

1843

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*Abstract of a Paper read before the American Philosophical Society, May 29th, 1843, entitled, "Descriptions of some new Fossil Shells, from the Tertiary of Petersburg, Virginia." By Henry C. Lea. Philadelphia.*

The Atlantic tertiary of the United States is now considered to correspond nearly with Mr. Lyell's divisions of Eocene, Miocene, and Post Pliocene. Of these, our Eocene has no species now existing, and the Post Pliocene none that are extinct. The Miocene is generally supposed to have about seventeen per cent. of recent species, but I am disposed to think this estimate too high. For instance, from the Miocene at Petersburg, Va., I have in my collection seventy-one species already described, besides one hundred and seven which I think new, or in all, one hundred and seventy-eight. Now, of these, but nine are at present existing, which proportion gives us almost exactly five per cent. When we shall be more perfectly acquainted with our fossil conchology, I suspect that the general per centage will be similarly reduced. Many of these shells bear a remarkable similarity to those from the Miocene of Dax, where the per centage of recent shells is between thirty and forty.

I owe the possession of the following shells to the kindness of M. Tuomey, Esq., of Petersburg, the first who has properly investigated the formations of that locality. I obtained nearly all of the minute species by carefully examining a small portion of the marl from that vicinity, as well as the sand scraped from the interior of the larger shells, which is a favourite resort for some species. Among those here described, I have found but two organisms which appeared to require the erection of new genera.

## GENUS SERPULA.

**S. CONVOLUTA.** S. testa rotunda, in spiram discoidalem contorta, tenui, pleurumque cancellata, apud apicem regulariter voluta. Diam. .10 poll.

**S. ANGUINA.** S. testa minima, irregulariter contorta, striata, crassa; striis irregularibus transversis; apertura rotunda. Diam. .04 poll.

## GENUS PETALOCONCHUS,\* (NOBIS.)

**DES. GEN.** Testa tubulari, solida, irregulariter contorta, laminis longitudinalibus duabus internis.

**P. SCULPTURATUS.** Testa vel contorta vel turrita, crassa, costulis longitudinalibus noduliferis; laminis internis politis, lævibus, ad aperturam obsoletis; apertura rotunda. Diam. .20 poll.

## GENUS TEREDO.

**T. CALAMUS.** T. testa incognita; tubo parvo, rotundo, tenui, rugoso, striis irregularibus transversis. Diam. .08 poll.

**T. FISTULA.** T. testa incognita; tubo rotundo, tereti, crassissimo, tum recto tum curvato; striis irregularibus, transversis, raris. Diam. .50 poll.

## GENUS GASTROCHÆNA.

**G. LIGULA.** G. tubo incognito; testa transversa, oblanceolata, valdè inæquilaterali, posticè rotundata, anticè acuminata, inflata, concentricè striata; striis parvis, irregularibus; anticè hiatu maximo, valdè obliquo; margine basali tortuoso; margine dorsali recto; margine antico brevissimo; natibus subprominulis. Long. .28. Lat. .12. Diam. .15 poll.

## GENUS PHOLAS.

**P. RHOMBOIDEA.** P. testa transversa, obliquè rhomboidea, valdè inæquilaterali, posticè rotundato-angulata, anticè rostrata, inflata, tenui, medio divisa linea impressa; area postica striis lævibus concentricis; area antica striis acutis flexuosis concentricis; margine basali curvo; margine dorsali recto, valdè reflexo; palmula parva, recurva, tenui; lineis internis, duabus, elevatis, longitudinalibus. Long. .28. Lat. .18. Diam. .20 poll.

## GENUS SOLEN.

**S. MAGNODENTATUS.** S. testa anticè truncata et valdè hiante, lævi, polita, crassa; natibus compressis; dente laterali uno; dente cardinali uno, longo, acuto. Long. —. Lat. —. Diam. —.

## GENUS PANOPÆA.

**P. DUBIA.** P. testa quadrato-elliptica, transversa, inæquilaterali, posticè truncata, anticè rotundata, subinflata, crassiuscula, striata; striis concentricis, regularibus; margine basali recto; margine dorsali recto; natibus prominentibus; nymphis magnis, exsertis, longissimis; cardine cochlea parva. Long. .08. Lat. —. Diam. .10 poll.

## GENUS MYA.

**M. REFLEXA.** M. testa quadrilaterali, subinæquilaterali, posticè rotundata, anticè truncata et valdè aperta, inflata, striata; striis concentricis, irregularibus; clivo umboniali elevato, rotundato; margine basali curvato; margine dorsali arcuato; natibus prominentibus, incurvis. Long. .22. Lat. .29. Diam. .18 poll.

## GENUS THRACIA, (LEACH.)

**T. TRANSVERSA.** T. testa subelliptica, valdè inæquilaterali, posticè acuminato-rotundata, antice truncata, subcompressa, tenui, medio lævi, posticè et anticè concentricè striata; clivo umboniali rotundato; margine basali curvato; margine

\* Α πεταλον, lamina, et κογχος, concha.

dorsali medio angulato, posticè convexo, anticè concavo; natibus subacutis; callo nyphali parvo, obliquo. Long. .18. Lat. .28. Diam. .10 poll.

#### GENUS ANATINA.

A. TELLINOIDES. A. testa ovato-triangulari, transversa, posticè angulata, anticè rotundata, compressa, posticè undulata, tenui, concentricè striata; striis crebris, minutis; margine basali subflexuoso; natibus compressis, prominentibus; dentibus lateralibus magnis; cochlea obliqua, ovato-acuminata, minimè profunda; cicatricibus magnis. Long. .45. Lat. —. Diam. .25 poll.

#### GENUS ALIGENA, (NOBIS.)

DES. GEN. Testa æquivalvi? subæquilaterali, posticè et anticè clausa; cardine dente cardinali uno, sulco sub natibus longo minimè profundo.

A. STRIATA. A. testa transversa, subelliptica, posticè et anticè rotundata, inflata, tenui, striata; striis concentricis, prope marginem basalem maximis; clivo umboniali elevato, subangulato; margine basali curvato; margine dorsali medio angulato, posticè et anticè curvato; natibus prominentibus, recurvis, sublevibus; dente cardinali minimo; sulco longo, pene transverso; margine intus integro. Long. .19. Lat. .21. Diam. .10 poll.

A. LÆVIS. A. testa transversa, subquadrilaterali, posticè rotundata, anticè subtruncata, convexa, inflata, lævi; margine basali recto; margine dorsali medio angulato, posticè et anticè curvato; natibus subprominulis, recurvis; dente cardinali longo; sulco lato, curto, pene transverso; margine intus integro. Long. .18. Lat. .22. Diam. .14 poll.\*

#### GENUS PETRICOLA.

P. COMPRESSA. P. testa valdè transversa, valdè inæquilaterali, subelliptica, compressa, posticè subtruncata, anticè rotundata, tenui, striata posticè et anticè; striis minimis, concentricis; margine basali recto; margine dorsali recto; natibus subacutis, prominentibus; dentibus duobus, parvis, divergentibus. Long. .12. Lat. .25. Diam. .10 poll.

#### GENUS PSAMMOCOLA, (BLAINVILLE.)

P. LUCINOIDES. P. testa suborbiculari, pene æquilaterali, posticè et anticè rotundata, convexa, tenui, striata; striis concentricis minimis; natibus prominentibus, subrectis; valva sinistra dentibus duobus cardinalibus, quorum unus bifidus, lateralibus nullis. Long. .31. Lat. .35. Diam. .15.

P. REGIA. P. testa transversa, ovato quadrata, inæquilaterali, posticè hiantè, anticè et posticè subtruncata, valdè inflata, crassissima, sulcata; sulcis radiantibus, crebris, æqualibus, latis; margine basali pene recto; margine dorsali subcurvato; natibus valdè elevatis, acuminatis; in utraque valva dentibus duobus cardinalibus, lateralibus nullis; nymphis curtis, crassis; lunula parva, cordata; cicatricibus maximis; cicatrice palleali valdè sinuato. Long. 1.56. Lat. 2.30. Diam. 1.25 poll.

#### GENUS LUCINA.

L. PUNCTULATA. L. testa rotunda, lenticulari, subæquilaterali, posticè et anticè truncato-rotundata, convexa, tenui, diaphana, punctulata, substriata; striis concentricis, irregularibus, raris; clivo umboniali rotundato; natibus prominentibus, acutis; valva sinistra dentibus cardinalibus duobus, laterali uno; margine interno integro. Long. .32. Lat. .35. Diam. .16 poll.

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\* I have here withdrawn a species, which I had named "Kellia triangula," as I find that I have been anticipated in it by Mr. Conrad, in a work which I had not the pleasure of consulting while engaged in this paper. The same may be said with regard to three others which I have taken away, namely, *Saxicava oblonga*, *Petricola bullata*, and *Psammocola leporina*.

**L. LENS.** L. testa orbiculari, æquilaterali, valdè convexa, crassa, costata; costis concentricis, parvis, creberrimis, planulatis, politis; margine dorsali flexuoso; natibus prominentibus, acutis, recurvis; lunula elliptica, magna, profunda; dentibus in utraque valva, cardinalibus duobus parvis, lateralibus duobus magnis; margine interno minutè crenulato. Long. .35. Lat. .38. Diam. .28 poll.

#### GENUS ASTARTE, (SOWERBY.)

**A. LINEOLATA.** A. testa triangulari, pene æquilaterali, inflata, crassa, striata; striis creberrimis, rotundatis, concentricis; margine basali subcurvato, intus crenulato; natibus elevatis, acuminatis; lunula valdè elongata; dentibus magnis, valdè divergentibus. Long. .18. Lat. .21. Diam. .15 poll.

#### GENUS CYTHEREA.

**C. ELEVATA.** C. testa ovata, transversa, inæquilaterali, posticè subtruncata, anticè rotundato-angulata, inflata, crassa, nitente, substriata; striis concentricis, minimis, medio obsoletis; margine basali curvato; margine dorsali angulato; natibus elevatis, prominentibus; dentibus magnis, uno bifido. Long. .28. Lat. .32. Diam. .19 poll.

**C. SPHERICA.** C. testa rotunda, æquilaterali, globosa, tenui, lævi, polita; margine dorsali curvato; natibus elevatis, prominentibus, rectis; lunula minima, lanceolata; dentibus parvis. Long. .19. Lat. .20. Diam. .18 poll.

#### GENUS VENUS.

**V. ASCIA.** V. testa longitudinali, obliquè triangulari, subinæquilaterali, posticè et anticè subangulata, compressa, crassa, striata; striis concentricis, raris; margine basali minimè curvato; margine dorsali angulato; natibus prominentibus, acutis; dentibus tribus divergentibus; cicatrice palleali acutè sinuata; lunula magna, elevata, linea impressa marginata. Long. .30. Lat. .31. Diam. .15 poll.

#### GENUS HIATELLA.

**H. LANCEA.** H. testa transversissima, inæquilaterali, posticè et anticè truncato-rotundata, minimè hiante, valdè compressa, concentricè striata; striis minimis; clivo umboniali elevato; margine basali recto; margine dorsali medio subangulato, posticè et anticè recto; natibus prominentibus; dentibus magnis. Long. .15. Lat. .29. Diam. .10 poll.

#### GENUS NUCULA.

**N. DOLABELLA.** N. testa obliquè triangulari, inæquilaterali, posticè et anticè angulata, inflata, crassiuscula, striata; striis minutissimis, concentricis; striis pene obsoletis, raris, longitudinalibus; clivo umboniali precipiti; margine basali curvato; margine dorsali medio acutè angulato, posticè et anticè recto; dentibus parvis; cochlea parva, subtriangulari; margine intus crenulato. Long. .18. Lat. .20. Diam. .17 poll.

**N. DIAPHANA.** N. testa transversa, inæquilaterali, subelliptica, posticè et anticè rotundata, inflata, diaphana, tenui, lævi, polita, intus margaritacea; clivo umboniali subplanulato; margine basali curvato; margine dorsali curvato; natibus prominentibus; dentibus valdè arcuatis, anticis quinque, posticis duodecim; cochlea rhomboidea obliqua; margine interno crenulato. Long. .11. Lat. .15. Diam. .04 poll.

**N. ÆQUILATERA.** Testa longitudinaliter elliptica, æquilaterali, posticè et anticè subcurvata, inflata, crassa, punctato-costata; costis radiantibus, vel punctiferis vel cancellatis; margine basali valdè curvato; margine dorsali angulato; natibus prominulis, incurvis, rectis; dentibus parvis, rectis, anticis tribus, posticis octo; cochlea parva, profunda; margine interno crenulato. Long. .12. Lat. .10. Diam. .08 poll.

*N. CARINATA.* *N.* testa transversa, ovato-acuminata, subinæquilaterali, anticè rostrata, posticè rotundata, inflata, crassiuscula, concentricè sulcata; sulcis parvis, crebris, regularibus, rotundatis; clivo umboniali elevato, carinato; margine basali curvato; margine dorsali medio angulato, posticè convexo, anticè concavo; natibus minimè elevatis, recurvatis; dentibus angulatis, carinatis, anticis quatuordecim, posticis quindecim; cochlea triangulari, profunda; margine intus integro. Long. .18. Lat. .28. Diam. .15 poll.

*N. ACUTIDENS.* *N.* testa tenui, lævi, polita; dentibus magnis, longissimis, arcuatis, acutis, perpendicularibus; cochlea minimè profunda. Long.—.Lat.—. Diam.—.

#### GENUS MODIOLA.

*M. SPINIGERA.* *M.* testa quadrato-elliptica, transversa, inæquilaterali, posticè truncata, anticè rotundata, subinflata, tenui, diaphana, striata; striis parvis, concentricis, irregularibus; clivo umboniali angulato; margine basali recto; margine dorsali recto, spinoso; natibus prominentibus, rotundatis. Long. .10. Lat. .14. Diam. .08 poll.

#### GENUS AVICULA.

*A. MULTANGULATA.* *A.* testa valdè transversa, subinæquilaterali, anticè acutè rostrata, posticè truncata, compressa, undulata, crassa, striata; striis radiantibus minimis, raris; clivo umboniali elevato; margine basali flexuoso; margine dorsali recto; natibus compressis; cardinis area triangulari, transversa; sulco ligamentifero triangulari, profundo; testa parte antica interna valdè incrassata. Long. .20. Lat. .45. Diam. .18 poll.

#### GENUS PECTEN.

*P. MICROPLEURA.* *P.* testa longitudinaliter ovata, subinflata, crassa, radiatim costata; costis parvis, crebris, regularibus, planis, lævibus; margine basali circulari; auribus æqualibus, costatis; natibus compressis, acutis. Long. .60. Lat. .58. Diam. .30 poll.

*P. TENUIS.* *P.* testa suborbiculari, æquilaterali, convexa, tenui, striata; striis radiantibus, crebris, tum magnis tum parvis; lineis concentricis, minutis, raris; natibus acuminatis, subelevatis; auribus magnis, inæqualibus, striatis; testa internè lævi. Long. 2 .26. Lat. 2 .28. Diam. .60 poll.

#### GENUS PLICATULA.

*P. RUDIS.* *P.* testa longitudinali, orbiculari, plana, tenui, rugosa; natibus prominulis, acutis; dentibus magnis; margine intus lato, nigrescente. Long. .68. Lat. .65. Diam. .20 poll.

#### GENUS CHITON.

*C. TRANSENNA.* *C.* testa —, octovalvi? crassa, costata, dorso valdè elevata et angulata; valvarum intermediarum area centrali costis longitudinalibus rectis noduliferis, area laterali lævi aut nodulosa; valvæ terminalis area centrali noduloso-costata, area laterali nodulosa. Valvæ long. .15, lat. .50 poll.

#### GENUS PATELLA.

*P. ACINACES.* *P.* testa ovata, valdè compressa, falcata, depressa, crassa, striis concentricis parvis; lineis radiantibus posticè quatuor; apertura lineari; apice angulato, recto. Long. .55. Lat. .10. Alt. .15 poll.

#### GENUS CEMORIA, (LEACH.)

*C. OBLONGA.* *C.* testa conica, subelevata, tenui, diaphana, costata; costis longitudinalibus, noduliferis, alternantibus; apice producto, incurvo, anfractu uno, ad lævam deflecto, lævi; foramine elliptico; apertura quadrata, oblonga. Long. .07. Lat. .05. Alt. .04 poll.

## GENUS CALYPTRÆA.

**C. PILEOLUS.** C. testa irregulariter conica, crassa, sulcata; sulcis radiantibus, magnis, irregularibus; striis concentricis parvis; apice lævi, intorto anfractibus duobus; apertura subrotunda; cyatho magno, lato, angulato. Diam. .80. Alt. .40 poll.

## SUB-GENUS INFUNDIBULUM, (DE MONTFORT.)

**I. CONCENTRICUM.** I. testa patelliformi, depresso-conica, tenui, simplici; lineis minutis concentricis; apice centrali, anfractu parvo uno; apertura subrotunda; cyatho recto, varice marginato. Diam. .22. Alt. .09 poll.

## SUB-GENUS CREPIDULA.

**C. PONDEROSA.** C. testa subglobosa, crassissima, ponderosa, convoluta, rugosa; sulco prope suturam lato, minimè profundo; sutura parva; apice voluto, rotundato, anfractibus sesqui; apertura arcuato-elliptica; cyatho crassissimo, undulato, acie flexuosa, vix apertura dimidium æquante. Long. 1.90. Lat. 1.50. Alt. 1.15 poll.

**C. CORNUCOPIÆ.** C. testa valdè elevata et convexa, lævi, polita, crassa; apice terminali, valdè producto, voluto, supernè subangulato, ad lævam deflexo; apertura parva, ovata; cyatho profundo, plano, acie incurvo. Long. .30. Lat. .18. Alt. .16 poll.

**C. LAMINA.** C. testa discoidali, planissima, tenui, lævi; apice elevato, polito, ad lævam deflexo, anfractibus sesqui; apertura magna, subrotunda; cyatho parvo, tenui, convexo. Long. .18. Lat. .15. Alt. .03 poll.

## GENUS BULLA.

**B. CYLINDRUS.** B. testa subelliptica, supernè et infernè acuminata, crassa, polita, striata; spira umbilicata; anfractu ultimo ad basim et apicem striato; apertura falcata, infernè lata; columella reflexa. Long. .21. Lat. .10 poll.

## GENUS PASITHEA, (LEA.)

**P. EXARATA.** P. testa subulata, acuminata, crassa, imperforata, nitente, costata; spira valdè attenuata, mamillata, ad apicem lævi; suturis profundis, excavatis; anfractibus quindecim, planulatis; costis obliquè longitudinalibus, crebris, planis; anfractu ultimo angulato; basi lævi, polita; apertura parva, subquadrata, subeffusa. Long. .35. Lat. .07 poll.

**P. SUBULA.** P. testa subulata, crassa, imperforata, costata, striata; spira attenuata, obtusa, mamillata, ad apicem polita; suturis profundis; anfractibus octo, convexis; costis longitudinalibus, magnis, crebris, propè basim obsoletis, planulatis, lævibus; striis transversis, parvis, crebris interruptis; anfractu ultimo rotundato; basi lævi; apertura arcuata, elliptica, subeffusa. Long. .18. Lat. .05 poll.

**P. EBURNEA.** P. testa subulata, elongata, tenui, polita, subperforata, costata, striata; spira attenuata, mamillata, conica; suturis linearibus, impressis; anfractibus duodecim, subconvexis; costis longitudinalibus, magnis, planis, lævibus; propè suturam superiorem striis transversalibus, parvis, crebris; prope suturam inferiorem striis transversalibus magnis, raris; anfractu ultimo rotundato; basi striata; perforatione fere obsoleta; apertura ovata. Long. .41. Lat. .10 poll.

**P. LÆVIGATA.** P. testa elevato-conica, acuminata, imperforata, crassa, lævi, eburnea, nitente; spira attenuata, conica, acuta; suturis linearibus, minimis; anfractibus —, planis; anfractu ultimo subangulato; basi lævi; apertura obliquè quadrilaterali, supernè et infernè acutè angulata, effusa. Long. .08. Lat. .10 poll.

**P. OVULUM.** P. testa ovata, subelongata, tenui, imperforata, lævi, nitente;

spira breviuscula, ovata, obtusa; suturis profundis, linearibus; anfractibus quatuor, convexis; anfractu ultimo rotundato; basi lævi; apertura ovata; columella crassa, lata, lævi. Long. .15. Lat. .08 poll.

P. DIAPHANA. P. testa ovato-elongata, acuminata, tenui, subperforata, diaphana, striata; spira subattenuata, mamillata; suturis impressis, linearibus; anfractibus sex, convexis; striis minutis, transversalibus; anfractu ultimo rotundato; basi striata; apertura elongato-quadrata, subeffusa. Long. .22. Lat. .10 poll.

P. TURBINOPSIS. P. testa ovato-conoidea, subelevata, tenui, lævi, imperforata; spira breviuscula, rotundata, obtusa; suturis profundis; anfractibus quatuor, convexis, prope suturam superiorem subcanaliculatis; anfractu ultimo rotundato; basi lævi; apertura magna, subrotunda. Long. .10. Lat. .05 poll.

P. ORNATA. P. testa ovato-subulata, crassa, subperforata, costata, striata; spira elevata, mamillata, prope apicem lævi; suturis linearibus; anfractibus quinque, valdè convexis; costis transversalibus, latis, politis; striis longitudinalibus, minutissimis; anfractu ultimo rotundato; basi costulata; perforatione fere obsoleta; apertura ovata, effusa. Long. —. Lat. —.

### GENUS NATICA.

N. APERTA. N. testa obliquè elliptica, tenui, costulata, substriata, perforata; spira depressa, ovata, obtusa, prope apicem lævi; suturis parvis, linearibus; anfractibus quatuor, convexis; costulis transversalibus, crebris, planis, quadrangularibus; striis longitudinalibus, minutissimis; anfractu ultimo ovato; basi obliquè costulata; perforatione parva, angusta; apertura maxima, supernè sinuata, infernè elliptica. Long. .70. Lat. .62 poll.

N. SPHÆRULUS. N. testa globoso-acuminata, obliqua, tenui, lævi, polita, imperforata; spira breviuscula, subconica, acuta; suturis parvis, impressis; anfractibus quatuor, subconvexis; anfractu ultimo rotundato; basi lævi; umbilico occulto; callo semicirculari, linea impressa marginato; apertura semi-ovata; columella recta, supernè incrassata. Long. .12. Lat. .11 poll.

N. CRASSILABRUM. N. testa transversè elliptica, depressa, crassa, lævi, polita, perforata; spira conica, obtusa, valdè depressa; suturis profundis, linearibus; anfractibus quatuor, convexis, supernè planulatis; anfractu ultimo rotundato; basi lævi; umbilico occulto, parvo; apertura subrotunda; labro supernè valdè incrassato. Long. .16. Lat. .25 poll.

### GENUS ACTÆON.

A. GRANULATUS. A. testa subulata, crassa, subperforata, noduloso-costata; spira elevata, obtusa, mamillata, ad apicem polita; suturis impressis; anfractibus sex, convexis; costis transversalibus, planis, regulariter nodulosis, una lævi prope suturam inferiorem; anfractu ultimo rotundato; perforatione minima; basi costata; apertura ovata, supernè angulata, subeffusa; plica columellari magna, acuta. Long. .18. Lat. .08 poll.

A. GLOBOSUS. A. testa ovata, crassa, cancellata, umbilicata; spira brevi, ad apicem lævi et polita; suturis parvis; anfractibus tribus, convexis, rapidè crescentibus, supra planulatis; costis octo, transversis, magnis; striis longitudinalibus, parvis, irregularibus; anfractu ultimo rotundato; basi cancellata; umbilico magno; apertura magna, subelliptica; columella recta; plica columellari magna, acuta. Long. .10. Lat. .08 poll.

A. TURBINATUS. A. testa ovato-conica, crassa, lævi, subperforata; spira breviuscula, conica, obtusa; suturis parvis, linearibus; anfractibus quinque, planulatis; anfractu ultimo subangulato; basi lævi; perforatione minima; apertura ovata, subeffusa; plica columellari magna, acuta. Long. .12. Lat. .08 poll.

A. ANGULATUS. A. testa subulata, infernè ovata, crassa, imperforata, lævi; spira attenuata, conica, mamillata; suturis profundis; anfractibus sex, planulatis,

prope suturam inferiorem angulatis; anfractu ultimo angulato; basi lævi; apertura parva, subelliptica; plica columellari obtusa, obliqua. Long. .12. Lat. .05 poll.

**A. GLANS.** A. testa subovata, tenui, imperforata, lævi, glabra; spira ovato-conica, brevi, mamillata; suturis profundis; anfractibus quatuor, minimè convexis, ad suturam superiorem subcanaliculatis; anfractu ultimo rotundato; basi lævi; apertura ovata, valdè effusa; plica columellari parva, obliqua. Long. .10. Lat. .05 poll.

**A. SCULPTURATUS.** A. testa ovato-acuminata, crassa, subperforata, cancellata; spira brevi, conica, mamillata, ad apicem lævi; suturis profundis; anfractibus quinque, convexis, ad suturam superiorem subcanaliculatis; striis transversis, crebris, magnis; sulcis longitudinalibus, parvis, prope suturam inferiorem obsoletis; anfractu ultimo rotundato; basi striata; perforatione minima; apertura ovata, effusa; plica columellari obliqua, obtusa. Long. .11. Lat. .05 poll.

**A. NITENS.** A. testa ovato-acuminata, crassa, perforata, lævi, polita; spira subulata, mamillata; suturis impressis, profundis; anfractibus quinque, convexis; anfractu ultimo rotundato; basi lævi; perforatione parva; apertura ovata, elongata, effusa; plica columellari obtusa, crassa. Long. .18. Lat. .10 poll.

**A. MILIUM.** A. testa ovato-conica, crassa, perforata, striata, polita; spira subattenuata, conica, obtusa, ad apicem lævi; suturis linearibus, impressis; anfractibus quinque, planulatis; striis transversalibus, raris, impressis; anfractu ultimo rotundato; basi crebrè striata; perforatione parva; apertura ovata, integra; plica columellari magna, acuta, ad basim lata. Long. .10. Lat. .04 poll.

**A. SIMPLEX.** A. testa elevato-conica, acuminata, crassa, lævi, perforata; spira attenuata, mamillata; suturis excavatis, profundis; anfractibus sex, planis, ad suturam inferiorem angulatis; anfractu ultimo angulato; basi lævi; perforatione parva; apertura quadrata, effusa; plica columellari lamellari, acuta. Long. .12. Lat. .05 poll.

#### GENUS PYRAMIDELLA.

**P. SUTURALIS.** P. testa turrita, elevata, crassa, lævi, nitente, perforata, sulcata; spira conica, attenuata; suturis linearibus; anfractibus octo, planis; anfractu ultimo angulato, medio sulcato; sulco uno, parvo, transverso; basi carinato; perforatione minima; apertura quadrata, valdè effusa; columella triplicata, plica una maxima acuta, duabus parvis; labro dentibus magnis internis, aut duobus aut tribus. Long. .20. Lat. .08 poll.

**P. ELABORATA.** P. testa elevato-conica, crassa, imperforata, costata, striata; spira minimè ovata, mamillata; suturis linearibus, impressis; anfractibus sex, convexis; costis longitudinalibus, crebris, planis, lævibus, politis; striis transversis, parvis; anfractu ultimo rotundato; apertura elliptica; columella plicis tribus magnis. Long. .15. Lat. .08 poll.

#### GENUS SCALARIA.

**S. ACICULA.** S. testa turrita, crassa, imperforata, costata; spira attenuata, ad apicem sublævi; suturis profundis; anfractibus septem, valdè convexis; costis longitudinalibus, lamellaribus, acutis, ad basim decrescentibus; ultimo anfractu rotundato; basi carinata, carina minima; apertura rotunda. Long. .20. Lat. .10 poll.

**S. CORNIGERA.** S. testa elevato-conica, scalariformi, imperforata, crassiuscula, costata; spira attenuata, obtusa, conica; suturis valdè impressis; anfractibus sex, convexis, supernè valdè angulatis; costis subtenuibus, planis, supernè valdè productis, et acutè angulatis; basi lævi; apertura rotunda, minimè effusa. Long. .16. Lat. .08 poll.

**S. MICROPLEURA.** S. testa elevato-pyramidali, tenui, imperforata, costulata;



spira attenuata, conica, obtusa; suturis parvis, linearibus; anfractibus sex, convexis; costis minutissimis, creberrimis; anfractu ultimo rotundato; basi lævi; apertura ovata, marginibus supernè disjunctis; labro acuto. Long. .10. Lat. .05 poll.

S. MICROSTOMA. S. testa subulato-conica, tenui, imperforata, costata; spira conica, valdè attenuata, obtusa; suturis impressis, interruptis; anfractibus septem, valdè convexis; costis raris, elevatis, reflexis; anfractu ultimo rotundato; basi subcarinata; apertura parva, obliqua, subrotunda; labro valdè incrassato. Long. .28. Lat. .12 poll.

#### GENUS DELPHINULA.

D. COSTULATA. D. testa orbiculari, depressa, crassa, costata, striata; spira brevissima, acuminata, acuta; suturis linearibus; anfractibus sex, valdè convexis, supra planulatis et lævibus; costis parvis, crebris, transversis, politis; striis longitudinalibus, obliquis, minutissimis; anfractu ultimo rotundato; basi costata; umbilico magno, profundo, intus lævi; apertura rotunda, supra subcanaliculata. Long. .08. Lat. .15 poll.

D. CONCAVA. D. testa concava, orbiculari, depressa, supra planulata, tenui, nitente, substriata; spira brevissima, obtusa; suturis linearibus; anfractibus quatuor, rapidè crescentibus, planulatis; striis longitudinalibus, parvis, rarissimis; anfractu ultimo subangulato; basi striata; umbilico magno, profundo, intus striato; apertura magna, ovata. Long. .08. Lat. .20 poll.

D. LIPARA. D. testa orbiculari, depressa, subplanulata, crassiuscula, lævi, nitente; spira brevissima, rotundata; suturis impressis; anfractibus quinque, convexis, politis; anfractu ultimo rotundato; basi lævi; umbilico latissimo, profundo; apertura rotunda. Long. .05. Lat. .10 poll.

D. OBLIQUÈ-STRIATA. D. testa orbiculari, depressa, crassa, diaphana, subcancellata; spira brevissima, ovata, prope apicem longitudinaliter et profundè sulcata; suturis impressis, linearibus; anfractibus quatuor, convexis; sulculis longitudinalibus, ad suturam inferiorem fere obsoletis; striis obliquè transversis, parvis, crebris; anfractu ultimo tum angulato, tum angulato, ad suturam lævi; basi striata, profundè sulcata; umbilico magno, profundo, carina marginato, intus lævi; apertura rotunda. Long. .04. Lat. .10 poll.

D. TROCHIFORMIS. D. testa conica, sublenticulari, crassa, striata; spira subovata, obtusa, depressa; suturis canaliculatis; anfractibus tribus, subconvexis; striis transversis, parvis, raris; anfractu ultimo acutè angulato, duplicè carinato; basi striata; umbilico parvo, profundo, striis magnis marginato; apertura subtriangulari; margine crassissimo. Long. .08. Lat. .09 poll.

D. GLOBULUS. D. testa transversè subglobosa, crassa, cancellata; spira planulata, obtusa, ad apicem lævi; suturis vix obsoletis; anfractibus tribus, rapidè crescentibus, supra angulatis et planulatis; costis transversis, octo, magnis; striis longitudinalibus, parvis, irregularibus; anfractu ultimo rotundato; basi costata et striata; umbilico parvo, arcuato; apertura subrotunda integra. Long. .15. Lat. .18 poll.

D. APERTA. D. testa rotundato-conica, subelevata, tenui, sulcata; spira brevi, obtusa; suturis linearibus; anfractibus tribus, convexis, rapidè crescentibus; sulcis longitudinalibus irregularibus, pene obsoletis; anfractu ultimo subangulato; basi subsulcata; umbilico magno, lato, profundo; apertura magna ovato triangulari, integra. Long. .05. Lat. .08 poll.

D. NATICOIDES. D. testa discoidea, crassissima, lævi; spira planulata; suturis linearibus; anfractibus tribus, convexis; anfractu ultimo maximo, rotundato; basi lævi; umbilico parvo, minimè profundo; apertura parva, ovata; labro supernè valdè incrassato. Long. .07. Lat. .12 poll.

#### GENUS ROTELLA.

R. SUBCONICA. R. testa suborbiculari, subdepressa, crassa, lævi; spira brevi,

obtusa; suturis linearibus; anfractibus quatuor, planulatis; anfractu ultimo subangulato; basi lævi; callo lato, medio crasso; apertura ovato-quadrata; columella curvata. Long. .05. Lat. .07 poll.

**R. CARINATA.** R. testa lenticulari, valdè depressa, tenuissima, lævi, polita; spira brevissima, subovata, obtusa; suturis minimis, linearibus; anfractibus tribus, convexis, supernè planulatis; anfractu ultimo acutè angulato, carinato; basi lævi, polita callo parvo; apertura transversa, ovali; columella latissima, curta. Long. .04. Lat. .11 poll.

**R. LENTICULARIS.** R. testa lenticulari, depressa, tenui, lævi, polita; spira brevissima, subovata, obtusa; suturis parvis, linearibus; anfractibus quatuor, convexis; anfractu ultimo angulato; basi lævi; callo parvo; apertura subrotunda; columella lata, curvata. Long. .04. Lat. .09 poll.

**R. UMBILICATA.** R. testa orbiculari, valdè depressa, crassa, lævi, polita; spira umbilicata; anfractibus occultis; anfractu ultimo rotundato, spiram tegente, ad suturam superiorem linea parva transversa impressa; basi lævi; callo magno, tenui, medio depresso; apertura rotunda; columella latissima, subsulcata. Long. .05. Lat. .10 poll.

### GENUS TROCHUS.

**T. ARMILLUS.** T. testa conica, elevata, crassiuscula, imperforata, costata, striata; spira conica, acuminata; suturis minimis; anfractibus quinque, planis; costis transversis, tribus, noduliferis, alternantibus striis minimis; anfractu ultimo acutè angulato, carinato, basi valdè planulato, striis magnis et parvis; apertura quadrilaterali. Long. .15. Lat. .18 poll.

**T. CONUS.** T. testa conica, crassa, umbilicata, striata; spira subovata, depressa, obtusa, ad apicem lævi; suturis latis, impressis; anfractibus sex, planulatis, ad suturam superiorem subcanaliculatis; striis transversis, impressis, parvis, crebris; anfractu ultimo angulato; basi striata; umbilico parvo, valdè profundo, striis duabus marginato; columella recta; apertura quadrilaterali, obliqua. Long. .25. Lat. .35 poll.

**T. LENS.** T. testa lenticulari, infernè et supernè depresso-conica, crassiuscula, polita, umbilicata, striata; spira brevissima, conica, minimè obtusa; suturis latis, subprofundis; anfractibus quatuor, planulatis, ad suturam superiorem canaliculatis; striis transversis, impressis, parvis, raris; anfractu ultimo acutè angulato, carinato; basi conica, striata; umbilico parvo, profundo, striis duabus, profundis marginato; apertura quadrato-ovata. Long. .10. Lat. .15 poll.

**T. TORQUATUS.** T. testa conica, acuminata, crassa, polita, perforata, crenulato-costata; spira subconica, depressiuscula, obtusa; suturis parvis; anfractibus quatuor, subconvexis; costis transversis, quatuor, noduliferis; anfractu ultimo acutè angulato, carinato; basi crebrè et profundè striata; perforatione parva; apertura quadrangulari. Long. .13. Lat. .12 poll.

**T. ARATUS.** T. testa ovato-conica, crassa, polita, imperforata, costata; spira depressa, subovata, obtusa, ad apicem lævi; suturis parvis, linearibus; anfractibus tribus, subconvexis; costis transversis, tribus, magnis, subnoduliferis; anfractu ultimo angulato, costis quatuor; basi sulcata; apertura rotunda. Long. .08. Lat. .08 poll.

**T. RUFFINI.** T. testa conica, crassa, costata, imperforata; spira elevata; suturis minimis, linearibus; anfractibus —, infernè carinatis et sulcatis, supernè concavis et costatis; costis transversis, tribus, noduliferis, alternantibus striis minutissimis; anfractu ultimo angulato, bicarinato, carina superiore subcrenulato; basi lævi; apertura transversa, quadrilaterali; columella rotundata, linea impressa marginata. Long. —. Lat. .38 poll.

### GENUS TURBO.

**T. GLABER.** T. testa ovato turbinata, elevata, tenui, umbilicata, lævi, nitentè;

spira elevata, rotundata; suturis parvis linearibus; anfractibus —, valdè convexis; anfractu ultimo rotundato; basi lævi; umbilico parvo; apertura ovata, supernè angulata, infernè rotundata; labro acuto. Long. —. Lat. .80 poll.

T. RUSTICUS. T. testa globoso-conica, crassa, perforata, cancellata; spira conica, depressa, acuta; suturis parvis, linearibus; anfractibus quinque, planulatis; striis transversis crebris, magnis; striis longitudinalibus crebris, parvis; anfractu ultimo rotundato; basi striata transversè et alternatim; perforatione parva, angusta; apertura quadrato-rotundata. Long. .12. Lat. .11 poll.

#### GENUS CERITHIUM.

C. CLAVULUS. C. testa turrita, valdè elevata, crassa, costata, striata; spira acuta, conica, valdè attenuata, mamillata; suturis linearibus, subboletis; anfractibus —, planis; costis tribus, transversis, magnis, subcutis, lævibus; striis longitudinalibus, raris, parvis, interruptis; anfractu ultimo angulato; basi lævi; apertura quadrata; canali brevi, minimè profundo. Long. —. Lat. .15 poll.

C. CURTUM. C. testa elevato-conica, tenui, subcancellata, carinata, subperforata; spira breviuscula, acuta, ad apicem lævi; suturis excavatis; anfractibus sex, medio carinatis; striis transversis et sulcis longitudinalibus variabilibus; ultimo anfractu angulato; basi minutè striata; perforatione minima, aliquando obsoleta; apertura ovata, supernè angulata, infernè valdè effusa. Long. .15. Lat. .06 poll.

C. DÆDALEUM. C. testa subulata, tenui, imperforata, costata, striata; spira attenuata, subovata, mamillata, ad apicem lævi et polita; suturis linearibus parvis; anfractibus septem, planulatis; costis longitudinalibus, crebris, lævibus, planulatis; striis transversis, crebris, profundis; ultimo anfractu rotundato; basi lævi; polita; apertura aretata, subquadrata, supernè angulata, infernè effusa; labro acuto. Long. .15. Lat. .05 poll.

C. MONILIFERUM. C. testa subulata, sinistrali, crassa, imperforata, costata; spira attenuata, conica; suturis minimis; anfractibus decem, planis; costis tribus, transversis, noduliferis, duabus extremis magnis, una medio parviore; anfractu ultimo rotundato; basi costis tribus lævibus transversis; apertura elongato-quadrata; columella lævi, polita; canali profundo, brevi. Long. .22. Lat. .09 poll.

#### GENUS PLEUROTOMA.

P. LUNATUM. P. testa elongato-fusiformi, crassa, glabra, nitente, imperforata, costata; spira attenuata, mamillata, ad apicem lævi; suturis flexuosis, minimis; anfractibus decem, medio angulatis, infernè convexis et costatis, supernè concavis et subtuberculatis; costis longitudinalibus, subobliquis, magnis, rotundatis; anfractu ultimo rotundato; basi striis parvis, longitudinalibus; apertura aretato-ovata; columella recta, crassa, polita, supernè valdè incrassata; sino profundo, lunato; canali brevi, inciso. Long. 1.60. Lat. .50 poll.

#### GENUS FASCIOLARIA.

F. PARVULA. F. testa fusiformi, crassa, imperforata, nitente, sulcata, striata; spira elevata, obtusa, ad apicem lævi; suturis profundis, aretatis; anfractibus septem, subconvexis; sulcis longitudinalibus magnis, crebris; striis transversis, parvis, raris; anfractu ultimo rotundato; basi profundè striata; apertura longa, aretata, supra acutè angulata; columella multiplicata; canali longo, profundo, subcurvato. Long. .20. Lat. .08 poll.

#### GENUS FUSUS.

F. PYGMÆUS. F. testa ovata, subfusiformi, crassa, lævi, polita; spira ovata, valdè obtusa, breviuscula; suturis linearibus; anfractibus quatuor, planulatis; anfractu ultimo rotundato; basi lævi; apertura sinuosa, aretata; columella angulata; canali torto, longo. Long. .08. Lat. .05 poll.

F. ANOMALUS. F. testa ovata, subfusiformi, perforata, tenui, lævi, polita; spira

subovata, elevata, acuta; suturis excavatis, latis; anfractibus quinque, convexis; anfractu ultimo rotundato; basi lævi; perforatione parva, arcta; columella brevi, torta; canali longo, minimè profundo, ad lævam reflecto.

#### GENUS BUCCINUM.

**B. TUOMEYI.** B. testa ovato-fusiforimi, crassa, imperforata, striata; spira elevata; suturis impressis, profundis; anfractibus —, subconvexis, ad suturam superiorem angulatis; striis transversis, duplicatis, parvis, crebris; anfractu ultimo angulato; infernè striis magnis et parvis alternantibus; basi longitudinaliter sulcata; apertura quadrangulari; canali longo, retorto; columella flexuosa, infernè plica una magna; labro acuto. Long. —. Lat. 1 .40 poll.

**B. PUSILLUM.** B. testa ovata, subconica, crassa, subperforata, lævi; spira ovata, brevi, obtusa; suturis parvis, linearibus; anfractibus quinque, subconvexis; anfractu ultimo rotundato; basi lævi; perforatione minima; apertura ovata; columella recta. Long. .08. Lat. .04 poll.

**B. FRUMENTUM.** B. testa ovato-fusiforimi, acuminata, crassa, perforata, lævi; spira conica, elevata, obtusa; suturis parvis, linearibus; anfractibus quinque, convexis; anfractu ultimo rotundato, prope aperturam subundulato; basi lævi; perforatione parva; apertura ovato-acuminata; canali brevi, obliquo; columella torta. Long. .15. Lat. .10 poll.

**B. QUADRULATUM.** B. testa ovato-conica, crassa, imperforata, sulcata, costata; spira conica, subelevata, obtusa, prope apicem lævi et polita; suturis parvis, flexuosis; anfractibus sex, valdè convexis, prope suturam superiorem fere lævibus; sulcis longitudinalibus, latis, profundis; costis transversis, parvis, quadrangularibus, planulatis; anfractu ultimo rotundato; basi costata; apertura fere elliptica; columella curvata, truncata, infernè plica parva; canali obliquo. Long. .20. Lat. .12 poll.

#### GENUS NASSA.

**N. IMPRESSA.** N. testa elongato-ovata, crassa, imperforata, costata, striata; spira attenuata, conica, obtusa, prope apicem lævi et polita; suturis impressis, flexuosis; anfractibus septem, convexis, ad suturam superiorem angulatis; costis longitudinalibus, latis, rotundatis; striis transversis, parvis, flexuosis; anfractu ultimo rotundato; basi striata; apertura subelliptica; canali brevi, obliquo; labro intus minutè dentato. Long. .20. Lat. .11 poll.

#### GENUS MARGINELLA.

**M. CONULUS.** M. testa ob-ovata, conoidali, crassa, lævi, polita; spira conica, obtusa; suturis subobsoletis; anfractibus tribus, planis; anfractu ultimo rotundato; basi lævi; apertura longa, arctatissima; columella plicis tribus; labro incrassato, rotundato, lævi. Long. .12. Lat. .08 poll.

**M. EXILIS.** M. testa acuminato-elliptica, compressa, tenui, lævi, polita; spira attenuata, obtusa, ovata; suturis obsoletis; anfractibus —, planis; anfractu ultimo rotundato; basi lævi, acuminata; apertura angusta, ovata; columella plicis quatuor; labro acuto, intus costa longitudinali. Long. .18. Lat. .10 poll.

#### GENUS OLIVA.

**O. CANALICULATA.** O. testa cylindracea, crassa, lævi, nitida; spira exserta, obtusa, scalariformi; anfractibus quinque, angulatis, prope suturam inferiorem incrassatis; suturis valdè profundis, latis, canaliculatis; basi acuminata, striis raris, parvis, transversis; apertura lineari, supernè valdè incisa, infernè emarginata; columella multiplicata; labro acuto. Long. 1 .60. Lat. .70 poll.

**O. ANCILLARIEFORMIS.** O. testa ovato-cylindracea, tenui, lævi, polita; spira subulata; suturis canaliculatis; anfractibus —, planis; anfractu ultimo rotundato; basi lævi; apertura subtriangulari, effusa, minimè incisa; columella striis nullis, infernè varice parvo; labro acuto. Long. .25. Lat. .10 poll.