

An account of some of the FOSSIL SHELLS of Maryland. By THOMAS SAY. Read July 20, 1824.

The following descriptions were made out from specimens in a very large and fine collection of fossil shells which Mr. John Finch obtained with much labour and some expense in Maryland, and which that gentleman with great liberality submitted to my examination. Many of these shells appear to the eye nearly as perfect, in every respect, with the exception of colour, as the recent ones of the coast, and not a few of the bivalves have both valves attached together by the teeth of the hinge; circumstances which indicate an undisturbed deposition from the waters in which they had lived. Respecting the limits which circumscribe this body of shells, the relative situation in which the species are found, &c. we may expect much interesting information from Mr. Finch. I may, however, observe at present, that it seems probable that the formation extends much farther south than might at first be supposed, or that nearly a contemporary one exists in South Carolina. For a knowledge of this fact, I am indebted to Mr. Stephen Elliott, who sent me several shells from near the Santee river, one of which corresponds perfectly with a species in the collection of Mr. Finch.

TURRITELLA.

T. plebeia. Pl. vii. fig. 1. Whorls convex, hardly flattened in the middle, with about twelve revolving elevated striæ, the middle ones alternately somewhat smaller; transverse wrinkles distinct.

This shell seems to attain to the length of rather more than one inch. Several specimens are imbedded in a small mass of light lead coloured clay. It somewhat resembles *T. brevis* of Sowerby, but the striæ are not crenulated. A species of TURRITELLA was found by Mr. A. Jessup in New Jersey, quite different from the present species, and resembling the *T. conoida*, Sowerby, but much smaller.

NATICA.

N. interna. Pl. vii. fig. 2. Subglobose, depressed, subglabrous; umbilicus open, with a revolving rib.

DESCRIPTION. *Shell* destitute of revolving striæ, and the wrinkles are not prominent, except near the suture, towards the labrum, and on the verge of the umbilicus: *spire* but little prominent, acute: *aperture* subovate: *umbilicus* open, permitting a view nearly to the inner tip of the spire; a revolving rib above the middle of each volution, terminating at the labrum in a hardly prominent callus.

Length seventeen-twentieths, breadth nine-tenths of an inch.

Several specimens are in Mr. Finch's collection in tolerable preservation, but very fragile, though not thin. I obtained a species of *NATICA* at Mullica Hill, New Jersey, a few years since; but it is so changed by casualties, and by the infiltration of ferruginous matter, that its specific alliance with the present species cannot be appreciated.

OLIVA.

Several specimens occur about the length of one inch and two-fifths, but too imperfect to admit of any decision as to the species.

BUCCINUM.

1. *B. porcinum*. Pl. vii. fig. 3. Subovate, acute, slightly undulated, and spirally striated; labrum toothed.

DESCRIPTION. *Shell* with numerous, subequal, slight undulations, disappearing on the body whorl, and about seventeen transverse, little elevated striæ: *whorls* nearly six, but little convex: *suture* very narrow, consisting of a mere indented line: *apex* acute: *aperture* moderate, rather more than half the length of the shell: *labium* covering the columella, concave: *labrum* not thickened; on the inner submargin with striæform teeth.

Length one inch and a quarter, breadth rather more than three-fourths of an inch.

This is shorter than the *reticosum* of Sowerby, the suture is not so deeply impressed, the undulations are not so obvious, and the concavity of the labium is much more profound.

2. *B. aratum*. Pl. vii. fig. 4. Oblong subovate, spirally striated; labrum thickened and toothed within.

DESCRIPTION. *Shell* with more than twenty revolving, slightly elevated lines: *whorls* but little convex: *suture* very narrow, consisting of a mere indented line: *aperture* moderate: *labium* covering the columella, which is concave: *labrum* thickened on the exterior, and with striæform teeth on the interior submargin.

Breadth half an inch, length of the aperture rather less.

Smaller and of a much more slender form than the preceding, and altogether destitute of undulations. The summit of the spire being deficient in the specimen, its length cannot be ascertained.

FUSUS.

F. *4-costatus*. Pl. vii. fig. 5. Ovate-ventricose; with a dilated umbilicus, and four much elevated belts, which are more dilated at their tops.

DESCRIPTION. *Spire* short, the volutions with but two belts, the others being concealed by the suc-

ceeding whorls: *body whorl* with four belts, which are equidistant, much elevated, wider at top than at the junction with the whorl, and with one or two deeply impressed lines; intervening spaces wrinkled, the wrinkles extending over the belts: *aperture* suboval: *canal* short and contracted: *labrum* with a groove corresponding with each of the exterior ribs: *umbilicus* dilated, large, not visibly penetrating to the inner summit; the exterior margin prominent and deeply dentated.

Varies much in size; the smallest in Mr. Finch's collection is about three-fifths of an inch wide, another is rather more than one inch in width, and the largest is nearly three inches and three-fourths; but a fragment of a still larger one leads me to believe that the species attained to a width of more than four inches. I am unable to state the proportional length, all the specimens having truncated spires. The belts of some young specimens are altogether destitute of the impressed lines.

It seems hardly possible that Lister's figure 2, of plate 1059, was intended for this shell, although it has certainly a general similarity in the ribbed appearance of the figure, and notwithstanding the locality "*a Marylandia*," which is engraved with it, inasmuch as there is not any appearance whatever of an umbilicus, which is so much dilated and so remarkable in the species under consideration.

Lister's figure is quoted by several authors

amongst the synonymes of *Buccinum scala*, and considered as a variety of that shell, which may perhaps be correct; but in that case the fact of such a shell having been found in Maryland, is at least doubtful. Our shell may be the same with the species which Dillwyn informs us is mentioned in the Portland Catalogue, lot 3516.

A fine specimen of this shell was sent me some time since by Mr. Stephen Elliott of Charleston, who informed me that it was found with other interesting and perfect shells which accompanied it, on the Santee river, a little below the junction of the Congaree and Wateree rivers.

Fusus cinereus nobis. A variety of this shell is in Mr. Finch's collection; it differs but little from the recent shells, the spire and beak are slightly longer.

FULGUR.

1. *F. canaliculatus*, Linn.

Lister Conch. pl. 878, f. 2.

Ellis' Coral. pl. 33, f. b. As this latter figure has the channel of the spire, and is accompanied by the ovaries of the *canaliculatus*, it is, no doubt, the young of this shell, reversed by an error of the engraver as Dillwyn has already supposed.

VARIETY. Sutural channel dilated, columella much arcuated.

With the exception of the variation above men-

tioned, the specimen agrees very well with the species to which I have referred it. The granulations which crown the spire of the young shell are very evident in this specimen. These elevations characterize the *MUREX granum*, Schræter, which Linné considered to be the young of this species.

2. *F. carica*, Gmel.

Lister, Conch. pl. 880.

F. eliceans, Montf. p. 152. Knorr delic. pl. 30. f. 1.

There can be no doubt of the identity of a specimen collected by Mr. Finch, with this species.

The *carica* varies considerably in the magnitude and number of the elevations which constitute the armature of the shoulder. In the young shell they are more numerous than in the adult, and the beak is proportionally longer and more slender. A variety in this fossil collection has the elevations of the shoulder hardly prominent.

CALYPTRÆA.

1. *C. grandis*. Pl. vii. fig. 6. a. Internal view. b. Lateral view. Ovate; internal appendage dilated, and attached to the side of the shell.

DESCRIPTION. *Shell* large, ovate at base, inequilateral, concentrically wrinkled, destitute of spines or processes: *apex* behind the middle nearly erect: *internal appendage* transverse, patulous, occupying a considerable portion of the cavity of the shell,

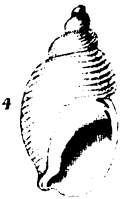
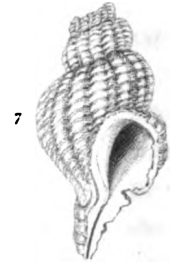
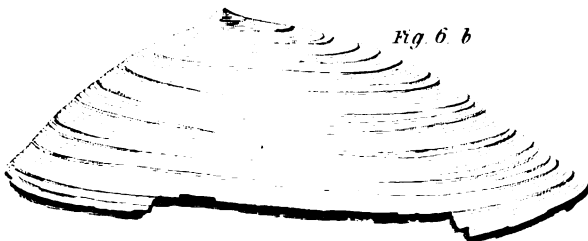


Fig 6. b



and attached by one side, from its summit to its edge, to the shorter side of the shell ; its summit, corresponding to the inner apex of the shell.

This very remarkable shell is perfectly distinct as a species from any other yet known. That it does not, in rigid accuracy, belong to the genus *CALYPTREA*, must be evident to every conchologist who considers the characters laid down in the above description, and who is, at the same time, aware, that the internal appendage of the type of the genus, is open on one side throughout the whole of its length. If it be not properly a *CALYPTREA*, it cannot be referred to the closely related genera *INFUNDIBULUM*, Montf. and *MITRULA* of Gray, much less to any other genus with which we are acquainted. I therefore propose that it be placed in a new genus under the following name and characters.

DISPOTÆA.

Shell univalve, conoidal, patelliform, with an internal entire cup-shaped appendage, adhering by its side and apex to the side of the shell.

To this genus will also be referred a recent species brought by Lieut. Gantt, U. S. N. from South America, and presented by him to the Academy. Of this shell I cannot find any description, and will therefore characterize it as follows :

D. tubifera. Shell oval, inequilateral, with small

radiating striæ, and numerous tubular processes : *apex* inclined towards the shorter side; within livid-brown, polished: *cup-shaped appendage* brown near the apex, margin pure white, and distinct from the side as far as the submargin.

CALYPTREA costata, nobis, Silliman's Journal, vol. 2, p. 40, belongs to this genus. In Mr. Finch's collection are fine specimens of this species.

FISSURELLA.

F. redimicula. Pl. viii. fig. 1. Ovate-oval a little oblong, conic-convex, with approximate longitudinal striæ; foramen ovate-oval, inclined.

DESCRIPTION. Longitudinal striæ slender, numerous, granulated, approximate; the granulations of the striæ give the appearance of concentric obsolete lines: *aperture*, inner margin crenate; thickened inner margin of the foramen truncate at one end.

Longest diameter one inch and a half.

I am not acquainted with the *F. peruviana*, Lam. and the description of that shell will not enable me to judge satisfactorily of its degree of affinity with the present species.

OSTREA.

1. *O. compressirostra*. Pl. viii. fig. 2. a. Internal view. b. External view. *Shell* sinistral,



subovate: *inferior valve* convex, with numerous convex ribs interrupted by fornicated scales at the lines of increment: *hinge* curving a little upward, very much contracted and short: *superior valve* flat, wrinkled concentrically, without any appearance of longitudinal lines: *hinge* more dilated than that of the superior valve, and oblique with respect to the thickness of the shell.

Length of the specimen four inches and four-fifths; breadth four inches and a quarter. A large superior valve is five inches and three quarters long, and five inches and a quarter broad.

Like many species of this genus, it varies much in form, and in the prominence of the ribs on its convex valve; but these ribs are very obvious on the nine specimens under examination. Externally some varieties have a striking resemblance to *O. bellovacina*, Lam. but the hinge is much more contracted.

Besides those obtained by Mr. Finch, Mr. Z. Collins presented a fine specimen to the Academy, found on the west branch of the Potomac, about fifteen miles below Alexandria.

PECTEN.

1. *P. Jeffersonius*. Pl. ix. fig. 1. Subequivalve, with from nine to eleven striated ribs.

DESCRIPTION. *Shell* rounded, convex, not quite equivalved, one of the valves being a little more

convex than the other; the whole surface covered with approximate, scaly striæ: *ribs* elevated, rounded, with six or seven striæ on the back of each; intervening grooves profound: *ears* equal; sinus of the ear of the superior valve, not profound, being barely one eighth part of the length of the ear: *within* with broad rounded flattened ribs.

Length five inches and three-tenths, breadth five inches and seven-tenths.

Specimens of this truly fine shell are not uncommon. The Academy has been long in possession of several single valves, in an excellent state of preservation, obtained by my friend Mr. J. Gilliams, and others which were presented by Mr. Watson, who purchased them at the sale of the collection of the late Professor Barton. Mr. Finch has succeeded in obtaining entire specimens of the two valves of the same individual. I am of the opinion that Lister's plate 167, is intended to represent this shell, and that the singular appearance of the marginal striæ in that figure is a deviation from the ordinary formation of the species, and is owing to the dislocation of the lines of increment, and obliteration of the longitudinal striæ. Lister describes his specimens to be of a "blue-clay colour," in this respect perfectly corresponding with two specimens before me.

On one of the specimens is an imperfect *ASTREA*.

2. *P. Madisonius*. Much compressed, with about sixteen striated ribs.

DESCRIPTION. *Shell* rounded, much compressed; the whole surface covered with scaly striæ: *ribs* elevated, rounded, with about three striæ on the back of each; intervening grooves rather profound: *ears* equal, sinus of the ear of the superior valve profound, extending at least one third of the length of the ear.

Length rather more than four inches and a half; breadth four inches and four-fifths.

In magnitude this shell is justly entitled to compare with the preceding; but it differs in being much less convex, and in having a much more profound sinus in the ear of the superior valve. Three specimens, from which the above description was taken, belong to the Academy, and were presented by Mr. Watson.

3. *P. Clintonius*.* Pl. ix. fig. 2. Auricles equal; surface with from one hundred and forty to one hundred and eighty elevated longitudinal lines.

DESCRIPTION. *Shell* suborbicular, compressed, with very numerous, regular, elevated striæ, which are muricated with minute scales formed by transverse wrinkles, that are sparse in the middle of the length, and crowded each side of the shell; the intervening spaces are regularly concave, and in parts very distinctly wrinkled: *auricles* equal,

* Mr. Finch requested that three species of his collection that might prove to be new, should be dedicated to the distinguished men whose names these shells bear.

striated like the general surface: *within* simple, margin striated.

Length four inches; breadth rather more.

This is a very fine shell, comparable with the *magellanica*; but the sides below the auricles decline much more rapidly towards the base, and the striæ, judging from Bruguiere's figure, are much more prominent and distinct.

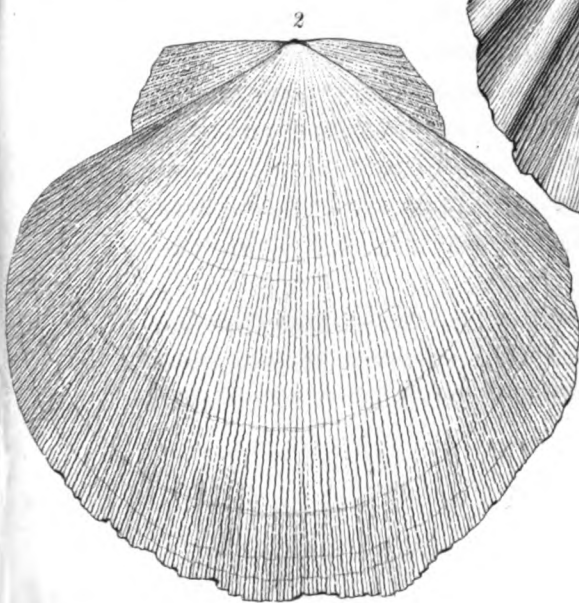
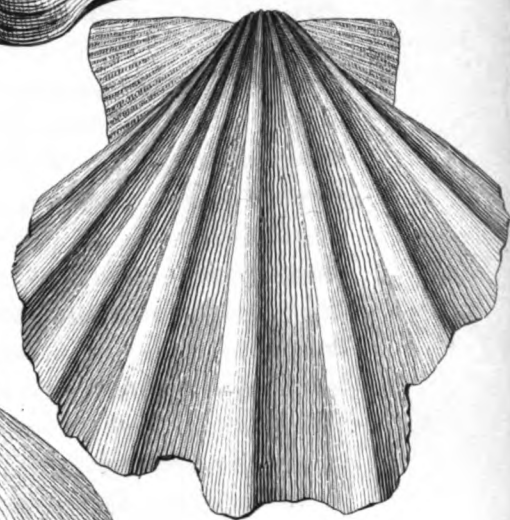
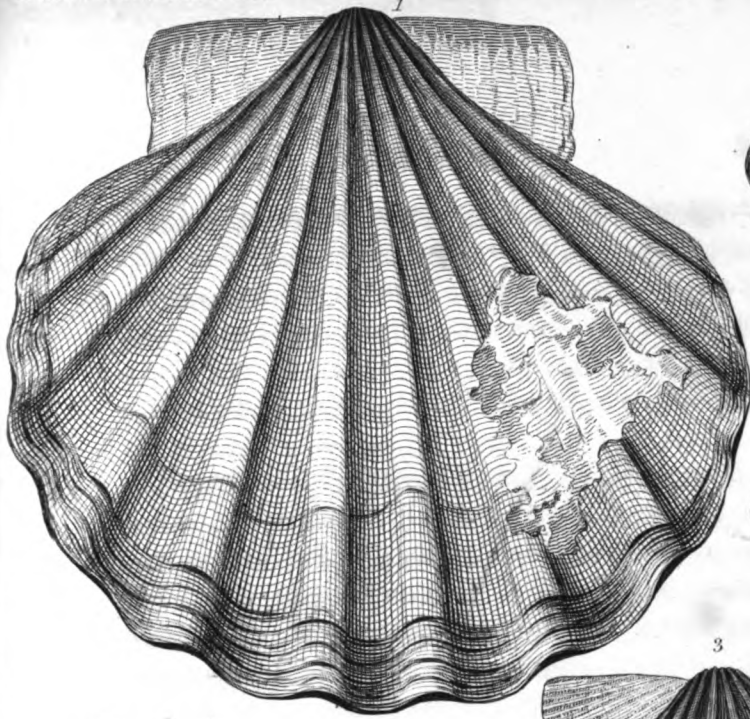
4. *P. septenarius*. Pl. ix. fig. 3. *Shell* convex, suborbicular: *auricles* subequal: *surface* with numerous slightly scaly striæ, and about seven remote ribs, of which the three intermediate ones are much elevated, rounded, or slightly flattened on the top.

Length nearly two inches and seven-tenths.

But a single imperfect, inferior valve, occurs in Mr. Finch's collection; but this is so perfectly distinct from any other that I have seen described, that I have no hesitation to describe it as new. The striæ are equally distinct on the ribs, and in the intermediate spaces. The scales are rather thick, very small, and not confined to the striæ, but are also observable in the spaces between the striæ.

PLICATULA.

P. marginata. Pl. ix. fig. 4. a. External view. b. Internal view. Shell ovate-cuneiform, somewhat arcuated at base; with about three much



elevated folds, producing very profound undulations on the edge of the shell; the intermediate fold is bifid; the whole surface is marked by rather gross concentric wrinkles; inner margin dusky or blackish, with a series of granules on one valve, received into corresponding cavities in the opposite valve.

Length one inch and a fifth, breadth one inch.

This species is very distinct from the *P. plicata*, Linn. of the West Indies, and from that of the East Indies, hitherto confounded with the *plicata*, but to which Lamark's name of *gibbosa* may be transferred.

Of the known fossil species, it seems to approach nearest to the *angulata*, Lam. but the folds are neither squamous nor angulated.

ARCA.

1. *A. arata*. Pl. x. fig. 1. Shell transversely oblong, subrhomboidal, with about twenty-six longitudinal ribs; basal edge nearly parallel to the hinge margin, which latter terminates anteriorly in an angle.

DESCRIPTION. *Ribs* somewhat flattened, as wide or rather wider than the intervening spaces; the whole surface concentrically wrinkled: *umbones* not remarkably prominent: *apices* remote, the intervening space rhomboidal, with continued indented lines, arcuated under the apices: *hinge*

margin perfectly rectilinear, angulated at the extremities, the anterior one a little projecting: *teeth* in a continued, uninterrupted line, parallel, excepting at the two extremities of the line, which decline a little, and the teeth are there decidedly longer and oblique with respect to the others of the range: *posterior end* obliquely rounded to the base: *base* nearly rectilinear and parallel to the hinge margin, and deeply crenated on the inner margin: *anterior end* produced below the middle, and rounded, and a little contracted near the superior angle.

Length from the hinge margin to the base one inch and three-tenths, breadth two inches and a half.

This resembles a species found recent and very common in the West Indies, and which I have not ascertained to be distinctly described. That shell, however, is proportionally longer, the anterior extremity only of the line of teeth declines a little, and the series is slightly dislocated a little before the apices of the shell.

2. *A. centenaria*. Pl. x. fig. 2. Shell transversely-oval, subrhomboidal, obtusely contracted at base, with numerous alternate longitudinal striæ.

DESCRIPTION. Striæ from one hundred to one hundred and eighty and more in number; disappearing on the hinge margin; with hardly obvious transverse minute wrinkles, and larger, remote, irregular ones of increment: *beaks* but little pro-

minent, not remote: *base* widely but not deeply contracted, nearly parallel with the hinge margin: *anterior* and *posterior margins* obtusely rounded: *series of teeth* rectilinear, uninterrupted, decurved at the tips; space between the beaks with numerous grooves proceeding from the teeth: *inner margin* not very distinctly crenated: *muscular impressions* elevated, and forming a broad line each side, from the cavity of the beak to the margin.

Length nine-tenths of an inch, breadth nearly one inch and a half.

3. *A. incile*. Pl. x. fig. 3. Shell transversely rhomboidal, with about twenty-seven ribs; anterior hinge margin compressed and angulated.

DESCRIPTION. *Disk* prominent from the beaks to the anterior part of the base: *ribs* with transverse granules; those anterior to the middle alternating with very slender and but little prominent lines, and with a groove on each; *anterior margin* longer to the base than the posterior end, and contracted in the middle: *series of teeth* nearly rectilinear, entire; interval between the teeth and the apices with a few transverse lines or wrinkles; a single oblique groove from the apex to a little before the middle, and six or seven narrow ones from the teeth outwards behind the apices: *beaks* placed very far backward: *inner margin* crenated: *muscular impressions* a little elevated, posterior one short: *basal margin* not parallel with the hinge margin.

Length nearly seven-tenths of an inch, breadth less than one inch and a fifth.

PECTUNCULUS.

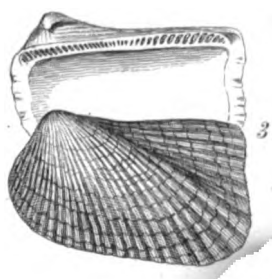
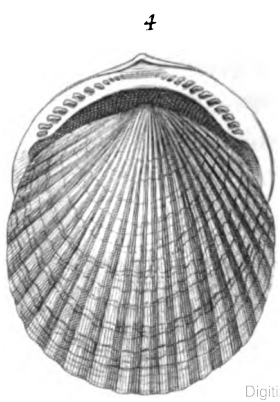
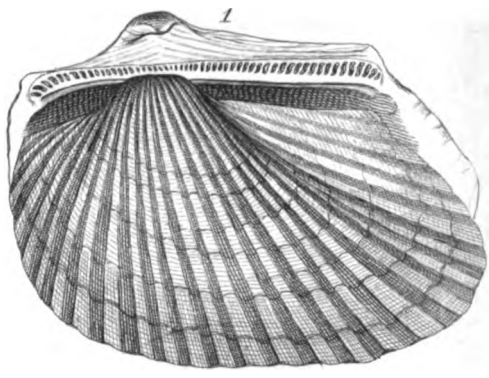
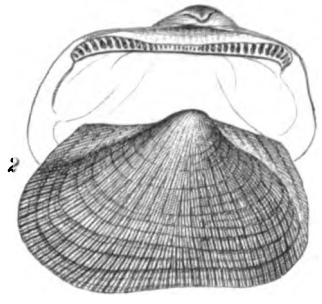
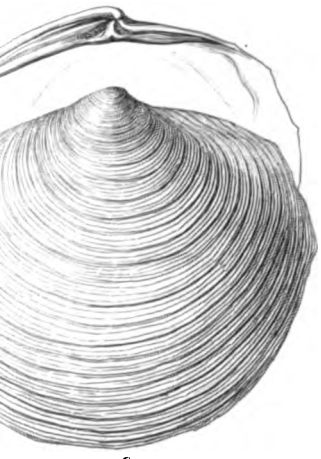
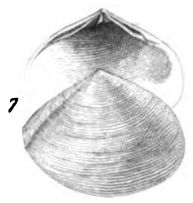
P. subovatus. Pl. x. fig. 4. Longitudinally short ovate, with about thirty longitudinal impressed acute lines, the intervals a little convex.

DESCRIPTION. *Shell* increasing in width by a slightly curved line from the apex to beyond the middle : *lateral curvatures* equal : *apices* separate, small, central ; intervening space with but little obliquity to the plane of the shell, with obsolete angulated lines : *teeth* forming a regularly and much arcuated series, which is rectilinearly truncated above so as to leave in that part a mere edentulous elevated line : *within* destitute of striæ : *margin* with elevated angular lines : *exterior surface* with about thirty longitudinal, impressed, acute lines, the intervals a little convex.

Length from the apex to the base one inch and thirteen-twentieths, breadth one inch and a half nearly.

The character of the interval between the beaks is not unlike that of a *CUCULLEA*, but the arrangement of the teeth does not correspond with the definition of that genus.

This shell varies a little in form, being sometimes nearly orbicular.



NUCULA.

1. *N. lævis*. Pl. x. fig. 5. Transversely elongate-subovate, rostrated, nearly smooth.

DESCRIPTION. *Shell* compressed, thin, fragile, polished, smooth, slightly wrinkled towards the base: *beaks* nearly central, hardly prominent beyond the hinge margin, rounded, approximate: *series of teeth* subrectilinear, a little arcuated behind; teeth prominent: *hinge margin* exteriorly both before and behind the beaks rather abruptly compressed: *posterior margin* rounded: *anterior margin* somewhat rostrated, the anterior hinge margin rectilinear, very little reflected at tip: *inner margin* simple.

Length nearly half an inch, breadth nearly one inch.

This shell may be compared with the *N. pellucida*, Gmel. but it is shorter, in proportion to its width, and the beaks are nearer the centre. It is still more closely allied to a recent species of our coast, that has probably been hitherto considered as the *rostrata*.

2. *N. concentrica*. Pl. x. fig. 6. Transversely elongate-subovate, rostrated, concentrically striated.

DESCRIPTION. *Shell* convex: *rostrum* considerably narrowed towards the tip: *surface* concentrically striated with numerous, regular, equidistant,

rounded lines: *beaks* rather behind the middle: *ligament margin* a little concave: *series of teeth* angulated at the beaks.

Length over one-fifth, breadth two-fifths of an inch.

The regularly striated surface gives this shell a very pretty appearance. In outline it has some resemblance to the *rostrata*.

VENERICARDIA.

V. granulata. Pl. xii. fig. 1. Suborbicular, with about twenty-five convex ribs, and wrinkled across; inner margin crenate.

DESCRIPTION. *Beaks* nearly central, a little prominent, curved backward: *ribs* granulated on the umbones, and transversely wrinkled near the base, convex: *apices* somewhat prominent beyond the general curve of the shell: *inner margin* and *edge* crenate: *cardinal teeth* two.

Length from the apex to the base four-fifths of an inch, breadth nearly the same.

Rather proportionally longer than the *decussata*, and more oblique.

CRASSATELLA.

C. undulata. Pl. xi. fig. 2. a. External view. b. Internal view. Much compressed, transversely oblong-subovate, slightly angulated before; surface

rather coarsely wrinkled, and on the umbo with small, regular undulations; umbo flattened: *apex* subacute, not prominent, placed a little behind the middle of the shell: *hinge* teeth distinct, prominent: *fosset* much dilated; a profound groove on the anterior inner margin: *edge* not crenated; on the exterior anterior margin and submargin are two undulations, of which the former is less distinct and more acute.

Width rather less than one inch and nine-tenths to four inches and three-fifths, length less than one inch and three-tenths to about three inches.

The species to which this is most closely allied, is the *compressa*, Lam. Its compressed form, and the somewhat elevated lines on the anterior part of the shell, seem to be very similar; but that species is proportionally much broader behind, the beaks are much nearer the posterior extremity, and the inner edge is crenated. A perfect valve was purchased at the sale of the late Professor Barton's collection by Mr. Watson, and by him presented to the Academy. Its locality was not known, but a fragment which I dissected out of a mass containing fragments of *PERNA*, belonging to the collection of Mr. Finch, has decided this question.

ISOCARDIA.

I. fraterna. Pl. xi. fig. 1. a. Hinge 2. b. Back view. Cordate-globose, slightly oblique, with ra-

ther large concentric wrinkles, and lines of growth ; an elevated undulation on the anterior submargin, marking the greatest length of the shell : *umbones* not very prominent, apex rather suddenly incurved, acute ; impressed space behind the beaks, dilated and rather profound ; anterior tooth striated externally, and placed on the middle of the anterior margin.

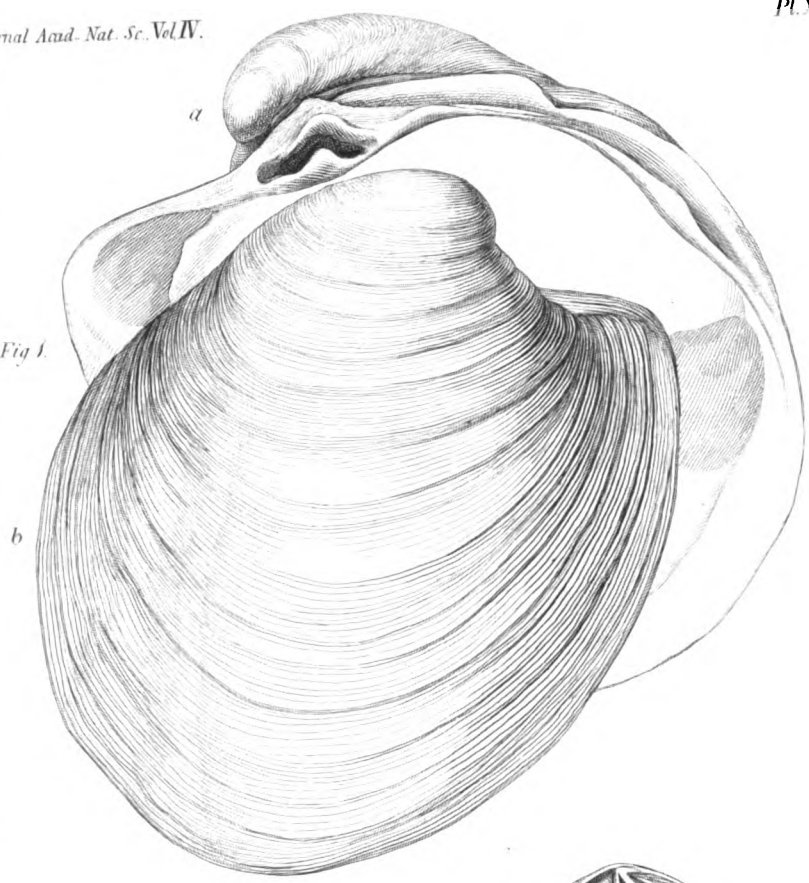
Large specimen, greatest length taken obliquely, three inches and a half, breadth rather less.

Small specimen, greatest length rather over one inch and a half, breadth nearly one inch and four-fifths.

This shell is so much like the *VENUS rustica*, Sowerby, that I hesitated to give it a distinct name. Besides being somewhat less transverse, it may be remarked that the hinge groove, behind the primary tooth, is much more elongated ; but notwithstanding these differences, such is the general correspondence of the two shells, that I should not be surprised if this should prove to be only a variety of the *rustica*.

A large specimen which formerly belonged to the collection of the late Professor B. S. Barton, was presented to the Academy by Mr. Watson. A smaller one was obtained by carefully dissecting one of the friable masses containing fragments of the *Perna*, in Mr. Finch's collection.

Fig 1.



Loc. 1111

a b

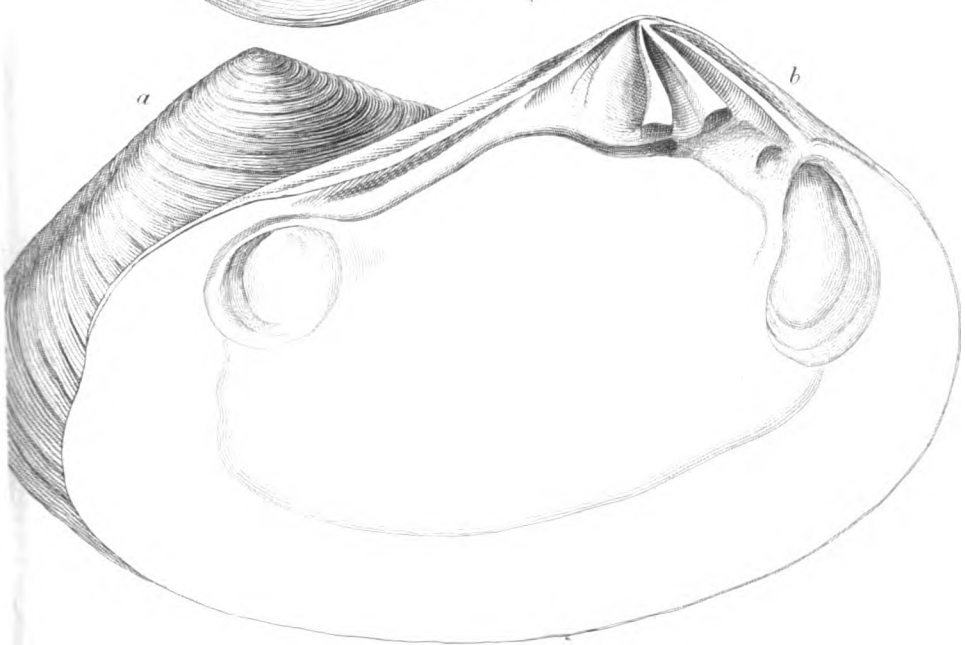


Fig 2

TELLINA.

T. æquistriata. Pl. x. fig. 7. *Shell* transversely ovate-orbicular, with an elevated line or fold on the anterior margin: *surface* with fine, somewhat elevated, concentric, nearly equal, numerous striæ, forming grooves between them: *apex* nearly central, acute: *cardinal teeth* deeply grooved: *lateral teeth* two; edge within, simple.

Length seven-tenths, breadth nineteen-twentieths of an inch.

In general outline, this species has a resemblance to *T. ostracea*, Lam. In one specimen the apex is central, and in another it is placed before the middle.

LUCINA.

1. *L. contracta*. Pl. x. fig. 8. *Shell* convex, suborbicular, with numerous concentric, regular, equidistant, elevated, membranaceous striæ, and intermediate smaller transverse lines: *umbones* not very prominent: *apices* proximate, nearly central: *anterior hinge margin* rectilinear, to an obtuse angle near the middle of the anterior margin: *anterior submargin* with a very slightly impressed line: *posterior margin* rounded: *cardinal teeth* one in the left valve, and two in the right, the posterior one of which is subbifid at tip: *lateral*

teeth none : *within* obsolete towards the margin : *posterior muscular impression* perfectly rectilinear, elongated, and oblique.

Length one inch and nine-tenths, breadth two inches and one-tenth.

The posterior muscular impression is even more elongated and slender than that of *L. jamaicensis*, Chemn. In outline it is like *L. scabra*, Lam. The impressions both before and behind the beaks are very slender and contracted. A young specimen belonging to the Academy, was brought from Maryland by Mr. Jacob Gilliams.

2. *L. anodonta*. Pl. x. fig. 9. Orbicular, slightly transverse, compressed ; *teeth* obsolete.

DESCRIPTION. *Shell* with elevated wrinkles ; orbicular, a little transverse, with a very slight impressed longitudinal line on the anterior margin : *anterior* and *posterior ends* equally curved : *apices* not prominent beyond the general curve of the shell, with a very short deep emargination behind them : *teeth* obsolete ; both the cardinal and lateral ones are generally altogether wanting : *lunule* short, cordate, profound.

Length from the apices to the base one inch and one-tenth, breadth one inch and one-fifth.

The impressed line on the anterior part of the shell is hardly visible in many specimens, and is sometimes only a very slight undulation, not observable but on close inspection. In the specimens, the ligament of the hinge still remains, ap-

parently but little changed; by pressure of the nail it is readily separated into flaxy filaments.

3. *L. subobliqua*. Orbicular, slightly oblique, a little compressed; teeth prominent; lunule not distinct.

DESCRIPTION. Shell concentrically wrinkled; a little oblique forwards, the most prominent part of the basal curvature being anterior to the middle; no appearance of an impressed line on the margins, which are rounded, the hinge margin being rectilinear for a short distance: *lunule* none, or consisting only of a slightly impressed line: *beaks* slightly prominent: *muscular impressions* dilated, submarginal: *cardinal teeth* prominent, the larger one with a groove: *lateral teeth* none.

Length four-fifths of an inch, breadth nearly the same.

4. *L. cribraria*. Pl. xiii. fig. 1. Orbicular, convex, with numerous longitudinal costæ, and distinct elevated concentric lines.

DESCRIPTION. *Shell* with close set, longitudinal, equal, granulated ribs, and more or less elevated, distinct, concentric lamellæ: *hinge margin* obtusely and not prominently angulated at its anterior and posterior terminations: *anterior margin* with a dilated slightly impressed, and not very obvious groove: *lunule* oblong-oval, very distinct, the edge near the beaks extending inwards beside the primary teeth: *lateral teeth* very distinct, the posterior one placed nearly under the middle of the

lunule : *within* crenate on the edge : *posterior muscular impression* réctilinear.

Length half an inch, breadth eleven-twentieths of an inch.

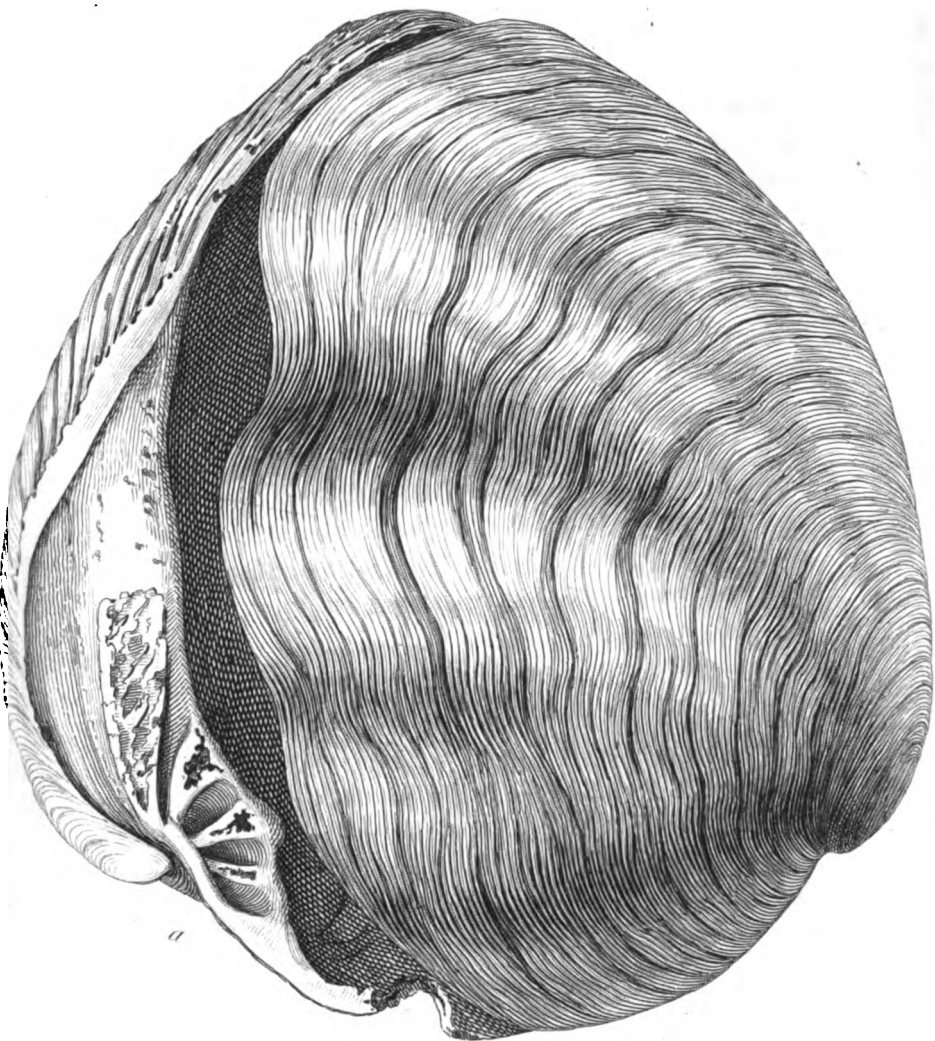
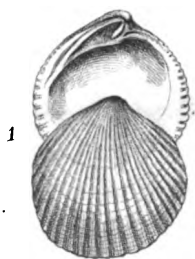
Two or three smaller specimens are two-fifths of an inch long. In the outline of the edge, and number of the costæ, this species approaches the *L. scabra* of authors ; but it is more convex, and in other respects sufficiently distinct. In the larger specimens, the transverse lamellæ are almost obsolete at base, and the ribs prevail in that part.

L. divaricata. Var. The fossil specimens of Maryland are altogether similar to those found at present in a recent state on our southern coast. This variety is smaller than those of South America and the West Indies, and the lateral teeth are more obvious. In the collection of the Academy is a large specimen of the *divaricata* from the West Indies, that agrees with the description of the *dentata* of Wood. I should therefore be inclined to suppose, that the *dentata* is no other than a variety of the former, owing to age.

VENUS.

1. *V. deformis*. Pl. xii. fig. 2. a. View of the hinge. Shell remarkably thick and ponderous, longitudinally undulated ; basal margin undulated.

DESCRIPTION. *Shell* subcordate, with transverse wrinkles, which are distant and regular on the



umbones, and much crowded on the basal half; several very obtuse longitudinal undulations, of which that on the middle is more profound: *basal margin* deeply undulated in compliance with the undulations of the disk: *within* crenate on the edge: *anterior margin* flattened, and simply wrinkled.

Length nearly five, breadth six inches.

Smallest specimen, three inches and seven-tenths long, and four inches and a half wide.

This extraordinary shell has so unusual an appearance, that I should almost have been disposed to regard a single specimen as a monstrosity. The examination of several individuals proves that the species varies somewhat in form, and in the locality of the undulations.

2. *V. paphia?* Lam.

CYTHEREA.

C. convexa. Pl. xii. fig. 3. *Shell* subcordate; elevated convex, concentrically wrinkled, inequilateral; posterior tooth and fosset not striated; edge not crenated; umbo rather prominent; lunule dilated, cordate, marked by a simple line.

Length one inch and a tenth, breadth more than one inch and three-tenths.

On the inner surface of the shell is a prominent line in one valve, proceeding from the extremity of the impression of the retractor muscle, and

becoming obsolete behind the cavity of the umbo; on the opposite valve is an impressed line, occupying a similar position. Whether or not this line is characteristic, I am unable to determine, having seen but two valves.

C. concentrica. Born. Mr. Finch's differ from those now existing on our southern coast, in being larger.

Length three inches and three-tenths, breadth three inches and two-fifths.

ASTARTE, *Sowerby*.

1. *A. undulata*. Pl. ix. fig. 5. Shell trigonate, umbones flattened, and with profound undulations; apices very acute.

DESCRIPTION. Basal half of the shell coarsely wrinkled, the remaining half deeply, regularly and widely undulated on the flattened umbo: *lunule* large oblong subovate, concave, separated from the disk, particularly near the beaks, by an acute angle: *beaks* prominent, approximate, acute, turned a little backward at tip: *ligament margin* concave nearly to the basal angle, and separated from the disk, near the beaks, by an acute angle: *ligament* very short: *teeth* regularly crenated each side: *basal angles* rounded: *basal edge* nearly rectilinear, or very obtusely arcuated; within finely crenated; smaller muscular impression very distinct.

Length four-fifths, breadth rather less than nine-tenths of an inch.

Var. a. Length one inch and a tenth, breadth one inch.

A very distinct species, unlike any other yet described. It varies in proportional length, some being longer than broad, and others broader than long. I adopt Sowerby's generic name, in preference to that of *CRASSINA* of Lamark, for the all-sufficient reason, that it has the priority. The recent shell which I described under the name of *VENUS castanea*, Journ. Acad. Nat. Sc. vol. 2. p. 273, belongs in strictness to this genus.

2. *A. vicina*. Pl. ix. fig. 6. Trigonal with a distant, somewhat regular, impressed line; lunule much excavated; apices acute.

DESCRIPTION. *Apices* prominent: *lunule* dilated, deeply excavated, subcordate, separated from the disk, particularly near the beaks, by a subacute angle: *beaks* prominent, approximate, acute, curved backwards: *ligament margin* concave: *umbones* convex.

Length nine-tenths of an inch, breadth one inch.

Closely allied to the preceding, but numerous specimens correspond in the much more profoundly concave lunule, and in the convexity of the umbones.

MACTRA.

Two or three mutilated specimens of a species closely allied to *M. lateralis*, nobis, but too imperfect to determine the degree of proximity.

AMPHIDESMA.

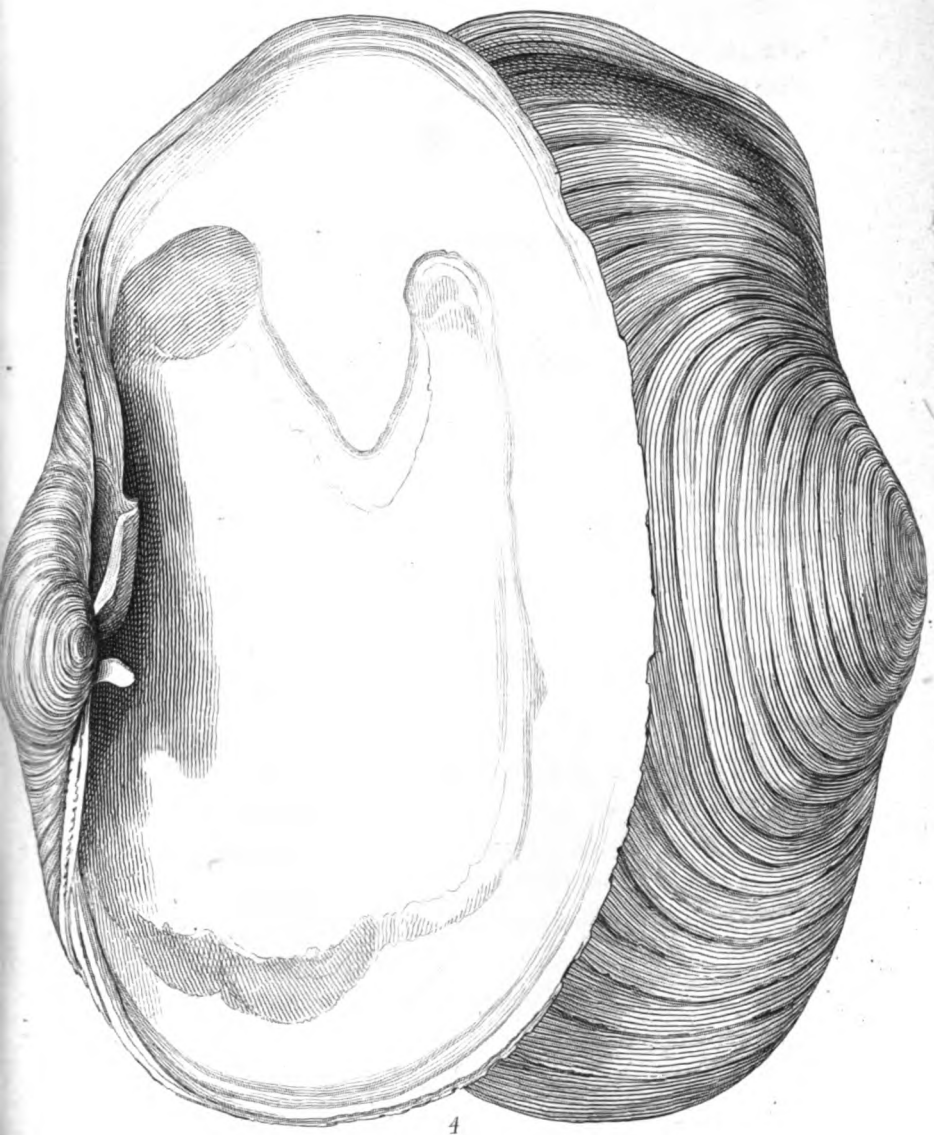
A. subovata. Pl. x. fig. 10. Shell transversely ovate-oval, with somewhat prominent and regular concentric striæ.

DESCRIPTION. *Shell* compressed: *beaks* rather before the middle, but little prominent: *anterior* submargin with an obsolete, obtuse undulation: *lunule* lanceolate: *cardinal* and *lateral teeth* prominent.

Length seven-tenths of an inch, breadth less than one inch.

CORBULA.

1. *C. cuneata*. Pl. xiii. fig. 3. *Shell* transversely ovate-trigonal, acutely angulated or somewhat rostrated before, and depressed on the anterior slope, which is separated from the disk by a subacute line: *surface* of both valves similarly striate with equal, elevated, equidistant lines, forming grooves between them; the striæ on the smaller valve are rather more distant: *umbones* not prominent.



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Length of the larger valve hardly more than the fourth of an inch, breadth more than two-fifths of an inch.

A very pretty species. It was imbedded in a mass which contained fragments of the large *PERNA*.

2. *C. inaequale*. Pl. xiii. fig. 3. Shell convex, transversely ovate-trigonal, rough, with unequal coarse wrinkles: *anterior margin* with a very acute but short rostrum at its inferior termination, separated from the disk by an acute line: *base* rounded and a little contracted near the anterior angle: *umbones* not prominent.

Length two-fifths, breadth rather more than half an inch.

This species has a different aspect from the preceding; it is longer in proportion to its width, more convex, and the wrinkles, though prominent, are altogether destitute of that equality which distinguishes those of the other shell.

PANOPÆA, *Menard*.

P. reflexa. Pl. xiii. fig. 4. Exterior and interior views. *Shell* transversely oblong-subovate: *anterior margin* somewhat narrower and longer than the posterior margin, the edge reflected: *surface* wrinkled, and profoundly so towards the base.

Length three inches and two-fifths, breadth five inches and seven-tenths.

This fine shell approaches closely to the *P. fav-*

jas of Menard, which Lamarck seems inclined to consider as but a variety of the *P. glycymeris*, Gmel. Our shell is comparatively somewhat shorter than the latter, and its reflected anterior margin distinguishes it from the *faujas*.

SERPULA.

S. granifera. Pl. viii. fig. 4. Covered with longitudinal, contiguous, slightly elevated, granulated striæ.

DESCRIPTION. Shell subcylindric, contorted, inferior side flat; the whole surface is composed of very numerous, small, contiguous striæ, each consisting of a single row of granules; these series are alternately smaller.

Diameter of the larger end three-tenths, of the largest specimen two-fifths of an inch.

The continuity of the tube within, is interrupted by oblique diaphragms. It sometimes approaches the spiral form, and one specimen has three complete volutions of much regularity.

DENTALIUM.

D. attenuatum. Pl. viii. fig. 3. Arcuated; surface marked with from twelve to sixteen rounded ribs, intervening grooves simple; lines of growth numerous, distinct; aperture orbicular.

Length nearly one inch and seven-tenths.

The species of this genus are very closely allied to each other, and at the same time they exhibit so few characters, that it is with difficulty that some of them are determined. The present seems to differ from either of those already described. In the collection of the Academy are two fragments of *DENTALIA*, very closely allied to this species, which were obtained by Mr. A. Jessup in New Jersey; but their imperfect state do not justify me in deciding upon a fact so important to geology as their specific identity.

Description of several new Species of HOLOTHURIA.
By C. A. LESUEUR. Read April 6, 1824.

Much difficulty has always attended any attempt to arrange the *HOLOTHURIAE* in a natural order, owing to the contraction of the body when placed in a preservative liquid, and the consequent obliteration of many characters which distinguish the living animals.

This difficulty was sensibly experienced, and distinctly expressed, by Blainville, in the *Dictionnaire des Sciences Naturelles*, vol. xxi. p. 315, who, nevertheless, endeavoured to group the species by correspondencies of form, and disposition of feet. These two characters I believe to be uncertain,