genera i. p. 306.

273. G. pergrata, Lea.‡
Melania pergrata, Lea, Proc. Acad. Nat. Sci., p. 122, 1861.
Goniobasis pergrata, Lea, Jour. Acad. Nat. Sci. v. pt. 3, p. 243, Mar., 1863. Obs. ix. p. 65.

274. G. capillaris, Lea.
Melania capillaris, Lea, Proc. Acad. Nat. Sci., p. 122, 1861.
Goniobasis capillaris, Lea, Jour. Acad. Nat. Sci. v. pt. 3, p. 236, t. 34, f. 34, Mar., 1863. Obs. ix. p. 58.

EURYCÆLON, Lea.

Eurycælon, Lea, Proc. Acad. Nat. Sci., p. 3, Jan., 1864.

1. E. umbonata, Lea.
Goniobasis umbonata, Lea, Proc. Acad. Nat. Sci., p. 3, 1864.

2. E. Midas, Lea.
Melania Midas, Lea, Proc. Acad. Nat. Sci., p. 119, 1861.
Goniobasis Midas, Lea, Jour. Acad. Nat. Sci., v. pt. 3, p. 233, t. 34, f. 28, Mar., 1863. Obs. ix. p. 55.

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*Mr. Anthony's type specimen exhibits unmistakable evidence of diseased growth.
†The difference in the number of striæ pointed out by Mr. Lea, is not a good distinctive character; they vary much in number on undoubted specimens of *impressa*. *G. crebristriata* is not full grown.
‡I fear this is only a variety of *impressa*.

3. E. gratiosa, Lea.
Goniobasis gratiosa, Lea, Synonymy, Part 2, No. 2.

3*a*. E. lachryma, Anthony.
Goniobasis lachryma, Anthony, Syn., Part 2, No. 2*a*.

4. E. gibberosa, Lea.
Goniobasis gibberosa, Lea, Syn., Part 2, No. 3.

5. E. nubila, Lea.
Goniobasis nubila, Lea, Syn., Part 2, No. 4.

6. E. Anthonyi, Budd.
Anculosa Anthonyi, Budd., Syn., Part 3, No. 1.

7. E. crassa, Haldeman.
Anculosa crassa, Hald., Syn., Part 3, No. 15.
Leptoxis crassa, Hald., Adams' Genera i. p. 307.
Anculosa pisum,* Hald., Syn., Part 3, No. 19.
Leptoxis pisum, Hald., Adams' Genera i. p. 307.

8. E. turbinata, Lea.
Anculosa turbinata, Lea, Syn., Part 3, No. 33.

MESESCHIZA, Lea.

Meseschiza, Lea, Proc. Acad. Nat. Sci., p. 2, Jan., 1864.

1. M. Grosvenorii, Lea.
Meseschiza Grosvenorii, Lea, Proc. Acad. Nat. Sci., p. 2, Jan. 1864.

SCHIZOSTOMA, Lea.

3. S. ovoideum, Shuttleworth.
Gyrotoma ovoidea, Shutt., Adams' Genera i. p. 305.

4. S. excisum, Lea.
Gyrotoma excisa, Lea, Adams' Genera i. p. 305.

7. S. laciniatum, Lea.
Gyrotoma laciniata, Lea, Adams' Genera i. p. 305.

10. S. cylindraceum, Mighels.
Gyrotoma cylindracea, Migh., Adams' Genera i. p. 305.

12. S. curtum, Mighels.
Gyrotoma curta, Migh., Adams' Genera i. p. 305.

15. S. pagoda, Lea.
Gyrotoma pagoda, Lea, Adams' Genera i. p. 305.

16. S. pyramidatum, Shuttleworth.
Gyrotoma pyramidatum, Shutt., Adams' Genera i. p. 305.

20. S. babylonicum, Lea.
Gyrotoma babylonicum, Lea, Adams' Genera i. p. 305.
Gyrotoma funiculata, Lea, Adams' Genera i. p. 305.

23. S. constrictum, Lea.
Gyrotoma constricta, Lea, Adams' Genera i. p. 305.

26. S. incisum, Lea.
Gyrotoma incisa, Lea, Adams' Genera i. p. 305.

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*Young shell.

ANCULOSA, Say.

1. A. Anthonyi, Budd.
=*Eurycælon.*

2. A. plicata, Conrad.
Anculotus plicatus, Conrad, Müller, Synopsis, p. 40, 1836.
Leptoxis plicata, Conrad, Adams' Genera i. p. 307.

5. A. littorina, Haldeman.
Melania pilula, Lea, Adams' Genera i. p. 307.

6. A. costata, Anthony.
Nitocris costata, Lea, H. and A. Adams' Genera i. p. 308.
Nitocris occidentalis, Lea, Adams' Genera i. p. 308.

7. A. rubiginosa, Lea.
Anculosa rubiginosa, Lea, Brot, Mal. Blatt., ii. p. 111, July, 1840.
Leptoxis rubiginosa, Lea, Adams' Genera i. p. 307.
Leptoxis Griffithiana, Lea, Adams' Genera i. p. 307.

8. A. carinata, Brug.*
A. dissimilis, Say, Synopsis, Part 3.
Bulimus carinatus, Brug., Ency. Meth., vers, i. p. 301, 1792.
Nitocris dissimilis, Say, Adams' Genera i. p. 308.
Leptoxis dissimilis, Say, Chenu, Manuel, i. f. 2049—54.
—Lister t. 11, f. 5 and t. 112, f. 6. Petiver, Gazophyl, t. 104, f. 67.
Nitocris carinata, Lea, Adams' Genera i. p. 308.
Leptoxis variabilis, Lea, Adams' Genera i. p. 307.
Anculotus nigrescens, Conrad, Müller, Synopsis, p. 36, 1836.
Leptoxis nigrescens, Conrad, Adams' Genera i. p. 307.
Leptoxis trivittata, DeKay, Adams' Genera i. p. 307.
Anculotus monodontoides, Conrad, Müller, Synopsis, p. 41, 1836.
Nitocris monodontoides, Conrad, Adams' Genera i. p. 308.
Nitocris dentata, Couth., Adams' Genera i. p. 308.

9. A. dilatata, Conrad.
Nitocris dilatata, Conrad, Adams' Genera i. p. 308.
Leptoxis dilatatus, Conrad, Chenu, Manuel, i. f. 2043—5.
Nitocris Rogersii, Conrad, Adams' Genera i. p 308.
Nitocris Kirtlandianus, Anthony, Adams' Genera i. p. 308.
Nitocris inflatus, Lea, Adams' Genera i. p. 308.
Melania inflata, Lea, Troschel, Archiv fur Naturgesch. ii. p. 226.

11. A. melanoides, Conrad.
Nitocris melanoides, Conrad, Adams' Genera i. p. 308.
Anculotus melanoides, Conrad, Müller, Synopsis, p. 42, 1836.
Leptoxis turgida, Hald., Adams' Genera i. p. 307.
Leptoxis viridis, Lea, Adams' Genera i. p. 308.

13. A. subglobosa, Say.
Leptoxis subglobosa, Say, Adams' Genera i. p. 307.
Leptoxis gibbosa, Lea, Adams' Genera i. p. 307.
Leptoxis globula, Lea, Adams' Genera i. p. 307.
Leptoxis tintinnabulum, Lea, Adams' Genera i. p. 307.
Leptoxis virgata, Lea, Adams' Genera i. p. 307.

14. A praerosa, Say.
Anculosa prærosa, Say, Synonymy, Part 3.
Leptoxis prærosa, Say, Adams' Genera i. p. 307. Morch, Yoldi, Cat., p. 56.

*Has 27 years priority over *dissimilis*.

Lithosia meriliformis, Desh., Adams' Genera i. p. 308.
Anculotus angulatus, Conrad, Müller, Synopsis, p. 40, 1836.
Leptoxis angulata, Conrad, Adams' Genera i. p. 307.

15. A. crassa, Haldeman.
=*Eurycælon.*
A. pisum, Hald., Synonymy, Part 3, No. 19.
Leptoxis pisum, Hald., Adams' Genera i. p. 307.

16. A. taeniata, Conrad.
Anculotus tæniatus. Conrad, Müller, Synopsis, p. 41, 1836.
Leptoxis tæniata, Conrad, Adams' Genera i. p. 307.

17. A Troostiana, Lea.
Leptoxis Troostiana, Lea, Adams' Genera i. p. 307.

25. A. picta, Conrad.
Anculosa picta, Conrad, Müller, Synopsis, p. 39, 1836.
Leptoxis picta, Conrad, Adams' Genera i. p. 307.
Leptoxis flammata, Conrad, Adams' Genera i. p. 307.

28. A. squalida, Lea.
Leptoxis squalida, Lea, Adams' Genera i. p. 307.

29. A. patula, Anthony.
=*dilatata*, Conrad.?

30. A. viridula, Anthony.
=*dilatata*, Conrad.?

33. A. turbinata, Lea.
=*Eurycælon.*

ADDITIONS TO SYNONYMY OF STREPOMATIDÆ.

PLEUROCERA, Rafinesque.

2*a*. P. Lesleyi, Lea.
Trypanostoma Lesleyi, Lea, Proc. Acad. Nat. Sci., p. 4, 1864.
12*a*. P. affine, Lea.
Trypanostoma affine, Lea, Proc. Acad. Nat. Sci., p. 4, 1864.
39*a*. P. cinctum, Lea.
Trypanostoma cinctum, Lea, Proc. Acad. Nat. Sci., p. 112, 1864.
39*b*. P. carinatum, Lea.
Trypanostoma carinatum, Lea, Proc. Acad. Nat. Sci., p. 4, 1864.
52*a*. P. cylindraceum, Lea.
Trypanostoma cylindraceum, Lea, Proc. Acad. Nat. Sci., p. 4, 1864.
53*a*. P. subrobustum, Lea.
Trypanostoma subrobustum, Lea, Proc. Acad. Nat. Sci., p. 4, 1864.
54*a*. P. Roanense, Lea.
Trypanostoma Roanense, Lea, Proc. Acad. Nat. Sci., p. 4, 1864.
54*b*. P. univittata, Lea.
Trypanostoma univittata, Lea, Proc. Acad. Nat. Sci., p. 112, 1864.
63*b*. P. cornea, Lea.
Trypanostoma cornea, Lea, Proc. Acad. Nat. Sci., p. 112, 1864.
63*c*. P. venustum, Lea.
Trypanostoma venustum, Lea, Proc. Acad. Nat. Sci., p. 112, 1864.
83*a*. P. napoideum, Lea.
Trypanostoma napoideum, Lea, Proc. Acad. Nat. Sci., p. 112, 1864

STREPHOBASIS, Lea.

7*a*. St. Lyonii, Lea.
Strephobasis Lyonii, Lea, Proc. Acad. Nat. Sci., p. 5, 1864.

GONIOBASIS, Lea.

9*a*. G. Albanyensis, Lea.

Goniobasis Albanyensis, Lea, Proc. Acad. Nat. Sci., p. 4, 1864.

11*a*. G. viridostriatus, Lea.

Goniobasis viridostriatus, Lea, Proc. Acad. Nat. Sci., p. 4, 1864.

28*c*. G. Smithsoniana, Lea.

Goniobasis Smithsoniana, Lea, Proc. Acad. Nat. Sci., p. 112, 1864.

28*d*. G. Emeryensis, Lea.

Goniobasis Emeryensis, Lea, Proc. Acad. Nat. Sci., p. 3, 1864.

112*a*. G. subrhombica, Lea.

Goniobasis subrhombica, Lea, Proc. Acad. Nat. Sci., p. 111, 1864.

125*a*. G. fraterna, Lea.

Goniobasis fraterna, Lea, Proc. Acad. Nat. Sci., p. 111, 1864.

179*a*. G. Romæ, Lea.

Goniobasis Romæ, Lea, Proc. Acad. Nat. Sci., p. 111, 1864.

185*a*. G. pulla, Lea.

Goniobasis pulla, Proc. Acad. Nat. Sci., p. 112, 1864.

233*a*. G. pupæformis, Lea.

G. pupæformis, Lea, Proc. Acad. Nat. Sci., p. 112, 1864.

SCHIZOSTOMA, Lea.

23*a*. S. Showalteriana, Lea.

Schizostoma Showalterii, Lea, Proc. Acad. Nat. Sci., p. 112, 1864.

INDEX.

ABBEVIATIONS.—Anc., Anculosa. Ang., Angitrema. E., Eur., Eurycælon. G., Goniobasis. L., Lithasia. M., Meseschiza. P., Pleurocera. Sch., Schizostoma. St., Strephobasis.

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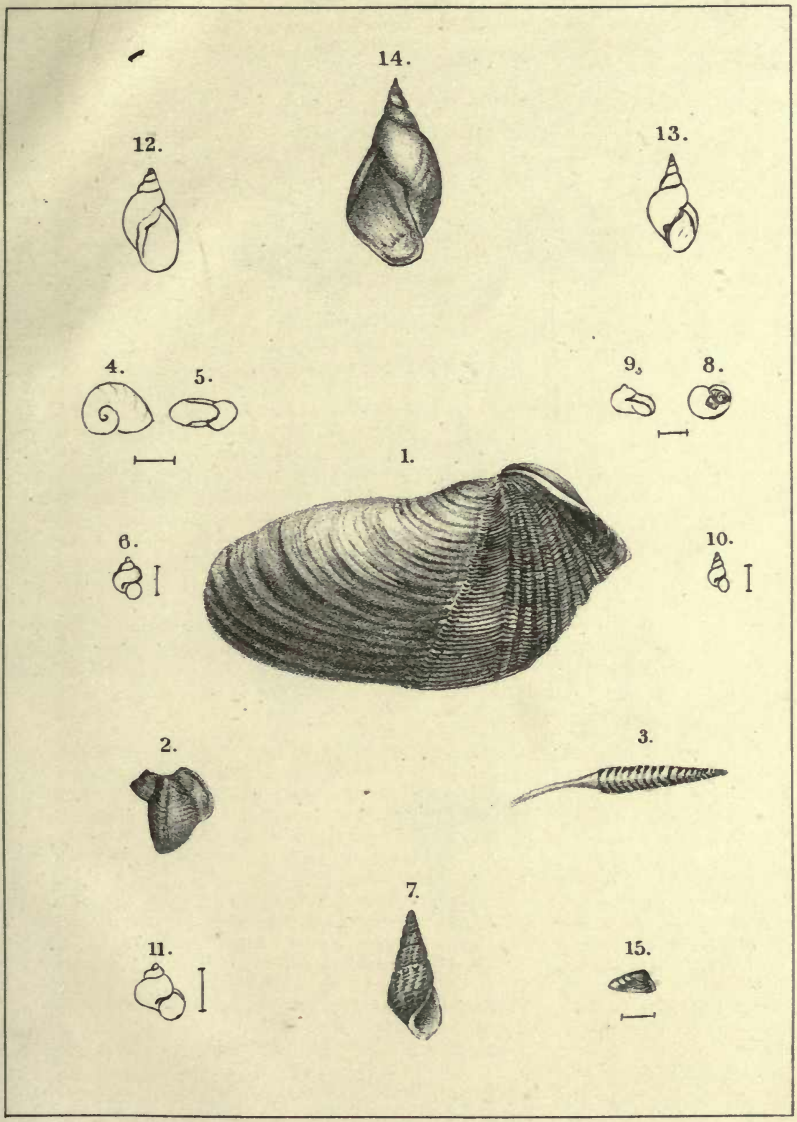

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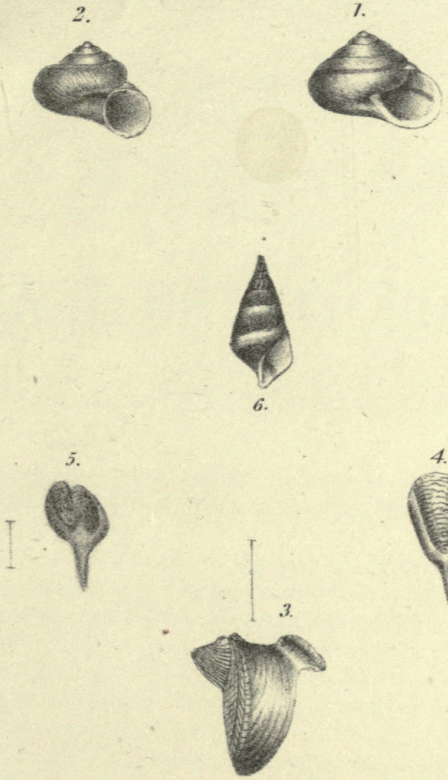

E. J. Nolan, del.

1, Helix Rémondi.—2, Cyclotus Cooperi.
3, 4, 5, Teredo Thomsonii.— 6. Pleurocera plicatum.

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