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THESAURUS CONCHYLIIORUM,

OR

MONOGRAPHS

OF

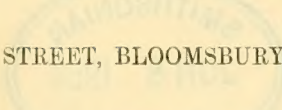
GENERA OF SHELLS.

EDITED BY

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CONUS



558. *C. floridus*, from M^r Cuming's collection 504. *C. Rhododendron*,
from M^r Deburgh's collection 562. *C. circumcinctus*, from the same.
366. *C. Malaccanus*, from M^r Cuming's collections.

MONOGRAPH OF THE GENUS

CONUS.

IN the following arrangement of species, I have endeavoured to bring together those most nearly resembling each other, to facilitate comparison. In doing this I have found the gradations so subtle as almost to defy any systematic division into defined groups. There are no single characters which can be depended upon with any certainty in determining the affinities and distinctions either of groups or species. It is more by the eye, taking in an assemblage of characters, and regarding the general appearance, that they can be appreciated. Thus, although for convenience I have followed a prevailing custom in placing by themselves in groups nearly all the *coronated* species, yet there still remain some coronated species whose general characters forced me to place them in widely different groups, while some generally coronated species present varieties in which the whorls are smooth. This is only one instance of what occurs with regard to almost any character that can be named, such as length of spine, granulation, etc. Under these circumstances it is impossible to maintain perfect consistency as to retaining and proposing some species and rejecting others. As the collector's great object however is to *know* the shells, I have preferred in most cases giving the species as they stand, stating the alleged differences, and leaving the final decision to individual taste. Thus, some eight or ten so-called species of the *textile* group, are, to the best of my belief, mere variations of one type; yet I have admitted them in the catalogue, simply stating the points in which they are said to differ.

a. *Coronated, turbinated, straight-sided.*

1. IMPERIALIS, *Linn.*—C. oblongus, tuberculis magnis coronatus, medio subcontractus, versus basin attenuatus; albus, cæruleo

tinctus, castaneo bifasciatus, punctis et lineis interruptis cinctus (Plate I. f. 2).—The interrupted lines are coincident in downward flashes, and united by two chestnut bands; coronal tubercles large.

2. FUSCATUS, *Born.*—*C. C. imperiali* similis, sed flammis castaneis longitudinalibus magnis ornatus (f. 3).—In this species the downward flashes are large, dark, and defined, while the interrupted cross-lines are less prominent.

3. VIRIDULUS, *Lamk.*—*C. C. imperiali* similis sed brevior, flammis longitudinalibus subviridibus angustatis (f. 1).—Rather shorter than the two preceding, with the downward flashes narrow and greenish.

4. MARMOREUS, *Lin.*—*C. oblongus*, tuberculis magnis coronatus, medio subcontractus, albus, roseo tinctus; lineis nigrescentibus semicircularibus pictus, interstitiis cordiformibus (f. 5).—The ground is tinged with rose-colour, and the whole surface is reticulated with semicircular lines, leaving heart-shaped interstices.

5. BANDANUS, *Brug.*—*C. C. marmoreo* similis, sed maculis trigonis castaneis reticulatus, medio leviter bifasciatus (f. 8).—The shell is generally straighter, and the chestnut markings broader, particularly in two central zones. Probably only a variety of *C. marmoreus*.

6. NOCTURNUS, *Brug.*—*C. C. marmoreo* similis, sed colore nigrescenti pictus, interstitiis cordiformibus, albis, paucis (f. 4).—Probably another var. of *C. marmoreus*, in which the dark colouring nearly covers the shell.

7. DEBURGHLE, *Sowb.*—*C. subventricosus*, versus basin angustatus, nodulis contractis coronatus, albus, roseo tinctus, fasciis latis duabus castaneis et lineis cordiformibus pictus; variat granulatus (f. 6, 7).—Coloured like *C. nocturnus*, and usually considered as a variety, but it is bottle-shaped, and the crowning nodules are contracted into rounded nipples. The smooth variety (f. 7) is in the collection of Mrs. Deburgh, who first remarked it as a distinct species.

8. VIDUA, *Reeve.*—*C. quam C. marmoreus* brevior, ad angulum rotundatus, ad basin contractus; fusco angulatim minutè reticulatus (f. 9, 10).—Shorter and more contracted at the base than *C. marmoreus*, with the angular reticulations more numerous and fine.

9. NICOBARICUS, *Brug.*—*C. oblongus*, lateribus rectis; spirâ

conçavâ, nodulis acutis coronatâ; albus, luteo tinctus, lineis et maculis nigrescentibus reticulatus (f. 11, 12).—The depressed spire and sharp coronal tubercles, with the dark and sharp reticulated markings, distinguish this shell from *C. vidua* on one side and *C. Nicobaricus* on the other.

10. ARACHNOIDEUS, *Gmel.*—*C. oblongus*, lateribus paululum inflatis, roseo tinctus, rubro-nigrescente minutè reticulatum lineatus, medio plus minusve bifasciatus (f. 14).—Minutely reticulated with dark reddish lines.

11. PEPLUM, *Chemn.*—*C. quam C. arachnoideus* brevior, maculis trigonis angulatis castaneis minutè seriatim pictus; variat bifasciatus (f. 13; f. 390).—A shorter shell than *C. arachnoideus*, with close-set camp-like markings. The banded variety (f. 390) assists the identification with Chemnitz's shell.

12. ZONATUS, *Brug.*—*C. oblongus*, coronâ obtusâ; spirâ brevi, cæruleo maculatâ et bifasciatâ, nigro lineatâ (Plate II. f. 15).—This species is distinguished by the regular cross-lines and the tessellated bluish markings and bands between.

13. ALBICANS, *Sowb.*—*C. oblongus*, lateribus rectis, ad basin angustus, albus, ad basin fusco tinctus, coronâ indistinctâ (f. 98).—A small, straight-sided, white shell, tipped with brown.

14. TENUIS, *Sowb.*—*C. oblongus*, tenuis, albus, cæruleo tinctus, ad basin castaneo tinctus, ad angulum spiræ et in medio castaneo punctatus; spirâ elevatâ, nodulis moniliformibus coronatâ (f. 314).—A light, thin, bluish-white shell, with bead-like crown, and two rows of chestnut spots.

15. RECLUZIANUS, *Bernhardi.*—*C. elongatus*, tenuis, medio subcontractus, ad basin subattenuatus, pallidè luteus seu roseus, maculis evanidis bifasciatim cinctus; spirâ acutâ, leviter coronatâ (f. 38, 39).—A light shell, with sharp angle and elegantly tapering form.

16. CAILLANDI, *Kien.*—*C. solidus*, oblongus, ad basin attenuatus; spirâ depressâ, tuberculis paucis coronatâ, inter nodulos castaneâ; fulvus, lineis castaneis cinctus (f. 34).—The flat top, cross-lines, and attenuated form of this rare shell distinguish it sufficiently from all others.

17. MOLLUCENSIS, *Chemn.*—*C. solidus*, subpyriformis, luteus, castaneo maculatus, seriatim granulatus; spirâ convexâ, tuberculis magnis coronatâ (f. 46).—A rather pyriform shell, with convex, coronated spire, and granulated surface.

18. UNICOLOR, *Sowb.*—*C. elongatus*, purpureo tinctus, infernè substriatus; spirâ convexâ, anfractu ultimo distanter coronatâ (f. 83).—A peculiar shell, of a fawn-colour tinged with purple, spire convex, crowned with distant nodules.

19. MURICULATUS, *Sowb.*—*C. oblongus*, solidus, seriatim granulatus; spirâ convexâ, maculatâ, obtusè coronatâ; albus, ad basin cæruleo tinctus, medio castaneo latè bifasciatus (f. 89).—With a spotted, obtuse spire, granulated surface, light chestnut broad bands in the middle, and blue at the base.

20. CÆLATUS, *A. Ad.*—*C. parvus*, transversim sulcatus, sulcis longitudinaliter striatus; albus, aurantiaco latè reticulatus; spirâ depressâ, apice acutè elevato, anfractibus minutè coronatis (f. 107).—Marked like the *Marmoreus* group, but encircled with deep grooves, striated across.

21. LIVIDUS, *Brug.*—*C. solidus*, fulvus, internè et ad basin cæruleus, medio et ad angulum pallidus; spirâ convexâ mediocriter coronatâ, apicè acuto (f. 27).—The well-known blue-tipped obtuse species.

22. SUGILLATUS, *Reeve.*—*C. C. livido* similis, sed spirâ castaneâ, subcanaliculatâ, testâ fasciatâ (f. 50).—Although the banding is more distinct and the whorls of the spire more canaliculated, I think this is but a variety of *C. lividus* in a young state. In a series of specimens the distinctions are lost by gradation.

23. CITRINUS, *Gmel.*—*C. subpyriformis*, breviusculus, medio et ad basin distanter granulatus, internè et ad basin purpureus; spirâ obtusè coronatâ (f. 70).—I think the young of *C. lividus* is straighter than this shell, and Quoy, who names it *C. sanguinolentus*, describes the animal as of a bright red colour.

24. OBLITUS, *Reeve.*—*C. angustatus*, lævis, luteo-olivaceus, superne cæruleo-albâ, medio fasciâ pallidâ cinctus; spirâ convexâ, minutè coronatâ; fauce et basi violaceis (f. 37, discoloured, and f. 100).—The narrowed form and minute coronation distinguish this from *C. lividus*.

25. DISTANS, *Brug.*—*C. elongatus*, medio subcontractus, basi attenuatus, fulvus, pallidè zonatus, versus basin leviter elevatim striatus, violaceo-nigrescente tinctus; spirâ convexâ, nodulis obtusis albidis coronatâ, interstitiis fuscis, apice truncato; fauce griseâ (f. 28, 29).—Remarkable for the peculiar depression of the apex and the white nodules of the spire interlined with dark-brown.

26. *BALTEATUS*, *Sowb.*—*C. breviusculus*, subtrigonus, fulvus, minutè striatus; ad basin et internè violaceus (f. 71).—Resembling *C. citrinus* or *C. lividus*, but finely striated.

27. *TABIDUS*, *Reeve.*—*C. subpyriformis*, tenuis, minute sulcatus, ad basin sulcis fortioribus, distantibus; colore pallido (f. 108).—A pale, rather pyriform shell, finely striated above and distantly sulcated below.

28. *CREPUSCULUM*, *Reeve.*—*C. fulvus*, ad basin cæruleo tinctus, supernè lævis, infra minutè granulatus; spirâ acuminatâ, angulo minutissimè nodulifero (f. 96).—Like *C. lividus* in the blue tip, but a lighter and more angular shell.

29. *GRANIFER*, *Reeve.*—*C. subfusiformis*, granosus, pallidus; spirâ subcanaliculatâ, apice fusco (f. 109, 110).—Our second figure is too darkly coloured. The shell is granulated in every part, and towards the base in ridges.

30. *ARCHITHALASSUS*, *Dillw.*—*C. solidus*, vix ventricosus, albus, flavido minutissimè reticulatus, castaneo fasciatus, fasciis et interstitiis maculis cordiformibus albis inspersis; variat granulatus (f. 24, 25).—This is the “crowned admiral” of collectors, and although slightly more ventricose and shouldered, I have great hesitation in admitting its separation from *C. ammiralis*.

31. *PRINCEPS*, *Linn.*—*C. solidus*, turbinatus, irregulariter coronatus, aurantius, lineis undulatis longitudinalibus tenuibus vel magnis ornatus (f. 31, 32, 33).—The shorter variety (f. 33) with minute lines is *C. lineolatus* of Valenciennes.

32. *RUTILUS*, *Menke.*—*C. tenuis*, turbinatus, lævis, roseus, minutè coronatus (f. 323).—I should have expected the young of *C. princeps* to present the appearance of this smooth, pink, turbinated, lightly coronated and thin shell, but am assured by Mr. Cuming that those collected by him are quite different.

33. *RUPELLII*, *Reeve.*—*C. solidus*, versus basin granulatim striatus; spirâ obtusâ, nodulis coronalibus obtusis; ad spiram et in medio albus, fusco maculatus, omnino lineis fuscis cinctus (f. 143).—White at the top, and in a middle band speckled with brown; the other parts chestnut, encircled with dark lines, which from the middle to the base are raised and granulated.

34. *TAHEITENSIS*, *Brug.*—*C. subpyriformis*, fusco-purpurascens, maculis albis vel cæruleis fluctuatis ad spiram et in medio ornatus, omnino leviter striatus; spirâ obtusè coronatâ (f. 26).—This purplish-brown shell is slightly striated, and is more pyriform

than *C. Rattus*, of which some collectors consider it a variety. The latter is a more turbinated shell.

35. *GLADIATOR*, *Brod.*—*C. brevisculus*, striatus, fuscus, flammis longitudinalibus fuscis seu nigris flexuosis pictus, medio pallidè fasciatus; spirâ brevi, nodulis obtusis (f. 59, 60).—Distinguished by flexuous downward flashes of brown. It is finely striated, and differs from *C. brunneus* by being straighter at the sides.

36. *BRUNNEUS*, *Mawe.*—*C. subpyriformis*, castaneus seu fulvus, fusco maculatus, versus basin striatus; spirâ plus minusve elevatâ, nodulis albis coronatâ (f. 47, 48, 49).—Rather pyriform, brown, with a pale band, or white or fawn, with chestnut bands or markings.

37. *PUNCTATUS*, *Chemn.*—*C. solidus*, striatus, fulvus seu griseus medio et ad angulum albo fasciatus; punctis lineatim dispositis ornatus; variat flammis longitudinalibus nigrescentibus; spirâ obtusâ fusco maculatâ (f. 91, 92, 203).—The latter figure probably represents *C. pellis-hyænae* of Chemnitz, a variety of this.

38. *PRIMULA*, *Reeve.*—*C. subpyriformis*, lævigater versus basin liratus, pallidè fulvus; spirâ obtusâ, nodulis obtusis (f. 76).—A nankeen-coloured shell, rather short, solid, obtuse and smooth, with raised ridges near the narrow base.

39. *PIGMENTATUS*, *Reeve.*—*C. subovali-conicus*, obsoletè striatus, albus, violaceo tinctus, maculis subviridibus bifasciatim dispositis; spirâ obtusâ, apice roseo (f. 101).—A purplish-white shell, prettily painted with touches of olive-green arrayed in two bands.

40. *MAGELLANICUS*, *Brug.*—*C. turbinatus*, parvus, solidus, pallidus, fasciis duabus latis, maculis trigonis inspersis pictus (f. 77, 390).—In the variety represented by the latter figure the white bands in the centre and on the angle are prettily marked with reddish lines and spots. It is *C. cidaris* of Kiener.

41. *MACULIFERUS*, *Sowb.*—*C. brevis*, solidus, turbinatus, maculis junctis castaneis fasciatim dispositis (f. 74, 75).—More turbinated at the top and narrowed at the base than *C. Magellanicus*. The markings are more separated into patches and are dark chestnut.

42. *SPHACELATUS*, *Sowb.*—*C. C. maculifero* similis, sed granulatim sulcatus, spirâ exsertâ (f. 105, 106).—This small shell re-

sembles *C. maculiferus*, but it is not so smooth, and the spire is elevated.

43. CEDO-NULLI, *Brug.*—*C. solidus*, turbinatus, levigatus seu lineatim granulatus, fasciis latis castaneis seu aurantiis seu nigris irregulariter fasciatim interruptis cinctus, maculis angulatis albis et lineis interruptis ornatus; spirâ elevatâ, obtusè coronatâ (f. 64 to 65).—This celebrated species is remarkable for several variations in pattern and colouring, but the interrupted dotted dark and white lines are constant.

44. NEBULOSUS, *Soländer.*—*C. latè turbinatus*, *C. cedo-nulli* similis sed supernè latior (f. 61, 62).—Broader at the top and less neatly coloured than *C. cedo-nulli*, and the dotted or granulated lines are almost entirely wanting.

45. LEUCOSTICTUS, *Gmel.*—*C. C. cedo-nulli* similis, sed valdè angustatus, apice obtuso (f. 35, 36).—Like *C. cedo-nulli*, but much narrower, with the angular patches of white broader.

46. VARIUS, *Linn.*—*C. elongatus*, lateribus paululùm ventricosis, granosus, albus seu luteus, maculis castaneis ornatus; spirâ elevatâ, nodulis moniliformibus coronatâ (f. 40 to 42).—White, granulated with patches of chestnut-colour.

47. INTERRUPTUS, *Mawe.*—*C. C. vario* similis, sed lævior, lateribus rectiusculis (f. 43, 44).—Smoother and with straighter sides than *C. varius*.

48. PLUMBEUS, *Reeve.*—*C. subpyriformis*, lineis elevatis granulatis cinctus, cæruleus, castaneo maculatus, versus basin purpureus; spirâ convexâ, obtusè noduliferâ (f. 131, 132).—Like *C. varius* in form, leaden and purplish in colour, granulated, and in the var. f. 131, named *C. liratus* by Mr. Reeve, with elevated ridges between the grains.

49. ALBOMACULATUS, *Sowb.*—*C. oblongus*, minutè coronatus, granulatus, aurantius, maculis albis magnis versus spiram et infra medium ornatus (f. 113).—Straight-sided, granulated, orange-coloured, with large white spots.

50. SPECIOSISSIMUS, *Reeve.*—*C. oblongus*, minutè coronatus, lateribus rectis; roseus, rubro late interruptim fasciatus; fasciis irregularibus (f. 123, 124).—Of a delicate rose-colour, with red, irregular, jagged bands.

51. SPECIOSUS, *Sowb.*—*C. breviusculus*, turbinatus, minutè coronatus, albo rufoque irregulariter fluctuatus, flammis rufis lineatim marginatis (f. 138).—More turbinated than *C. speciosus*,

with irregular jagged broad markings of reddish colour, bordered by darker lines.

52. *CARDINALIS*, Brug.—*C. subpyriformis*, obsoletè *granulatus*, *coccineus*, in medio albo *fasciatus*; *fasciâ fusco maculatâ*; *spirâ convexâ*, *nodulis moniliferis coronatâ* (f. 117, 118).—Pyriform, coronated with minute nodules, granulated, bright-red, with a central white band, interrupted by brown markings.

b. *Swelled near the upper angle and base.*

53. *PULICARIUS*, Brug.—*C. ventricosus*, *obtusus*, medio *subcontractus*, ad *angulum et basin rotundatus*; *albus*, *roseo pallidè tinctus*, *punctis rotundis irregulariter pictus* (f. 19, 20, 21).—Solid, pinky-white, rounded at the base and at the angle of the spire, with variously arranged black spots.

54. *ARENATUS*, Brug.—*C. C. pulicario similis*, sed *punctis minutissimis fluctuatum dispositis* (f. 17, 18).—The spots are like grains of sand arranged zigzag fashion, otherwise this species is like the last.

55. *VAUTIERI*, Kien.—*C. C. pulicario similis*, sed *castaneo*, *punctis quadratis* (f. 23).—Like *C. pulicarius*, but of a chestnut colour, with the spots rather square.

56. *CEYLONICUS*, Chemn.—*C. C. pulicario similis*, sed *nodulis coronalibus obscuris*, *castaneo et albo variegatus*, *lineis punctatis cinctus* (f. 16, 22).—The nodules of the spire are almost wanting in the last whorl; the shell is variegated with fluctuating patches of chestnut and dotted cross-lines. Fig. 16 is probably a narrow variety.

c. *Obtusely coronated, generally ventricose, short.*

57. *MUS*, Brug.—*C. subovalis*, *striatus*, *griseus*, *flammis longitudinalibus fuscis*; *spirâ convexâ nodulis albis coronatâ*; *interstitiis nigro-maculatis* (f. 78).—Rather oval, striated, grey, with brown longitudinal markings, and black spots between the white nodules of the spire.

58. *PUNCTURATUS*, Brug.—*C. brevis*, *subventricosus*, *griseus*, *sulcatus*, *sulcis depresso-punctatis*; *spirâ acutâ*, ad *angulum moniliferâ*, *inter nodulos nigro-punctatâ* (f. 104).—This little shell, which resembles a short *C. Mus*, is encircled by punctured grooves.

59. *ROSEUS*, Lamk.—*C. brevis*, *solidus*, *turbinatus*, *sulcatus*,

roseus seu griseus, medio fasciâ pallidâ cinctus; spirâ obtusâ, nodulis albis coronatâ, interstitiis nigris (f. 94, 95).—Turbinated, grooved, pink or grey, with a light or white band in the centre; nodules of the spire white, with dark spots between.

60. MINIMUS, *Linn.*—*C. brevis*, obtusus, roseus seu griseus, nigro seu castaneo variegatus, lineis nigro et albo punctatis cinctus (f. 54, 55, 99, 111).—Short, of a pink or grey colour, variegated by black or chestnut, and encircled by black and white punctured lines, a strong longitudinal band within the edge of the mouth. This and the four following are probably varieties of the same.

61. BARBADENSIS, *Brug.*—*C. C. minimo* similis, sed magis elongatus, lineis transversis sparsim punctatus (f. 57, 58).—Of a more oval and elongate form than *C. minimus*, generally more lightly coloured, with the encircling spots fewer.

62. ENCAUSTUS, *Kien.*—*C. C. minimo* similis, sed ad spiram magis angulatus, lateribus rectiusculis, striis transversis albo griseoque tessellatis (f. 79).—There is greater angularity of form in this species than in *C. minimus*, and a peculiar tessellated style of marking.

63. ARISTOPHANES, *Ductos.*—*C. C. minimo* similis, sed lineis interruptis transversis majoribus (f. 81, 82).—The cross-lines of black and white spots are fewer and wider than in *C. minimus*.

64. TIARATUS, *Brod.*—*C. minimo* seu *C. Aristophani* similis, sed spirâ elevatâ, nodulis elevatis albis coronatâ (f. 80).—This has the broad interrupted lines of *C. Aristophanes*, with an elevated and beautifully coronated spire.

65. MILIARIS, *Brug.*—*C. brevis*, lævis, roseus, maculis flexuosis albis fasciatim cinctus; spirâ convexâ, nodulis albis coronatâ (f. 72, 73).—The well-known pinky-coloured species with flexuous white markings in bands.

66. FULGETRUM, *Sowb.*—*C. C. miliari* similis, sed subgranulatum sulcatus, fusco prope angulum maculatus, rubro reticulatus (f. 69).—Differs from *C. miliaris* in texture and style of marking, being grooved and slightly granulated, with reticulated markings.

67. EBRÆUS, *Linn.*—*C. solidus*, brevis, lævis, roseus, coronatus, maculis magnis fluctuatim quadratis nigris ornatus (f. 56).—Short and smooth, with square or flexuous large black spots.

68. VERMICULATUS, *Lamk.*—*C. solidus*, brevis, lævis, coronatus, griseus, flammis longitudinalibus nigrescentibus pictus, transversim sulcatus, nonnunquam granulatus; fauce fuscâ, aperturæ margine

nigro punctatâ (f. 52, 53, 112).—Distinguished by longitudinal worm-like markings in place of the square spots of *C. Ebraeus*. It is also sulcated, and generally granulated.

69. *TENIATUS*, *Brug.*—*C. obtusus*, lævis, roseo et cæruleo alternatim fasciatus, lineis nigris validis albo interruptis cinctus (f. 85).—Coloured with alternating bands of pink and blue, with black and white spotted lines between.

70. *ABBREVIATUS*, *Sowb.*—*C. obtusus*, brevis, lævis, coronatus, cæruleus, lineatim nigro-punctatus, medio al bifasciatus (f. 84).—Shorter than *C. taniatus*, with narrower spotted lines and more uniform colour.

71. *PONTIFICALIS*, *Lamk.*—*C. obtusus*; spirâ elevatâ, minutè coronatâ, lævi, albâ, fasciâ latissimâ viridi transversè lineatâ cinctus (f. 51).—The broad band of olive-green which covers two-thirds of the centre is grooved and black-lined, and seems to consist of closely inlaid epidermis.

72. *CORONATUS*, *Reeve.*—*C. fusiformis*, parvus, minutissimè liratus, supra albus, infra olivaceo fasciatus; spirâ elevatissimâ, anfractibus validè coronatis (f. 136).—The spire in this little shell is as long as the body-whorl; it is strongly coronated.

73. *NUX*, *Brod.*—*C. parvus*, ventricosus, pyriformis, minutè coronatus, cæruleo tinctus, ad basin purpurascens, maculis angulatim fluctuatis castaneis ornatus (f. 135).—Broad at the top and narrow at the base, with a purple tint, marked with well-defined zigzag chestnut patches.

74. *SPONSALIS*, *Chemn.*—*C. ventricosus*, *C. nuci* similis, sed flammis rubris in seriebus duabus ornatus (f. 133, 134).—More ventricose than *C. nux*, with red flexuous markings arrayed in two central rows.

75. *CEYLANENSIS*, *Brug.*—*C. parvus*, breviusculus, minutè coronatus, flavidus, maculis irregularibus magnis in seriebus duabus et lineis interruptis castaneis ornatus, infra angustatus, purpureus (f. 139, 140, 141).—Much like *C. nux*, but more straight-sided and with the chestnut markings more in bands. *C. exiguus*, *Lamk.*, may be a variety of this.

76. *PUSILLUS*, *Chemn.*—*C. subventricosus*, *C. nuci* similis, sed minutè seriatim duplicato-maculatus (f. 144).—A very uncertain species, shaped like *C. nux* or *C. Ceylanensis*, but with rows of double spots.

77. *MUSICUS*, Brug.—*C. parvus*, angulatus, minutè coronatus, inter nodulos nigro-lineatus, cæruleus seu pallidè fulvus seu roseus, lineis nigris interruptis cinctus; ad basin violaceus; spirâ acutâ (f. 145–148).—In shape like the preceding, distinguished by the square linear spots between the nodules of the spire, and the interrupted dark lines on the body. This and the last four species are all purple-tipped at the base.

78. *NANUS*, Brod.—*C. parvus*, exiguus, albicans, cæruleo tinctus, minutè coronatus, aperturâ et basi purpurascens; spirâ obtusâ; variat fulvo seriatim maculatus (f. 114, 115, 116).—Typically bluish-white tipped with purple, but varying with rows of light-brown spots.

79. *PUNCTICULATUS*, Brug.—*C. solidus*, brevis, minutè coronatus, plerumque granulatus, fulvus, cæruleus vel pallidè roseus, maculis nigrescentibus seriatim inter granula ornatus (f. 128–130, 391, 392).—A short species, with rows of blackish spots between granules. *C. papillosus* of Kiener is a pale variety with brownish spots; *C. pustulosus*, Kien., is a variety with larger grains, as in our f. 392. The larger specimens are not so sharply spired as the smaller.

d. *Sharp-spired, with arched outer lip.*

80. *VERRUCOSUS*, Brug.—*C. subfusiformis*, albus aut pallidè fulvus, fusco variegatus, seriatim granulatus; spirâ acutâ, læviusculâ (f. 125, 126, 127).—More acute, with a more prominent spire than *C. puncticulatus*, not regularly spotted, but variegated with brown between the granules. The white var. is *C. echinulatus*, Kien.

81. *MINDANUS*, Brug.—*C. angulatus*, lævis aut granulatus, vix coronatus, roseus seu violaceus, rubro aut fusco variegatus (f. 86, 87, 88).—A richly-coloured angular shell, of pink or purple tint richly variegated. It is sometimes granulated.

81*. *CRENULATUS*, Kien.—*C. fusiformis*, lateribus arcuatis, granulis oblongis cinctus, anticè angustatus (f. 359).—Fusiform, elegantly tapering towards the apex and base, encircled with oblong granules.

82. *ACUTANGULATUS*, Chemn.—*C. brevis*, puncturatim sulcatus, castaneo variegatus, spirâ elevatâ, crenulatâ (f. 356).—A short acute shell with deep punctured grooves.

83. *CANCELLATUS*, Brug.—*C. angulatus*, lateribus incurvis;

sulcatus, sulcis puncturatis; albicans, castaneo pallidè fasciatim maculatus (f. 372, 373).—The variety f. 372 is a little swelled at the middle and then suddenly contracted. The deep grooves are crossed by lines of growth.

84. ARCUATUS, *Brod. et Sowb.*—*C. cancellato* similis, sed lineis elevatis cinctus; flammis castaneis pictus (f. 384).—Instead of grooves, as in *C. cancellatus*, we have outstanding ridges in this species, and the markings are zigzag.

85. PATRICIUS, *Hind.*—*C. fulvus*, sulcatus, infra medium contractus; spirâ elevatâ, moniliferâ (f. 355).—Pale yellowish-brown, sulcated, the spire beaded, the body-whorl bottle-shaped.

86. SULCATUS, *Brug.*—*C. oblongus*, stramineus, sulcatus, ad angulum undulatus, spirâ brevi (f. 30).—Differing from this group in general form, it is nevertheless sharp-spined. The body is sulcated, and a variety, *C. costatus* of Chem.?, occurs with the intermediate ridges granulated.

87. STICTICUS, *A. Adams.*—*C. acutus*, sulcatus, fuscus, flammis longitudinalibus maculiferis ornatus; spirâ minutè crenulatâ (f. 137).—Very acute at both ends, sulcated, darkly variegated with downward spotted flashes.

88. SOWERBYI, *Reeve.*—*C. elongato-fusifformis*, distanter sulcatus, interstitiis planatis; pallidus, flammis fulvis longitudinalibus pictus; infra medium contractus; spirâ elevatâ, lateribus incurvis (f. 379).—This is like *C. acutangulatus*, but drawn out at both ends.

89. PRÆCELLENS, *A. Ad.*—*C. fusiformis*, minutè sulcatus, pallidè fasciatim maculatus; spirâ elevatâ, marginibus acutis (f. 371).—Delicately sculptured, and tapering at both ends.

90. ORBIGNYI, *Ardouin.*—*C. elongatus*, angustatus, sulcatus, interstitiis planis; fulvus, castaneo fasciatim maculatus; spirâ elevatâ, nodulis moniliformibus crenulatâ (f. 368).—This attenuated shell has a beaded spire, and flattened ribs between equidistant sulci.

91. ACULEIFORMIS, *Reeve.*—*C. attenuatus*, costis rotundis cinctus, spirâ moniliferâ (f. 370).—Like *C. Orbignyi*, but with rounded ribs between the sulci.

92. INSCULPTUS, *Kien.*—*C. attenuatus*, fuscus, sulcatus, sulcis striatis, interstitiis planis; anticè angustatus; spirâ elevatâ, moniliferâ (f. 363).—I am inclined, with Reeve, to consider this as a variety of *C. Orbignyi*.

93. *VIMINEUS*, *Reeve*.—*C. flavidus*, elongato-fusiformis, infra attenuatus, sulcis duplicatis et striis elevatis cancellatus; spirâ minutè crenulatâ (f. 357).—A yellowish elongated shell, cancellated with double ribs and elevated striæ.

94. *AUSTRALIS*, *Chem*.—*C. elongatus*, acuminatus, duplicatim sulcatus, medio subventricosus, fulvo-griseus, fusco flammulatus (f. 486).—More full-bodied and ventricose than *C. Orbignyi*.

95. *PULCHER*, *A. Ad.*—*C. elongatus*, sulcatus, fuscus, lineis nigro alboque articulatis; spirâ acuminatâ, coronatâ (f. 121).—Long and narrow, rather finely grooved with articulated black and white lines.

96. *SULCIFERUS*, *A. Ad.*—*C. oblongus*, distanter valdè sulcatus, fuscus; spirâ acuminatâ, anfractibus moniliferis (f. 122).—Of a uniform dark colour, with distant sulci, and flattened spaces between.

97. *PAPILLARIS*, *Reeve*.—*C. fusiformis*, lævis; spirâ coronatâ, elevatâ; apice rotundo, basi attenuatâ; flavidus, fusco flammulis fluctuatis longitudinalibus pictus (f. 377).—Smooth, a little swelled in the centre, tapering at the extremities; spire coronated, with a teat-like apex.

98. *SIEBOLDII*, *Reeve*.—*C. elongatus*, albus, castaneo sparsim maculatus, versus basin sulcatus; spirâ acuminatâ; anfractibus concavis, acutè marginatis, ultimis vix crenulatis (f. 369).—Smooth, white and rather light, with sharp-edged whorls, and the upper part of the spire crenulated.

99. *VOLUMINALIS*, *Hind*.—*C. tenuis*, acutus, pallidè roseus, fasciatim maculatus, leviter sulcatus; spirâ breviusculâ, acuminatâ (f. 378).—Of an acute conical form, slightly sulcated and delicately tinted.

100. *FLORIDULUS*, *Ad. et Reeve*.—*C. C. voluminali* similis, sed fasciatus, haud sulcatus, spirâ ad angulum undulatâ (f. 97).—The undulations of the spire distinguish this species from the last.

101. *BORNEENSIS*, *Ad. et Reeve*.—*C. subfusiformis*, lævis, albus, castaneo sparsim maculatus, ad basin tenuiter sulcatus; lateribus incurvis, spirâ elevatâ, marginibus anfractuum acutis (f. 389).—In form nearest to *C. arcuatus*, but narrower and without the elevated lines.

102. *CINGULATUS*, *Lamk.*—*C. solidus*, acutus, fulvus, castaneo

flammis longitudinalibus medio divisis pictus; infra attenuatus, sulcatus; spirâ elevatâ, læviusculâ (f. 385).—Most nearly allied to *C. Sowerbyi*, but with the spire less elevated and the base less attenuated, and it is only sulcated at the base.

103. CENTURIO, *Born.*—*C. turbinatus*, tenuis, acutè conicus; spirâ subelevatâ, lateribus infra medium subarcuatis, versus basin tenuiter sulcatus; omnino lævis, aurantio fasciatus, lineis angulatis et fluctuatis castaneis ornatus (f. 367).—This elegantly-formed shell is coloured with zigzag stripes of dark-brown upon bands of orange.

104. DELESSERTIANUS, *Recluz.*—*C. C. centurioni* similis, sed spirâ magis elevatâ et convexâ, rubro *punctato*-lineatus; lateribus magis contractis (f. 365).—This exceedingly rare shell differs from *C. centurio* in the greater elevation and convexity of the spire, and in being ornamented with lines composed of reddish spots.

105. MALACCANUS, *Brug.*—*C. quam C. centurio* solidior; spirâ breviusculâ; flammis castaneis nigrescentibus inter fasciis aurantiis latis ornatus (f. 366 and Frontispiece).—More solid than *C. centurio*, with the dark markings *between* the bands of orange.

106. SCALARIS, *Valenc.*—*C. solidus*, lævis, fusiformis, medio contractus, anticè attenuatus; albus, flammulis castaneis medio et infra fasciatim interruptis ornatus; spirâ acuminatâ, anfractibus gradatis (f. 192).—A large shell, with chestnut longitudinal flashes of colour and elevated spire, with the whorls (*accidentally?*) graduated.

107. UNDATUS, *Kien.*—*C. lævis*, subfusiformis, pallidè fulvus, flammis longitudinalibus rubro-castaneis ornatus, infra acutus; spirâ elevatâ, lævi (f. 383).—Smooth, and ornamented with downward dark-chestnut flames.

108. CLERII, *Reeve.*—*C. tenuis*, oblongus, infra sulcatus, castaneo flammulatus (f. 374).—In shape resembling *C. voluminalis*, coloured with undulating downward flashes, and finely grooved near the base.

109. MONILIFER, *Reeve.*—*C. solidus*, subfusiformis, infra contractus, punctis articulatis castaneis cinctus flammeisque variegatus; spirâ acuminatâ (f. 380, 381, 382).—Distinguished by the articulated rows of semicircular spots by which all the varieties are more or less encircled.

110. JAPONICUS, *Brug.*—*C. solidus*, subventricosus, lævis, au-

rantius, lineis punctatis castaneis cinctus (f. 376).—I think this species, the *C. Largillierii* of Kien., agrees with Bruguière's description. It is of a more solid and conical form than *C. monilifer*, with the sides even a little ventricose.

111. LEMNISCATUS, *Reeve*.—C. quam *C. Japonicus* magis elongatus, spirâ breviorâ (f. 411).—The sides are straighter than in *C. Japonicus*, and the body-whorl is much longer in proportion to the spire.

112. PHILIPPII, *Kien*.—C. quam *C. Japonicus* magis elongatus, anfractu ultimo rotundato; punctis irregularibus pictus (f. 412).—I am inclined to think this a variety of *C. lemniscatus* or *C. Japonicus* slightly deformed.

113. ANGULATUS, *A. Ad.*—C. turbinatus, lævis, acutus, maculis sequentibus et flammis pictus, spirâ acuminatâ (f. 388).—Broader at the top than *C. monilifer*, with similar but broader articulated rows of spots.

114. LENTIGINOSUS, *Reeve*.—C. quam *C. angulatus* angustior; spirâ magis elevatâ, ad angulum regulariter castaneo maculatâ; flammis longitudinalibus maculis fuscis albisque ornatus (f. 386).—A rather fusiform shell, with chestnut spots at the angle of the spire, and light downward flashes interrupted by brown and white articulated lines.

115. EMARGINATUS, *Reeve*.—C. elegantè fusiformis, lævis, spirâ versus apicem attenuatâ, gradatâ; flammis magnis sparsis castaneis medio attenuatis pictus (f. 387).—A very elegantly-formed shell, with large downward flames of colour, two of which appear on one side.

116. OPTABILIS, *A. Ad.*—C. solidus, brevis, pallidè roseus, pallidissimè maculatus; spirâ elevatâ, gradatâ (f. 364).—Fusiform, almost colourless, short, with the spire gradated.

117. SELECTUS, *A. Ad.*—C. fusiformis, tenuis, lineis punctatis cinctus, medio paululum ventricosus, ad basin contractus, leviter sulcatus; spirâ acuminatâ, aculeatâ, angulo acuto (f. 361).—After a slight swelling in the centre the shell contracts near the base, which is faintly grooved.

118. PEALII, *Green*.—C. subelongatus, rectiusculus, lineatim castaneo punctatus, pallidus; spirâ elevatâ, gradatâ (f. 358, 393, 394).—Like *C. selectus*, but longer and more straight-sided. I am not sure as to the identity of the varieties figured, but the specimens come with authority.

119. ACUTUS, *Sowb.*—*C. parvus*, solidus, fulvus, fusco variegatus, minutè coronatus, inter nodulis maculatus; spirâ acutâ (f. 142).—Although shaped like the species of this group, with sharp elevated spire, it may, after all, be but an irregular form of *C. Ceylanensis*.

120. ARCHON, *Brod.*—*C. tenuis*, oblongus, lævis, pallidus, maculis fusco-aurantiis irregularibus magnis fasciatim ornatus; spirâ breviusculâ, lateribus concavis, apice acuto (f. 252).—A conical shell, whose incurved spire and arcuated lip brings it within this section, although it has an affinity with *C. cedo-nulli*. It is lighter than that species, and has no articulated lines.

121. AMADIS, *Mart.*—*C. oblongus*, tenuis, lævis; lateribus medio aut infra medium contractis; rubro-nigrescente reticulatus; spirâ brevi, arcuatâ, acuminatâ. Variat castaneo fasciatus (f. 169, 170, 171).—The well-known large, light, reticulated shell, with beautifully curved outer lip.

122. ACUMINATUS, *Brug.*—*C. breviusculus*, solidus, lævis, lateribus rectiusculis, rubro-nigrescente reticulatus; spirâ acuminatâ, gradatâ (f. 196, 197).—Shorter and more solid than the last, but like it in markings.

123. TORNATUS, *Brod.*—*C. elongatus*, solidus, rectiusculus, nebulis cæruleis et punctis quadratis rubro-nigrescentibus seriatim pictus, infra sulcatus; spirâ maculatâ, gradatâ. Variat ubique sulcata et granosa (f. 375, var. 425).—Mrs. Deburgh's variety of this dark and spotted shell is sulcated and granulated.

124. SPICULUM, *Reeve.*—*C. fusiformis*, lævis, albus, sparsim castaneo maculatus; spirâ attenuatâ, acutâ (f. 362).—The spire is nearly equal in length to the body-whorl, which is narrow.

125. MINUTUS, *Reeve.*—*C. parvus*, solidus, pallidus, castaneo fasciatus; spirâ elevatâ, acutâ (f. 360).—A very little acuminated shell, with chestnut bands.

126. DISPAR, *Sowb.*—*C. elongatus*, solidus, lateribus rectis; cæruleus, rubro-nigrescente fasciatim maculatus; spirâ elevatâ, maculatâ, lateribus incurvis (f. 195).—Like *C. tornatus* in form, but different in the markings.

127. INCURVUS, *Brod.*—*C. attenuatus*, lævis, cæruleus, rubro-nigrescente seriatim maculatus; lateribus incurvis, spirâ acuminatâ, gradatim angulatâ (f. 194).—Longer than *C. dispar*, with the sides elegantly incurved.

128. REGULARIS, *Sowb.*—*C. subturbinatus*, lævis, lateribus

subcontractis; maculis quadratis rubro-nigrescentibus regulariter fasciatim pictus; spirâ acuminatâ, lateribus incurvis (f. 208, 209, 210).—Broader at the upper angle than the preceding, and marked with regular, square, reddish-brown spots.

e. *Conical, not coronated.*

129. THALASSIARCHUS, *Gray*.—C. oblongus, lævis, medio paululum contractus, infra subquadratus; rubro-nigrescente reticulatus et nonnunquam castaneo fasciatus; spirâ plerumque planatâ, anfractibus vix canaliferis (f. 164, 165, 166, 276).—Reticulated with reddish-black or brown, and sometimes banded with a lighter colour, contracted in the centre, and rather widened at the base.

130. MALDIVUS, *Brug*.—C. oblongus, lævis, lateribus rectiusculis, infra acutus; flammis longitudinalibus fasciatim interruptis variè pictus (f. 182, 183, 184).—A little contracted in the centre, and pointed at the base, marked with brown or orange flashes interrupted in bands; the base is tipped with dark colour.

131. MONILE, *Brug*.—C. *C. Maldivo* similis, sed macularum seriebus cinctus (f. 178).—Like *C. Maldivus* in form, but encircled by series of square, reddish-brown spots, the base light-coloured.

132. GENERALIS, *Linn*.—C. *C. Maldivo* similis, sed angustior, lateribus rectis; fasciis aurantiacis et lineis longitudinalibus pictus (f. 179, 180, 181).—Narrower and more straight-sided than *C. Maldivus*, with regular broad bands of colour, and linear downward flashes.

133. VIRGATUS, *Reeve*.—C. oblongus, lævis, lateribus incurvis, infra sulcatus, spirâ lateribus incurvis; pallidè roseus, flammis undulatis castaneis longitudinalibus pictus; variat flammis evanidis (f. 190, 193).—With sides a little contracted, of a pinky colour, and marked by downward, undulating flashes.

134. LUCTIFICUS, *Reeve*.—C. rectus, oblongus, solidus, lævis, infra sulcatus; medio latè bifasciatus, transversè seriatim maculatus; spirâ breviusculâ (f. 198).—This straight-sided cone is encircled by two broad chestnut bands and rows of dark spots.

135. FULGURANS, *Brug*.—C. breviusculus, lævis, solidus, lateribus paululum convexis; fulvo fasciis duabus fulgurato maculis rubris ad angulum et medio tricinctus (f. 202).—Rather broad, and marked with lightning-like flashes of light brown in two

bands, with two rows of spots in the centre and one on the angle.

136. EXIMIUS, *Reeve*.—*C. C. fulguranti* similis, sed angustior et rectius (f. 201).—Although this species is narrower and straighter than the preceding, I doubt the propriety of the distinction.

137. AMMIRALIS, *Linn*.—*C. solidus*, lævis, oblongus, rectigonus, minutè reticulatus, aurantio latè fasciatus, fasciis fusco lineatis, maculis cordiformibus albis interruptis ornatus (f. 225, 226).—I do not feel sure that I am right in admitting the separation of the “coronated admiral” (*C. archithalassus*) from this species; although the former is generally a little more bulging at the sides, and sometimes granulated.

138. CALEDONICUS, *Brug*.—*C. solidus*, turbinatus, lævis, aurantius; spirâ pyramidali, subgradatâ; aurantius, rubro lineatus (f. 413).—An orange-coloured, smooth, turbinated shell.

139. SPLENDIDULUS, *Sowb*.—*C. oblongus*, turbinatus, lævis, fusco flammis in fasciis duabus pictus, transversè nigro interruptim lineatus (f. 211).—A plainly shaped, broad-topped shell, with rich colouring in bands crossed by interrupted dark lines.

140. CLASSIARIUS, *Brug*.—*C. turbinatus*, solidus, rectigonus, fasciis aurantiis latis et lineis rubris cinctus; medio albus nigro maculatus, intus fusco-violascente (f. 213).—Broader than *C. splendidulus*, with two broad orange-brown bands and a central white one, the latter bordered with a row of dark spots, mouth chocolate.

141. COFFEA, *Gmel*.—*C. valdè turbinatus*, lævis, castaneus aut pallidè fulvus, ad angulum et infra medium albo fasciatus, spirâ maculatâ (f. 173, 174).—We have omitted to figure the light variety of this shell, which is of a uniform tint, with a white sub-central band.

142. DAUCUS, *Brug*.—*C. turbinatus*, lævis, aurantius, medio interruptè fasciatus, infra sulcatus (f. 188, 189; var. 330).—Of an orange or carrot colour, and turbinated form.

143. SANGUINOLENTUS, *Reeve*.—*C. quam C. daucus magis elongatus*, roseus, (f. 409).—Of a more delicate colour and elongated form than *C. daucus*, which nevertheless it nearly resembles.

144. VITTATUS, *Lamk*.—*C. oblongus*, obtusus, transversè granulato-striatus, fusco-rubescens seu rubro latè bifasciatus; spirâ et fasciâ albâ centrali nigro-maculatis (f. 274; var. f. 410).—

The surface is occupied by two broad bands of reddish-brown, or, as in f. 410, bright red, with black spots on the spire, and central white band.

145. ORION, *Brod.*—*C. C. vittato* similis, sed acutangulatus, fasciis fuscis cum flammis longitudinalibus medio interruptis pictus (f. 200).—More angular at the spire than *C. vittatus*, of which it has not the rich ruby tint nor the granulated striæ.

146. VENULATUS, *Brug.*—*C. solidus*, lævis, infra obtusus, supra angulo obtuso, fusco fulvo nigro cum maculis albis cordiformibus variegatus (f. 261–264).—The ground-colour of this obtuse, solid species is various, but all the varieties are adorned with white cordiform spots.

147. DILWYNII, *Reeve.*—*C. quam C. venulatus* magis elongatus, rubro-nigrescente maculatus, infra sulcatus (f. 333, 334).—Of a more elongated form than *C. venulatus*, with dark spots in rows, and sulci near the base.

148. INDURATUS, *Reeve.*—*C. elongatus*, subangulatus, lævis, infra medium duplicatim sulcatus, maculis subquadratis seriatim pictus; spirâ striatâ (f. 396).—This is like *C. Dilwynii*, but with double sulci from below the centre to the base.

149. NIVIFER, *Brod.*—*C. C. venulato* similis, sed transversè lineatus (f. 265, 397).—The latter figure is most characteristic. The species differs from *C. venulatus* in having transverse interrupted lines.

150. CROTCHII, *Reeve.*—*C. C. venulato* similis, sed transversè lineatus et striatus (f. 271).—In shape and colouring resembling *C. venulatus*, but striated with fine lines.

151. SINDON, *Reeve.*—*C. oblongus*, subcylindraceus, fuscus, fasciis pallidioribus cinctus (f. 414).—A rather cylindrical brown shell, with narrow bands of a paler colour.

152. AMBIGUUS, *Reeve.*—*C. oblongus*, tenuis, acutangulatus, cæruleo pallidè tinctus; spirâ convexâ, castaneo maculatâ, subcanaliculatâ (f. 259).

153. TROCHULUS, *Reeve.*—*C. C. venulato* similis, sed immaculatus, cæruleo purpurascente ubique tinctus (f. 260).—Mr. Hanley considers this a lilac variety of *C. venulatus*.

154. FRIGIDUS, *Reeve.*—*C. solidus*, pallidus, infra medium contractus, breviusculus, versus basin crenulato-sulcatus (f. 303).—A pale, solid shell, contracted and sulcated towards the base.

155. CYANOSTOMA, *A. Ad.*—*C. breviusculus*, pallidè cæruleus,

lineis vermiformibus pallidis pictus; ad angulum spiræ duplicatim striatus, infra medium striatus; aperturâ rubescente (f. 304).—The angle of this not very characteristic shell is double-striated, and the lower part is striated.

156. COLUMBA, *Brug.*—*C. brevis*, albus, nonnunquam flammulis minutis castaneis pictus, infra medium sulcatus (f. 310, 311).—Short, solid, white, sometimes spotted, sulcated near the base.

157. PERPLEXUS, *Sowb.*—*C. brevis*, subturbinatus, lævis, fasciatim creberrimè punctatus (f. 324).—This shell perplexes me, because there is a variety of *C. puncticulatus* which it nearly resembles. This, however, is quite smooth, and more angular.

158. ERYTHRÆNENSIS, *Beck.*—*C. solidus*, lævis, subroseus, maculis quadratis rufis fasciatim ornatus (f. 316).—Solid, straight, and smooth, ornamented with rows of square dark-reddish spots.

159. PUSIO, *Lamk.*—*C. brevis*, obtusus, variegatus, transversè rubro interruptim lineatus, infra crenulato-sulcatus; fauce violacea (f. 325, 326, 398).—The latter represents the type, and agrees with the figure referred to by Lamarck, and also with the *C. pygmaeus* of Reeve.

160. HANLEYI, *Sowb.*—*C. oblongus*, solidus, fusco-nigrescente variegatus, rubro et albo transversè lineatus; spirâ acuminatâ (f. 399, 400).—More solid and turbinated than *C. pusio*, and with the least inclination to "puce" in the aperture.

161. FLAVESCENS, *Gray.*—*C. brevis*, acutus, lævis, infra striatus, fasciis latis flavidis bifasciatus (f. 305).—Sharply angled, striated at the base, with two broad yellowish bands.

162. VIRIDIS, *Sowb.*—*C. parvus*, tenuis, obtusus, lævis, fasciis irregularibus latis bifasciatus; spirâ striatâ, obtusâ; lateribus convexis (f. 102).—It is thinner and narrower than *C. Rattus*.

163. CUMINGII, *Reeve.*—*C. subcylindræus*, lateribus subventricosis, fuscus; spirâ et fasciâ medianâ albis, castaneo maculatis (f. 281 and 415).—The white central band and the white spire are spotted with dark chestnut.

164. CORALLINUS, *Kien.*—*C. quam C. Cumingii* angustior, fasciis griseis transversè fusco-lineatus (f. 416).—Narrower than *C. Cumingii*, with elevated spire, and cross-lines on the greyish ground of the two bands.

165. CERINUS, *Reeve.*—*C. subcylindræus*, lateribus paululum convexis, sulcatus, flammulis castaneis sparsim pictus; infra contractus; spirâ elevatâ, anfractibus coronatis (f. 120).—A waxy-

looking sulcated shell, painted with a few flexuous flashes of dark brown; spire coronated.

166. *LACHRYMOSUS*, *Reeve*.—*C. subcylindraceus*, lateribus paululum convexis, fuscus, leviter sulcatus, flammis longitudinalibus castaneis pictus (f. 93).—Similar to the last in form; of a dull colour, with downward flashes of darker brown.

167. *RIVULARIS*, *Reeve*.—*C. subcylindraceus*, coronatus, elongatus; lineis punctatis rubris transversis et flammis longitudinalibus pictus (f. 90).—Rather cylindrical, elongated, coronated with punctured lines across, and longitudinal flashes.

168. *BÆTICUS*, *Reeve*.—*C. subcylindricus*, coronatus, oblongus, subangulatus, flammis flexuosis castaneis nigrescentibus irregularibus bifasciatim pictus (f. 45).—Shorter than *C. rivularis*, with two bands of dark markings.

169. *EXARATUS*, *Reeve*.—*C. solidus*, cylindricus, angustatus, cæruleus, sulcatus, inter sulcis punctatus (f. 307).—A narrow, cylindrical, greyish shell, spotted between regular grooves.

170. *STRIGATUS*, *Brug*.—*C. elongatus*, pallidè fuscus, nebulosus, sulcatus, inter sulcos castaneo punctatus; lateribus rectis; spirâ pyramidalis (f. 329).—Resembling *C. australis*, but not so acuminate nor so deeply sulcated.

171. *METCALFEI*, *Reeve*.—*C. subcylindricus*, lateribus paululum convexis, granoso-liratus, pallidè fulvus, flammis castaneis medio interruptis pictus; spirâ elevatâ, maculatâ (f. 119).—Shaped like *C. cerinus*, *C. Cumingii*, etc., but covered with granulated ridges.

172. *NITIDUS*, *Reeve*.—*C. subcylindricus*, lævis, aurantio-fuscens, superne et medio albo maculatus, lineis interruptis, subdistantibus cinctus (f. 401).—A neat shell, with white spots at the angle and centre, and reddish lines across.

173. *CREBRISULCUS*, *Sowb*.—*C. parvus*, subfusiformis, rubescens, sulcatus; spirâ elevatâ, lævi; angulis anfractuum moniliferis (f. 321).—Small, sulcated, with elevated smooth spire, beaded at the angles.

174. *TRAILLII*, *Sowb*.—*C. parvus*, ovalis, tenuiter sulcatus, albus, fasciis duabus tessellatis pictus; spirâ elevatâ, prope suturam rotundatâ (f. 322).—Very small, finely sulcated, with two broad bands of tessellated markings; the shoulders of the whorls rounded.

175. *COCCEUS*, *Reeve*.—*C. subovalis*, subdistanter tenuiter sulca-

tus ; roseus, aurantio tessellatus ; angulo spiræ rotundato (f. 417).—Rather oval, finely sulcated, pink, tessellated with orange.

176. *DESIDIOSUS*, *A. Ad.*—*C. subfusiformis*, fuscus, ad angulum et medio fasciatim reticulatus, versus basin sulcatus ; spirâ acuminatâ, angulo rotundato (f. 306).—A neat, little, smooth, dark-brown shell, lightened at the shoulder of the spire and in a central band with fine reticulations.

177. *LIGNARIUS*, *Reeve.*—*C. oblongus*, punctato-striatus, rectus, obscure fuscus, pallidè fasciatus, seu albidus, pallidè punctatus ; spirâ planiusculâ (f. 269, 270 ; var. 313).—Of a straight oblong form, with punctured striæ, and wood-like colour.

178. *ÆGROTUS*, *Reeve.*—*C. C. lignario* similis, sed aperturâ versus basin magis expansâ ; albus, ad basin fusco-purpurascens (f. 215).—White, and wider at the base than *C. lignarius*, with which it is closely allied, if not identical.

179. *FURVUS*, *Reeve.*—*C. C. lignario* similis, sed valdè magis elongatus (f. 266, 267, 268).—Much narrower and more straight-sided than *C. lignarius*.

180. *XIMENES*, *Gray.*—*C. solidus*, breviusculus, pallidus, flammis castaneis longitudinalibus et lineis nigris interruptis pictus ; spirâ acuminatâ, maculatâ ; angulo rotundato, punctato (f. 285, 402).—The dwarf and beautifully-coloured granulated shell represented in the last figure was only recognized by the peculiarity of the spire.

181. *MAHOGANI.*—*C. solidus*, quam *C. Ximenes* magis elongatus, colore fusco-nigrescente ; labio externo incrassato (f. 283, 284).—A more elongated shell than *C. Ximenes*, with the outer lip thickened above. Mr. Hanley also possesses a granulated variety of this.

182. *GILVUS*, *Reeve.*—*C. turbinatus*, lævis, sordidè fuscus, medio et ad angulum pallidè fasciatus, prope basin sulcatus ; spirâ planâ, apice acuto (f. 312).—A plain turbinate shell of dingy colour, with a light band at the angle and another just below the centre.

183. *HEPATICUS*, *Kien.*—*C. solidus*, albus, turbinatus, prope angulum convexus, infra medium sulcatus ; spirâ convexâ, angulo acuto (f. 191).—White, shouldered near the angle, sulcated near the base.

184. *PASTINACEA*, *Lamk.*—*C. oblongus*, albus, infra medium leviter elevato-striatus, lateribus rectiusculis ; spirâ paululum elevatâ (f. 353).—Larger and straighter than *C. hepaticus*, with raised striæ from the middle to the base.

185. *ERMINEUS*, *Born.*—*C. solidus*, oblongus, infra granosoliratus, lateribus rectis; aurantius, flammulis albis sub angulo et medio fasciatim ornatus; spirâ albâ, maculatâ; variat albo vix maculatus (f. 185; var. *lithoglyphus*, 186, 187).—I am not satisfied of the identity of the latter varieties; but in a number of specimens the gradations are small.

186. *BIFASCIATUS*, *Sowb.*—*C. quam C. ermineus* magis angulatus, ad angulum latè albo-fasciatus, infra medium fasciâ angustâ cinctus (f. 302).—More angular than *C. ermineus*, with the spire more pyramidal, a band of orange above the angle of the last whorl, and two broad bands in the middle, and below reaching to the base.

187. *FESTIVUS*, *Chemn.*—*C. subpyriformis*, roseo-tinctus, aurantius, albo fasciatim floccatus, fasciis rubro irregulariter marginatus (f. 272).—This richly-coloured shell is a little pyriform, with an obtuse convex spire.

188. *PERTUSUS*, *Lamk.*—*C. quam C. festivus* magis attenuatus et pyriformis, albo punctatus (f. 273).—Similarly coloured, but of a more elegantly tapering form.

189. *FLAVIDUS*, *Lamk.*—*C. oblongus*, solidus, infra sulcatus, pallidè luteus, fulvo latè fasciatus, intus et ad basin violaceus; spirâ subplanatâ (f. 168).—This is plain-spined, while *C. lividus* is coronated: a doubtful distinction.

190. *VIRGO*, *Linn.*—*C. elongatus*, tenuiter striatus, fulvus, lateribus medio contractis; ad basin violaceus, spirâ brevi (f. 167).—Striated, more elongated than *C. flavidus*, slightly contracted in the centre.

191. *EMACIATUS*, *Reeve.*—*C. quam C. virgo* magis contractus, attenuatus, lineis elevatis rugosis cinctus (f. 214, 258).—More attenuated than *C. virgo*, with rough, elevated, encircling striæ.

192. *MILLEPUNCTATUS*, *Brug.*—*C. turbinatus*, lævis, lateribus supra paululum convexis, albus, griseo tinctus; seriatim maculis minutis irregularibus et punctis nigris pictus; spirâ planâ, canaliculatâ (f. 151).—It is not easy to distinguish this species from *C. litteratus*, but it is less straight-sided, the spots are more numerous and irregular, and there are no bands of pink or fawn.

193. *LITTERATUS*, *Linn.*—*C. turbinatus*, elongatus, lævis, lateribus rectis, fulvo seu roseo latè fasciatus; maculis nigris regularibus quadratis et punctis intermediis fasciatim cinctus; spirâ canaliculatâ, planatâ (f. 155, 156).—See remarks on No. 192.

f. *Turbinated, pyriform.*

194. *BETULINUS*, *Linn.*—*C. solidus*, turbinatus, pyriformis, ventericosus, lævis, pallidè fulvus, griseo tinctus; maculis quadratis seriatim cinctus; spirâ rotundatâ, anfractibus latis, maculis semi-circularibus pictâ (f. 244).—The well-known top-shaped species.

195. *GLAUCUS*, *Linn.*—*C. quam C. betulinus* brevior, glaucus sed subcæruleus, lineis interruptis cinctus (f. 237).—Shorter than *C. betulinus*, of a greenish-blue tint, encircled by interrupted lines.

196. *SURATENSIS*, *Reeve.*—*C. quam C. betulinus* magis elongatus, infra attenuatis; irregulariter punctatus (f. 246).—Of a more attenuated pyriform shape than *C. betulinus*, irregularly spotted.

197. *FIGULINUS*, *Brug.*—*C. solidus*, turbinatus, pyriformis, fuscus, nigro lineatus; spirâ depressâ, anfractibus paucis (f. 242).—Of a dark mahogany-colour with still darker lines.

198. *LOROISSI*, *Kien.*—*C. quam C. figulinus* brevior, haud lineatus (f. 243).—This is like a short *C. figulinus*, without the encircling lines.

199. *PYRIFORMIS*, *Reeve.*—*C. carneolus*, pyriformis, infra tenuatis; spirâ acuminatâ, crenulatâ (f. 238, 354).—The former badly figured from an uncharacteristic shell; the latter from a beautiful specimen of Miss Saul's collection.

g. *Turbinated, angular.*

200. *QUERCINUS*, *Brug.*—*C. latè turbinatus*, solidus, striatus, flavidus, interdum pallidè lineatus; spirâ acuminatâ, striatâ (f. 239, 240).—Solid, turbinated, with the angle slightly rounded, of an oak-wood colour. The young specimens sometimes show delicate reddish lines.

201. *EBURNEUS*, *Brug.*—*C. solidus*, brevis, turbinatus, albus, aurantio pallidè fasciatus, nigro fasciatim maculatus, infra sulcatus; spirâ planâ, apice acuminato (f. 247-9).—Short, broadly turbinate, smooth, and black-spotted in bands.

202. *TESSELLATUS*, *Born.*—*C. solidus*, brevis, turbinatus, pallidè roseus, aurantio maculis quadratis tessellatus, infra sulcatus; spirâ planâ, apice acuminato (f. 250, 251).—Like *C. eburneus*, but tessellated with square orange spots.

203. CRASSUS, *Sowb.*—*C.* quam *C. tessellatus* brevior, subventricosus, maculis fuscis angulatis; spirâ convexâ, striatâ (f. 254, 255).—The second figure is of course abnormal, but the true form differs from *C. tessellatus* in the brownness of tint and the striated spire.

204. ADUSTUS, *Sowb.*—*C.* quam *C. tessellatus* magis acutus, maculis quadratis fuscis tessellatus, aureo tinctus (f. 403).—Nearly resembling the darker variety of *C. tessellatus*, but more angular, and different in the spirit of the colouring.

205. SUTURATUS, *Reeve.*—*C.* brevi, solidus, turbinatus, carneolus, fulvo fasciatus, infra sulcatus; spirâ convexâ, sulcatâ (f. 256).—This beautiful specimen came into Mr. Cuming's possession after the first uncharacteristic examples were figured and described by Mr. Reeve.

206. INCARNATUS, *Reeve.*—*C.* tenuis, quam *C. turbinatus* magis elongatus, infra sulcatus (f. 207).—Similar to the preceding, but much longer in form.

207. TURBINATUS, *Sowb.*—*C.* tenuiusculus, turbinatus, pallidè fulvus, fulvo fasciatus, infra sulcatus (f. 228, 229).—A rather light, broadly turbinated shell, of a nankeen pale-banded colour.

208. NEGLECTUS, *A. Ad.*—*C.* brevis, tenuis, subpyriformis, carneolus, rufescente variegatus; fasciâ unicâ rufâ, lineis albo rufoque articulatis cinctus; spirâ depressâ, rufo pictâ, striatâ (f. 404).—Of a fresh tint, with reddish bands, and red and white spotted lines.

209. CASTUS, *Reeve.*—*C.* solidus, turbinatus, pallidus, luteo tinctus, minutè punctatus; spirâ striatâ (f. 405).—Simple in form, resembling the last, but less marked; spire striated.

210. INÆQUALIS, *Reeve.*—*C.* subfusiformis, lævis, basi liratus, spirâ bisulcatâ, pallidus, lineis fulvis cinctus, infra medium et ad angulum albo-fasciatus; fasciis fusco maculatis (f. 406).—Small, rather fusiform, finely lined in two greyish-brown bands, with two white bands marked with large spots.

211. MADURENSIS, *Brug.*—*C.* subpyriformis, lævis, fulvo latè bifasciatus; fasciis rubro-lineatis interstitiis albis fusco maculatis; spirâ elevatâ, castaneâ, albo maculatâ (f. 407).—A neatly variegated pyriform shell.

212. GENUANUS, *Linn.*—*C.* obtusus, turbinatus, lævis, cæruleo et roseo fasciatus, inter fascias albo nigroque lineatim punctatus,

fasciis albis nigro-articulatis (f. 253).—Beautifully striped with pinky bands between black-spotted white bands.

213. CHARACTERISTICUS, *Chemn.*—*C. solidus*, turbinatus, obtusus, pallidus, aureo fasciatus; fasciis fusco strigatis seu maculatis; infra tenuiter sulcatus (f. 337, 338).—A large, very obtuse species, marked with hieroglyphic characters.

214. MARCHIONATUS, *Hinds.*—*C. oblongus*, lævis, aureus, maculis albis cordiformibus variegatus, infra tenuiter sulcatus; spirâ planâ, apice acuto, angulo rotundato (f. 172).—Marked in the manner of *C. Bandanus*, but of a golden tint between the cordiform white spaces. The angle is rounded, not coronated.

215. PAPILIONACEUS, *Brug.*—*C. magnus*, ponderosus; spirâ planâ, angulo rotundato; fulvo nebulatus, transversè rubro interruptim lineatus et inter lineas maculis magnis seriatim pictus (f. 233).—Large, turbinated, clouded with yellowish-pink, and marked with reddish interrupted lines and rows of large spots.

215 a. BICOLOR, *Sowb.*—*C. valdè turbinatus*, seriatim maculatus et punctatus, quam *C. papilionaceus* multò brevior (f. 234).—More turbinated and shorter than *C. papilionaceus*, with the markings more defined.

216. SIAMENSIS, *Brug.*—*C. latè turbinatus*, ponderosus, angulatus, transversè punctato-lineatus; spirâ elevatâ (f. 352).—Differing from *C. papilionaceus* in the angularity of the spire and its elevation.

217. LORENZIANUS, *Chemn.*—*C. turbinatus*, solidus, fuscus; flammis longitudinalibus minutis fasciatim interruptis pictus, infra sulcatus; spirâ subelevatâ, maculatâ; lateribus incurvis (f. 430).—Marked with numerous downward stripes, which are interrupted by cross white lines.

218. LEONINUS, *Brug.*—*C. C. Lorenziano* similis, sed lævis, spirâ convexâ, flammulis majoribus (f. 232).—Like *C. Lorenzianus* it has downward stripes, but longer, otherwise it is more like *C. leoninus*.

219. OCHRACEUS, *Lamk.*—*C. turbinatus*, oblongus, solidus, obtusus, lævis, pallidus, aurantio latè bifasciatus, inter fascias maculis elongatis tessellatus (f. 432).—With two broad bands of orange, and the interstices tessellated with long spots.

220. SPURIUS, *Gmel.*—*C. turbinatus*, solidus, obtusus, lævis, maculis castaneis subquadratis variè pictus; spirâ depressâ, apice

acuminatâ (f. 235, 236, 241).—Shaped like the last two, with roundish and square spots arranged in bands. It differs from *C. leoninus* in the flattened spire and in being rather spotted than streaked.

221. AUGUR, *Brug.*—*C. solidus, lævis, oblongus, fulvus, lineatim punctatus, fasciatim castaneo maculatus; spirâ planâ* (f. 154).—Marked with lines of dots, and bands of broad chestnut spots.

222. MILES, *Linn.*—*C. valdè turbinatus, flavidus, longitudinaliter minutè lineatus et flammulis pictus, fasciis castaneis medio et ad basin cinctus; spirâ brevi* (f. 157).—Of a caroty colour, with dark cross bands, and downward, minute, waving lines.

223. SUMATRENSIS, *Lamk.*—*C. valdè turbinatus, albus; lineis inæqualibus longitudinalibus angulatis et undatis nigrescentibus pictus, late aurantio bifasciatus; spirâ brevi, striatâ, maculis magnis pictâ; anfractibus paucis; aperturâ latâ* (f. 158, 159).—It has the nearest affinity with *C. vexillum*, from which it differs considerably in the style of colouring.

224. MUSTELLINUS, *Brug.*—*C. oblongo-turbinatus, aurantius, ad angulum et infra medium albo-fasciatus; fasciis punctis nigris seriatim marginatis; spirâ planatâ, albâ, nigro maculatâ* (f. 160).—More lengthened than others of this group, with two white bands bordered with rows of black spots.

225. VEXILLUM, *Brug.*—*C. turbinatus, subpyriformis, fulvus, basi et medio castaneo latè fasciatus; inter fascias flammis magnis fluctuatis pictus; spirâ brevi, cancellatâ, maculis magnis pictâ; anfractibus paucis, latis, depressis* (f. 163).—A large, handsome shell, with broadly spotted spire of few wide and cancellated whorls.

226. CAPITANEUS, *Linn.*—*C. turbinatus, castaneus aut flavidus, punctis castaneis seriatim cinctus, ad angulum spiræ et medio albo-fasciatus; fasciis nigro maculatis; spirâ cancellatâ, maculis magnis pictâ; anfractibus paucis* (f. 175, 176, 177).—The small shell, f. 177, twice named by Kiener, I think is only an undeveloped variety of this.

227. NEMOCANUS, *Brug.*—*C. turbinatus, subtilissimè striatus, longitudinaliter strigatus, fuscus, medio pallidè fulvo seu albo fasciatus; spirâ albâ, maculatâ; anfractibus numerosis* (f. 152, 153). The shell is finely striated, and the spire has numerous whorls, in both respects differing from *C. vexillum*.

228. LÆVIGATUS, *Sowb.*—*C. turbinatus, cæruleo tinctus, lævis,*

infra medium albo fasciatus, longitudinaliter interdum fusco strigatus; spirâ maculatâ, sulcatâ; anfractibus numerosis; aperturâ purpureâ (f. 149, 150; var. 207).—It has a spire of few whorls like *C. nemocanus*, but is of a different texture, otherwise it somewhat resembles *C. capitaneus*.

229. *RATUS*, *Brug.*—*C. turbinatus*, solidus, obtusus, fuscus aut luteus, albo punctatus, infra medium punctis albis fasciatus, ad angulum albo interruptim fasciatus; spirâ maculatâ (f. 161, 162).—More obtuse, small, thick, and straight-sided than the preceding.

230. *TRIGONUS*, *Reeve.*—*C. latè turbinatus*, brevis, fusco latè bifasciatus, rubro interruptim lineatus; spirâ albâ, nigro maculatâ (f. 205).—A remarkably wide-topped shell, not unlike *C. capitaneus*, but with narrow volutions.

231. *HYÆNA*, *Brug.*—*C. turbinatus*, pallidè fasciatim roseus; flammis longitudinalibus castaneis irregularibus pictus, infra striatus; spirâ convexâ, striatâ (f. 431).—A striped, turbinated shell.

232. *MUTABILIS*, *Chemn.*—*C. turbinatus*, fuscus, lineis interruptis cinctus, strigis longitudinalibus variegatus (f. 216).—Rather variable in the stripes and other markings, as well as in shape.

233. *TESTUDINARIUS*, *Mart.*—*C. turbinatus*, prope angulum rotundatus, pallidè fulvus, aut cæruleus aut roseus, rubro-nigrescente variegatus, albo fasciatim articulado; infra sulcatus (f. 348, 349, 350).—*C. aspersus* of Sowerby (f. 348) is the overgrown condition of this tortoiseshell-marked species.

234. *PURPURASCENS*, *Brod.*—*C. turbinatus*, angulatus, purpureus, fusco-rubescente late fasciatus et lineatus; aperturâ supernè angulatâ; spirâ planatâ (f. 204, 346).—A solid, angulated, richly-coloured shell.

235. *REGALITATIS*, *Sowb.*—*C. C. purpurascenti* similis, sed haud tantum angulatus; spirâ elevatâ (f. 345).—This is less angular and has not the flattened spire of *C. purpurascens*.

236. *LUZONICUS*, *Brug.*—*C. subovalis*, lateribus ventricosis, purpurascens, areis magnis rubro-fuscescentibus pictus, lineis nigro alboque articulatis cinctus; spirâ elevatâ (f. 344).—Of a much more oval form than *C. regalitatis*, encircled by articulated lines.

237. *PORTO-RICANUS*, *Brug.*—*C. subovalis*, breviusculus, pallidus, fusco variegatus, medio et infra granulatus (f. 433).—

Shorter than *C. Luzonicus*, of a different colour, and granulated from the centre downwards.

238. GRAYI, *Reeve*.—*C. C. Porto-ricano* similis, sed lævis, castaneo suffusus (f. 275).—Shorter and smoother than the last, with the chestnut markings covering the greater part of the shell.

239. GUINIACUS, *Brug*.—*C. turbinatus*, tenuis vel subovalis, cæruleus, fusco latè fasciatus et variegatus, punctis albis sparsis (f. 434, 435).—Variable in form, bluish, variegated with reddish-brown markings, which are edged with specks of white.

240. NARCISSUS, *Lamk*.—*C. C. Guiniaco* simili, sed aureus, infra medium albo fasciatus, ubique albo floccatus (f. 436).—Light-orange, variegated by a band and numerous rounded specks of white.

241. TASLEI, *Kien*.—*C. tenuis*, turbinatus, cæruleus, fulvo fasciatim pallidè variegatus; aperturâ purpureâ, nigrescente (f. 300, 301).—A turbinate, light, small, bluish shell with faint bands and streaks of buff.

242. IRREGULARIS, *Sowb*.—*C. brevis*, lævis, cæruleus, infra et ad spiram castaneus, lineis albis binis prope angulum et infra medium cinctus, plus minusve albo floccatus (f. 418, 419).—Short, bluish, chestnut at the ends, with two white lines across, one near the angle, and, when well developed, with white markings over all.

243. MEDITERRANEUS, *Brug*.—*C. oblongus*, subfusiformis, cæruleus, fusco variegatus, lineis interruptis cinctus; spirâ elevatâ, maculis castaneis variegatâ; aperturâ fusco-marginatâ (f. 437).—The small specimens of this well-known species are more angular than when full-grown.

244. JAMAICENSIS, *Brug*.—*C. quam C. Mediterraneus* angustior, cinereo-nigrescens, lineis albis infra medium et prope angulum spiræ cinctus (f. 439).—A narrower and much more darkly-coloured shell than *C. Mediterraneus*, of which some authors consider it as a variety.

245. UNIFASCIATUS, *Kien*.—*C. ovalis*, lævis, tenuis, castaneus, fasciâ albâ supra cinctus (f. 420).—Of a rich brown colour, with one light band on the upper part of the whorls.

246. FRANCISCANUS, *Brug*.—*C. valdè fusiformis*, castaneus, transversè lineatus, medio et ad angulum anfractuum fasciis pallidis cinctus (f. 315).—The spire is generally elevated and gradated; the shell of a dark colour, with two narrow light bands.

247. *ELONGATUS*, *Chemn.*—*C. oblongus*, cylindricus, tenuis, pallidus, castaneo variegatus aut fasciatus, infra sulcatus; spirâ elevatâ, obtusâ, maculatâ, striatâ (f. 440, 441).—More cylindrical in form than *C. Mediterraneus*, and differently marked.

248. *CÆRULESCENS*, *Chemn.*—*C. C. Mediterraneo* similis, sed angulatus, sparsim variegatus; spirâ brevior (f. 442).—This may be a more conical form of *C. Mediterraneus*, with sparsely distributed markings.

249. *PAUPERCULUS*, *Sowb.*—*C. oblongus*, lævis, angulatus, sordidus, rubro seriatim maculatus (f. 217).—A dull shell, indistinctly marked.

250. *FUCATUS*, *Reeve.*—*C. elongatus*, angulatus, striatus, fuscus, medio et ad angulum albo fasciatus; spirâ acuminatâ, albâ, maculatâ (f. 308; var. ? 422).—Resembling *C. Algoensis*, but angular and sharp-spined.

251. *ALGOENSIS*, *Sowb.*—*C. subcylindricus*, castaneus, albo variegatus, supernè rotundatus; spirâ maculatâ (f. 421).—A date-shaped shell, of a uniform chestnut-brown colour, spotted with white.

252. *ATTENUATUS*, *Reeve.*—*C. elongatus*, angulatus, flavidus, albo angulatim strigatus; spirâ brevi (f. 423).—Of an oblong conical form, yellow, with lightning-marks of white.

253. *MERCATOR*, *Linn.*—*C. subovalis*, tenuis, late fasciatus, inter fascias lineis rubris reticulatis; spirâ brevi (f. 294, 295; var. 428, 429).—The latter var. undeveloped, showing no reticulations.

253 *a.* *BALTEUS*, *Mawe.*—*C. quam C. mercator solidior*, angulatus; fasciis castaneis; spirâ brevi (f. 424).—More solid and angular than *C. mercator*, with the markings more close and the spire rather flat.

254. *LUGUBRIS*, *Reeve.*—*C. quam C. balteus magis pyriformis*, nigrescens; spirâ planâ (f. 320).—More like *C. balteus* than the preceding, but very narrow at the base, and very darkly coloured.

255. *BULBUS*, *Reeve.*—*C. tenuis*, pyriformis, supra ventricosus, infra attenuatus, pallidus, flammulis castaneis longitudinalibus strigatus (f. 427).—Swelling at the top, tapering below, striped downwards.

256. *ZEBROIDES*, *Kien.*—*C. quam C. bulbus magis conicus*; strigis longitudinalibus, numerosis (f. 443).—Shape more conical and stripes more numerous than in *C. bulbus*.

257. DUPONTII, *Kien.*—*C.* supernè rotundus, ventricosus, anticcè contractus, sordidè castaneus, maculis marginatis albis seriatim variegatus (f. 426).—Still more swelled at the upper part than *C. bulbosus*, with a dull ground-colour, relieved by bordered white spots.

258, 259, 260. Omitted in lieu of star numbers.

261. CALIFORNICUS, *Hind.*—*C.* subovalis, pallidus, flammis fuscis longitudinaliter tinctus, ad basin sulcatus; spirâ obtusâ, striatâ (f. 332).

262. DEALBATUS, *A. Ad.*—*C.* subovalis, lævis, albus, versus basin sulcatus; spirâ acuminatâ (f. 103).—Narrower than *C. Californicus*, with a rather sharp elevated spire.

263. ANEMONE, *Lamb.*—*C.* fusiformis, striatus, tenuis, roseus vel cæruleus, rubro nigro et fusco variegatus (f. 339, 340, 341).—A fusiform, striated species, beautifully varied in colour.

264. MACULATUS, *Sowb.*—*C.* subpyriformis, ventricosus, striatus, pallidus, maculis fuscis reticulatis marmoratus; spirâ brevi (f. 296).—Very different in form and markings from *C. Anemone*, which it is thought to resemble.

265. JUKESII, *Reeve.*—*C.* lævis, angulatus, turbinatus, castaneo variegatus (f. 297).—A very angular shell, which nevertheless has some affinity with *C. maculatus*.

266. NOVÆ-HOLLANDIÆ, *A. Ad.*—*C.* *C. maculato* similis, sed angustior, maculis haud reticulatis (f. 298, 299).—More cylindrical and deeply grooved than *C. maculatus*.

267. NATALIS, *Sowb.*—*C.* lævis, oblongus, tenuis, angulatus, infra sulcatus, roseus, fusco minutè angulatim lineatus et maculis magnis bifasciatus; spirâ maculatâ (f. 292, 293).—The latter figure of an undeveloped variety. This state is frequent in Mediterranean and African species.

268. PICTUS, *Reeve.*—*C.* lævis, oblongus, tenuis, angulatus, cæruleus aut roseus, aurantio supra unifasciatus, omnino fusco seriatim variegatus; spirâ obtusâ, interdum gradatâ et crenulatâ (f. 444, 445; var. ? 309).—The orange band below the angle of this beautifully varied species is the most constant character.

269. SIMPLEX, *Sowb.*—*C.* oblongus, albus, angulatus, castaneo fluctuatim strigatus, ad basin striatus; spirâ pyramidalî (f. 199).—Like *C. elongatus*, but always decidedly angular. It is not, as

some have supposed, the *C. informis* of Brug.: that species is made up of *C. elongatus* and *C. cæruleus*.

271. *SUCCINCTUS*, *A. Ad.*—*C. brevis*, subventricosus, roseus, punctis castaneis medio et infra bilineatus; spirâ brevi, gradatâ; angulo rotundato (f. 257).—Light, conical, and rose-coloured, with two spotted lines across.

272. *CAFFER*, *Krauss.*—*C. cylindricus*, lævis, aurantius aut fuscus, lineis articulatis cinctus, medio et supra interruptim albicans; fasciâ centrali et spirâ lineatim maculatis (f. 446, 447).—A narrow shell, beautifully coloured.

273. *LOVENI*, *Krauss.*—*C. oblongus*, ventricosus, cæruleus, fusco-viridescente variegatus, lineis punctatis cinctus; spirâ obtusâ, maculatâ (f. 449).—Of similar form to the following, but differently coloured and marked.

274. *TINIANUS*, *Brug.*—*C. ovalis*, oblongus, ventricosus, roseo-purpurascens, fusco fasciatus et variegatus (f. 450).—Ventricose, purplish-rose, clouded, banded, and otherwise variegated with rich brown.

275. *INFRENATUS*, *Reeve.*—*C. obtusè angulatus*, oblongus, pallidus, lineis albis fusco-articulatis cinctus; spirâ brevi (f. 451, 452, 453).—Pale yellow, rose, or fawn, but all marked with articulated white and brown cross-lines.

276. *LAUTUS*, *Reeve.*—*C. subcylindricus*, flavidus, transversè interruptim lineatus, ad spiram et medio fusco longitudinaliter lineatus; spirâ obtusâ (f. 454).—Something like *C. rosaceus* in form, but narrower and differently coloured.

277. *ROSACEUS*, *Chemn.*—*C. ovali-ventricosus*, inflatus, roseus, aurantio latè bifasciatus; fasciâ medianâ pallidâ, interdum maculosâ; spirâ elevatâ, obtusâ (f. 455, 456).—Differing more in colouring than in form from *C. Tinianus*.

278. *APLUSTRE*, *Reeve.*—*C. angulatus*, lævis, maculis quadratis seriatim cinctus, cæruleus, ad angulum et medio pallidè roseo fasciatus (f. 445).—Of an angular form and dull colour, spotted with black in lines. Oblong, light, sulcated below, with the lines of growth oblique.

279. *SPECTRUM*, *Linn.*—*C. subovalis*, inflatus, lævis, infra validè sulcatus, ubique fulvo aut fusco variegatus (f. 457, 458).—The well-known, shining, variegated shell.

280. *PICA*, *Ad. et Reeve.*—*C. quam C. spectrum brevior*, magis

pyriformis, albus aut sparsim maculis magnis pictus (f. 290, 291).—Shorter than *C. spectrum*, with few large dark spots.

281. STILLATUS, *Reeve*.—*C. C. spectrum* similis, sed transversim tenuiter striatus (f. 461, 462).—Differing from *C. spectrum* in being finely striated. Fig. 462 represents Mr. Reeve's shell, to which I add the other.

282. BRODERIPII, *Reeve*.—*C. C. spectrum* similis, sed brevior, tenuiter distanter sulcatus, maculis pallidis subquadratis tessellatus (f. 465).—Shorter than *C. spectrum*, sulcated, and between the sulci tessellated with light brown markings.

283. CONSPERSUS, *Reeve*.—*C. quam C. spectrum* solidior, brevior, fulvus, striatus; aperturâ carneolâ (f. 463, 464).—A shorter, more solid, buff shell, more delicately coloured than *C. spectrum*.

284. COLLISUS, *Reeve*.—*C. C. spectrum* similis, sed medio angustatus, regulariter fasciatim variegatus (f. 459).—More contracted in form and regular in marking than *C. spectrum*.

285. STIGMATICUS, *A. Ad.*—*C. quam C. spectrum* magis angulatus et angustatus, cæruleus, maculis oblongis longitudinalibus seriatim pictus (f. 460).—More angular than *C. spectrum*, and narrower, with downward markings.

286. SCALPTUS, *Reeve*.—*C. ovalis, lævis, pallidus, rubro lineatus; spirâ prominulâ, anfractibus subangulatis* (f. 331).—Of an oval form, neatly striped with reddish cross-lines.

287. LYNCEUS, *Solander*.—*C. subovalis, lævis, oblongus, maculis inæqualibus subquadratis fulvis fasciatim cinctus; spirâ acuminatâ* (f. 469).—A very elegant shell, with regularly bordered spots in rows; it is more attenuated and acuminated than *C. stramineus*.

288. CINEREUS, *Rumphius*.—*C. ovali-acuminatus, lævis, solidus, cæruleus, punctis et maculis quadratis nigrescentibus fasciatim pictus* (f. 467).—More solid than the preceding, and differently coloured.

289. GABRIELLI, *Kien*.—*C. quam C. cinereus* angustior; colore fusco (f. 468).—Of a brown colour, and narrower than *C. cinereus*.

290. NISUS, *Chemn.*—*C. ovali-subventricosus, solidus, supernè subangulatus, infra valdè sulcatus, pallidè fulvus vel cæruleus, maculis fulvis aut nigris quadratis seriatim maculatus; spirâ brevi, convexâ* (f. 470, 471).—Shorter and more angular than the four preceding species.

291. ZEBRA, *Lamk.*—*C. C. niso* similis, sed longitudinaliter rubro-nigricante strigatus (f. 466).—Although marked with zebra-like stripes instead of spots, this species is closely connected with the preceding.

292. LACTEUS, *Lamk.*—*C. C. niso* similis, sed spirâ striatâ; albus (f. 473).—A white shell, resembling *C. nisos* in form, but with the spire striated.

293. SUBULATUS, *Kien.*—*C. C. niso* similis, sed angulatus, spirâ acuminatâ, lateribus subcontractis, flammis longitudinalibus interruptim strigatus (f. 472).—Sides straighter and spire more acuminated than in *C. nisos*.

294. UNDULATUS, *Sowb.*—*C. oblongus*, pallidus, medio et infra valdè distanter sulcatus, supra ad angulum undulato-coronatus (f. 63).—Although “coronated,” the shell evidently belongs to this group.

295. BERNHARDI, *Kien.*—*C. solidus*, oblongus, castaneus vel nigrescens, floccis albis variegatus, medio et infra distanter sulcatus; spirâ obtusâ, anfractibus rotundatis (f. 474, 475).—M. Kiener separates the latter, I think, without reason, under the name *C. gubba*.

296. CONTUSUS, *Reeve.*—*C. ovalis*, lævis, fulvus, cinereo tinctus, tenuis, supra angulatus, medio pallidè unifasciatus, infra sulcatus; spirâ elevatâ (f. 476).—Rather a light shell, tinged here and there with dull bruise-like blue.

297. JANUS, *Brug.*—*C. solidus*, elongatus, subfusiformis, supra subangulatus; albus, aurantio bifasciatus, flammis rubris nigrescentibus longitudinaliter pictus; spirâ elevatâ, subgradatâ; lateribus incurvis (f. 478).—Elegantly tapering in form, splendidly coloured with cross orange bands and jagged flames of dark red.

298. KEATHI, *Sowb.*—*C. oblongus*, rectigonus, angulatus, subcæruleus, maculis quadratis in seriebus inæqualibus regulariter pictus (f. 479).—Resembling *C. Janus*, but straight-sided and angular, marked with regular square spots.

299. INSCRIPTUS, *Reeve.*—*C. quam C. Keatii* brevior, magis angulatus; maculis longitudinaliter connectis (f. 477).—Shorter and more angular than *C. Keatii*, with round edged spots connected in downward flashes.

300. IODOSTOMA, *Reeve.*—*C. quam C. Keatii* magis attenuatus, minutè punctatus, maculis fuscis magnis seriatim pictus (f. 480).

—Larger than *C. Keatii*, with minute spots, and large patches in bands across the shell.

301. *MUCRONATUS*, *Reeve*.—*C. tenuis*, oblongus, pallidus, pallidè punctatus, angulatus; medio et infra attenuatus et duplicatim sulcatus; spirâ acuminatâ (f. 481).—A light shell, with double ribs between sulci.

302. *KIENERI*, *Reeve*.—*C. oblongus*, acutus, fulvus, longitudinaliter interruptim strigatus, infra attenuatus, sulcatus; spirâ acuminatâ, maculatâ (f. 484).

303. *FILAMENTOSUS*, *Reeve*.—*C. C. spectro* similis, sed pallidus, ubique distanter sulcatus, tenuiter lineis albis transversè striatus (f. 482).—This should have been described near *C. spectrum*, from which it differs in the threadlike white transverse lines which encircle the shell.

304. *LATIFASCIATUS*, *Sowb.*—*C. C. Kieneri* similis, sed magis obliquus, latissimè castaneo fasciatus (f. 485).—The upper part of the shell is covered with a broad brown band reaching below the centre.

305. *NEPTUNUS*, *Reeve*.—*C. attenuatus*, fulvus, minutè fusco subreticulatus, medio et infra subcontractus; spirâ elevatâ, acutâ (f. 483).—Of an attenuated form, finely reticulated with reddish-brown.

306. *FASCIATUS*, *Marl.*—*C. solidus*, obliquus, attenuatus, infra sulcatus, lævis, fulvus, pallidè fasciatus, seu aurantius, seu albus fusco variegatus; spirâ elevatâ (f. 487, 488, 489).—The latter figure represents the true *C. fasciatus* of Martini, nor can I doubt the identity of the others.

307. *CONCOLOR*, *Sowb.*—*C. oblongus*, obtusè angulatus, fuscus, lævis, anticè sulcatus (f. 206).—Although different in form, this shell seems to have an affinity with *C. fasciatus*.

308. *RADIATUS*, *Gmel.*—*C. castaneus*, *C. fasciato* similis, sed spirâ brevi (f. 490).—The shortness of spire may possibly be only an accidental variation.*

i. *Oblong or subcylindrical.*

309. *SENATOR*, *Linn.*—*C. oblongus*, fulvus, subliratus, fusco latè bifasciatus, prope angulum pallidus, submaculatus; spirâ striatâ, paululum elevatâ, maculatâ; anfractu ultimo carinato (f. 221, 222).

* The above, from sp. 279, form Group "h. Sulcated near the base; aperture generally oblique."

310. PLANORBIS, *Born.*—C. quam *C. senator* magis angulatus, castaneo bifasciatus; spirâ planatâ, nigro maculatâ; anfractibus carinatis (f. 491).—The dark-chestnut bands and the black-spotted flattened spire sufficiently distinguish this from the preceding.

311. VITULINUS, *Brug.*—C. *C. senatori* similis, sed rubro-nigrescente fasciatus et variegatus, albo bifasciatus; spirâ planâ, maculatâ (f. 223, 224).—Known from *C. senator* by the greater richness and depth of colour and markings, and the comparative flatness of the spire.

312. PULCHELLUS, *Swains.*—C. quam *C. senator* magis angustatus, medio subcontractus, transversè punctato-lineatus, albo bifasciatus; fasciis maculis interruptis; spirâ depressâ, canaliculatâ, maculatâ (f. 220).—I do not think, with Mr. Reeve, that this is only a bad state of *C. cinctus*.

313. CINCTUS, *Swains.*—C. oblongus, roseus, granulatim latus, fusco latè bifasciatus, prope angulum rubescens; spirâ brevi, anfractibus carinatis (f. 231).—The roseate hue of this, and the depressed spire, distinguish it to the eye from *C. senator*.

314. CONNECTENS, *A. Ad.*—C. *C. cincto* similis, sed angustior, infra attenuatus, roseus, castaneo non fasciatus (f. 230).—This is very likely to prove a variety of *C. cinctus*.

315. LINEATUS, *Chemn.*—C. formâ *C. senatori* similis, sed albus, fusco fasciatus et variegatus, transversè striatus et lineatus (f. 218, 219).—Marked by transverse lines. The light, strongly granulated var. f. 218 is the *C. lacinulatus* of Kiener.

316. RAPHANUS, *Brug.*—C. oblongus, leviter striatus, longitudinaliter flammis aurantiis medio interruptis pictus; supra subventricosus, medio contractus; spirâ subcarinatâ, striatâ, maculosâ (f. 494).

317. CARINATUS, *Swains.*—C. elongatus, leviter striatus, castaneo fasciatus et lineatus, prope angulum et medio albifasciatus; spirâ convexâ; anfractibus sulcatis depressis et carinatis (f. 495).

318. CONSORS, *Sowb.*—C. oblongo-turbinatus, luteus, aurantio fasciatus, supra inflatus, medio subcontractus, infra subattenuatus; spirâ elevatâ; anfractibus sulcatis, canaliferis (f. 492).—Broad-headed, yellow, with orange bands, a little contracted in the centre.

319. ANCEPS, *A. Ad.*—C. quam *C. consors* magis attenuatus, transversè punctatim lineatus, castaneo fasciis interruptis varie-

gatus (f. 492).—More attenuated than *C. consors*, with chestnut markings. *C. innexus*, A. Ad., is a variety.

320. PROMETHEUS, *Brug.*—*C. oblongus*, fulvus, maculis elongatis castaneis transversè fasciatus; spirâ breviusculâ; anfractibus maculatis, carinatis (f. 245).—The oblong form and keeled spire of this large Cone bring it within this group.

321. BOIVINII, *Kien.*—*C. cylindricus*, oblongus, lævis, albus, aurantio bifasciatus, castaneo sparsim maculatus, supra et infra distanter sulcatus; spirâ planâ, maculatâ, canaliferâ (f. 496).—This cylindrical shell seems to have sulci at the upper as well as the lower part of the body-whorl.

322. OMAICUS, *Brug.*—*C. cylindricus*, oblongus, lævis, maculis oblongis fuscis et lineis interruptis tessellatus; spirâ brevî, carinatâ (f. 497).—Known from others of similar form by the tessellated character of the markings.

323. NOBILIS, *Linn.*—*C. cylindricus*, oblongus, lævis; spirâ carinatâ; aurantio inter maculis cordiformibus albis pictus; interstitiis articulato-lineatis (f. 498, 499).—The former is characteristic of the species, the latter a rare variety.

324. VICTOR, *Brod.*—*C. C. nobili* similis, sed minor; lineis punctatis crebris distinctis bifasciatim pictus (f. 524).—The articulated lines collected in two strong bands; it is also a smaller and straighter shell than *C. nobilis*, of which however it may be only a variety.

325. FLOCCATUS, *Sowb.*—*C. oblongus*, subcylindricus, solidus, infra granoso-sulcatus; pallidè purpurascens, flammis longitudinalibus et fasciis transversis pictus, albo seriatim et angulatim floccatus; spirâ elevatâ, obtusâ; anfractibus, unisulcatis, margine obtusis; fauce aureâ (f. 500).—*C. Magdalanæ* is a pale, worn specimen of this magnificent species.

326. AURISIACUS, *Linn.*—*C. oblongus*, subcylindricus, solidus, roseo et aurantio fasciatus, inter fascias albo nigro-maculato lineatus; supra prope angulum convexus; spirâ subelevatâ, nigro maculatâ, carinatâ; anfractibus canaliferis, striatis (f. 501).—No description can do justice to this lovely shell.

327. NIMBOSUS, *Brug.*—*C. oblongus*, pallidus, roseo nebulatus, lineis elevatis punctatis striatus, fusco interruptim bifasciatus; spirâ depressâ, striatâ; apice acuminato (f. 503).—Striated with punctured elevated lines.

328. SUPERSTRIATUS.—*C. oblongus*, fusco obscurè nebulosus,

supra et infra sulcatus, medio lævigatus; fasciâ medianâ albâ, fusco maculatâ; spirâ depressâ, albâ, fusco maculatâ, striatâ (f. 282).

329. RHODODENDRON, *Couthay*.—C. oblongus, supra medium convexus, solidus, prope angulum et versus basin sulcatus, lævis; fasciis tribus purpureo nebulosis, interstitiis punctis fuscis obliquè dispositis; spirâ depressâ, obtusâ; anfractibus canaliferis, striatis (f. 504, *Frontispiece*).

330. STERCUS-MUSCARUM, *Linn.*—C. oblongus, lævis, solidus, fusco nebulatus, punctis nigris rotundis irregulariter pictus; fauce roseâ; spirâ paululum elevatâ (f. 347).—The true shell is not coronated.

331. ADANSONI, *Lamk.*—C. breviusculus, obtusus, solidus, infra lineis elevatis cinctus; subcæruleus, castaneo variegatus, nigro alboque articulato-lineatus; spirâ convexâ, obtusâ; anfractibus depressis, striatis (f. 286, 287, 288; and orange variety, f. 289).

332. NIGRO-PUNCTATUS.—C. oblongus, subcylindricus, obtusus, solidus, cæruleus, castaneo sparsim maculatus, lineis nigris albo interruptis cinctus; spirâ obtusâ, ad angulum seriatim nigro-punctatâ; anfractibus depressis (f. 342).—More cylindrical than *C. Adansoni*, and characterized by well defined square spots on the angle of the whorls, and interrupted dark lines on the body.

333. CATUS.—C. brevis, obtusus, solidus, colore variegatus, infra granoso-liratus; spirâ convexâ; anfractibus striatis, depressis (f. 277–280).—*C. Adansoni* stands halfway between this species and *C. nigro-punctatus*.

334. ACHATINUS, *Chemn.*—C. oblongo-ventricosus, subcæruleus, articulato-lineatus, fusco-nigrescente latè fasciatus seu flammulis longitudinalibus pictus (f. 335, 336; var. 343).—I cannot separate the latter variety, as proposed by A. Adams, under the name *C. vinctus*.

335. ASSIMILIS, *A. Ad.*—C. *C. achatino* similis, sed maculis disruptis pictus; apice roseo (f. 505).—This may be only a variety of *C. achatinus*, with the markings broken up instead of forming regular patches or bands.

336. MONACHUS, *Linn.*—C. subovalis, subventricosus, nebulosus, subcæruleus, flammis nigrescentibus fluctatim pictus, infra liratus; spirâ obtusâ, striatâ (f. 506, 507).—Of a more oval form than *C. achatinus*, and without the cross-lines.

337. MAGUS, *Linn.*—C. oblongus, infra plus minusve liratus, variè fasciis et flammis pictus, prope basin subangustatus; spirâ

suocarinatâ (f. 508-512).—Although subject to great variation, not difficult to distinguish.

338. *CIRCLE*, *Chem.*—*C. C. monacho* similis, sed solidus, prope angulum convexus, medio contractus (f. 513, 514; var. 525).—I am glad to recognize in this shell one of Chemnitz's species, differing from *C. magus* in being more solid, swelled near the upper angle, and contracted at the centre.

339. *EPISTOMIUM*, *Reeve.*—*C. quam C. magus* multo magis elongatus, aurantio bifasciatus et flammulatus (f. 515).—I find great difficulty in separating this from *C. magus*, although much more elongated in form.

340. *USTULATUS*, *Reeve.*—*C. oblongus*, supra subinflatus, lineis elevatis ubique cinctus, aurantio fasciatus, medio albo unifasciatus; spirâ convexâ; anfractibus depressis, bisulcatis (f. 516), and var. *C. striolatus* (f. 327, 328).—I think these are identical.

341. *GUBERNATOR*, *Brug.*—*C. oblongus*, lævigatus, albus, prope angulum convexus, medio subcontractus, infra subquadratus, distanter sulcatus; albus, coloribus variegatis flammis et fasciis interruptis pictus; spirâ depressâ; anfractibus carinatis, valdè canaliferis (f. 519-522).—In the older and larger specimens the swelling near the angle of the spire is more conspicuous; the whorls of the spire are deeply hollowed, with a ridge at the angle.

342. *TIMORENSIS*, *Brug.*—*C. elongatus*, lævis, pallidè roseus, lineis albo rubroque tæniatus, ad basin leviter liratus; spirâ lævi, anfractibus paululum excavatis (f. 517, 518).—A beautiful shell, coloured something in the manner of *C. aurisiacus*, but much more delicately.

343. *TERMINUS*, *Reeve.*—*C. quam C. gubernator* magis æqualiter ventricosus, spiræ anfractibus haud tantum excavatis; pallidè purpureus, maculis magnis irregularibus sparsim pictus (f. 523).—Of a more oval form than *C. gubernator*; of a delicate violet-colour, with large brown markings.

344. *FULMEN*, *Reeve.*—*C. lævis*, oblongus, subventricosus, pallidè purpureus, castaneo flammis irregularibus magnis sparsim pictus; spirâ convexâ, obtusâ, haud carinatâ (f. 351).—More short and ventricose than the preceding. The spire not keeled.

345. *STRIATUS*, *Linn.*—*C. oblongus*, cylindricus, transversè striatus, infra subquadratus; pallidè violaceus, nebulosus, fasciis interruptis et flammis longitudinalibus nigris aut fuscis pictus; spirâ subdepressâ, maculatâ; anfractibus excavatis, carinatis; va-

riat roseus, aurantio pictus, albo floccatus (f. 557; and delicate rose-coloured var., see Frontispiece, f. 558).—More cylindrical and wider than *C. gubernator*, with the surface striated.

k. *Cylindrical, inflated, sometimes coronated.*

346. GEOGRAPHUS, *Linn.*—*C. ventricosus*, inflatus, lævis, pallidè roseus, cæruleo-nebulosus, lateribus rectiusculis; flammis reticulatis castaneis pictus; spirâ latâ, depressâ, ad angulum tuberculis magnis coronatâ; anfractibus paucis, latis (f. 560).—The well-known map-coloured, large, coronated shell.

347. TULIPA, *Linn.*—*C. C. geographo* similis, sed medio ventricosus, spirâ angustiore vix coronatâ; lineis articulatis cinctus; flammis undatis (f. 551, 552).—The centre is ventricose, and the spire narrower than in *C. geographus*, scarcely coronated; it is encircled with articulated lines.

348. INTERMEDIUS, *Reeve.*—*C. quam C. geographus* magis obliquus, angustior, medio inflatus; spirâ elevatâ, angustâ, tuberculis mediocribus coronatâ (f. 549).—Marked in the manner of *C. geographus*; it is more oblique, the spire narrower, more elevated, and less largely coronated.

349. OBSCURUS, *Humph.*—*C. parvus*, *C. geographo* similis, sed angustior, spirâ lævigatâ; cæruleus, castaneo fasciatim obscure nebulosus (f. 526).—It is small, narrow, obscurely coloured with brown, and has a smooth spire.

350. CERVUS, *Lamk.*—*C. oblongus*, solidus, supra medium inflatus, lævis, pallidè fulvus, maculis fuscis nebulosis seriatim variegatus et tessellatus; aperturâ albâ; spirâ subdepressâ, angulatâ; anfractibus latis, planulatis (f. 548).—Resembling *C. bullatus*, but with a more angular top, and more tapering below; the delicate fawn-tint and tessellated markings further distinguish this elegant and extremely rare species.

351. BULLATUS, *Linn.*—*C. solidus*, ventricosus, lævis, roseo et aurantio nebulosus, fusco irregulariter variegatus; spirâ parvâ, depressâ; anfractibus paucis, canaliferis (f. 550).—Beautifully mottled with pink and orange, with a contracted spire.

352. DESHAYESII, *Reeve.*—*C. tenuis*, inflatus, articulato-lineatus, infra sulcatus, supra angulatus, ubique fulvo-grisescente pallidè nebulosus (f. 546).—From its light fawn-colour, mistaken by us formerly for the *C. cervus*.

353. MELANCHOLICUS, *Lamk.*—C. oblongus, inflatus, infra sulcatus, attenuatus, ubique tenuissimè striatus, aurantius, infra medium maculis albis unifasciatus; spirâ albâ, angulatâ (f. 547).—This shell, evidently belonging to the same group with the preceding, is nevertheless of a very distinguished form.

1. *Cylindrical, reticulated.*

354. TEXTILE, *Linn.*—C. cylindricus, subventricosus, lineis rubris reticulatus, latè aurantio interruptim fasciatus; fasciis lineis articulatis transversis et strigis longitudinalibus pictis; spirâ pyramidali, lævigatâ, maculis aurantiis et lineis rubris flexuosis ornatâ (f. 567).—The typical *C. textile* is a rather ventricose shell, reticulated with reddish lines. Interrupted by white spots and reticulated lines are orange bands of different widths; these bands are marked with downward stripes and cross-lines. The following shells, described by authors under different names, many of which I think really belong to this species, are separated, principally on the ground of variations in the relative proportions in the different parts of colouring above described, and partly on variations of form; but the characters of the shells are very uncertain, and the intentions of the authors still more so. Without attempting to take in all the variations, I have endeavoured to chose the best representative of each so-called species.

355. TIGRINUS, *Sowb.*—C. quam *C. textile* angustior, luteus, strigis nigrescentibus magnis; spirâ prominulâ (f. 568; var. 579).—More slender than *C. textile*, with a richness in the general tint; markings rich and dark.

356. VICARIUS, *Lamk.*—C. quam *C. textile* magis conicus, lateribus medio contractis, maculis albis magnis (f. 565).—More straight-sided than *C. textile*, or even a little contracted in the middle, more white and less orange in the colouring.

357. SCRIPTUS, *Sowb.*—C. cylindricus, inflatus, albus, lineis tenuissimis angulatis scriptus (f. 563).—A very light cylindrical shell, finely reticulated with very thin lines.

358. VERRICULUM, *Reeve.*—C. quam *C. textile* brevior, magis ventricosus, maculis albis majoribus, fasciis aurantiis disruptis (f. 570).—Short and stout, with a larger proportion of white than in *C. textile*.

359. LEGATUS, *Lamk.*—C. solidus, roseus, angustus, subangulatus, tenuiter rubro reticulatus; aureo interruptim fasciatus et

longitudinaliter fusco strigatus (f. 566).—Easily distinguished by its solidity, its narrower form, and roseate hue.

360. CANONICUS, *Brug.*—*C. solidus, cæruleus, angustus, minutè reticulatus, latè fusco-nigrescente fasciatus* (f. 568).—This and the following species are more solid than *C. textile*, with closer and darker markings. The varieties of each have been much confounded; some distinguish them by the roseate hue in the aperture of *C. canonicus*, but I believe M. Bruguière meant *C. canonicus* to be a narrow, straight-sided shell, and *C. archiepiscopus* a broader one; and he even remarks that there is a pink-mouthed variety of the latter.

361. ARCHIEPISCOPUS, *Brug.*—*C. solidus, cæruleus, ventricosus, minutè reticulatus, fusco-nigrescente fasciatus* (f. 571, 572).—See note on *C. canonicus*.

362. PANNICULUS, *Lamk.*—*C. subturbinatus, spirâ obtusâ, minutè reticulatus, aurantio æqualiter trifasciatus, fasciis nigro-lineatis; fauce purpureâ* (f. 574).—Distinguished from *C. textile* and others by its more turbinated form and closer colouring. It is purple within.

363. ABBAS, *Brug.*—*C. C. panniculo similis, sed fasciarum interstitiis minutè et concinnè reticulatis* (f. 575).—The reticulated lines are remarkably neat and lace-like between the bands, the marks being rounded and equal.

364. See p. 47.

365. CORBULA, *Sowb.*—*C. cylindricus, ventricosus, tenuiter striatus, lineis fulvis minutè reticulatus, lineis et maculis fusco-aurantiis trifasciatus; spirâ striatâ, anfractibus subexcavatis* (f. 573).—Of the typical form of *C. textile*, but finely striated and more solid. The colouring is also different.

366. VICTORIÆ, *Reeve.*—*C. tenuis, subinflatus, tenuiter transversè striatus, cæruleo nebulosus, fusco-rubescente reticulatus, maculis magnis aurantiis fusco-virgatis marginatis seriatim pictis; spirâ productâ, angulatâ* (f. 575, 576).—A light, rather angular shell, distinguishable at a glance from all the preceding species of the same group.

367. TELATUS, *Reeve.*—*C. oblongus, subfusiformis, angulatus, lateribus rectiusculis; fulvo tenuiter angulatim reticulatus, maculis magnis aurantiis, fusco-rubescente strigatus, latè bifasciatus; spirâ pyramidalis, acutâ; anfractibus depressiusculis* (f. 584).—A

very rare shell, approaching *C. gloria-maris* rather than *C. textile* in form, and in the light sandy character of its reticulation. It is much shorter, however, and has two broad bands of orange patches.

368. GLORIA-MARIS, *Chemn.*—*C. tenuis*, elongato-fusiformis, minutissimè fulvo reticulatus, maculis angustis rubro-strigatis fasciatim ornatus; spirâ elevatâ, leviter gradatâ (f. 586).—Elegantly fusiform and delicately reticulated, this shell is not only one of the rarest but also one of the most beautiful of Cones.

369. RETIFER, *Menke.*—*C. solidus*, brevis, obtusus, roseus, fasciis aurantiis longitudinalibus et transversis rubro-nigrescente strigatis ornatus, interstitiis rubro reticulatis; spirâ pyramidalî, anfractu ultimo rotundato (f. 580).—A short, thick, solid shell, richly coloured.

370. LUCIDUS, *Mawe.*—*C. subcylindricus*, solidus, obtusus, infra sulcatus, transversè rubro lineatus, interstitiis longitudinaliter divisus; maculis nigrescentibus et albis triseriatim ornatus; spirâ obtusâ, maculosâ, et reticulatâ; anfractibus depressis, angulatis (f. 581).—Distinguished by the regular red lines across the shell.

371. MADAGASCARIENSIS, *Sowb.*—*C. subventricosus*, oblongus, lævis, lineis rubris minutè reticulatus; maculis magnis albo fuscoque articulato-lineatis bifasciatim ornatus; spirâ brevi, angulatâ; anfractibus depressiusculis, apice acuto (f. 583).—The markings resemble those of *C. omaria*, but it is a short shell, with sharp apex.

372. PRÆLATUS, *Brug.*—*C. oblongus*, obtusus, lævis, roseus, cæruleo partim suffusus, inæqualiter reticulato-maculatus, maculis albis uno latere subcæruleis ornatus; spirâ brevi, obtusâ (f. 585). The white and pink spots are shaded with blue.

373. ELIZÆ, *Kien.*—*C. solidus*, subturbinatus, castaneus, nigro alboque articulatum lineatus, maculis albis cordiformibus et lineis reticulatis fasciatim variegatus; spirâ obtusâ; anfractu ultimo rotundato, convexo (f. 578).—In the specimen originally described, the brown colour occupies a larger proportionate space than in the specimen represented. Like *C. episcopus* and others, the species has a very thick brown spire.

374. COLUBRINUS, *Lamk.*—*C. solidus*, subcylindricus, castaneus, maculis albis longitudinalibus irregulariter ornatus; spirâ obtusâ, angulo rotundato (f. 587).—Another obtusely spired solid shell, marked with irregular oblong white spots, longitudinally arranged on a dark-brown ground.

375. RUBIGINOSUS, *Lamk.*—*C. C. Colubrino* similis, sed maculis albis minoribus, numerosis, interstitiis articulato-lineatis (f. 590).—Although the spots are smaller, and the interstices marked with articulated lines, I doubt the propriety of separating this from the preceding.

376. CROCATUS, *Lamk.*—*C. oblongus*, transversè leviter striatus, supra convexus, medio subcontractus, infra subattenuatus; aurantius, albo sparsim maculatus (f. 588, 589).—In one variety the white is more plentiful, but the species is not difficult to identify.

377. PENNACEUS, *Lamk.*—*C. solidus*, subcylindricus, albus vel roseus, rubro reticulatus, maculis aurantiis rubro alboque articulatis pictus, prope angulum convexus, infra liratus; spirâ brevi, obtusâ (f. 599-601).—The first is the typical form of this variable species.

378. EPISCOPUS, *Lamk.*—*C. elongatus*, cylindricus, maculis magnis fluctuatis pictus; interstitiis latè reticulatis; spirâ brevi, obtusissimâ (f. 596-598).—More lengthened and cylindrical than *C. pennaceus*, with large, fluctuating, dark, reddish-brown patches, which are not marked with articulated lines, and the interstices reticulated with large meshes.

379. OMARIA, *Brug.*—*C. elongatus*, cylindricus, tenuiter striatus, lineis rubescentibus minutè reticulatus, maculis magnis articulato-lineatis latis fuscis bifasciatus; spirâ brevi; apice subacuto, roseo (f. 594, 595).—The markings are finer than in *C. pennaceus*, the shape more lengthened and cylindrical.

380. CONVOLUTUS, *Sowb.*—*C. quam C. omaria* magis angustatus; spirâ elevatâ, acuminatâ; roseus, minutè et tenuiter roseus, fauce pallidè aurantius (f. 564).—This very distinct species has an affinity with *C. omaria*, but it has an elevated sharp spire, and is narrower, the whorls being as it were more closely rolled up. I venture to draw from Mr. Cuming's specimen, and colour from that of Mrs. Deburgh.

381. AULICUS, *Linn.*—*C. cylindricus*, subventricosus, leviter striatus, albus, areis magnis castaneis irregulariter angulatis pictus; interstitiis angulatim lineatis; spirâ pyramidalis (f. 593).

382. AURATUS, *Lamk.*—*C. C. cylindrico* similis, sed angustior, aureo aut roseo tinctus; maculis plus minusve punctatis lineatis (f. 591).—Of a more narrowed cylindrical form than *C. aulicus*, with rows of small white specks on the brown marks. The golden-tinted var. (not figured) is the most common.

383. *MAGNIFICUS*, *Reeve*.—*C. C. aurato* similis, sed brevior, magis solidus, supra magis convexus; spirâ obtusâ (f. 592).—Shorter, thicker, and more convex at the upper part of the body-whorl than *C. auratus*, of which it is perhaps a variety.

384. *AUREUS*, *Brug*.—*C. oblongus*, angustus, cylindricus, transversè striatus, fasciis longitudinalibus magnis aurantiis lineis rubris nigrescentibus strigatis pictus, interstitiis tenuiter reticulatus; spirâ pyramidali, acutâ (f. 555).—Striated, narrower than *C. auratus*, with downward bands of colour reticulated between.

385. *CLAVUS*, *Linn*.—*C. C. aureo* similis, sed crebrè reticulatus, fasciis latis fuscis pictus (f. 561).—Like *C. aureus*, but with close reticulations and cross-bands of brown.

386. *CIRCUMCISUS*, *Born*.—*C. oblongus*, angustatus, cylindricus, transversè striatus, pallidè purpureus, fusco plus minusve maculatus et fasciatus, lineis albis sparsim punctatis cinctus (f. 562, and *Frontispiece*).—Characterized by narrow white bands, which are spotted at intervals.

m. *Narrow, cylindrical; spire rounded with close, perpendicular whorls.*

387. *NUSSATELLA*, *Linn*.—*C. angustatus*, cylindricus, striatus, lineatim punctatus, fusco seu aurantio maculatus et fasciatus (f. 553, 554).—I feel almost tempted to distinguish the latter as a species.

388. *TENELLUS*, *Chemn*.—*C. quam C. nussatella* magis angulatus, lateribus rectiusculis; spirâ brevi, obtusâ; anfractibus paululum undulatis; striis minutè punctatis (f. 566).—Straighter than *C. nussatella*, with the upper part of the whorl more angular, and the spire short and obtuse; the sculpture and colouring are finer. It has been thrice named.

389. *DACTYLOSUS*, *Kien*.—*C. elongato-cylindricus*, lævis, aurantius, maculis parvis trigonis albis sparsim ornatus; spirâ prominulâ, lateribus convexis, apice acuto, anfractu ultimo angulato (f. 536).—A very characteristic species.

390. *VIOLACEUS*, *Reeve*.—*C. elongato-cylindricus*, lævis, violaceus, fusco maculatus et fasciatus; spirâ productâ, lateribus convexis, apice acuto (f. 537).—A beautiful violet-coloured smooth shell.

391. *COCCINEUS*, *Gmel*.—*C. cylindricus*, subventricosus, anticè subattenuatus; striatus, coccineus seu fuscus, medio fasciâ albâ

nigro-maculatâ cinctus; spirâ obtusâ, subtuberculatâ (f. 538, 539).—Rather ventricose in the middle, and tapering near the base; distinguished by the beautiful colour, and the white band in the centre bordered by black markings.

392. GRANULATUS, *Linn.*—*C. subcylindricus*, angustus, transversè liratus; liris subgranulosus, infra duplicatis; coccineus, medio fasciâ albâ fusco-maculatâ cinctus; spirâ albâ, fusco maculatâ; anfractibus rotundatis, gradatis (f. 540, var. 541).—Encircled by granulated ridges, and quite unlike any other species. The white variety (*C. verulosus*, *Kien.*) is figured from Miss Saul's specimen.

393. CYLINDRACEUS, *Brod.*—*C. cylindricus*, angustus, lævis, aurantius vel fuscus, strigis interruptis fluctuatis longitudinalibus ornatus; spirâ elongatâ, obtusâ; anfractibus rectis (f. 527, 528).—In this species the spire is drawn out, so as to reach a third of the entire length.

394. TERESELLUM, *Mart.*—*C. elongatus*, cylindricus, solidus, inæqualiter liratus, supra convexus, infra subattenuatus, pallidus, fulvo pallidè fasciatus, cæruleo tinctus; spirâ valdè convexâ (f. 559).—Transversely ridged, swelled near the angle of the spire, which is very convex.

395. GLANS, *Brug.*—*C. cylindricus*, granoso-liratus, purpureo tinctus, fusco vel purpureo-fuscescente latè fasciatus; spirâ convexâ, crenulatâ (f. 530, 531).—Both varieties have the striæ granulated and the spire crenulated.

396. TENUSTRIATUS, *Sowb.*—*C. C. glandi* similis, sed tenuissimè striatus; striis vix granulatis; spirâ lævi (f. 532, 533).—The striæ are much finer than in *C. glans*, and scarcely granulated; spire smooth.

397. TENDINENS, *Brug.*—*C. solidus*, cylindricus, liratus, albus, fusco-violascente trifasciatus, longitudinaliter strigatus; infra truncatus; spirâ elevatâ, obtusâ (f. 534).—A very solid shell, banded in both directions with dark-brown, and obtusely truncated at the base.

398. SCABRIUSCULUS, *Chemn.*—*C. brevis*, obtusus, subturbinatus, granoso-liratus, fuscus, maculis et fasciâ albis seu albus fusco-maculatus; spirâ obtusâ (f. 542, 543).—Although of a short and obtusely conical form, this species has an affinity with *C. glans*.

399. NUCLEUS, *Reeve.*—*C. cylindricus*, lævis, fuscus, infra medium maculis irregularibus albis fasciatus; spirâ convexâ, apice

minuto (f. 529).—A small, smooth, brown shell, with a band of irregular white spots below the centre.

400. LUTEUS, *Brod.*—*C. lævigatus*, elongatus, anticè attenuatus, luteus seu coccineus, maculis fuscis longitudinalibus albo-marginatis fasciatim pictus (f. 544, 545).—Both varieties are graceful shells, with rows of white, bordered, linear, brown markings.

401. ATRAMENTOSUS, *Reeve.*—*C. minutus*, striatus, obtusus, nigrescens, maculis albis sparsim ornatus; spirâ obtusâ (f. 317).—A curious little dark-coloured shell, with a few white spots on the upper part of the whorls.

402. HIEROGLYPHICUS, *Duclos.*—*C. brevis*, liratus, sub-turbinatus, obtusus, fuscus, maculis albis irregularibus fasciatim ornatus; spirâ albâ, maculatâ; anfractibus rotundatis (f. 318, 319).—This small shell has an affinity with *C. scabriusculus*, from which however it differs in the white, hieroglyphic markings.

403. MITRATUS, *Brug.*—*C. oblongus*, granulato-liratus, luteus, castaneo fasciatim maculatus; spirâ convexâ, elevatâ (f. 535).—There is no danger of confounding this species with any other.

[The following species were accidentally omitted from their places.]

345*. FLORIDUS, *Sowb.*—*C. C. striato* similis, sed vix striatus, lateribus magis ventricosis, spirâ magis angustatâ, anfractibus haud tantum excavatis; rosaceus, floccis albis et maculis fuscis sparsim variegatus (f. 558, *Frontispiece*).—Besides the smooth surface and delicate colouring of this shell, it is distinguished from *C. striatus* by its less cylindrical form and the comparative narrowness of the spire, which is also less deeply grooved.

364. PYRAMIDALIS, *Lamk.*—*C. angustus*, solidus; spirâ prominulâ, strigis longitudinalibus undatis (f. 579).—Narrow, solid, with a rather produced spire. The brown markings fall in wavy, downward stripes.

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emaciatius, *Rve.*, 191, f. 214, 258.
emarginatus, *Rve.*, 115, f. 387.
encaustus, *Kie.*, 62, f. 79.
episcopus, *Lam.*, 378, f. 596-8.
epistomium, *Rve.*, 339, f. 515.

eques, *Bru.*—Unknown to me.
ermineus, *Born*, 185, f. 185-7.
Erythrænsis, *Bk.*, 158, f. 316.
exaratus, *Rve.*, 160, f. 307.
exiguus, *Lam.*—*Ceylanensis*, var.
eximius, *Rve.*, 136, f. 201.

fabula, *So.*—*scabriusculus*.
fasciatus, *A. Ad.*—*bifasciatus*.
fasciatus, *Mart.*, 306, f. 487-9.
ferrugatus, *So.*—Unknown to me.
ferrugineus, *Br.*—*senator*.
festivus, *Che.*, 187, f. 272.
figulinus, *Br.*, 197, f. 242.
filamentosus, *Rve.*, 303, f. 482.
flammeus, *Lam.*—*Lorenzianus*.
flavescens, *Gray*, 161, f. 305.
flavidus, *Lam.*, 189, f. 168.
flocatus, *So.*, 325, f. 500.
floridulus, *Ad. et Rve.*, 100, f. 97.
floridus, *So.*, 345*, *Frontispiece*.
fluctifer, Dilw.—*Prometheus*.
Franciscanus, *Bru.*, 246, f. 315.
frigidus, *Rve.*, 154, f. 303.
fucatus, *Rve.*, 250, f. 308, 422?
fulgetrum, *So.*, 66, f. 69.
fulgurans, *Br.*, 135, f. 202.
fulgurans, Kie.—Unknown to me.
fulmen, *Rve.*, 344, f. 351.
fulmineus, Gm., 33.—Unknown to me.

fumigatus, *Br.*—*coffea*.
furvus, *Rve.*, 179, f. 266-8.
fuscatus, *Born*, 2, f. 3.
fusiformis, *Lam.*—Unknown to me.
fastigiatus, *Br.*—*pulicarius*.
fusus, Gm.—Unknown to me.

Gabrielli, *Kie.*, 289, f. 468.
generalis, *Lin.*, 132, f. 179-81.
genuanus, *Lin.*, 212, f. 253.
geographus, *Lin.*, 346, f. 560.
gilvus, *Rve.*, 182, f. 312.
gladiator, *Bro.*, 35, f. 59, 60.
glans, *Bru.*, 395, f. 530-1.
glaucus, *Lin.*, 195, f. 237.

- gloria-maris*, *Che.*, 368, f. 586.
gracilis, Mawe.—Timorensis.
gracilis, So.—australis.
gradatus, *Rve.*—scalaris.
griseus, *Kie.*—ambiguus.
granarius, *Kie.*—cedo-nulli?
grandis, So.—spurius.
granifer, *Rve.*, 29, f. 109–10.
granulatus, *Lin.*, 392, f. 540–1.
Grayi, *Rve.*, 238, f. 275.
Grumeri, *Rve.*—litteratus.
Gubba, *Kie.*—Bernhardi.
gubernator, *Br.*, 341, f. 519–22.
Guiniacus, *Br.*, 239, f. 434–5.
guttatus, *Kie.*—Bulbus.

Hanleyi, *So.*, 160, f. 399, 400.
Hebræus, *Lam.*—Ebræus.
hepaticus, *Kie.*, 183, f. 191.
Hevassi, *A. Ad.*—interruptus.
hieroglyphicus, *Duch.*, 402, f. 318–9.
hyæna, *Bru.*, 231, f. 431.
hybridus, *Kie.*—Mediterraneus.

ignobilis, *Oliv.*—Mediterraneus.
imperialis, *Lin.*, 1, f. 2.
inæqualis, *Rve.*, 210, f. 406.
incarnatus, *Rve.*, 206, f. 228–9.
incurvus, *Bro.*, 127, f. 194.
indicus, *Che.*—magus.
induratus, *Rve.*, 148, f. 396.
inflatus, So.—conspersus.
informis, *Bru.*—elongatus.
informis, *Rve.*—simplex.
infrenatus, *Rve.*, 275, f. 451–3.
innexus, *A. Ad.*—anceps.
inquinatus, *Rve.*—testudinarius.
inscriptus, *Rve.*, 299, f. 477.
insculptus, *Kie.*, 92, f. 363.
insignis, So.—acuminatus.
insularis, *Gm.*—Unknown to me.
intermedius, *Rve.*, 349, f. 549.
interruptus, *Mawe.*, 47, f. 43–4.
interruptus, *Bro.*—Ximines.
iodostoma, *Rve.*, 300, f. 480.
irregularis, *So.*, 242, f. 418–9.

Jamaicensis, *Bru.*, 244, f. 439.
Janus, *Bru.*, 297, f. 478.
Japonicus, *Bru.*, 110, f. 376.
jaspideus, *Gm.*—Unknown to me.
jaspideus, *Kie.*—pictus.
jaspis, *Marschl.*—Franciscanus.
Jukesii, *Rve.*, 265, f. 297.

Keatii, *So.*, 298, f. 479.
Kieneri, *Rve.*, 302, f. 484.

lachrymosus, *Rve.*, 166, f. 93.
lacunculatus, *Kie.*—lineatus.
lacteus, *Lam.*, 292, f. 473.
lætus, *Gm.*—granulatus?
lævigatus, *So.*, 228, f. 149–50, 207.
lævis, *Gm.*—circumciscus.
Lamarkii, *Kie.*—Elizæ, var.?
lamellosus, *Lam.*—Unknown to me.
Largillierti, *Kie.*—Japonicus.
latifasciatus, *So.*, 304, f. 485.
lautus, *Rve.*, 276, f. 454.
legatus, *Lam.*, 359, f. 566.
lemniscatus, *Rve.*, 111, f. 411.
lentiginosus, *Rve.*, 114, f. 386.
leoninus, *Bru.*, 218, f. 232.
leopardus, *Dilw.*—Sumatrensis.
leopardus, *Meusch.*—Unknown to me.
leucostictus, *Gm.*, 45, f. 35, 36.
lignarius, *Rve.*, 177, f. 269–70, 313.
lineatus, *Che.*, 315, f. 218–9.
lineolatus, *Valen.*—princeps.
liratus, *Rve.*—plumbeus.
lithoglyphus, *Bru.*—ermineus.
lithoglyphus, *Meusch.*—Unknown to me.
litteratus, *Lin.*, 193, f. 155–6.
lividus, *Bru.*, 21, f. 27.
lividus, *Che.*—cinereus.
Lorenzianus, *Che.*, 217, f. 212, 430.
Loroissii, *Kie.*, 198, f. 243.
Loveni, *Krauss*, 273, f. 449.

- lucidus*, Mawe, 370, f. 581.
luctificus, *Rve.*, 134, f. 198.
lugubris, *Rve.*, 254, f. 320.
luridus, A. Ad.—Taslei.
luteus, *Bro.*, 400, f. 544-5.
luteus, *Quoy.*—Scarcely a Cone.
Luzonicus, *Bru.*, 236, f. 344.
lynceus, *Sol.*, 287, f. 469.
- maculatus*, *So.*, 264, f. 297.
maculiferus, *So.*, 41, f. 74-5.
Madagascariensis, *So.*, 371, f. 583.
Madurensis, *Bru.*, 211, f. 407.
Magdalæna, Ch.—floccatus.
Magellanicus, *Bru.*, 40, f. 77, 390.
magnificus, *Rve.*, 383, f. 592.
magus, *Lin.*, 337, f. 508, 512.
mahogani, *Rve.*, 181, f. 283-4.
Malaccanus, *Bru.*, 105, f. 366.
Maldivus, *Bru.*, 130, f. 182-4.
marchionatus, *Hind.*, 214, f. 172.
marmoreus, *Lin.*, 4, f. 5.
Martinianus, *Rve.*—radiatus.
Mauritianus, Lam.—puncticulatus?
Maurus, Gray.—Unknown to me.
Mediterraneus, *Bru.*, 243, f. 437-8.
melancholicus, *Lam.*, 353, f. 547.
memmonitarum, Ch.—distant.
mercator, *Lin.*, 253, f. 294-5, 428-9.
Metcalfi, *Rve.*, 171, f. 119.
Mighælsi, Kie.—musicus.
miles, *Lin.*, 222, f. 157.
miliaris, *Bru.*, 65, f. 72-3.
millepunctatus, *Lam.*, 192, f. 151.
“millies punctatus,” Ch.—puncticulatus.
Mindanus, *Bru.*, 81, f. 86-88.
minimus, *Lin.*, 60, f. 54-5, 99, 111.
minutus, *Rve.*, 125, f. 360.
mitratus, *Bru.*, 403, f. 535.
modestus, *So.*—fulmen?
Moluccensis, *Che.*, 17, f. 46.
monachus, *Lin.*, 336, f. 506-7.
monile, *Bru.*, 131, f. 178.
- monilifer*, *Bro.*, 109, f. 380, 382.
monstrosus, Ch.—rubiginosus?
Mozambicus, *Bru.*—elongatus.
mucronatus, *Rve.*, 301, f. 481.
Mus, *Bru.*, 57, f. 78.
mutabilis, *Che.*, 232, f. 216.
muriculatus, *So.*, 19, f. 89.
muscosus, Lam.—characteristicus.
musicus, *Bru.*, 77, f. 145-8.
musicum, *Bro.*—legatus.
mustellinus, *Bru.*, 244, f. 160.
- nanus*, *Bro.*, 78, f. 114-6.
Narcissus, *Lam.*, 240, f. 436.
Natalis, *So.*, 267, f. 292-3.
nebulosus, *Sol.*, 44, f. 61-2.
neglectus, 208, f. 404.
nemocanus, *Bru.*, 227, f. 152-3.
Neptunus, *Rve.*, 305, f. 483.
Neptunus, Kie.—Amadis.
Nicobaricus, *Bru.*, 9, f. 11-12.
nigro-punctatus, *So.*, 332, f. 342.
nimbosus, *Bru.*, 327, f. 503.
nisus, *Che.*, 290, f. 470-1.
nitidus, *Rve.*, 172, f. 401.
niveus, Gm.—Uncoated *marmoreus*.
nivifer, *Bro.*, 149, f. 265, 397.
nivosus, Lam.—venulatus.
nobilis, *Lin.*, 323, f. 498-9.
nocturnus, *Bru.*, 6, f. 4.
nodiferus, Kie.—verrucosus.
Novæ-Hollandiæ, 266, f. 298-9.
nubecula, Gm.—Unknown to me.
nucleus, *Rve.*, 398, f. 529.
nussatella, *Lin.*, 387, f. 553-4.
nux, *Bro.*, 73, f. 135.
- obesus*, Lam.—Ceylonicus.
oblitus, *Rve.*, 24, f. 37, 100.
obscurus, *Humph.*, 349, f. 526.
obtusus, Kie.—Unknown to me.
ochraceus, *Lam.*, 219, f. 432.
ochroleucus, *Bru.*—fasciatus.
oculatus, Gm.—Unknown to me.
olivaceus, Kie.—Taslei.
omaicus, *Bru.*, 322, f. 497.
omaria, *Bru.*, 379, f. 594-5.

- optabilis, *A. Ad.*, 116, f. 364.
 Orbigny, *Ardouin*, 90, f. 368.
 orbitatus, *Rve.*—Unknown to me.
 Orion, *Bro.*, 145, f. 200.
- pagodus*, *Che.*—cancellatus.
 panniculatus, *Lam.*, 362, f. 574.
 papilionaceus, *Bru.*, 215, f. 233.
 papillaris, *Rve.*, 97, f. 377.
 papillosus, *Kie.*—puncticulatus.
parius, *Rve.*—lacteus.
 pastinacea, *Lam.*, 184, f. 353.
 patricius, *Hind.*, 85, f. 355.
paulina, *Kie.*—bicolor.
 pauperculus, *So.*, 249, f. 217.
 Pealii, *Green*, 80, f. 293-4.
pellis-lyonæ, *Che.*—punctatus.
 pennaceus, *Lam.*, 377, f. 599-601.
 peplum, *Che.*, 11, f. 13, 408.
 perplexus, *So.*, 157, f. 324.
 pertusus, *Lam.*, 188, f. 273.
 Philippi, *Kie.*, 112, f. 412.
 pica, *Ad. et Rve.*, 280, f. 290-1.
 pictus, *Rve.*, 268, f. 444-5.
 pigmentatus, *Ad. et Rve.*, 39, f. 101.
piperatus, *Rve.*—Dilwynii.
planicostatus, *So.*—Orbigny.
 planorbis, *Born.*, 310, f. 491.
 plumbeus, *Rve.*, 48, f. 131-2.
polyzonias, *Gm.*—planicostatus.
ponderosus, *Beck.*—quercinus.
 pontificalis, *Lam.*, 71, f. 51.
 Porto-ricanus, *Bru.*, 237, f. 433.
praefectus, *Bru.*—fasciatus.
 prælatus, *Bru.*, 372, f. 585.
prætextus, *Rve.*—encaustus.
 primula, *Rve.*, 38, f. 76.
 princeps, *Lin.*, 31, f. 31-3.
 præcellens, *A. Ad.*, 89, f. 371.
proarchithalassus, *Mörch.*—præ-
 latus.
 Prometheus, *Bru.*, 320, f. 245.
Proteus, *Bru.*—spurius.
pseudo-Thomæ, *Che.*—papilionaceus.
pulchellus, *So.*—interruptus.
 pulchellus, *Swains.*, 312, f. 220.
- pulcher, *A. Ad.*, 95, f. 121.
 pulicarius, *Bru.*, 53, f. 19-21.
 punctatus, *Che.*, 37, f. 91-2, 203.
 puncticulatus, *Bru.*, 79, f. 128-30,
 391-2.
 puncturatus, *Bru.*, 58, f. 104.
 purpurascens, *Bro.*, 234, f. 204,
 346.
 pusillus, *Che.*, 76, f. 144.
 pusio, *Lam.*, 159, f. 325-6, 398.
pustulosus, *Kie.*—puncticulatus.
pygmæus, *Rve.*—pusio.
 pyramidalis, *Lam.*, 364, f. 579.
 pyriformis, *Rve.*, 199, f. 238, 354.
- quercinus, *Bru.*, 200, f. 239-40.
questor, *Lam.*—characteristicus.
- radiatus, *Gm.*, 308, f. 490.
ranunculus, *Bru.*—achatinus.
 raphanus, *Bru.*, 316, f. 494.
 rattus, *Bru.*, 229, f. 161-2.
 Recluzianus, *Bernh.*, 15, f. 38-9.
Reevii, *Kie.*—senator.
 regalitatis, *So.*, 235, f. 345.
regius, *Che.*—princeps.
 regularis, *So.*, 128, f. 208-10.
reticulatus, *So.*—lucidus.
reticulatus, *Mart.*—mercator.
 retifer, *Menke*, 369, f. 580.
 rhododendron, *Couth.*, 329, f. 504,
 and *Frontispiece*.
 rivularis, *Rve.*, 167, f. 90.
 rosaceus, *Che.*, 277, f. 455-6.
 roseus, *Lam.*, 59, f. 94-5.
 roseus, *Kie.*—Kieneri.
 rubiginosus, *Lam.*, 375, f. 590.
rudis, *Che.*—Unknown to me.
 Rupellii, *Rve.*, 33, f. 143.
rusticus, *Dil.*—cinereus.
 rutilus, *Menke*, 32, f. 323.
- sanguineus*, *Kie.*—cedo-nulli, var. ?
sanguinolentus, *Quoy.*—citrinus.
sanguinolentus, *Rve.*, 143, f. 409.
scaber, *Kie.*—fulgetrum.
scabriusculus, *Che.*, 398, f. 542-3.

- scalaris, *Val.* 106, f. 192.
 scalptus, *Rve.*, 286, f. 331.
 scitulus, *Rve.*—pictus?
 scriptus, *So.*, 357, f. 563.
 selectus, *A. Ad.*, 117, f. 361.
 senator, *Lin.*, 309, f. 221-2.
 Siamensis, *Bru.*, 216, f. 352.
 Sieboldii, *Rve.*, 98, f. 369.
 simplex, *So.*, 269, f. 199.
 Sindon, *Rve.*, 151, f. 414.
Sinensis, Mart.—Unknown to me.
Sinensis, *So.*—Sowerbyi.
Solandri, Bro.—coccineus.
solidus, Che.—nebulosus.
solidus, *So.*—retifer.
 Sowerbyi, *Rve.*, 88, f. 379.
 speciosissimus, *Rve.*, 50, f. 123-4.
 speciosus, *So.*, 51, f. 138.
 spectabilis, *A. Ad.*—tenellus.
 spectrum, *Lin.*, 279, f. 457-8.
 sphacelatus, *So.*, 42, f. 105-6.
 spiculum, *Rve.*, 124, f. 362.
 splendidulus, *So.*, 139, f. 211.
 sponsalis, *Che.*, 74, f. 133-4.
 spurius, *Gm.*, 220, f. 235-6, 241.
Stainforthii, *Rve.*—Moluccensis.
stellatus, Kie.—Elizæ, var.?
 stercus-muscarum, *Lin.*, 330, f. 347.
 sticticus, *A. Ad.*, 87, f. 137.
 stigmaticus, *A. Ad.*, 285, f. 460.
 stillatus, *Rve.*, 281, f. 461-2.
stramineus, Lam.—nisus.
 striatus, *Lin.*, 345, f. 557.
 strigatus, *Bru.*, 170, f. 329.
striolatus, *Rve.*—ustulatus, var.
 subulatus, Kie., 293, f. 472.
 succinctus, *A. Ad.*, 271, f. 257.
 sugillatus, *Rve.*, 22, f. 50.
 sulcatus, *Bru.*, 86, f. 30.
 sulciferus, *A. Ad.*, 96, f. 122.
sulphureus, Kie.—capitaneus.
Sumatrensis, *Lam.*, 223, f. 158-9.
 superstriatus, *So.*, 328, f. 282.
Suratensis, *Rve.*, 196, f. 246.
 suturatus, *Rve.*, 205, f. 256.
 tabidus, *Rve.*, 27, f. 108.
 tæniatus, *Bru.*, 69, f. 85.
Tahcitenis, *Bru.*, 34, f. 26.
Tamsianus, Ducl.—Unknown to me.
 Taslei, Kie., 241, f. 300-1.
 telatus, *Rve.*, 367, f. 584.
 tendinens, *Bru.*, 397, f. 534.
 tenellus, *Che.*, 388, f. 556.
 tenuis, *So.*, 14, f. 314.
 tenuistriatus, 396, f. 532-3.
 terebellum, *Mart.*, 394, f. 559.
tenebra, Che.—nussatella, var.?
 terminus, *Lam.*, 343, f. 523.
 tessellatus, *Born.*, 202, f. 250-1.
 testudinarius, *Mar.*, 233, f. 348-50.
 textile, *Lin.*, 354, f. 567.
textilinus, Kie.—acuminatus, var.?
 thalassiarachus, *Gray*, 129, f. 164-6.
Thomæ, Gm.—omaicus.
 tiaratus, *Bro.*, 64, f. 80.
 tigrinus, *So.*, 355, f. 568.
 Tinianus, *Bru.*, 274, f. 450.
 Timorensis, *Bru.*, 342, f. 517-8.
 tornatus, *Bro.*, 123, f. 375, 425.
 Traillii, *A. Ad.*, 174, f. 322.
tribunus, Gm.—centurio.
 trigonus, *Rve.*, 230, f. 205.
 trochulus, *Rve.*, 153, f. 260.
 tulipa, *Lin.*, 347, f. 551-2.
 turbinatus, *So.*, 207, f. 227.
 undatus, Kie., 107, f. 383.
 undulatus, *So.*, 294, f. 63.
 unicolor, *So.*, 18, f. 83.
 unifasciatus, Kie., 245, f. 420.
 ustulatus, *Rve.*, f. 340, 227-8, 516
 (for 510).
varigatus, Kie.—lugubris? or cu-
 neolus?
 varius, *Lin.*, 46, f. 40-2.
 Vautieri, Kie., 55, f. 23.
ventricosus, Gm.—Mediterraneus.
 venulatus, *Bru.*, 146, f. 261-4.
 vermiculatus, *Lam.*, 68, f. 52-3,
 112.

- Verrauxii*, Kie.—conspersus.
 verriculum, *Rve.*, 358, f. 570.
 verrucosus, *Bru.*, 80, f. 125-7.
verulosus, Kie.—granulatus.
vespertinus, Humph.—Timorensis.
 vexillum, *Marl.*, 225, f. 163.
 vicarius, *Lamk.*, 356, f. 565.
 victor, *Bro.*, 324, f. 524.
 Victoriae, *Rve.*, 366, f. 575-6.
 vidua, *Rve.*, 8, f. 9-10.
 vimineus, *Rve.*, 93, f. 357.
vinctus, A. Ad.—achatinus.
 violaceus, *Rve.*, 390, f. 537.
violaceus, Gm.—Unknown to me.
 virgatus, *Rve.*, 133, f. 190-3.
 virgo, *Lin.*, 190, f. 167.
 viridis, *So.*, 162, f. 102.
 viridulus, *Lam.*, 3, f. 1.
 vittatus, *Lam.*, 144, f. 274, 410.
 vitulinus, *Bru.*, 311, f. 223-4.
 voluminalis, *Hind.*, 99, f. 378.
vulpinus, Bru.—planorbis.
 Ximenes, *Gray*, 180, f. 285, 402.
 zebra, *Lam.*, 291, f. 466.
 zebroides, *Kie.*, 256, f. 443.
Zeylanicus, Wd.—Ceylonicus.
ziczac, Muhlfelt.—Unknown to me.
 zonatus, *Bru.*, 12, f. 15.

MONOGRAPH OF THE GENUS

ANCILLARIA, *Lamk.*

Char. Gen. Testa polita, ovata vel oblonga, ad basin balteo incrassato marginata; suprâ balteum suturâ nonnunquam celatâ, plerumque ad terminum dentiferâ cincta; spirâ pyramidali, suturâ tegmine calloso, polito celatâ; columellâ varice calloso, plerumque striato, ad basin terminante; aperturâ magnâ, anticè effusâ, plerumque unidentatâ, ad basin emarginatâ; operculo corneo, concentrico, subovali.

Although Lamarck first published this genus under the name of "ANCILLA," I cannot admit the justice or convenience of refusing to adopt the alteration which he subsequently made. That alteration appeared in all his more matured works, and has been almost universally adopted. The species have increased in number from four described in the 'Animaux sans Vertèbres,' to forty-four contained in the present monograph. This includes "*Buccinum glabratum*" of Linnæus, which is unfortunately placed at the head of Lamarck's genus "*Eburna*," but which has no connection with the other species enumerated under that title. It is admitted here, with two allied species, by general consent, the most advanced of modern conchologists making only a *subgenus* of the group. The *Ancillariæ* are polished, olive-shaped shells, with the spiral suture covered by a coating of enamel, having an oblique, thickened belt at the base, which is sometimes double; above this belt is a suture, generally ending in a tooth near the base of the outer lip, but which is sometimes covered and hidden by enamel, and a tortuous triangular varix at the lower part of the columella. The operculum is horny, oval, and concentric. The species may be thus arranged:—Section I., Sp. 1 to 21, in which the spire-covering enamel is continued downwards as far as, and sometimes over, the basal suture. Section II., Sp. 22 to 41, in which the said enamel

ceases at various distances above that suture, in most cases forming a marginal band on the upper part of the last whorl. Section III., Sp. 42 to 44, *A. glabrata* and its two allied species, which, agreeing with the last group as to the enamel, present the additional characters of a divided varix, and an oblique umbilicus between the body-whorl and the columellar callus.

Subg. Dipsaccus, Klein.

Sect. I. *Spire-covering enamel extended over the body-whorl.*

1. *TOROSA, Meusch.*—Mauritiana, *Sowb. Sp. Con.*—A. subcylindrica, longitudinaliter striata, castanea, seu pallide fulva, seu alba; spirâ brevi; anfractibus subquadratis, balteo inferiori simplice; aperturâ magnâ, ad basin latâ, vix emarginatâ; varice albo, leviter striato, elongato (f. 30, 31, 32).—This now well-known species is remarkable for the width and length of the aperture in proportion to its very short spire. The three varieties are common in collections.

2. *APERTA, Sowb. Sp. Con.*—A. subcylindrica, lævis, aurantiorubra; spirâ brevissimâ; anfractibus rotundis, balteo inferiori simplice; aperturâ magnâ, ad basin vix emarginatâ; varice albo, leviter striato, elongato (f. 27, 28).—This species, which differs from *A. Mauritiana* in being smooth and having rounded whorls, is very rare. I am indebted to the kindness of Mrs. De Burgh for the use of the beautiful specimen figured.

3. *SCAPHELLA, Sowb. Th.*—A. cylindrica, alba; spirâ brevi; aperturâ magnâ, ad basin vix emarginatâ; varice lævi, elongato, balteo inferiori vix distincto; suturâ inferiori elevatâ (f. 37, 38).—Resembling the two preceding in form, but more cylindrical, white, and smooth. The basal suture, which is obsolete in Sp. 1 and 2, is here distinct, giving an angularity to the lines of growth, and ending in a scarcely perceptible projection. Unique as far as known.

4. *CYLINDRICA, Sowb. Th.*—A. cylindrica, parva, alba, *A. scaphella* similis, sed magis angustata et recta (f. 18, 19).—A small white shell, more cylindrical, straight, and narrow than *A. scaphella*. Unique as far as known.

5. *TRONSONI, Sowb. Th.*—A. subovalis, politissima, alba; spirâ brevi; aperturâ elongatâ; suturâ inferiori subcallosâ, balteo inferiori simplice; varice brevi, striato, canali post varicemposito (f. 20, 21).—Having something of the form of *A. scaphella*,

yet approaching *A. ampla*, with a much shorter varix than either. Unique as far as known.

6. *AMPLA*, *Gmel.*—*candida*, *Lamk.*—*A. elongata*, *alba* seu pallidè *cinnamomea*; spirâ acuminatâ; aperturâ ad basin latâ, effusâ; suturâ inferiori dentiferâ, balteo inferiori simplice; varice elongato, obliquè striato (f. 26, 29).—With a more produced spire than either of the preceding, but with the aperture wide at the base. Both varieties common.

7. *ALBISULCATA*, *Sowb. Sp.*—*Caffra*, *Forsch.?*—*A. oblonga*, *cinnamomea*, ad spiram lineis albis cincta; spirâ brevi, ætate valdè calloso-rotundatâ; suturâ inferiori dentiferâ, albo marginatâ, balteo inferiori simplice; varice tortuoso, sulcato (f. 39, 40, 41).—The spire is sometimes rendered obtuse and rounded by a thick deposit of enamel. The spiral and basal sutures are white. Common.

8. *CINNAMOMEA*, *Lamk.*—*A. oblonga*, *castanea* seu pallidè *cinnamomea*, suprâ albo-fasciatâ; spirâ subproductâ, ad suturam rufo-cinctâ; aperturâ oblongâ, infrâ unidentatâ, effusâ, ad basin emarginatâ; suturâ inferiori albâ; varice columellari tortuoso, crasso, striato, fulvo (f. 33, 34, 35).—This shell, to which Mr. Swainson applied the name *A. effusa*, and which is figured under that name in the 'Species Conchyliorum,' seems to me to agree perfectly well with Lamarck's description of *cinnamomea*, the brown varix mentioned by Lamarck not being found in the shells figured for *A. cinnamomea* in the "Species."

9. *ALBOFASCIATA*, *Swains.*—*A. oblonga*, *ventricosa*, *A. cinnamomea* similis sed fulvo-aurantia, magis ventricosa; varice albo (f. 36).—The *A. cinnamomea* is more straight-sided than this species, which is of a light orange-colour, and has a white varix. It is not without hesitation, however, that I admit the specific value of these distinctions.

10. *ACUMINATA*, *Sowb. Th.*—*A. elongata*, *cinnamomea* seu *alba*, intùs pallide fulva; spirâ exsertâ, acuminatâ; suturâ callosâ; ultimo anfractu subangulato; suturâ inferiori albâ, balteo inferiori simplice, castaneo; varice crasso, tortuoso, striato; aperturâ oblongâ, infrâ unidentatâ (f. 66, 67).—An angle in the last whorl gives a pyramidal form to the spire, which is also characterized by a slight rising round the whorls at the suture. The sides of the shell are rather straight. In other respects it is like the more acuminated specimens of *A. albisulcata*.

11. *DESHAYESII*, *A. Adams?*—*A. elongata*, sub-ventricosa, pallidè cinnamomea; spirâ exsertâ, acuminatâ; anfractibus rotundatis; varice albo, lævi, brevi; aperturâ oblongâ, anticè leviter unidentatâ (f. 68, 69).—Of a uniform pale cinnamon-colour, resembling Sp. 10, but with more produced spire, rounded whorls, and depressed suture. It is also less straight-sided. I find the species named as above in Mr. Cuming's collection, probably by Mr. A. Adams.

12. *LINEOLATA*, *A. Adams.*—*A. parva*, oblonga, pallidè fulva, longitudinaliter lineata, ad suturas albo-cincta; aperturâ elongatâ, anticè unidentatâ; varice columellari parvo, striato (f. 22, 23).—It is like a miniature representation of *A. albisulcata*, but besides being a thin shell with more produced spire, it has a very small narrow columellar varix.

13. *STRIOLATA*, *Sowb. Th.*—*A. parva*, *A. lineolata* similis, sed magis ventricosa; spirâ breviusculâ; testâ minutè lineatâ; varice parvo (f. 24, 25).—This species might be a dwarf, pale, and lined variety of *A. albisulcata*, but for the smallness of its varix. It is more obtuse, solid, and ventricose than *A. lineolata*. The fine longitudinal lines are not always visible.

14. *CASTANEA*, *Sowb. Sp.*—*A. solida*, ventricosa, castanea, alba seu pallidè rosea, intus fulva; spirâ pyramidali, mediocri; aperturâ amplâ, anticè unidentatâ; varice columellari albo, polito, leviter sulcato; balteo inferiori simplice (f. 76 to 79).—Mr. Swainson considered this shell as representing Lamarck's *A. ventricosa*, but the author of 'Species Conchyliorum' points out that no tooth in the outer lip is mentioned in the description of that species, while it is a distinguishing character in this. Our varieties (f. 77, 78) are so much more angular in general form than the others, that I felt almost inclined to separate them.

15. *CRASSA*, *Sowb. Th.*—*A. aurantia*, seu albido, *A. castanea* similis, sed crassa; aperturâ breviori, areâ inter balteum inferiorem et suturam dentiferam angustiori (f. 86, 90, 91).—Best described by comparison with *A. castanea*; it is thicker and smaller, with shorter aperture. The area between the basal groove and the basal belt is very narrow.

16. *OVALIS*, *Sowb. Th.*—*A. ovalis*, alba, ventricosa; spirâ productâ; aperturâ breviusculâ, anticè unidentatâ; varice columellari parvo, sulcato, balteo inferiori indistincto (f. 82, 83).—A small, white, ventricose shell, resembling *A. castanea*, but with much shorter mouth and very small varix, the basal belt indistinct.

17. *EBURNEA?* *Desh.*—*A. parva*, pallida; spirâ acuminatâ, pyramidalis; aperturâ anticè unidentatâ; varice columellari minuto, canali valido post varicem posito (f. 84, 85).—It is like the more angular form of *A. castanea*, but the colour and small size of the full-grown shell, with the extreme smallness of the varix, will sufficiently distinguish it. I am not certain of the identity of this species with the one so named by Deshayes, but it is partly corroborated by a little callus which is observable at the angle of the aperture.

18. *VENTRICOSA*, *Lamk.*—*A. ovalis*, *ventricosa*, *politissima*, *castanea*, seu *aurantia*, seu *rubro fasciata*; spirâ acuminatâ, subproductâ; suturâ inferiori celatâ, balteo inferiori simplice; aperturâ subovali, edentulâ; varice albo, polito, sulcato (f. 87, 88, 89).—This species resembles the more oval form of *A. castanea*, the difference being that the basal groove is covered by the enamel, and becomes obsolete at the margin of the aperture, so that there is no tooth. One of the commonest species.

19. *FULVA*, *Swains.*—*A. crassa*, ovali, infrâ lata, fulva seu alba, seu fasciis pallidis roseis albis et fulvis variegata; suturâ inferiori celatâ; aperturâ infrâ effusâ, edentulâ; varice crasso, sulcato (f. 72 to 75).—Much more thickened and oblique than *A. ventricosa*, with the lower part peculiarly widened and the aperture sub-trigonal. Rather common.

20. *VARIEGATA*, *Swains.*—*A. latior quam A. ventricosa*, magis cylindrica et solida, pallidè fulva, fasciis albis et roseis variegata (f. 70, 71).—This species and the preceding are admitted as varieties of *A. ventricosa* in the 'Species Conchyliorum;' but I think the broad base of *A. fulva*, and the wider and more cylindrical form of *A. variegata*, being constant characters, are sufficient to distinguish them.

21. *EXIGUA*, *Sowb. Sp.*—*A. parva*, alba seu pallidè fulva, ovalis; spirâ productâ, acutâ; aperturâ parvâ, edentulâ, infrâ effusâ; columellâ varice parvo, trigono, striato et prope angulum aperturæ callo acutè producto; suturâ inferiori celatâ (f. 80, 81).—This pretty little species is remarkable for a notch in the columella, produced by the projection of an angular callosity, which is not observed in any other species.

Sect. II. *Spire-covering enamel not reaching the basal suture.*

22. *TANKERVILLI*, *Swains.*—*A. ovali-elongata*, aurantio-flavida;

spirâ productâ; anfractibus suprâ rotundis, suturâ varice spirali tectâ, tegmine calloso versus suturam inferiorem extenso, suturam gradatim appropinquante, balteo inferiori medio diviso; varice columellari trigono, obliquè uni-sulcato; aperturâ subovali, infrâ validè emarginatâ, labio externo unidentifero (f. 4, 5).—The texture and colour of this species resembles that of the beautiful *A. glabrata*. The spire-covering enamel reaches over two-thirds of the body-whorl in front, whence it gradually widens and descends very near the inferior suture, towards the outer margin, so that the uncovered bell becomes narrower as the shell grows older.

23. DIMIDIATA, *Sowb. Th.*—*A. tenuis*, elongata, alba, fulvo suprâ suturam tincta; spirâ elevatâ; anfractibus subrotundis; tegmine calloso, ad medium anfractu ultimo producto, balteo inferiori duplicato, labio externo unidentato; varice elongato, angustato, sulcato (f. 55, 56).—This thin, pale species presents a medium in respect of the extension of the spire-covering enamel, which reaches nearly halfway down on the body-whorl. The two specimens in Mr. Cuming's collection are the only ones I have seen.

24. ELONGATA, *Gray.*—*A. tenuis*, elongata, alba, tenuissimè cancellata; anfractibus tegmine spirali latè marginatis; spirâ elongatâ, gradatâ, spiraliter lirâtâ; suturâ inferiori penè oblitâ, balteo inferiori medio divisâ; varice columellari lineari; aperturâ amplâ, basi emarginatâ, labio externo vix unidentato (f. 52, 53).—This thin, white, elongated shell has the spiral enamel forming a broad band over the upper part of the whorls. The uncovered surface is finely striated in both directions.

25. CINGULATA.—*A. tenuis*, ovalis, supra purpurea, infrâ fulva; fasciâ fuscâ; spirâ elongatâ, obtusâ; anfractibus ventricosis, balteo albo angusto marginatis, lineâ elevatâ supra suturam cinctis; balteo inferiori suprâ fusco, infrâ albo, medio lineâ elevatâ diviso; varice columellari tortuoso; aperturâ amplâ, infrâ validè emarginatâ.—In this elegant species there is no trace of the basal tooth-bearing groove. A specimen has lately come into the possession of M. Vernède which is twice the size of our figure, so that, with the splendid "*Vernèdei*," that gentleman has the two largest *Ancillarix* in existence.

26. OBTUSA, *Swains.*—*A. ovata*; spirâ brevi, obtusâ, crassâ obtectâ; ultimo anfractu tegmine spirali marginato; infrâ lineâ impressâ, albâ, balteo inferiori duplicato, varice columellari trigono, albo, unisulcato; aperturâ ovali, infrâ emarginatâ; labio externo

infrà uniplicato (f. 15, 16).—The spire is thickened and rendered obtuse by a thick coating of enamel, ending in a narrow belt over the last whorl.

27. AUSTRALIS, *Sowb.*—*A. oblonga*, solida, fusca seu plumbea; spirâ pyramidalis, obtectâ, albo et fulvo spiraliter fasciatâ; tegmine incrassato super anfractum ultimum albo-marginato; suturâ inferiori distinctâ; balteo inferiori crasso triplicato, suprâ fusco, infrâ albescente; aperturâ subovali, emarginatâ, labio externo unidentato; varice columellari sulcato, ad tegmen crassum latè super anfractum ultimum depositum juncto (f. 1, 2).—Over the dark-brown colour of the body-whorl there is a leaden whiteness almost peculiar to the species. The columellar side of the mouth has a thickened callus, which spreads over part of the whorl and spine.

28. DEPRESSA, *Sowb. Th.*—*A. A. australi* simili, sed spirâ magis depressâ, tegmine calloso valdè incrassato (f. 3).—The spire is shorter than in *A. australis*, and the thickened callus of the columella and spire gives greater width to the top. I am nevertheless doubtful whether it is right to separate the species.

29. TRICOLOR, *Gray.*—*A. minuta*, ovalis, acuta, *A. australi* similis, sed magis angusta, tenuior; spirâ vix obtectâ (f. 9, 10).—These pretty little shells may possibly be the young of *A. australis*. In specimens of that species which are not much thickened by callus, we observe the reddish-brown and white bands on the spire, which are so conspicuous in *A. tricolor*.

30. MUCRONATA, *Sowb. Sp.*—*A. ovali-oblonga*, pallidè brunnea; spirâ tegmine fulvo incrassatâ, apice mucronatâ, ultimo anfractu suprâ tegmine marginato, infrâ balteis duobus cincto; balteo superiori medio cortato, inferiore albo; varice columellari trigono, albo, sulcato; aperturâ unidentatâ (f. 11, 12, 14).—A species whose characters place it halfway between *A. australis* and *A. rubiginosa*. The spire is thickened with callus, but has a small point at the apex.

31. ANGUSTATA, *Sowb. Th.*—*A. A. mucronata* similis, sed parva, angustata; spirâ obtusâ (f. 13).—Had this been an Australian instead of a Chinese shell, I should have considered the absence of a pointed apex, and the greater narrowness of the figure, as mere accidental variations in the preceding species.

32. VERNEDEI, *Sowb. Th.*—*A. fusiformis*, ventricosa, aurantio-fulva; spirâ elongatâ, acuminatâ, gradatâ; anfractibus balteo calloso aurantio marginatis, infra sulcum inferiorem fasciâ albâ; balteis inferioribus duobus, uno aurantio in medio plicato, altero

albo; aperturâ amplâ, suprâ roseâ, infrâ albâ, unidentatâ, emarginatâ; varice columellari obliquè trigono, ad basin truncato, superne unisulcato (f. 7).—This *Queen of Ancillarix* is nearly twice as long as any other species. Two specimens of it have been many years in the possession of H. Vernède, Esq., who originally received them as Chinese shells. The nearest resemblance in form and structure is *A. rubiginosa*, which, although a large *Ancillaria*, is small, compared to these giants. *A. Vernèdei* is much lighter. It is of an orange-yellow colour, instead of brown; it has no columellar callus, and is not thickened at the spire; its varix is thin, and comparatively smooth and flat.

33. RUBIGINOSA, *Swain*.—*A. fusiformis*, solida, subventricosa, fusco-rubiginosa; spirâ oblongâ, obtusâ, tegmine calloso obtectâ, incrassatâ, anfractibus balteo aurantio-fulvo marginatis, infra suturam inferiorem balteo medio plicato, et infrâ balteo simplice; columellâ callosâ, suprâ incrassatâ et expansâ; varice crasso, albo, unisulcato; aperturâ unidentatâ (f. 6).—A solid, fusiform, reddish-brown shell, with marginated whorls and thickened spire. From China; very rare.

34. MAMILLATA, *Hinds*.—*A. A. rubiginosæ* similis, sed anfractu ultimo magis ventricoso, callo spiræ et columellæ albo-roseo; varice quadriplicato; spirâ spiraliter liratâ (f. 8).—The columellar callus and that which covers the spire is of a pale pink colour and waxy appearance. The last whorl is more prominent at the shoulder than in *A. rubiginosa*, and the varix has several distinct ridges.

35. SIMILIS, *Sowb. Th.*—*A. ovato-oblonga*, alba; spirâ et columellâ callosis, fusco tinctis; spirâ productâ; anfractu ultimo marginato, infra suturam inferiorem balteis tribus, quorum medio acutè elevato; aperturâ elongatâ, suprâ angulatâ, infrâ unidentatâ, basi emarginatâ; varice angusto, obliquè triplicato (f. 17).—In *A. rubiginosa* the aperture is very little longer than the spire; in this it occupies two-thirds of the length. The lower part of the body-whorl has three belts, the middle one being elevated into a sharp ridge at the back. The shape of the aperture is different, being angulated above; I cannot, therefore, admit this as a variety of the preceding species.

36. MARGINATA, *Lamk.*—*A. ovalis*, pallida; spirâ pyramidali, spiraliter liratâ; anfractibus ventricosis, balteo seu albo, seu fusco variegato, marginatis; ultimo anfractu infra suturam inferiorem balteis duobus crassis; varice rotundato, brevi, obliquè

quadriplicatâ; labio externo uniplicato, infrâ profundè emarginato (f. 46, 47).—Of an oval form, with a distinct band on the whorls, typically variegated, but sometimes white. On each whorl of the spire are several ridges. The spire and mouth nearly equal in length.

37. SINENSIS, *Sowb. Th.*—A. alba, parva, *A. marginatæ* similis, sed magis angustata, varice angustiori et magis obliquâ (f. 50, 51).—A small white shell, resembling *A. marginata*, but much narrower, and with the varix narrower and more obliquely plicated.

38. OBLONGA, *Sowb. Sp.*—A. ovalis, elongata, *A. marginatæ* similis, sed anfractibus rectiusculis; ultimo anfractu et balteis inferioribus variegatis; varice parvo, triangulari; spirâ lævigatâ, pyramidali (f. 42, 43).—The shape is narrower, the aperture wider at the base, the spire more pyramidal, and the varix much smaller than in *A. marginata*, and besides, it has no ribs on the spire. If, as I suppose, this is the true *A. oblonga* of the Sp. Conch., it is more distinct from *A. marginata* than the following.

39. LINEATA, *Kien.*—A. *A. marginatæ* similis, sed magis elongata; spirâ pyramidali, lævigatâ; anfractu ultimo lineatim variegato; varice parvo (f. 57, 58).—More like *A. marginata* than the preceding, but much narrower, with a smaller varix, and without the spiral ridges. It differs from *A. oblonga* in not having the aperture so wide at the base.

40. NOVÆ-ZELANDIÆ, *Sowb. Th.*—A. parva, alba, *A. marginatæ* similis, sed magis angusta; spirâ lævigatâ, pyramidali; aperturâ brevi (f. 48, 49).—Like *A. lineata* and *A. oblonga*, it differs from *A. marginata* in having no ridges on the spire; from *A. lineata*, which it otherwise most nearly resembles, in the shortness of the aperture.

41. OBESA, *Sowb. Th.*—A. ovalis, ventricosa, pallida, fusco variegata, medio fusco unifasciata; spirâ brevi, pyramidali; anfractibus marginatis; aperturâ magnâ, unidentatâ; varice parvo, albo (f. 44, 45).—More obese than *A. oblonga*, with a shorter spire. The middle of the body-whorl has a broad brown band, above and below which are rows of brown spots; the margination is also variegated.

Sect. III. *The columellar callus separated from the body-whorl, leaving an umbilicus behind it.*

42. *GLABRATA*, Linn. (Buccinum).—A. fusiformis, polita, aurantio-flavida; spirâ acuminatâ; anfractibus gradatis; tegmine calloso tenuiter prope suturam inferiorem extenso, infra suturam fasciâ impressâ albâ; balteis inferioribus duobus, planis, subæqualibus; columellâ callosâ, supernè incrassatâ, super anfractum ultimum expansâ, medio profundè et obliquè umbilicatâ, infrâ obliquè costâ elongatâ, post varicem positâ; varice trigono, subplanato; aperturâ infrâ latè emarginatâ, unidentatâ (f. 62, 63).—In this beautiful, although now common shell, the spiral enamel is spread downwards to within a line's breadth of the lower suture. A white dwarf variety is not uncommon.

43. *BALTEATA*, Swains.—A. ovalis, alba seu aurantia; spirâ obtusâ, callo incrassatâ; anfractibus paucis, suprâ angulatim varicosis; tegmine spirali infra medium extenso; balteis inferioribus crassis, vix distinctis; costâ post varicem brevi; umbilico parvo, haud profundo (f. 59–61).—A sort of rib or shoulder gives angularity to the whorls of this species; and the enamel does not descend so near to the suture as in *A. glabrata*. The species is distinguished by Mr. Swainson, and in the 'Species Conchyliorum,' principally by the narrowness and want of depth in the umbilicus. In the younger specimen it is wanting altogether; and my own impression is that the umbilicus increases in depth with the age of the individual.

44. *NIVEA*, Swains.—A. ovalis, alba seu aurantia; spirâ obtusâ, callo incrassatâ; anfractibus paucis, suprâ angulatim varicosis; tegmine spirali infra medium extenso, gradatim expanso; balteis inferioribus crassis, vix distinctis; costâ post varicem brevi; umbilico magno, profundo (f. 64, 65).—The band left uncovered by the descending enamel becomes narrower towards the outer margin. The umbilicus is deep.

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MONOGRAPH OF THE GENUS

EBURNA, *Lamk.*

Char. Gen. Testa spiralis, solida, epidermide tenui induta, balteo complanato, arcuatim striato, acutè marginato ad basin cineta, post columellam areâ umblicatâ seu subcomplanatâ. Spira gradata. Apertura magna, posticè canaliculata, anticè validè emarginata, labio externo medio arcuato; columellâ arcuatâ, posticè incrassatâ, uniplicatâ, anticè subcomplanatâ. Operculum corneum, ovale, concentricum.

Authors having generally agreed to remove from this genus the *Buccinum glabratum* of Linnæus, which is an *Ancillaria*, and the *Monoceros plumbeum* of Chemnitz, and *Eburna australis* of Sowerby, which belong to *Pseudoliva*, the remaining species form a very compact and well-defined genus.

1. CANALICULATA (pl. ccxv. f. 2, 3), *Schum.*—*E. spirata*, *Lamk.*—*E.* testâ rhomboideâ, solidâ, maculis fulvis magnis medio et ad marginem majoribus pictâ; spirâ productâ, profundè canaliculatâ; anfractibus prope suturam elevatis, acutangulatis; areâ umbilicali latâ, callo magno partim clausâ; columellâ posticè callosâ.—With a somewhat rhomboidal form, this species presents a deep fosse at the suture by the angular elevation of the whorls. The markings resemble those of a giraffe in form and colour. Philippines, etc., (var. f. 3,) Ceylon, *M. Layard.*

2. MOLLIANA (pl. ccxv. f. 1), *Chemn.* 4, pl. 122, f. 1118 (*Nassa*).—*E. Valentiana*, *Swains. Zool. Ill.*—*E.* testâ globosâ, solidâ, maculis fulvis undulatis magnis pictâ; spirâ brevi, profundè canaliculatâ; anfractibus rotundis, prope suturam elevatis, acutangulatis; areâ umbilicali clausâ, parvâ; columellâ latâ, subcomplanatâ.—A globose shell, with short spire, rounded whorls, grooved suture, and closed, narrow umbilical area. Persian Gulf, *Earl Mountnorris.*

3. *AMBULACRUM* (pl. ccxv. f. 8), *Sowb. Tank. Cat.*—E. testâ subrotundâ, griseâ, maculis fuscis proximis pictâ; spirâ breviusculâ, profundè canaliculatâ; anfractibus subrotundis; areâ umbilicali apertâ; columellâ anticè tenui.—A shorter, darker, and more rounded shell than *E. canaliculata*, with the suture, although deep, much closer. Island of Mindinao, Philippines, *Cuming*.

4. *SPIRATA* (pl. ccxv. f. 4), *Linn.* (Buccinum).—E. areolata, *Lamk. E. M. and Anim. s. Vert.*—E. tessellata, *Swains. Zool. III. 2nd Ser. pl. 145.*—E. testâ ovali-acutâ, tenui, pallidâ, maculis magnis in seriebus tribus tessellatâ; spirâ elevatâ; suturâ canaliculatâ; anfractibus rotundis, ad suturam paululum elevatis, areâ umbilicali magnâ, lævi; columellâ tenui.—Rather thin, with dark tortoise-shell spots in three rows. Ceylon.

5. *LUTOSA* (pl. ccxv. f. 9, 10), *Lamk. E. M.*—E. Pacifica, *Swains. Zool. III. 1st Ser. pl. 145.*—E. testâ subrhomboideâ, crassâ, irregulari, pallidâ, pallidè fulvo seriatim maculatâ; spirâ gradatâ; anfractibus prope suturam angulatis; areâ umbilicali magnâ, varice crasso partim clausâ; columellâ callosâ.—A broad angular area below the suture distinguishes this somewhat irregularly formed species from the rest. China.

6. *JAPONICA* (pl. ccxv. f. 11), *Reeve, Pro. Zool. Soc. 1842.*—E. testâ obliquè subpyramidali, pallidâ, maculis fulvis suprâ et medio magnis, intermedio parvis rotundis angulatum depositis pictâ; spirâ elevatâ, apice obtuso; anfractibus rotundis, prope suturam vix angulatis; areâ umbilicali parvâ, clausâ.—Of an oblique form, with a row of large spots on the upper part of the whorls and another in the middle, the space between being filled up with small round spots, arranged regularly and obliquely. The apex is blunt, and the umbilical area small and filled up. Japan, *Dr. Sibbald*.

7. *PAPILLARIS* (pl. ccxv. f. 7), *Sowb. Tank. Cat.*—E. testâ parvâ, pallidâ, nebulosâ, punctis fuscis rotundis regulariter et obliquè depositis ornatâ; spirâ elevatâ, apice obtusâ; anfractibus rotundis, ad suturam planatis; areâ umbilicali parvâ, clausâ.—A beautiful small species, distinguished by the regular arrangement of its small rounded spots. Delagoa Bay, Cape Colony.

8. *ZEYLANICA* (pl. ccxv. f. 5, 6), *Brug. E. M. t. 401. f. 3.*—*giratum, Boll.?*—E. testâ obliquè pyramidali pallidâ, maculis

magnis fulvis ad suturam et infra medium majoribus pictâ; spirâ elevatâ; anfractibus ad suturam vix depressis, apice acuto; areâ umbilicali magnâ, apertâ, varice purpureo rugoso seu dentato costatâ.—The most elegant in form of all the species, and remarkable for a rugose or dentated purple callus, which obliquely ribs the umbilical area. Ceylon.

EBURNA.

Thesaurus, PLATE CCXV.

(From Specimens in Mr. Cuming's Collection.)

Fig.

1. *molliana*, *Chem.* Sp. 2.
- 2, 3. *canaliculata*, *Schum.* Sp. 1.
4. *spirata*, *Linn.* Sp. 4.
- 5, 6. *Zeylanica*, *Brug.* Sp. 8.
7. *papillaris*, *Sowb.* Sp. 7.
8. *ambulacrum*, *Sowb.* Sp. 3.
- 9, 10. *lutosa*, *Lamk.* Sp. 5.
11. *Japonica*, *Reeve*, Sp. 6.

MONOGRAPH OF THE GENUS

PSEUDOLIVA, *Swains.*

Gastridea, *Sowb.* Pseudodactylus, *Hermann.*

Char. Gen. Testa spiralis, epidermide induta, subovalis, infrà sulco ad terminum vix dentifero incisa; aperturâ ovali, posticè canaliferâ, anticè emarginatâ; labio interno plerumque incrassato, operculum corneum, nucleo laterali.

The following species present a pretty natural group of Buccinoid shells, which have a groove encircling the lower part of the whorls, and generally terminating at the edge of the outer lip in a sort of obtuse tooth. A canal is formed at the upper angle of the aperture by the swelling of the outer lip, and a kind of callus on the columella, and the anterior part of the aperture is, in nearly all the species, deeply notched. The columellar lip is thickened over the body-whorl. Operculum horny, with lateral nucleus.

1. PLUMBEA (pl. ccxvi. f. 9, 10), *Chem.* (Monoceros) Gastridea —? *Eburna plumbea*, *Sowb.*—P. testâ ovali, lævi, pallidè fulvâ, epidermide subviridi indutâ; spirâ brevi, suturâ canaliculatâ; aperturâ magnâ, labio externo validè unidentato, ad basin profundè emarginato; labio interno lævi, lato, posticè calloso.—This well-known smooth oval shell was placed by my late father in the genus *Eburna*, with which it has some affinity, but the groove at the lower part of the last whorl will distinguish it, and the genus *Eburna* is better without it.

2. AUSTRALIS (pl. ccxvi. f. 7, 8), *Sowb. Con. III.*—P. testâ ovali, pallidâ, fulvo-nebulosâ, spiraliter leviter striatâ; spirâ producta, ad suturam profundè canaliculatâ; anfractibus ad suturam angulatim elevatis; aperturâ ovali, anticè vix emarginatâ.—From

the general similarity in form, and the deep fosse of the suture, M. Deshayes conjectures that this species is identical with *Cancellaria spirata* of Lamarck, and accuses me of having figured the same shell in two characters, putting columellar folds when I wanted it for a *Cancellaria*, and leaving them out for the *Eburna*. It is impossible that M. Deshayes can have seen the two shells, which are generically and specifically quite distinct.

3. ZEBRINA (pl. ccxvi. f. 13, 14), *A. Adams, Pro. Zool. Soc.* 1853.—“P. testâ ovatâ, solidâ; spirâ brevi; anfractibus rotundatis, longitudinaliter subplicatis, transversim creberrimè striatis, striis confertis; aperturâ ovali; labio lævi, subplanulato; labio intûs lævi, anticè subemarginato.”—Formed as *P. plumbea*, but with more elevated spire; spirally striated and with zebra-like markings. Africa.

4. LIVIDA (pl. ccxvi. f. 5, 6), *A. Adams, MS.*—P. testâ ovatâ, oblongâ, fusco-grisescente, lævi; spirâ productâ, obtusâ; anfractibus subrotundatis; aperturâ breviusculâ; labio externo tenui, labio interno tenui, posticè unicastato, anticè acuto.—Of a dull greyish-brown colour, and oval form; spire produced and blunt, with the penultimate whorl disproportionately large. Hab. — ?

5. SEPIMENTA (pl. ccxvi. f. 1, 2), *Rang. (Buccinum) Mag. de Zool.* 1832, pl. 18.—P. testâ ovali, acutâ, lævi, griseâ; spirâ productâ, acutâ; anfractibus rotundatis; aperturâ pyriformi, intûs castaneâ; labio externo posticè uniplicato, labio interno posticè validè uniplicato, castaneo marginato, anticè acutè producto.—A triangular hole is produced at the upper angle of the mouth by the meeting of a kind of fold or rib in the outer lip, and a stronger one on the inner lip. Of a dull grey colour generally; the shell is ornamented by a deep chestnut-brown margin to the columella, and a tint of the same colour in the mouth.

6. STRIATULA (pl. ccxvi. f. 3, 4), *A. Adams.*—P. testâ ovatâ, pallidâ, minutissimè striata; spirâ productâ; anfractibus rotundatis; aperturâ ovali, vix emarginatâ, labio interno tenui.—Of an oval form, very minutely striated, no callus on the inner lip. Africa.

7. ÆTHIOPS (pl. ccxvi. f. 11), *Reeve, Con. Icon. Buccinum.*—P. testâ oblongâ, spiraliter costis magnis cinctâ, epidermide crassâ nigrâ lævi indutâ; spirâ productâ, gradatâ; anfractibus subcom-

planatis; aperturâ albâ, labiis intus crenatis.—A strongly ribbed species, with black, thick epidermis.

S. KELETHII (pl. cxxvi. f. 12), *A. Adams, Pro. Zool. Soc.* 1853.—“P. testâ ovatâ, solidâ, subperforatâ, epidermide fuscâ villosâ tectâ; spirâ prominulâ; anfractibus rotundatis, suturâ canaliculatâ anfractu ultimo transversim sulcato, sulcis posticè evanidis, anticè valdè distinctis, unico profundo indentè sulcato, ad labium terminato; aperturâ ovali; columellâ posticè callosâ, anticè flexuosa, productâ; labio posticè inflexo, anticè sinuato, dentato.”—A fine Buccinoid species, with cancelled suture, a dark epidermis, and a very deep dental groove. Hab. — ?

PSEUDOLIVA.

Thesaurus, PLATE CCXVI.

Fig.

- 1, 2. *P. sepimenta*, *Rang.* Sp. 5.
- 3, 4. *P. striatula*, *A. Ad.* Sp. 6.
- 5, 6. *P. livida*, *A. Ad.* Sp. 4.
- 7, 8. *P. australis*, *Sowb.* Sp. 2.
- 9, 10. *P. plumbea*, *Chemn.* Sp. 1.
- 11. *P. Æthiops*, *Reeve*, Sp. 7.
- 12. *P. Kelettii*, *A. Ad.* Sp. 8.
- 13, 14. *P. zebra*, *A. Ad.* Sp. 3.

MONOGRAPH OF THE GENUS

CYLLENE, *Gray.*

Thesaurus, PLATE CCXVII.

Char. Gen. Testa ovata, volutiformis; spirâ brevi; suturâ incisâ; aperturâ ovali, emarginatâ; columellâ anticè obliquè sulcatâ; labio externo extùs incrassato, anticè sinuato, intùs sulcato. Operculum corneum, unguiforme.

A generic group of Buccinoid shells, agreeing in the following characters:—Oval, with short spire, incised suture, and pointed apex. Columellar lip obliquely striated; mouth grooved interiorly, deeply notched at the base; outer lip with a sinus near the anterior termination. Operculum horny, unguiform, with terminal nucleus.

1. LYRATA (f. 1-4), *Lamk.*, Buccinum, *Hist. An. s. Vert.*—C. testâ pallidâ, nonnunquam fasciis fuscis seu nigrescentibus interruptis pictâ, costis obliquis subundatis paucis liratâ; spirâ pyramidali; anfractibus angulatis, liratis.—This common typical species is distinguished by rather distant oblique ribs, terminating at the angle of the last whorl. West Africa.

2. FUSCATA (f. 16, 17, 18), *A. Adams*, *Pro. Zool. Soc.* 1850.—C. testâ fuscâ, obscurè lineis articulatis cinctâ, seu pallidâ, costis numerosis rectiusculis liratâ, ad suturam moniliferâ, infrâ spiraliter sulcatâ; spirâ acutâ; anfractibus angulatis, crebrè liratis.—Differing from *C. lyrata* in having very numerous ribs, which terminate at the suture in a series of bead-like knobs. Typical variety; dark-brown, with articulated lines. Singapore, six fathoms, mud; Malacca, six fathoms, sand, *Cuming*.

3. SULCATA (f. 10, 11), *A. Ad. MS.*—C. testâ pallidâ, ovali,

spiraliter sulcatâ, longitudinaliter distantè costatâ; spirâ pyramidalî, liratâ; suturâ fusco-lineatâ.—Differing from the preceding in being transversely sulcated; the longitudinal ribs are thick, angulated, and few, a single dark line of colour marks the suture. Hab. — ?

4. UNIMACULATA (f. 31, 32), *A. Ad. MS.*—C. testâ *C. sulcatæ* simili, sed latiori; anfractu ultimo breviori, maculo magno ad unguiculum picto.—Shorter and wider than *C. sulcata*, and with a large brown spot on the upper angle of the last whorl, which is short in proportion. Hab. — ?

5. LUGUBRIS (f. 7, 8, 9), *A. Ad. Voy. Samarang.*—C. testâ ovatâ, crassâ; spirâ acutâ; anfractibus undique creberrimè sulcatis, supernè tumidis, subtiliter noduloso-plicatis; intensè castaneâ, labio albo, anfractu margine superiori albivarietatâ.—Strongly sulcated throughout, of a dark-brown colour, finely plicated at the angle of the whorls; the columella white, produced and turned upwards at the back. Sooloo Islands.

6. OWENI (f. 19, 20), *Gray, MS. B. M.*—C. testâ ovatâ, subangulatâ, pallidâ, fusco-variegatâ, subdistanter spiraliter sulcatâ; labio externo supernè depresso, intùs tenuiter striato.—A rather large species, resembling *C. lugubris*, but of a pale colour variegated with brown, excepting the spire, which is dark. The spire is shorter, the grooves are coarser, and the upper part of the body-whorl and outer lip angularly depressed. Hab. — ?

7. PALLIDA (f. 21, 22), *A. Ad.*—C. testâ parvâ, pallidè fulvâ, obscurè lineis articulatis ornatâ, suprâ et infrâ spiraliter sulcatâ, longitudinaliter tenuiter plicatâ; anfractibus ad suturam moniliferis.—A rather small, pale species, varied with articulated lines, beaded at the suture, and spirally sulcated above and below. West Africa.

8. PLUMBEA (f. 23, 27, 28), *Sowb. Thes.*—C. testâ cærulescente, subangulatâ, suprâ et infrâ spiraliter sulcatâ, longitudinaliter distantè plicatâ, seu planatâ; anfractu ultimo supernè depresso, ad suturam albo-marginato; aperturâ intùs fuscâ, validè sulcatâ, labio externo et columellâ flavidis.—The variety f. 27, 28, although without ribs on the body-whorl, presents so many characters in common with the type, that I think the variation is accidental. Hab. — ?

9. ORIENTALIS (f. 12, 13), *A. Adams, Pro. Zool. Soc.* 1850.—C. testâ ovato-fusiforini, albidâ, maculis luteo-fuscis ornatâ,

longitudinaliter plicatâ, transversim striatâ; spirâ prominulâ; columellâ anticè perobliquè sulcatâ, labio intus lævi.—Rather gracefully fusiform, cancellated, delicately marked. Singapore and Malacca, *Cuming*.

10. GLABRATA (f. 14, 15), *A. Ad. Pro. Zool. Soc.* 1850.—*C. testâ* ovatâ, politâ, suprâ et infrâ sulcatâ, cæruleâ, lineis rubris longitudinalibus et fasciis interruptis ornatâ; spirâ acutâ, crebrè plicatâ.—Smooth, of a dark-cærulean hue, marked by articulated reddish lines. Hab. Pasicao, nine fathoms, fine sand, *Cuming*.

11. GRAYI (f. 5, 6), *Reeve, Elem. of Conch. pl. 3. f. 12.*—*C. testâ* ovali, politâ, pallidè fulvâ, lineis albis rubro interruptis ornatâ, ad columellam fusco tinctâ; labio externo anticè validè sinuato, ad marginem punctato.—Shaped like *C. lyrata* and others, but less angular, and without longitudinal ribs. Hab. —?

12. PULCHELLA (f. 24, 25), *Ad. and Reeve, Voy. Samarang.*—*C. testâ* ovatâ, crassiusculâ; spirâ subacuminatâ, acutâ; anfractibus medio tumidis, transversim lineari-sulcatis, apicem versus subtilissimè plicatis; albâ, flammis pallidè rosaceis obscurè variegatâ, apice roseâ.—Rather fusiform, pale, finely striated longitudinally; body-whorl smooth, and of a dull rose-tint. Borneo.

13. STRIATA (f. 26), *A. Ad. Pro. Zool. Soc.* 1850.—*C. testâ* ovatâ, albâ, maculis rufo-fuscis ad suturas pictâ, cingulis duabus maculorum luteo-fuscorum ornatâ, longitudinaliter subplicatâ, transversim totâ striatâ; columellâ anticè obliquè sulcatâ; labio tenui, intus lævi, anticè vix sinuato.—The markings on the margins of the whorls at the sutures, and the obscure white bands interrupted by pale markings, and the more perceptible striation of the surface, may perhaps be sufficient to distinguish this from the last species. Hab. —?

14. CONCINNA (f. 29, 30), *Solander, MS.; A. Ad. Z. P.* 1850.—*C. testâ* subfusiformi, pallidè cinereâ seu roseâ, flammulis fuscis variegatâ, lævi, suprâ et infrâ tenuiter striatâ.—The most fusiform and smallest species, smooth, pale, finely variegated with brown markings. Hab. —?

Species not identified.

C. grana (*Buccinum grana*), Lamk.

C. Guillaumi, *Petit*.

CYLLENE.

Thesaurus, PLATE CCXVII.

Fig.

- 1, 2, 3, 4. *C. lyrata*, *Lank.* Sp. 1.
5, 6. *C. Grayi*, *Reeve*, Sp. 11.
7, 8, 9. *C. lugubris*, *A. Ad.* Sp. 5.
10, 11. *C. sulcata*, *A. Ad.* Sp. 3.
12, 13. *C. orientalis*, *A. Ad.* Sp. 9.
14, 15. *C. glabrata*, *A. Ad.* Sp. 10.
16, 17, 18. *C. fuscata*, *Ad. and Reeve*, Sp. 2.
19, 20. *C. Oweni*, *Gray*, Sp. 6.
21, 22. *C. pallida*, *A. Ad.* Sp. 7.
23. *Vide* 27, 28.
24, 25. *C. pulchella*, *Ad. and Reeve*, Sp. 12.
26. *C. striata*, *A. Ad.* Sp. 13.
23, 27, 28. *C. plumbea*, *Sowb. Thes.* Sp. 8.
29, 30. *C. concinna*, *Soland.* Sp. 14.
31, 32. *C. unimaculata*, *A. Ad.* Sp. 4.

MONOGRAPH OF THE GENUS

TEREBELLUM, *Klein.*

SERAPHS, *Montf. Thes. Conch.*, PLATE CCXVIII.

Char. Gen. Testa convoluta, cylindrica, apice obtuso; aperturâ elongatâ, labio externo incrassato, truncato, labio interno plus minusve calloso; spirâ brevi; suturâ canaliculatâ. Operculum corneum, parvum, trigonum.

My late father suggested the true position of this genus long before the discovery of the animal made it certain. Mr. Adams has figured and described the animal in the 'Voyage of the Samarang,' and very properly places it among the *Strombidae*.

Species, TEREBELLUM SUBULATUM (pl. ccxviii. f. 4, 5), *Lamk.*—*Bulla terebellum*, *Linn.*—var. *T. punctatum*, *Chemn.*—*T. testâ elongatâ, tenui, lævigatâ, pallidâ, triseriatim nebulosâ, lineis spadiceis obliquè angulatis, seu punctis parvis vel magnis ornatâ; suturâ obliquè incisâ, labio externo undulatim truncato, infrâ lineâ spadiceâ marginato, labio interno paululum incrassato.*—The common variety of this well-known shell is mottled, as in f. 4. The lineated variety is not quite so common. The specimen figured No. 5, from Mr. Cuming's collection, with large pear-shaped spots, presents a very beautiful variation. China and Sooloo Archipelago, *Adams*.

MONOGRAPH OF THE GENUS

ERATO, *Risso.*

Thes. Conch. PLATE CCXIX.

Char. Gen. Testa convoluta, ovata, plus minusve angulata, lævis, ad dorsum leviter unisulcata; spirâ brevi; aperturâ elongatâ, angustatâ, labio interno plus minusve crenato, ad basin plerumque uniplicato, labio externo inflexo, subangulato, crenato.

These pretty little shells are like *Marginellæ* in form, but their essential characters indicate an animal of the family of *Cypræidæ*. They have not regular plicæ on the columella as in *Marginella*, although the columellar lip is slightly thickened and crenated; the outer lip is inflected, thickened, and crenated.

1. SULCIFERA (f. 1, 2, 3), *Gray* — ? *Sowb. Con. Ill. f.* 46.—E. testâ ovatâ, lævi, dorso angustè sulcatâ, albâ seu roseâ; aperturâ rectiusculâ, labio externo posticè angulatim elevato, medio lato omnino crenulato, labio interno posticè submarginato, anticè subtumido, crenulato.—One of the most typical species, having a distinct groove at the back. It is smooth and oval. Fig. 3 represents a fresh specimen from Panama. It is the one described in the 'Zoological Proceedings' as a variety of *Maugeriæ*, with which it has no connection. Philippines, *Cuming*.

2. SCABRIUSCULA (f. 14, 15, 16), *Gray*; *Sowb. Con. Ill. f.* 45.—*Marginella Cypræola, Sowb.?*—*Marginella granum, Kiener.*—E. testâ ovatâ, oblongâ, griseâ, nonnunquam granulatâ; spirâ subproductâ; aperturâ subapertâ, labiis regulariter denticatis, sulco dorsali indistincto.—An oval, ash-coloured species, with lips rather regularly toothed, and the surface generally granulated. Port St. Elena, West Columbia, *Cuming*.

3. CORRUGATA (f. 10, 11), *Hinds, Voy. Sulphur*.—E. testâ albâ, ovali, granulatâ; labiis minutè crenulatis, sulco dorsali angustato.—A minute, white, granulated species. Calapan, Island of Mindoro, eight fathoms, sandy mud, *Cuming*.

4. NANA (f. 12, 13), *Duclos* —?—E. testâ albâ, ovali, oblongâ, minutissimè granulatâ; sulco dorsali angustato, labiis minutè crenulatis.—More elongated and more minutely granulated than *E. corrugata*. Hab. —?

5. LACHRYMA (f. 4, 5, 6), *Gray; Sowb. Con. Ill. f. 48*. —*Lachryma trifasciata, Humphreys*.—E. testâ crassâ, ovali, obtusâ, subroseâ, rubro latè fasciatâ, lævi; aperturâ angustâ, labiis vix crenulatis, dorso marginato.—Obtuse, oval, of a rose-colour, with deeply-coloured red bands across the back. The outer lip is thick, and the crenulations not very perceptible. Japan, *Dr. Sibbald*.

6. GUTTATA (f. 29, 30), *Sowb. Con. Ill. f. 50*. — E. testâ subpyriformi, crassâ, lævi, subcinereâ, obscurè fasciatâ, labio externo crasso, ad spiram elevato, labio interno vix crenulato.—Narrower than *E. lachryma*, and more pyriform, of a dull ash-colour. Mauritius.

7. SANDWICHENSIS (f. 21, 22), *Sowb. Thes.*—E. testâ tenui, oblongo-subpyriformi, pallidè roseâ, fusco trifasciatâ lævi; labio externo angustato, vix crenulato, posticè paululum elevato. —Narrower and thinner than *E. guttata*, with distinct bands, and the outer lip narrower and not so elevated. Sandwich Islands.

8. HEMATINA (f. 17, 18), *Menke*.—E. testâ subfusiformi, angulatâ, leviter granulatâ, rubrâ; spirâ prominulâ, pyramidalî; anfractu ultimo supernè angulato; labio externo medio inflexo, crenulato, posticè subangulato; columellâ plicatâ.—Shaped like a typical *Marginella*, and with anterior folds on the columella not unlike those of that genus. It is of a red colour. Porto Rico.

9. E. CALLOSA (f. 35, 36, 37), *Ad. and Reeve, Voy. Samarang, p. 25. pl. 10. f. 32 a, b.*—“E. testâ pyriformi, crassâ, tumidâ, callosâ; spirâ breviusculâ, subobtusâ; collumellâ excavatâ, labio conspicuè denticulato; carneâ, subtùs albicante.”—Thick, of a rather rounded conical form, and roseate hue, with the outer lip elevated with an angle above. China Seas.

10. LEVIS (f. 38, 39, 40), *Donov. (Voluta)*.—*Marginella*

Donovani, *Payr.*—*Columbella Guilferdia*, *Risso.*—E. testâ turbinatâ, subangulatâ, pallidâ, lævi, labio interno anticè subplicato, labio externo crenulato, inflexo, supernè paululum elevato, rotundato.—A rather conical species, more angular and not so thick as the preceding. The outer lip is not so elevated or angular above. Island of Herm, *Metcalf.*

11. MAUGERLE (f. 7, 8, 9), *Gray; Sowb. Con. Ill. f. 47.*—E. testâ parvâ, pallidè, angulatâ, lævi, labio externo elevato, angulato, labio interno anticè subplicato.—Smaller, shorter, and more angular than *E. lævis*. Mediterranean.

12. COLUMBELLA (f. 31, 32), *Menke.*—E. testâ subpyriformi, angulatâ, rubrâ, lævi; labio externo crasso, subangulato, validè crenato, supernè perelevato; spirâ brevi.—The lip of this reddish-coloured species is elevated above the spire. California.

13. ANGYOSTOMA (f. 19, 20, 23, 24), *Sowb. Con. Ill. f. 51.*—E. testâ parvâ, pallidâ, lævi, tenui, subgloboso-pyriformi, anticè angustatâ; spirâ brevi, apice obtuso; aperturâ lineari; columellâ anticè angustâ, crenulatâ, labio externo medio, lato, crenulato, supernè in angulum perelevato.—A rather globose, pyriform, small, white, smooth species, with the outer lip thick in the middle, and elevated into an angle above even with the spire. Sorsogon, Island of Luzon, Philippines, *Cuming.*

14. GALLINACEA (f. 33, 34), *Hinds, Voy. Sulphur* (Ovulum).—“Testâ solidâ, retusâ, ovatâ, albidâ, nitidâ, dorso supernè angulatâ, fascia transversâ pictâ, infernè angustatâ; spirâ minutissimè granulatâ; labio sulcato; columellâ ad dimidium inferiorem sulcatâ; aperturâ angustâ, lineari.”—A curious small angular species, with a reddish band above the angle of the last whorl. The apex is very obtuse and minutely granulated, and the outer lip thick, elevated above the apex. The aperture is extremely narrow. New Guinea, Straits of Macassar.

15. ANGULIFERA (f. 25, 26), *Sowb. Thes.*—E. testâ *E. gallinacæ* simili, sed breviori, apice magis obtuso, labio magis incrassato, aperturâ magis lineari.—Much shorter and more obtuse than *E. gallinacæ*, with the apex more obtuse, and the elevation of the outer lip less pointed. The outer lip very broad and thick, the mouth straight and linear. Borneo.

16. VITELLINA (f. 27, 28), *Hinds, Voy. Sulphur.*—“E. testâ obeso-ovatâ, cæruleo-rufescente; spirâ retusâ; labio incrassato, grossè 7-dentato; columellâ granulatâ; aperturâ infernè dilatâtâ,

ad basin effusâ."—The largest and most globose of all the species, of a dark red colour, with wide aperture, and the outer lip regularly dentated. Mr. Cuming's two specimens are the only ones known. Magdalena Bay, California, seven fathoms, sand, *Hinds*.

MONOGRAPH OF THE GENUS

NASSARIA, *Link.*

Hindsia, Adams.

Char. Gen. Testa fusiformis, acuminata, longitudinaliter costata et spiraliter sulcata; aperturâ subrotundâ, in canalem elongatum dorso elevatum terminante; labio interno tenni, integro, irregulariter plicato; labio externo extûs varicoso, internè sulcato. Operculum corneum, ovatè unguiforme, margine integro.

Mr. Adams, in describing this genus under the name of *Hindsia*, has the following observations:—"This genus partakes of the characters of several recognized forms. Its animal, however, differs from that of *Triton* in the approximated tentacles, with the eyes near their end, and the anteriorly produced foot; from that of *Nassa* in the tail not being bifurcated; and from *Phos* in the absence of the long, single caudal filament. In its shell it may be known from *Phos* by its recurved canal; from *Nassa* by its circumscribed inner lip and elongated canal; and from *Triton* from its want of regular varices."

Thes. Conch. Pl. CCXX.

1. ACUMINATA (f. 10), *Reeve* (*Triton*), *Conch. Icon.* Triton, pl. 14. f. 54.—N. testâ pyramidalis, acuminatâ, albâ, in medium anfractuum fulvo interruptim fasciatâ; anfractibus rotundis, costis longitudinalibus validis distantibus et liris spiralibus ad costas elevatis ornatis; varice post labium externum crasso, lato; canali elongato, recurvo.—Of a pyramidal form, with strong, sulcated ribs. China.

2. BITUBERCULARIS (f. 5), *A. Adams*, *Pro. Zool. Soc.* 1853.—N. testâ acuminatâ, rufo-fuscâ, albo cinctâ; spirâ acutâ; anfractibus subangulatis; suturâ depressâ; costis validis, numerosis,

longitudinalibus; liris spiralibus, ad costas elevatis, duabus mediis tuberculatis; varice post labium magno, canaliculato; canali breviusculo, flexuoso, elevato.—Shorter than *N. acuminata*, with depressed suture, and the two central spiral ribs rather prominent on the longitudinal ribs in each whorl. Philippines, *Cuming*.

3. NODICOSTATA (f. 13), *A. Adams, Pro. Zool. Soc.* 1853.—N. testâ albâ, pallidè unifasciatâ, *N. bituberculari* simili, sed varice post labium minori, canali rectiusculo; suturâ haud depressâ.—A pale shell, with smaller oral varix, straight canal, and less distinct suture than *N. bitubercularis*. Hab. —?

4. VARICIFERA (f. 3), *A. Adams, Pro. Zool. Soc.* 1853.—N. “testâ ovato-fusiformi, rufescente, albido-varicosâ; spirâ acuminatâ; anfractibus octo, costis longitudinalibus et liris elevatis (ad costas nodulosis) ornatis; canali producto; labio transversim rugoso; labio extûs marginato, intûs valdè sulcato.”—With the general characters of the genus, this species presents the occasional varices of *Triton*. Eastern Seas, *Cuming*.

5. RECURVA (f. 17, 18), *Sowb. Th.*—N. testâ subpyramidali, pallidè fulvâ, spiraliter alternatim sulcatâ, longitudinaliter costis validis ornatâ; anfractibus rotundis, varice post aperturam canaliculato, canali valdè recurvo. — Resembling *N. suturalis*, but without the grooved suture of that species. Ceylon, *E. L. Layard*.

6. NASSOIDES (f. 4), *Reeve (Triton), Conch. Icon.* Triton, 96.—N. testâ fusiformi, albidî, fulvo latè unifasciatâ, liris tenuibus ad costas tuberculatis cinctâ; spirâ acuminatâ; anfractibus prominentibus, costis longitudinalibus, crassis, medio anfractu subangulatis; varice post aperturam valido, expanso; canali elongato, rectiusculo.—Remarkable for the expansion of the oral varix; shape less like *Nassa* than any other species. Island of Luzon, Philippines, *Cuming*.

7. SUTURALIS (f. 15, 16), *A. Adams, Pro. Zool. Soc.* 1850.—N. testâ subovatâ, pallidâ, fusco pallidè trifasciatâ; spiraliter lineis elevatis validis liratâ; spirâ acuminatâ; anfractibus distinctis, suturâ profundâ separatis; varice post aperturam valido, elevato, canali breviusculo.—Known by the grooved suture. Malacca, *Cuming*.

8. SINENSIS (f. 8, 9), *Sowb. Thes.*—N. testâ *N. suturali* simili, sed tenuiori, angustiori, liris spiralibus tenuibus, costis et varice

angustis.—Thinner, narrower, and more finely striated than *N. suturalis*, which it resembles in the grooved suture. China seas.

9. NIVEA (f. 1, 2), *Gmel.* (*Buccinum niveum*).—N. testâ rotundato-ovatâ, pallidâ, sparsim varicosâ, crebrè longitudinaliter costatâ, spiraliter liris elevatis ad costas tuberculatis cinctâ; anfractibus brevibus, suturâ canaliculatâ; canali validè recurvo; varice post aperturam indistincto.—The oral varix is very indistinct, the shell rounded, and the ribs numerous. Malacca and China seas.

10. MULTIPLICATA (f. 6, 7), *Sowb. Thes.*—N. testâ pallidè fulvâ, fusiformi, crebrè longitudinaliter costatâ, spiraliter liris elevatis tenuibus cinctâ; anfractibus distinctis, suturâ impressâ; canali recurvo, varice post aperturam indistincto, aperturâ subquadratâ, labio externo suprâ et infrâ subangulato.—More fusiform than *N. nivea*, with the spiral ribs much finer, and the aperture more quadrate. China seas.

11. FUSIFORMIS (f. 11, 12). *Sowb. Thes.*—N. testâ elongata, fusiformi, pallidè rubrâ, leviter fasciatâ, longitudinaliter crebrè costatâ, spiraliter liris tenuibus ad costas elevatis cinctâ; spirâ productâ, anfractibus distinctis; varice post aperturam indistincto, canali elongato, recto.—More elongated than *N. multiplicata*, with a straight caudal canal. China seas.

12. TURRITA (f. 19, 20), *Sowb. Thes.*—N. testâ pyramidali, pallidâ, rubro pallidè fasciatâ, longitudinaliter crebrè costatâ; spiraliter liris tenuibus ad costas elevatas cinctâ; spirâ elongata, turritâ; anfractibus distinctis, numerosis, rotundis; canali rectiusculo; varice post aperturam indistincto.—Of an elongated, turreted form, sculptured like the last. Malacca, *Dr. Trail*.

13. CARDUUS (f. 14), *Reeve* (*Triton, Conch. Icon. Triton, pl. 19. f. 95*).—N. testâ ovali, pallidâ, fusco variegatâ, scabrosâ, liris scabrosis cinctâ, longitudinaliter costis crebris cinctâ; spirâ acuminatâ; anfractibus rotundis, penultimo tumido, costis magnis, ultimo subcontracto; varice post aperturam valido; canali brevi.—Having more of the usual form of *Triton*, with a similar inequality in the whorls. Philippines, *Cuming*.

NASSARIA.

Thes. Con. PLATE CCXX.

(From Mr. Cuming's Collection.)

Fig.

- 1, 2. *nivea*, *Gmel.* Sp. 9.
3. *varicifera*, *A. Ad.* Sp. 4.
4. *nassoides*, *Reeve*, Sp. 6.
5. *bitubercularis*, *A. Ad.* Sp. 2.
- 6, 7. *multiplicata*, *Sowb.* Sp. 10.
- 8, 9. *Sinensis*, *Sowb.* Sp. 8.
10. *acuminata*, *Reeve*, Sp. 1.
- 11, 12. *fusiformis*, *Sowb.* Sp. 11.
13. *nodicostata*, *A. Ad.* Sp. 3.
14. *carduus*, *Reeve*, Sp. 13.
- 15, 16. *suturalis*, *A. Ad.* Sp. 7.
- 17, 18. *recurva*, *Sowb.* Sp. 5.
- 19, 20. *turrita*, *Sowb.* Sp. 12.

MONOGRAPH OF THE GENUS

PHOS, *Montfort.*

Thes. Conch., PLATES CCXXI., CCXXII.

Char. Gen. Testa acuminata, subfusiformis, costis longitudinalibus et sulcis spiralibus decussata; spirâ turrîtâ; aperturâ subovali; canali brevi, varicem tortuosum formante; labio interno tenui; columellâ rugosâ, versus basin obliquè uniplicatâ; labio externo intûs sulcato, anticè sinuato. Operculum parvum, corneum, unguiforme.

Chiefly differing from *Nassa* in form, and in the absence of a point or notch at the base of the columella. The hinder part of the foot is not, as in *Nassa*, bifurcate.

Species.

1. SENTICOSUS (f. 8, 9, 10, 11), *Linn.* (Buccinum).—P. testâ pyramidali, fuscâ seu fulvâ seu albidâ, medio anfractuum unifasciatâ, minutè scabrosâ, liris elevatis subdistantibus ad angulum anfractuum super costas subspinosi cinctâ; spirâ productâ; anfractibus supernè subangulatis, distanter validè costatis; canali varicoso, brevi.—The spiral elevated lines are produced into angular points on the ribs. Philippines, *Cuming.*

2. MURICULATUS (f. 12), *Gould, Japan Exped.*—P. testâ *P. senticoso* simili, sed anfractibus rotundatis, costis inermibus.—Resembling *P. senticosus*, but the whorls rounded, and the spiral costellæ not raised into points. Red Sea.

3. ANGULATUS (f. 7), *Sowb. Thes.*—P. testâ crassâ, *P. senticoso* simili, sed anfractibus magis angulatis, costis inermibus.—More angular than *P. senticosus*, but otherwise resembling *P. muriculatus*. Possibly however the three are but variations of the same species. Philippines, *Cuming.*

4. SCALAROIDES (f. 13), *A. Ad. Pro. Zool. Soc.* 1859.—P. testâ solidâ, turritâ, spiraliter duplicatim striatâ, albidâ, ad angulum et medio anfractuum fusco cinctâ; costis longitudinalibus, crassis, rotundis, regularibus, supernè subangulatis; canali extûs rotundato, crenulato.—Named as above from the roundness and regularity of the ribs. Hab. — ?

5. PLICATUS (f. 23), *A. Ad. Pro. Zool. Soc.* 1859.—P. testâ solidâ, turritâ, pallidâ, rufo sparsim maculatâ, liris scabrosis, ad costas nodulosis, spiraliter cinctâ; spirâ breviusculâ; anfractibus subangulatis, costis rudis, crebris, versus aperturam creberrimis ornatis.—The ribs are scabrous, and more close-set than in *P. muriculatus*. Eastern seas, *Mr. Cuming's collection*.

6. ROSEATUS (f. 1, 2, 3), *Hinds, Voy. Sulph. Moll. pl. 10. f. 5, 6, p. 38.*—P. “testâ ovatâ, acuminatâ, turritâ, cancellatâ, interdum varicosâ; anfractibus rotundatis, sparsim fusco-nebulosis; labio pone costas aggregatis, sinu magno; aperturâ subquadratâ, roseâ, supernè callosâ sed edenticulatâ.”—Shaped like *P. senticosâ*, but thinner, with narrow, prettily articulated ribs, which are crowded into a broad varix behind the mouth. Philippines, *Cuming*, and Moluccas.

7. RETICOSUS (f. 36), *Hinds, Voy. Sulph. Moll. p. 37. vol. 10. f. 3, 4.*—“P. testâ elongatè ovatâ, ventricosâ, subturritâ, pallidâ; anfractibus rotundatis, concinnè costatis; costis numerosis, lineis transversis nodulosis, pone labrum valdè aggregatis, labio subcrenulato; columellâ varicosâ, vix callosâ.”—The longitudinal ribs are crossed by raised, brown, nodulous lines, and a large broad varix is formed by the crowding of ribs behind the mouth. Ceylon.

8. CRASSUS (f. 5), *Hinds, Voy. Sulph. Moll. p. 37. pl. 10. f. 1, 2.*—P. testâ elongatâ, ovatâ, subturritâ, solidâ, pallidè fuscâ; anfractibus rotundatis, costatis; costis rudibus subdistantibus, lineis salientibus decussatis; labio grandi-dentato; columellâ anticè valdè productâ.—A large, thick species, with broad banded ribs. Panama.

9. VIRGATUS (f. 35), *Hinds, Voy. Sulph. Moll. p. 37. pl. 10. f. 11, 12.*—“P. testâ elongatè ovatâ, lævigatâ, pallidè fuscâ; anfractibus rotundatis, costatis, infra suturam subcoarctatis, costis rotundatis, supernè nodatis, lineis impressis fuscis transversim instructis; labio subcrenulato; columellâ lævi, productâ.”—The ribs are crossed by impressed brown lines. Ceylon.

10. LÆVIGATUS (f. 6), *A. Ad. Pro. Zool. Soc.* 1850.—P. testâ

elongatâ, solidâ, lævigatâ, versus basin sulcatâ, albidâ, fusco tinctâ, infrâ nigrescente; costis validis, subdistantibus, angulatis, ad angulum nodulosis; aperturâ albâ; labio externo valdè sinuato.—It is a large species, and the only one without spiral ridges. Cape of Good Hope.

11. RUFO-CINCTUS (f. 14), *A. Ad. Pro. Zool. Soc.* 1850.—P. testâ subpyramidali, albidâ, rufo pallidè fasciatâ, liris subalternatis cinctâ, longitudinaliter costis crassis ornatâ.—A delicate small shell, with thick undefined ribs crossed by spiral lines, alternately prominent. Dumaguete, *Cuming*.

12. BORNEENSIS (f. 22), *Sowb. Th.*—P. testâ suffusiformi, turritâ, pallidâ, obscurè rubro unifasciatâ, spiraliter liris distantibus ad costas nodulosis cinctâ, inter liras tenuiter striatâ; costis angustis, subdistantibus, pone aperturam in varicem aggregatis; aperturâ infrâ angustatâ, canali subrostrato.—The sculpture of this species is beautiful and peculiar, consisting of spiral striæ between the raised riblets, which form equidistant nodules on the longitudinal ribs. Only one specimen is in Mr. Cuming's collection. Borneo, *Sir E. Belcher*.

13. GRACILIS (f. 33), *Sowb. Th.*—P. testâ elongatâ, fusiformi, fuscâ, spiraliter inæqualiter lirâtâ, costis longitudinalibus subrotundis proximis ornatâ; spirâ productâ; anfractibus distinctis; aperturâ parvâ; canali rectiusculo, rostrato.—A small brown species, with lengthened spire and undulating surface. Sydney.

14. TURRITUS (f. 37), *A. Ad. Pro. Zool. Soc.* 1850.—P. testâ fusiformi, elongatâ, pallidè fulvâ; anfractibus elatis, subangulatis, ad suturam lineâ impressâ lævigatâ marginatis; costis longitudinalibus, numerosis, lineis elevatis ad costas nodulosis ornatis; plicâ columellari subobsoletâ.—A very gracefully formed, light species, with rather distant nodules, thin ribs, and a smooth margin to the whorls. Panama, coral sand, six to ten fathoms, *Cuming*.

15. ARTICULATUS (f. 32), *Hinds, Voy. Sulph. p. 38. pl. 10. f. 7, 8.*—P. testâ *P. turrito* simili sed crassiori, breviori, anfractibus ad suturam striatis.—Less light, elongated, and oblique than *P. turritus*, with a large varix behind the aperture. Striated and ribbed close to the whorls. Panama.

16. CUMINGII (f. 38), *Reeve, Elements of Conch. pl. 3. f. 16.*—P. testâ fusiformi, crassâ, pallidâ, inter costas subcinereâ, spiraliter liris crebris, ad costas subnodulosis cinctâ; costis longitudinalibus distantibus validis fasciis duabus fusco pictâ; aperturâ

oblongâ, pyriformi, labio externo profundè sinuato; columellâ nudâ; canali recto, rostrato.—A solid, fusiform shell, with distant ribs, which are painted with reddish-brown in two bands. The canal is rather straight and beaked. Western Columbia, *Cuming*.

17. GAUDENS (f. 30, 31), *Hinds, Voy. Sulphur, p. 38. pl. 10. f. 5, 6.*—P. testâ elongatâ, acuminatâ, fusiformi, cinereo-nigrescente seu pallidè fulvâ fusco bifasciatâ, inter costas lævigatâ; costis distantibus, nodulis albis variegatis; aperturâ brevi; canali recto.—The distant ribs are enlivened in both varieties by white or light-coloured nodules, while the interstices are smooth. Gulf of Tehuantepec, western coast of Mexico.

18. TEREBRA (f. 28, 29), *Sowb. Th.*—P. testâ elongatâ, acuminatâ, longitudinaliter costatâ, spiraliter striatâ, varicibus albis raris ornâtâ, fulvâ seu griseâ fusco variegatâ.—A pretty little elongated species, ornamented with occasional white varices. Sydney.

19. FASCIATUS (f. 4), *A. Ad. Pro. Zool. Soc. 1853.*—P. testâ ovatâ, crassâ, pallidâ, trifasciatâ, longitudinaliter distanter costulatâ, spiraliter costellis ad costas nodulosis cinctâ; aperturâ sub-ovali; canali lato, recto.—Of an obtuse oval form, partly cancellated by elevated nodulous lines crossing the distant longitudinal ribs. Philippines, *Cuming*.

20. CANCELATUS (f. 39, 40), *A. Ad. Pro. Zool. Soc. 1850.*—P. testâ ovatâ, albidâ, obscurè fusco fasciatâ, subæqualiter cancellatâ, cancellis ad angulos acutè nodosis; interstitiis planis; canali brevi, recto.—Distinctly and regularly cancellated, with nodules at the crossing of the lines. Hab. —?

21. VERAGUENSIS (f. 41), *Hinds, Voy. Sulphur, p. 37. pl. 10. f. 13, 14.*—P. testâ quam *P. cancellatus* magis elongatâ, interstitiis costellarum spiraliter striatis.—Of a more elongate form than *P. cancellatus*, and differing from that species in being striated spirally between the costellæ. Puebla Neuva, west coast of Veraguas.

22. FILOSUS (f. 15), *A. Ad. Pro. Zool. Soc. 1853.*—P. testâ ovali-acutâ, subcancellatâ, pallidè fuscâ, costellis spiralibus elevatis rubris.—This species resembles *P. reticosus* in the colour of the cross raised lines, but it wants the distinct nodules which adorn the ribs in that species. Hab. —?

23. LIGATUS (f. 16), *A. Ad. Pro. Zool. Soc. 1853.*—P. testâ ovali-subfusiformi, pallidè fulvâ seu fuscâ albo variegatâ, sub-

cancellatâ, sed costis longitudinalibus magis præstantibus; spirâ elevatâ; aperturâ breviusculâ; labio externo sinuato; canali brevi, recto.—Almost cancellated as in *P. cancellatus*, but the longitudinal ribs are the most prominent. Hab. —?

24. *BLAINVILLEI* (f. 42, 43), *Deshayes, Chemn. pl.* 125. f. 1201, 1202.—P. testâ breviter ovali, albâ, costis crebris distinctis ad angulum anfractuum nodosis longitudinalibus et costellis ad costas subnodosis cancellatâ; spirâ breviusculâ; anfractibus angulatis; aperturâ fusco et aurantio tinctâ; canali brevissimo, aperto. A white cancellated species, with orange mouth. The last whorl rather large. Philippines, *Cuming*.

25. *VARIANS* (f. 24-27), *Sowb. Th.*—P. testâ ovatâ, albâ, fasciis et maculis fuscis seu aurantiis variegatâ, longitudinaliter crebrè costulatâ, spiraler sulcis impressis subevanidis cinctâ; anfractu ultimo magno; aperturâ parvâ, fusco seu aurantio tinctâ.—I think the sculpture and form of these varieties sufficiently distinct from those of the true *P. Blainvillei* to justify their separation. Philippines, *Cuming*.

26. *CYANOSTOMA* (f. 46), *A. Ad. Pro. Zool. Soc.* 1850.—P. testâ quam *P. Blainvillei* spirâ magis elevatâ, ultimo anfractu breviori, costis magis nodulosis.—Differing from *P. Blainvillei* in its more lengthened spire, and the last whorl being shorter. The ribs are more nodulous. Philippines, *Cuming*.

27. *SPINICOSTATUS* (f. 44, 45), *A. Ad. Pro. Zool. Soc.* 1850.—P. testâ unifasciatâ, quam *P. Blainvillei* spirâ magis elevatâ, costis magis distantibus, interstitiis pallidè purpureis, costis ad angulum acutè nodulosis.—A more coloured shell than *P. Blainvillei*, with more distant ribs, which are sharply nodulous at the angle of the whorls. Batanzas, Philippines, *Cuming*.

28. *NODICOSTATUS* (f. 47), *A. Ad. Pro. Zool. Soc.* 1850.—P. testâ albâ, spiraler striatâ, ad angulum anfractuum rubro lineatâ, oblongâ, sparsim varicosâ, longitudinaliter costatâ; costis nodulosis, pone aperturam aggregatis.—A white striated shell, with nodulous ribs. The aperture is without the peculiar brown and orange tint observable in the three preceding species. Island of Negroes, *Cuming*.

29. *TEXTILIS* (f. 48, 49), *A. Ad. Pro. Zool. Soc.* 1850.—P. testâ pallidâ, oblongâ, longitudinaliter costis validis subdistantibus, pone aperturam crebris, ad angulum anfractuum angulatis, ornatâ, spiraler costellis distantibus ad costas nodulosis et striis inter-

mediis cinctâ, inter costellas et strias minutissimè longitudinaliter striatâ.—The cross riblets are unequal, every third one being prominent, and the interstices are very finely striated in a longitudinal direction. Dumaguete, Philippines, *Cuming*.

30. PALLIDUS (f. 19, 20, 21), *Powis* (Nassa).—P. testâ ovatâ, rugatâ, pallidè cinereâ seu fuscâ, spiraliter costellatâ, inter costellis striatâ; anfractibus paucis, angulatis, ultimo magno; costis longitudinalibus, infrâ subevanidis, ad angulum prominentibus, nodulosis; aperturâ magnâ, columellâ anticè angulatâ.—A rugose species, in form resembling *P. Blainvillei*. The ribs, which are prominent and nodose at the angle of the whorls, are nearly lost towards the centre. Philippines.

31. NOTATUS (f. 17, 18), *Sowb. Th.*—P. testâ *P. pallido* simili, sed costis enodis ad angulum et infrâ maculis cinereis fasciatim notatis.—In this species the ribs are thin and scarcely raised, but marked by ash-coloured spots disposed in bands on the angles and below. Philippines.

32. CYLLENOIDES (f. 34), *A. Ad. Pro. Zool. Soc.* 1850.—P. testâ ovatâ, pallidâ, costis magnis subdistantibus ad angulum anfractuum elevatis ornatâ, angulatis, lineis impressis spiraliter cinctâ, ad costas cinereo fasciatâ; aperturâ prope marginem fusco lirâtâ.—Small, pale, with ash-coloured bands on the ribs, which are distant and angulated. Near the edge of the outer lip of the aperture is a margin of raised lines with brown intervals. Philippines, *Cuming*.

PHOS, *Montf.*

THES. CONCH. PL. CCXXI., CCXXII.

(From Specimens in Mr. Cuming's Collection.)

Fig.	Sp.
1-3.	6. ROSEATUS, <i>Hinds.</i>
4.	19. FASCIATUS, <i>A. Ad.</i>
5.	8. CRASSUS, <i>A. Ad.</i>
6.	10. LÆVIGATUS, <i>A. Ad.</i>
7.	3. ANGULATUS, <i>Sowb.</i>
8-11.	1. SENTICOSUS, <i>Linn.</i>
	12. 2. MURICULATUS, <i>Gould.</i>
	13. 4. SCALAROIDES, <i>A. Ad.</i>
	14. 11. RUFOCINCTUS, <i>A. Ad.</i>
	15. 22. FILOSUS, <i>A. Ad.</i>
	16. 23. LIGATUS, <i>A. Ad.</i>
17, 18.	31. NOTATUS, <i>Sowb.</i>
19-21.	30. PALLIDUS, <i>Powis.</i>
	22. 12. BORNEENSIS, <i>Sowb.</i>
	23. 5. PLICATUS, <i>A. Ad.</i>
24-27.	25. VARIANS, <i>Sowb.</i>
28, 29.	18. TEREBRA, <i>Sowb.</i>
30, 31.	17. GAUDENS, <i>Hinds.</i>
	32. 15. ARTICULATUS, <i>Hinds.</i>
	33. 13. GRACILIS, <i>Sowb.</i>
	34. 32. CYLLENOIDES, <i>A. Ad.</i>
	35. 9. VIRGATUS, <i>Hinds.</i>
	36. 7. RETICOSUS, <i>Hinds.</i>
	37. 14. TURRITUS, <i>A. Ad.</i>
	38. 16. CUMINGII, <i>Reeve.</i>
39, 40.	20. CANCELLATUS, <i>A. Ad.</i>
	41. 21. VERAGUENSIS, <i>Hinds.</i>
42, 43.	24. BLAINVILLEI, <i>Desh.</i>
44, 45.	27. SPINICOSTATUS, <i>A. Ad.</i>
	46. 26. CYANOSTOMA, <i>A. Ad.</i>
	47. 28. NODICOSTATUS, <i>A. Ad.</i>
48, 49.	29. TEXTILIS, <i>A. Ad.</i>

MONOGRAPH OF THE GENUS

DENTALIUM.

Char. Gen. Molluscum corpore oblongo, testâ elongatâ, tubulosâ, conicâ, arcuatâ, ad apicem perforatâ; aperturâ circulari, simplici; operculo nullo.

The shells of this genus are regularly conical curved tubes, open at the apex, circular at the basal aperture. The worm-cases which have the generic name *Ditrupa*, and which, of course, are not included in this monograph, are distinguished from *Dentalium* by being swelled and contracted near the aperture, instead of being gradually conical.

Many species of *Dentalium* have a fissure at the dorsal edge of the apical perforation. This being a somewhat irregular character, even in individuals of the same species, and the fissure not being formed in the growth of the shells, as in *Emarginula*, but merely by subsequent absorption or wearing, I cannot see in it a sufficient indication of organic difference to justify the proposed separation of the fissured species under the generic name "ANTALIS."

1. *D. ENTALE*, *Linn.*, f. 50, 51. 52.—Testâ lævi, solidâ, albâ, versus apicem rapidè crescenti et arcuatâ, deinde rectiusculâ et magis cylindricâ; fissurâ parvâ.—White, smooth, solid, at first acuminate and curved; afterwards cylindrical and nearly straight. Fissure only seen in young specimens.

2. *D. PRETIOSUM*, *Nuttall*, f. 57.—Testâ *D. entali* simillimâ, sed angustiore, versus apicem haud tantùm arcuatâ.—Less curved and tapering near the apex than *D. entale*, and altogether more cylindrical. The distinctness of the species is doubtful.

3. *D. LUBRICATUM*, *Sowb. Th.*, f. 56.—Testâ politâ, elongatâ, albâ, subpellucidâ, leviter arcuatâ, vix fissuratâ, gradatim crescente.—Certainly a narrower shell, less solid, and of more gradual increase than either of the preceding.

4. *D. RUBESCENS*, *Desh.*, f. 39.—Testâ lævi, rubescente, fasciis rubris transversis variegatâ, gradatim crescente, leviter arcuatâ, vix fissuratâ.—A smooth shell, of rather interrupted growth, of a red colour, with darkish bands.

5. *D. NEBULOSUM*, *Desh.*, f. 58.—Testâ politâ, angustâ, tenui, albâ, fasciis acutè angulatis pellucidis versus apicem variegatâ; fissurâ apicali laterali.—Besides the zigzag pellucid markings near the small end of the shell, M. Deshayes has pointed out that the fissure is not dorsal, but lateral, in position. This, however, is possibly accidental.

6. *D. LACTEUM*, *Desh.*, f. 48.—Testâ lævi, politâ, tenui, lacteâ, angustâ, apice integro.—Smooth, thin, narrow, and milky-white. No fissure.

7. *D. TRANSLUCIDUM*, *Desh.*, f. 47.—Testâ hyalinâ, subaureo-flavescente, politâ, tenui, subcylindricâ, leviter arcuatâ, apice obtuso; fissurâ plus minusve elongatâ.—Of a transparent amber-colour. The slit, which is a mere linear crack, is in some instances lengthened indefinitely.

8. *D. SPLENDIDUM*, *Sowb.*, f. 41.—Testâ politâ, versus apicem attenuatâ, carneâ, deinde lacteâ, ad apicem fissuris duabus, alterâ dorsali, alterâ ventrali.—Generally reddish near the apex and white towards the base. In some specimens there are two fissures, one dorsal and the other ventral.

9. *D. FISSURA*, *Lamk.*, f. 43.—Testâ politâ, rubescente vel flavidâ, gracili, subpellucidâ; fissurâ dorsali nonnunquam elongatâ, nonnunquam fissurâ brevi ventrali.—This shell agrees better with Lamarck's description than the fossil figured in the genera. It is more gracefully tapering and less transparent than *D. translucidum*.

10. *D. LONGITRORSUM*, *Rve.*, f. 59, 60.—Testâ politâ, subaureo-flavescente, elongatâ, validè arcuatâ, fissurâ dorsali brevissimâ.—A large, elongated, strongly bent, amber-coloured shell, with very slight dorsal fissure.

11. *D. EBURNEUM*, *Linn.*, f. 53.—Testâ politâ, pallidè fulvâ, elongatâ, rectiusculâ, annulis concentricis elevatis numerosis cinctâ; apice attenuatâ, vix fissuratâ.—The name has been wrongly applied to the species with *incised* lines, which Linnæus described under the name of *D. politum*. *T. eburneum* is distinguished by raised rings of circumference.

12. *D. PHILIPPINARUM*, *Sowb. Th.*, f. 54.—Testâ quam *D. eburneo* angustiore, magis diaphanâ, colore rubescente.—This is a

brightly coloured, transparent shell, much narrower in proportion than *D. eburneum*.

13. *D. ERECTUM*, *Sowb. Th.*, f. 55.—Testâ politâ, angustâ, vix arcuatâ, medio et versus apicem rubescente, prope marginem albâ, utrâque fissuratâ.—This tapering shell is very little curved, the narrow end is strongly coloured, the larger end white. There is a slit on each side of the apex.

14. *D. INVERSUM*, *Desh.*, f. 42.—Testâ tenui, lævi, angustâ, leviter arcuatâ, ad apicem rubescente; fissurâ apicali ventrali.—The shell is narrower than *D. splendidum*, but similarly coloured. It has a fissure on the inner or ventral side of the apex.

15. *D. ATTENUATUM*, *Sowb. Thes.*, f. 40.—Testâ tenui, fulvâ, politâ, paululum arcuatâ, quam præcedentes angustiore; apicè vix emarginatâ.—A shining, pointed, very narrow species, with a very slight notch at the apex. It is nearly straight.

16. *D. FISTULA*, *Sowb. Thes.*, f. 62.—Testâ subhyalinâ, angustâ, rectiusculâ, apice integro.—The little fossil which M. Deshayes names *D. duplex*, is very much like the specimen here figured from Mr. Hanley's collection. Specimens in the British Museum exhibit the character upon which the name is founded, namely, the formation of a second tube where the original apex has been broken off, and Mr. Hanley's specimen shows a second tube formed at the other end. The first being a habit common to many other species, and the second being accidental, I should decline using the name for its inapplicability, even if sure of the identity of the species.

17. *D. FILUM*, *Sowb. Thes.*, f. 45.—Testâ tenui, angustissimâ, lævi, acuminatâ, pallidè fulvâ, apice integro.—We have specimens of this, dredged by Mr. McAndrew, at Gibraltar, and others collected at the Philippines, by Mr. Cuming. Notwithstanding the difference of locality we can find no characters of specific importance by which to distinguish them. They are of thread-like narrowness, smooth, and without fissures.

18. *D. SECTUM*, *Desh.*, f. 35.—Testâ angustâ, lacteâ, politâ, subrectâ, ad apicem obliquè sectâ, prope apicem tenuissimè striatâ.—White, cylindrical, polished, nearly straight, with an oblique cut across the apex, on the dorsal side.

19. *D. POLITUM*, *Linn.*, f. 46.—Testâ politâ, leviter arcuatâ, pallidè fulvâ, angustâ, gradatim crescente, striis incisis obliquis numerosis concentricis cinctâ; fissurâ apicali elongatâ.—Mr. Hanley, in his '*Ipsa Linnæi Conchyliæ*,' has rectified the long-

standing error of applying Linnæus's name of *eburneum* to this species, and that of *politum* to the shell to which Linnæus evidently meant to apply the name *eburneum*. *T. politum* is distinguished from all other species by the incised lines which divide its whole length into oblique rings. It is excessively rare in a recent state, but well known among the fossils of the Paris basin. The figure is from Mr. Hanley's recent specimen.

20. *D. LOBATUM*, *Sowb. Thes.*, f. 44.—Testâ subhyalinâ, validè arcuatâ, curtâ, lævi, albâ, seu partim pallidè fulvâ; apicè obtuso, truncato, in lobis quatuor diviso.—This curious shell is smooth, short, and strongly curved in proportion to its length. The apex is divided into four lobes, the dorsal and ventral ones being each slightly subdivided. This peculiarity may possibly indicate an important difference in the animal structure, and until that is known, we cannot be certain even of its generic position.

21. *D. TARENTINUM*, *Lamk.*, f. 19, 20, 49.—Testâ solidâ, validè arcuatâ, latâ, albâ, nonnunquam roseo-tinctâ, versus apicem longitudinaliter striatâ; apice acuminato, plerumque integro.—Unless much worn, specimens of this shell always show striæ near the apex, which, with the less cylindrical forms, distinguish them from *D. entale*. The two species have, by some authors, been even generically separated, on account of the absence of apical notch in *D. Tarentinum*. In a numerous series of both species now before us, however, we meet with cases where the notch is wanting in the former and quite traceable in the latter.

22. *D. ACULEATUM*, *Sowb.*, f. 63.—Testâ albâ, validè arcuatâ, inæqualiter striatâ; apice attenuatâ, acuminatâ, integrâ.—Not unlike the very young of *D. Tarentinum*, but more acuminated, and with unequal instead of equal striæ.

23. *D. CURTUM*, ?, f. 64.—Testâ subviridi, subcylindraceâ, tenuè striatâ, brevi; apice obtuso, vix fissurato.—A small, cylindrical, pale-greenish shell, with obtuse apex and fine striæ.

24. *D. SEMIPOLITUM*, *Sowb. Ser.*, f. 23.—Testâ subhyalinâ, tenui, albâ, angustâ, versus apicem roseo-tinctâ, tenuissimè striatâ, deinde politâ; apice nonnunquam anticè aut lateraliter fissurato.—Minutely striated at the narrow end, and quite polished from the centre to the margin. More glassy and thin than *D. Tarentinum*.

25. *D. LESSONI*, *Desh.*, f. 15, 16, 17, 18.—Testâ elongatâ, leviter arcuatâ, pallidè fulvâ seu flavidâ, nonnunquam roseo-tinctâ, prope apicem 12-costatâ, deinde costis minoribus interstriatâ, prope marginem politâ; apice integro.—Rather variable, more or less

cylindrical, numerous ribbed at the apex, with additional striæ afterwards, with a tendency to become smooth near the margin. In the next species, *D. dentale*, this tendency is not observable.

26. *D. DENTALE*, *Linn.*, f. 14.—Testâ elongatâ, acuminatâ, 12-costatâ, interstriatâ, pallidè roseâ, transversè rubro-fasciatâ, apice integro.—More distinctly ribbed than *D. Lessoni*, without the same tendency to become smooth towards the margin. It is banded with red.

27. *D. BELCHERI*, *Sowb. Jun.*, f. 28, 29.—Testâ subcylindraceâ, æqualiter crebri-costatâ, versus apicem leviter arcuatâ, albâ vel roseâ, ad costas pallidè maculatâ; apice integro, obtuso.—It is like *D. novem-costatum*, but with the ribs much more numerous. There is a slight articulated appearance on the costæ.

28. *D. CANCELLETUM*, *Sowb. Jun.*, f. 36.—Testâ tenui, albâ, acuminatâ, versus apicem validè arcuatâ, costis circiter 8 longitudinalibus et striis elevatis concentricis cancellatâ, deinde costis numerosis, testâ rectiusculâ.—Cancelled near the apical end by distinctly raised striæ crossing the longitudinal ribs.

29. *D. LIRATUM*, *Carpenter*, f. 32.—Testâ albâ, parvâ, rectâ, cylindraceâ; costis longitudinalibus, æqualibus, circiter duodecim.—A very small, white, straight, narrow, 12-striated shell.

30. *D. VARIABLE*, *Desh.*, f. 30.—Testâ albâ, cylindraceâ, angustâ, prope apicem leviter arcuatâ; costis inæqualibus, plerumque versus apicem paucis, deindè magis numerosis, plerumque quasi articulatis; apice integro.—The ribs are usually few near the apex, but at various lengths their number is increased by intermediate ones, so as, in some specimens, to become numerous and equal. They are spotted or articulated. It is much more narrow and cylindrical than *D. Belcheri*.

31. *D. ZELANDICUM*, *Sowb. Jun.*, f. 13.—Testâ albâ, pallidè griseo et fulvo fasciatâ, vix arcuatâ, pyramidali, latâ; costis numerosis, paululum elevatis, inæqualibus; apice vix fissurato.—Very similar to *D. rectum*, but the sculpture far less bold and coarse.

32. *D. RECTUM*, *Gmel.*, f. 1.—Testâ crassâ, magnâ, retrorsum subarcuatâ, pallidâ, pyramidali, subacuminatâ, ad aperturam latâ; costis numerosis, valde inæqualibus; fissurâ apicali elongatâ.—This is figured and described by Deshayes, as *D. elephantinum* of Linnæus, with which it by no means agrees. It is coarsely and unevenly ribbed, and has a backward curve in the centre, from thence bending forward at the apex.

33. *D. VERNEDEI*, *Hanley*, f. 3.—Testâ magnâ, albâ, pallidè

fulvo-fasciatâ, leviter arcuatâ, costis numerosissimis rotundis prope apicem inæqualibus deinde æqualibus, striis elevatis concentricis cancellatâ; fissurâ elongatâ.—Our representation is taken from a magnificent specimen in the collection of R. M'Andrew, Esq.; it is minutely cancellated by raised striæ crossing the ribs.

34. *D. FORMOSUM*, *Ad. & Reeve*, f. 2.—Testâ arcuatâ, acuminatâ, ventricosâ, coloribus viridi, rubro et fulvo alternatim fasciatâ, 15-costatâ; costis validis, rotundis, æqualibus; fissurâ mediocri.—This beautiful species is fluted with 15 regular rounded ribs, and banded across with alternate ribbons of red, green, and buff.

35. *D. BISEXANGULATUM*, *Sowb. Th.*, f. 8.—Testâ albâ, magnâ, solidâ, mediocriter arcuatâ; costis duodecim, validis; interstitiis latis lævigatis; apice nonnunquam fissurato.—A white, 12-ribbed species. Some specimens show a slight notch.

36. *D. ELEPHANTINUM*, *Linn.*, f. 4.—Testâ magnâ, arcuatâ, solidâ, viridi, fasciatâ, versus apicem albescente; costis decem, validis; interstitiis latis, striatis; fissurâ brevi.—This large, green-banded shell is the true *D. elephantinum*, as shown by Mr. Hanley in his shells of Linnæus.

37. *D. APRINUM*, *Linn.*, f. 5, 6.—Testâ validè arcuatâ, viridi, fasciatâ, angustâ; costis decem; interstitiis lævigatis; apice vix fissurato.—About half the width of *D. elephantinum*, with 10 ribs, and the interstices plain.

38. *D. INTERSTRIATUM*, *Sowb. Th.*, f. 7.—Testâ validè arcuatâ, viridi, angustâ; costis principalibus circiter decem, interstitialibus minoribus; apice integro.—Resembling *D. aprinum*, but with numerous interstitial striæ.

39. *D. JAVANUM*, *Sowb. Th.*, f. 12.—Testâ validè arcuatâ, pallidè fulvâ seu subviridi; costis octo, angulatis; interstitiis latis, planulatis; fissurâ apicali parvâ.—Differing from *D. aprinum*, in having eight instead of ten ribs, with broad flat surfaces between.

40. *D. NOVEM-COSTATUM*, *Desh.*, f. 24, 25, 26, 27, 38.—Testâ solidâ, plerumque rubrâ, fasciatâ; costis novem, solidis, rotundis, versus marginem evanidis; apice integro.—In colouring, this species resembles *D. dentalis*, being generally of a reddish tint, with darker bands. The light-tinted or nearly white variety is small.

41. *D. OCTOGONUM*, *Lamk.*, f. 9.—Testâ albâ, leviter arcuatâ, solidâ; costis octo, validis, rotundis; interstitiis latis, longitudinaliter striatis; apice vix fissurato.—This well-known white shell has eight ribs, with interstitial striæ.

42. *D. PSEUDO-SEXAGONUM*, *Desh.*, f. 34.—Testâ albâ, tenui, angustâ, leviter arcuatâ; ad apicem et versus medium costis sex, validis, deinde evanidis, medio et ad aperturæ marginem testâ striatâ; apice integro.—Six-ribbed at or near the apex, thence to the margin ribless, but finely striated.

43. *D. HEXAGONUM*, *Gould*, f. 10.—Testâ albâ, angustâ, medioeriter arcuatâ; costis sex, acutis; interstitiis planulatis; apice integro.—A regularly hexagonal shell, with distinct, sharp ribs at the angles.

44. *D. SEXCOSTATUM*, *Sowb. Th.*, f. 11.—Testâ pallidâ, validè arcuatâ; costis sex, validis, rotundis; interstitiis profundis, striatis; apice integro.—Similar in form and proportions to *D. Javanicum*, etc., but with six rounded ribs, with deep striated interstices.

45. *D. QUINQUANGULATUM*, *Forbes*, f. 33.—Testâ parvâ, albâ, acuminatâ, validè arcuatâ; costis quinque, tenuibus; interstitiis planis; apice integro; margine aperturæ obliquo.—Very small, sharp, and curved with six thread-like ribs, and the margin of the aperture oblique.

46. *D. QUADRAPICALE*, *Hanley*, f. 61.—Testâ albâ, leviter arcuatâ, versus marginem lata, longitudinaliter striatâ, ad apicem quadricostatâ, prope apicem interstitiis unicostatis; apice integro; margine aperturæ obliquo.—Commencing at the apex with four angles edged by sharp ribs, then between each of these, a little way from the apex, having an intermediate rib, and losing them all before they reach the middle of the shell, whence the remainder is finely striated.

47. *D. DISPAR*, *Sowb. Th.*, f. 37.—Testâ hyalinâ, lævigatâ, albâ, versus apicem pallidè subviridi; ad apicem quadricostatâ, prope apicem interstitiis unicostatis; costis evanidis.—More glassy than *D. quadrapicale*, and smooth, the disposition of the ribs at or near the apex being the same. It is not so wide towards the aperture.

48. *D. QUADRANGULARE*, *Sowb. Sen.*, f. 31.—Testâ albâ, parvâ, subcylindraceâ, longitudinaliter striatâ, ad apicem et versus medium quadrigonâ, deinde rotundâ, apice obtuso, integro.—White, small, striated, cylindrical, four-sided at the apical end, rounded at the other.

49. *D. TETRAGONUM*, *Sowb. Sen.*, f. 21, 22.—Testâ albâ, elongatâ, leviter arcuatâ, lævigatâ, versus aperturam rotundâ, versus apicem quadrigonâ; angulis acuticostatis; apice integro.—White, long and narrow, slightly curved, smooth, rounded towards the aperture, four-sided near and at the apex, the angles being sharpened by distinct, thin ribs.

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MONOGRAPH OF THE FAMILY

NUCULIDÆ,

FORMING THE LAMARCKIAN GENUS NUCULA.

By SYLVANUS HANLEY, F.L.S., ETC.

THE essential ideal of a Lamarckian *Nucula*—I do not mean the genus according to the precise definition of Lamarck, for that would scarcely include even the few shells he has indicated, but *Nucula* so extended as to comprehend all the species which that author, when he finally elaborated his system, would have linked together, had he known them—is a bivalve hinged by a series of comb-like teeth. Thus simply characterized, its members form an easily recognizable assemblage, which, however, the exigence of modern classification compels us to subdivide as naturally as may be.

The empirical school of conchologists, which prefers the arbitrary selection of a strongly characterized type, and the grouping around it of such shells as resemble it in general aspect, to a strict generic definition (in default of which a species may be adjudged, even by an adept, to more groups than one), has distributed the pristine *Nuculæ* into six genera or subgenera (*Nucula* proper, *Leda*, *Yoldia*, *Portlandia*, *Solenella*, *Neilo*), placed far apart by D'Orbigny, and certain other naturalists, in different families. Without arrogating to myself the skill to decide upon the rank, position, and value of these sections, I have preferred to follow the more moderate views of Woodward, because, while nothing is easier than to discriminate between a nacreous *Nucula* proper, a porcellanous *Leda* without a prominent ligament, and a porcellanous *Solenella* with one, no adequate and universal characters by which all the *Yoldiæ* and *Portlandiæ* may be indisputably distinguished from all the *Ledæ* have ever been indicated. The published definitions are either inapplicable to all, or would comprehend several undoubted *Ledæ*.

LEDA, *Schumacher*.

Gen. Char. More or less elongated, usually peaked behind, almost always clothed with an epidermis, not nacreous within; margin never crenated. Teeth pectinated, on both sides of an internal cartilage. Pallial line sinuated.

Sect. I. LEDA, proper.—Often strong, usually with an umbonal ridge and concentric sculpture, only gaping at the posterior tip, sometimes without an epidermis, which, if present, is more often unpolished. Both dorsal areas usually impressed or defined, almost always sculptured. Pallial sinus small or moderate.—The four final species (especially the last two), *Nicobarica*, *serotina*, *lepidula*, and *tenella*, are intermediate in character between this and the next section.

Sect. II. YOLDIA, *Möller*.—Gaping at both ends, rarely with an umbonal ridge, usually fragile, usually with an epidermis, if so always a polished one (except, perhaps, in *Thraciæformis*), never ribbed, nor radiatingly sculptured. Dorsal areas rarely, if ever, sculptured, their lips usually pouting; front dorsal area rarely impressed or defined. Cartilage-pit usually large, cochleariform, or broadly triangular, shelvingly projecting inwards. Pallial sinus usually large.

Sect. III. PORTLANDIA, *Mörch*.—Resembling the last, but closed at both ends.

Sect. I. LEDA, proper.

1. L. ELONGATA, *Sowb.*, f. 39.—*T. cymbæformis*, utrinque hians et obversè subcuneiformis, æquilateralis, compressa, semipellucida, striis pertenuibus et anticè remotioribus longitudinaliter scalpta, posticè lævigata, cute nitidâ tenuissimâ fulvâ vel olivaceo-cinereâ induta. Extremitas antica aliquantulum latior, magisque rotundata; postica subbiangulata. Margo dorsalis horizontalis; ventralis in medio rectiusculus vel subretusus, utrinque convexiter acclivis.—Boat-shaped, thin, semitransparent, more or less compressed, gaping at both ends (more so in front), white under an excessively thin epidermis, which in aged examples is olivaceous ash-coloured, but in less matured ones is shining, bright fulvous, and only conspicuous near the margins; posteriorly smooth, elsewhere scratched lengthways with shelving striæ, which are so fine above as to appear obsolete, are close, fine, and regular in the middle, more remote and concentric in front. No umbonal ridge, but an indistinct shallow indented ray in front. Sides equal, or very

nearly so, obversely subcuneiform, almost similar, but the front one is slightly the broader and more rounded, the hinder slightly the more tapering, and subbiangulated at its extremity. Dorsal edge horizontal, very slightly flexuous (plano-convex in front, plano-retuse behind). Ventral margin subarcuated, the arch usually a little straightened or even subretuse in the middle, convexly rising at both ends, yet with a slight retusion in front, and in a straightened line behind. Beaks not at all elevated. Dorsal areas inconspicuous, the hinder one flattened. Teeth most numerous on both sides; pit shallow, broadly triangular, sunken.

2. *L. SOWERBIANA*, *D'Orb.*, f. 33.—*T. L. elongata* simillima, sed nivea, angustior, utrinque acutior, et fere usque ad extremitatem posticam scalpta striis arctioribus, quarum anticè et concentricæ sunt etiamque obliquè longitudinales. Area dorsales transversim costulata.—Iridescent, snow-white, most closely resembling *elongata*, yet rather narrower, and with more taper extremities. The striæ, also, which are still finer and closer, and just in front are both concentric and obliquely longitudinal, extend as far as the ordinary site of an umbonal ridge. Dorsal areas more or less distinctly cross-barred. In adult examples the fine central striæ (at least in one of the valves) seem raised, and the lines of growth cut the somewhat slanting longitudinal ones before the smooth site of an umbonal ridge. In the young the escutcheon is excavated, and its edges crenulated: the hinder extremity of the valves, moreover (as may be seen in the nuclear portion of the full-grown shell), is, also, subobliquely striolate. *D'Orbigny*, aware that the South American *lancoolata* of Sowerby was not identical with the Lamarckian one (a species without adequate definition, either verbal or pictorial), termed it (*Voy. Amér. Mérid. Moll.*, p. 544) *Sowerbyana*, but with his usual carelessness referred to the figure in the 'Genera' (*electa*), instead of that in the 'Illustrations.'

3. *L. PATAGONICA*, *D'Orbigny*, f. 49, 50.—*T. angustè oblongo-rostrata*, compressa, albida, æquilateralis, undique longitudinaliter striata; striæ anticè remotiores. Extremitas rostri attenuati recurvata, suboblique truncata. Margo dorsalis anticus rectiusculus, vix declivis; posticus valde incurvatus, paululum declivis. Area magna excavata, carinâ plicæ umbonalis simplici circumscripta.—Of a much-produced beaked-oblong shape, rather thin, compressed, whitish, with a very shallow radiating indentation anteriorly, before which the close-set shelving subconcentric striæ that elsewhere traverse the entire surface become more distant,

and are cross-hatched, as it were, by true concentric ones. Sides equal, or very nearly so. The front extremity bluntly rounded; the beaked hinder side gradually attenuated to a very narrow, rather oblique, truncated, recurved tip. Front dorsal edge straightish, nearly horizontal; hinder dorsal slope slight, much incurved. Ventral margin arched in front, much and convexly rising behind, neither retuse in front nor centrally. Escutcheon excavated, large, carinately defined by the projecting, nearly simple (*i. e.* not distinctly crenulated) edge of the umbonal ridge, which latter is planulate, and inconspicuous. Lunule narrow, not well defined. Cartilage-pit broadly triangular. Teeth very numerous on both sides.

4. L. TELLINOIDES, *Sowerby*, f. 36.—T. lanceolato-elliptica, anticè rotundato-acuminata, flexuosa, subæquilateralis, nivea, compressa, nisi posticè undique striata: striæ anticæ longitudinales; mediæ obliquè curvatæ. Margo dorsalis uterque vix declivis, anticus plano-convexus, posticus vix retusus. Area dorsales inconspicuæ.—Elongated, lanceolated-elliptic, slightly flexuous, bending down a little in front, and inclining upwards a little behind; thin, glossy, snow-white, compressed; smooth behind, elsewhere striated: striæ curved and slanting in the middle, almost concentric in front. Sides very nearly equal, gradually and nearly equally tapering to either extremity; anterior end rotundately peaked; posterior end angular above, rounded below. Dorsal slopes very slight; the front one plano-convex, the hinder one barely subretuse. Ventral margin subarcuated throughout, with an extremely slight anterior, and no posterior, retusion. Dorsal areas inconspicuous; the hinder one impressed, its edges minutely crenulated. Teeth very numerous on both sides.—Besides the longitudinal striæ, a few symmetrical lines of growth may be discerned beneath the front dorsal edge, and a few still more indistinct ones (but no striæ) on the opposite side. In mature examples similar lines are likewise manifest in the middle, near the lower margin.

5. L. GLORIOSA, *A. Adams*, f. 42, 43.—T. angustè lanceolata, nivea, in medio tantùm infernè compressa, ante radium impressum anticum plicis planulatis latis, et pone eum striis inclinatis arctioribus, concentricè sculpta; posticè multùm longior, obtuse acuminata, incurvatione utriusque marginis coarctata. Margo dorsalis anticus plano-convexus vix declivis; ventralis anticè arcuatus.—Elongated lanceolate, snow-white, shining, gaping at both ends (especially below anteriorly), convex or subventricose, retusely compressed below in the middle, with an indented ray in front;

the ordinary site of an umbonal ridge not elevated, but convex and smooth, elsewhere regularly and concentrically sculptured, by broad imbricated flattened folds before the indentation, by twice as numerous close shelving striæ behind it. Front side much the shorter, unsymmetrically rounded at the extremity. Hinder side rapidly contracted by the incurvation, behind the beaks, of both upper and lower edges, then gradually acuminate to a bluntly oblique extremity, the tip being more prominent dorsally. Front dorsal edge scarcely sloping, plano-convex; hinder dorsal slope rather slight, much produced, plano-retuse. Ventral margin arcuated in front, rising, after the central retusion, with little convexity. Escutcheon carinately defined, rather broad. Lunule just perceptible. Cartilage-pit small, triangular. Teeth numerous, particularly behind.—The epidermis is of a yellowish ash-colour.

6. L. ELECTA, *A. Adams*, f. 40, 41.—*T. anguste lanceolato-rostrata, utrinque attenuata, æquilateralis, nivea, compressa, undique longitudinaliter striolata: striolæ anticæ minus conspicuæ; posticæ arctiores, magisque obliquæ. Extremitas postica obliquè subtruncata. Margo dorsalis posticus incurvatus, vix declivis; ventralis in medio arcuatus. Area impressa, crenato-marginata.*—Elongated, beaked-lanceolate, thin, compressed, shining white, everywhere minutely yet distinctly sculptured: shelvingly scratched lengthways by fine striæ, which in front (where they are crossed by the wrinkles of growth) are more distant and less manifest, and become closer and more slanting posteriorly; the scarcely raised extreme posterior ridge is smooth to the eye, yet is barred with raised concentric wrinkles. Sides equal or very nearly so; the anterior one gradually tapering to a narrow rounded tip; the posterior one beaked and still more attenuated, the extreme tip obliquely subtruncated and angulated above. Front dorsal slope moderate, convex; hinder dorsal slope, slight, incurved. Ventral margin arched in the middle, rising at both ends, barely subretuse in front. Beaks minute, sharp, perceptibly projecting. Escutcheon sunken, crenately margined. Lunule perceptible.

7. L. TAYLOR, *Hanley*, f. 35.—*T. elongata, anticè aliquantum brevior et rotundato-lanceolata, posticè attenuata et subrostrata; nivea, subcompressa, densius longitudinaliter striata: striæ anticæ concentricæ et elevatæ, mox acclinatæ et (certissimè in valvulâ sinistrâ ubi infernè prope plicam umbonalem planulatam demumque sublævigatam prorsus desunt) magis minusve obliquæ. Margo dorsalis uterque vix declivis. Area planulata, crenulato-marginata.*—Elongated, rather shorter and rounded-lanceolate in front,

attenuated and subrostrated behind, rather compressed, shining white, striated lengthways throughout (except a small triangular space in the lower corner of the left valve just adjacent to the planulate umbonal ridge, which latter is also somewhat smoothish near its termination); striæ very close (rather less so in the front of the right valve), raised and concentric in front, then shelving and (at least in the left valve) more or less slanting. Dorsal edge but little sloping on either side, plano-convex in front, plano-retuse behind. Ventral margin much arched, rising almost equally at both ends. Beaks little prominent. Escutcheon narrow, flattened, well defined by the very prominent crenulated edge of the umbonal ridge. Front dorsal area less conspicuous, concentrically striated. Cartilage-pit broadly triangular, submarginated below, sunken. Teeth numerous, especially behind.

8. *L. CRENIFERA*, *Sowerby*, f. 37, 38.—*T. anguste oblongo-lanceolata, subæquilateralis, convexa, posticè rostrata et valde attenuata, undique striata: striæ concentricæ, densæ, argutæ. Margo dorsalis anticus convexiusculus, vix declivis; posticus retusus, declivis. Area magna, lævis, margine crenulato plicæ umbonalis circumscripta. Lunula magna, planulata, plicâ angustâ marginata.*—Of an elongated oblong-lanceolate form, dull white, convex, concentrically striated (the lunule excepted) throughout: striæ for the most part extremely fine and close, less so on the narrow and scarcely elevated umbonal ridge (where they become shelving), and just after a narrow fold that bounds the large and flattened front dorsal area. Sides nearly equal: the front extremity attenuated, not well rounded above, very obliquely so below: the beaked hinder side much and gradually attenuated, its tip nearly central, very small and subtruncated. Front dorsal slope very slight, plano-convex; hinder dorsal slope moderate, retuse. Ventral margin arched in front, retuse before the hinder tip. Escutcheon large, smooth, well defined by the crenated edge of the umbonal ridge. Teeth numerous, especially behind.—Judging from the nuclear portion, which is somewhat remotely lamellated, and by no means elongated, the fry may readily be mistaken for a distinct species.

9. *L. METCALFEI*, *Hanley*, f. 34.—*T. elongata, compressa, striis densis et argutis, quæ ante radium impressum anticum remotiores sunt et lamellosæ, posticè autem elevatæ et valde obliquæ fiunt, longitudinaliter corrugata. Extremitas lateris antici multum brevioris supernè subangulata; rostri postici angusta, recurvata, obliquè subtruncata. Margines dorsales paululum declives; an-*

ticus convexiusculus; posticus subrectus, denique autem incurvatus. Aræ sicut in *L. creniferá*.—Of a produced beaked-oblong shape, very inequilateral, not very thin, compressed, whitish, without an elevated umbonal ridge, with a well marked anterior broadish indented ray, before which the very fine close-set longitudinal wrinkles, which become raised and very oblique posteriorly, are lamellar and more distant. Extremity of the much shorter anterior side subangulated and more projecting above, obliquely rounded below. Hinder side much and gradually attenuated, beaked; its recurved tip narrow, obliquely subtruncated. Dorsal slopes very slight; the front one plano-convex; the hinder one incurved. Ventral margin much rising at both ends, arching up obliquely in front, convex behind. Beaks acute, scarcely prominent. Dorsal areas as in *crenifera*. Cartilage-pit small, sunken, triangular. Teeth very numerous, especially behind.—In the largest only of the three individuals known to me (one of which perchance may be adult) do the oblique striæ extend to the crenated ridge. The ventral margin is slightly indented a little beyond the middle, and just before its hinder termination.

10. *L. DECORA*, *A. Adams*, f. 47, 48.—T. subæquilateralis, parva, valida, subanguste oblongo-rostrata, posticè attenuata, albida, liris concentricis tenuibus undique corrugata. Extremitas rostri recurvati angusta, obliquè subtruncata. Margo dorsalis uterque vix declivis; posticus incurvatus. Area ampla, depressa, crenulato-marginata.—Of an elongated beaked-oblong shape, rather small, convex or subventricose, gaping slightly at both ends, dull white, concentrically lyrated (the dorsal areas excepted) throughout: the lyrated wrinkles very small and crowded, except upon the umboes, upon a ray-like anterior portion (where they are irregular and coarser), and along the umbonal ridge, which latter is retuse in the middle, and undefined anteriorly. Sides nearly equal; extremity of the slightly shorter anterior one narrowed, and symmetrically rounded: posterior side attenuated, gradually beaked; its tip narrow, recurved, obliquely subtruncated. Front dorsal slope rather slight; hinder dorsal slope slight, incurved. Ventral margin arched behind, straighter in front, subretuse at its termination and very slightly so in the middle. Es-cutcheon very large, depressed, creno-marginated. Lunule perceptible, simple. Cartilage-pit very small, triangular, sunken. Teeth moderately numerous on both sides.

11. *L. COSTELLATA*, *Sowerby*, f. 59.—T. subangustè oblongo-rostrata, compressa, subæquilateralis, liris remotis concentricè

lamellosa, cristis binis squamiferis posticè radiata. Extremitas rostri postici angusta, biangulata. Margo dorsalis uterque vix declivis; posticus incurvatus. Labia areæ magnæ, lævis, concavæ, protrusa.—Peaked elongated-oblong, rather thin, compressed, under an ashy or pale olivaceous ash-coloured epidermis glossy white, concentrically traversed by distant erect lamellæ, which terminate just before an umbonal ridge that is formed by two crest-like squamose ridges enclosing between them a flattish and nearly smooth area; intervals of the lamellæ unsculptured. Extremity of the moderately yet decidedly shorter anterior side attenuated, and unsymmetrically rounded: hinder side gradually beaked; the tip fine, biangulated, subcentral. Front dorsal slope very slight, plano-convex; hinder dorsal slope rather slight, incurved, rising at the extremity. Ventral margin arcuatedly rising in front, less so behind, slightly indented before the posterior tip. Escutcheon large, smooth, concave, yet with pouting lips. Lunule linear, smooth, conspicuous. Teeth on either side of the very small triangular cartilage-pit very numerous.—The epidermis is occasionally iridescent. A more or less obsolete anterior indented ray is generally perceptible.

12. *L. CONCINNA*, *A. Adams*, f. 54, 55.—*T. lanceolata*, posticè attenuato-rostrata, anticè supernè subangulata, valdè inæquilateralis, multum compressa, cute tenui cinereo-virescente induta, concentricè lamellosa; lamellæ supernè remotiores. Margo dorsalis anticus rectiusculus, vix declivis; posticus retusus, leviter declivis. Areæ dorsales elongatæ, læves, impressæ, angulatim circumscriptæ; labiis protrusis.—Lanceolate, very inequilateral, subangulated dorsally in front, attenuatedly beaked behind, rather thin, much compressed, only gaping at the very narrow biangulated and scarcely upturned posterior tip, covered with a thin greenish-cinereous epidermis, devoid of marked anterior indented ray, with a narrow umbonal ridge, which is subspinously keeled on either side. General surface concentrically lamellated; intervals of the lamellæ, which are much more remote on the umboes, and somewhat more distant in front, smooth. Front dorsal slope slight, nearly straight; hinder dorsal slope rather slight, retuse. Ventral margin obliquely arching upwards in front, convex and moderately rising behind, retuse before the posterior tip. Dorsal areas elongated, smooth, angularly defined, impressed, but with the lips pouting.

13. *L. TENUISULCATA*, *Couthouy*, f. 87.—*T. L. pernulæ* assimilis, sed minor, radii impressi fere vel omnino expers, cute luteâ,

liris concentricis (quarum interstitia ferme sunt latiora) undique, etiam in plicam umbonalem concentricè et regulariter rugosa.—Resembling *pernula*, but smaller, oil-yellow, peculiarly compressed when young, almost or wholly devoid of an indented ray, concentrically traversed by even and regular lyrated striæ (whose intervals are, if anything, rather broader), which are equally perceptible on both valves, and pervade alike the umbonal ridge: front extremity more symmetrically rounded.

14. L. PERNULA, *Müller*, f. 56–58.—T. suboblango-rostrata, valdè inæquilateralis, convexa, cute olivaceâ vel olivaceo-lutescente induta, rugis elevatis tenuibus, in medio densis, ante radium impressum anticum remotioribus minusque argutis, ad extremitatem posticam subobsoletis, concentricè striata. Margo ventralis anticè obliquè arcuatus et multum acclivis; posticè rector, demumque subretusus. Area acutè definita, multum producta, labiis protrusis; lunula obsoleta.—*Var.* Marginibus dorsalibus magis declivibus; postico incurvato.—Peaked elongated oblong, compressed behind, from convex to subventricose in the middle, with a more or less manifest indentation radiating with little obliquity from the beaks to nearly the front extremity of the opposite margin, clothed with a glossy epidermis that ranges in tint from yellowish-olive in the adult to olivaceous-yellow in the young, very closely and finely sculptured by raised concentric wrinkles, which, coarser and more distant before the indentation, become, for the most part, wholly or partially obsolete towards and upon the umbonal ridge (except, perhaps, above) and lunule, and are usually less conspicuous on the left valve. Posterior side about twice as long as the anterior (which is unsymmetrically rounded), subrostrated, and very gradually tapering to a very narrow truncated subcentral tip; umbonal ridge rather broad and flattened, not much raised, often divided by an indistinct groove. Front dorsal edge subretuse, moderately sloping; hinder dorsal edge higher, convex, less sloping. Ventral margin much and obliquely rising in front, arched anteriorly; posteriorly rather straighter, moderately rising, with a slight retusion before the ridge. Lips of the escutcheon, which is very long, and sharply defined, pointing. Lunule obsolete. Teeth on the average sixteen and twenty-four.—*Var.* Both slopes more decided; the hinder one incurved.

15. L. BUCCATA, *Steenstrup*, f. 63, 64.—T. sp. præcedenti simillima, sed brevior, minus inæquilateralis, magis ventricosa, marginibus dorsalibus magis declivibus, areâ latiore.—Most closely resembling an abbreviated *pernula* (being less elongated), but

stronger, less inequilateral, with more decided dorsal slopes, more ventricose, and only compressed near the hinder termination. The hinder side only occupies three-fifths of the total length, and tapers more abruptly than in the preceding species: the concentric wrinkles are less obsolete. The epidermis, which is scarcely glossy, is dusky-olive (with oftentimes a yellowish basal zone) on the mature shell, and oil-yellow on the young. The beaks are prominent, and the escutcheon broad. *Var.* Peculiarly broad and subtriangular.

16. *L. MINUTA*, Müller, f. 61, 62.—*T. subovato-conica*, posticè abbreviato-rostrata, inæquilateralis, cute vix nitente olivaceâ induta, liris concentricis (quarum interstitia aliquantum sunt latiora) subdensis undique striata; plicâ umbonali planulatâ. Margo dorsalis uterque declivis. Area magna, sublævigata, acute definita. Dentes haud permulti (sæpe 10-12).—Subovate-conic, more or less subventricose (when young, however, compressed), scarcely gaping, with a flattened umbonal ridge that is retuse in the middle, and (in the more ventricose individuals) a more or less perceptible indented and little slanting anterior ray, clothed with a rather dull epidermis, that ranges in tint from olive-brown to olivaceous-yellow; everywhere (the dorsal areas excepted) sculptured by rather close and even lyræ, which are narrower than their simple intervals. Anterior side filling about two-fifths of the entire length, almost symmetrically rounded. Posterior side more or less briefly beaked; the rostral tip narrow, biangular, subcentral. Dorsal slopes moderate, the front one nearly straight, the hinder one more or less curved. Ventral margin more or less arched, always rising behind; the rostral retusion slight. Escutcheon large, carinately defined, smooth, or obscurely grooved. Teeth not numerous (often ten to twelve). *Var. tumida.* Ventricose, almost pear-shaped, the slopes very decided. *Var. complanata.* Flatter, more produced, the dorsal slopes and ventral arcuation less decided.

17. *L. CAUDATA*, Donovan, f. 60.—*T. subovato-rostrata*, inæquilateralis, cute luteâ induta, undique arcuè et arguè lirata. Extremitas rostri abrupte coarctata, aliquantum recurvata. Margo dorsalis uterque declivis; anticus convexus; posticus retusus. Area magna, sublævigata, acutè definita.—Peaked ovate or oblong, usually rather compressed and devoid of an indented ray, at times subventricose, with an oil-yellow epidermis, everywhere with regular and even concentric lyræ (except upon the dorsal areas), which are narrower than their intervals. Extremity of the ante-

rior side, which occupies about two-fifths of the total length, somewhat narrowed and almost symmetrically rounded. Posterior side decidedly beaked, tapering rather quickly to a peculiarly small and narrow biangulated tip; umbonal ridge moderately broad, flat, but well defined by its horizontal lyræ, and its curved upper edge. Dorsal slopes moderate, the front one convex, the hinder retuse or incurved. Ventral margin decidedly arcuated, much rising in front, distinctly retuse before the hinder termination so as to abruptly pinch up the subcentral (and somewhat cocked-up) tip of the rostrum. Lips of the escutcheon, which is large, and clearly defined by an almost carinated rim, pouting. Lunule inconspicuous. *Var.* Ventricose, ovate-conic, usually with a few radiating lines on the umboes; dorsal slopes very decided; ventral margin peculiarly arched in front. Distinguished from *tenuisulcata* by the shape of the rostrum.

18. *L. LUGUBRIS*, *A. Adams*, f. 75, 76.—*T. inæquilateralis, ventricosa, ovato-trigona, posticè subrostrata et obtuse cuneiformis, cute olivaceo-tenebrosâ induta, undique concentricè lirata: liræ crassæ, remotæ. Margo dorsalis posticus rectiusculus, valdè declivis; ventralis anticus arcuatim acclivis; cardinalis latus. Aræ dorsales læves, magnæ, definitæ. Dentes magni, pauci.—*Triangular-ovate, solid, ventricose, devoid of an umbonal ridge, clothed with a dusky yellowish-olive epidermis, regularly sculptured throughout (the large, smooth, well-defined, dorsal areas excepted) by remote subimbricated coarse concentric lyræ. Anterior side filling from two-fifths to three-sevenths of the total length, contracted and rounded at the extremity. Posterior side bluntly wedge-shaped, briefly and obscurely beaked. Hinder dorsal slope very decided, straightish; front one moderate, at first straight, then curved. Ventral margin much arched and rising in front; straighter behind. Beaks acute, reflected, prominent. Escutcheon well defined. Lunule subcordiform. Hinge-margin very broad; teeth few, very large. No cartilage-pit, but a short, yet very manifest, external ligament. Locality unknown. Size of a small *parva*. Reminds one of a *Crassatella*.

19. *L. INCONSPICUA*, *A. Adams*, f. 77, 78.—*T. æquilateralis, oblongo-subconoidea, posticè supernè angulatim eminens, cute nitidâ olivaceo-cinereâ induta, radio haud impressa, undique (natis exceptis) sulcis tenuibus densis subinclinatis concentricè striata. Margines dorsales subdeclives, vix curvati; ventralis anticè subarcuatus. Area angulatim definita, duplex; exterior plicato-corrugata.—*Oblong-subconoid, moderately strong, merely

subventricose, only gaping at the posterior tip, clothed with a glossy olivaceous ash-coloured epidermis, devoid of an anterior indented ray, everywhere (beaks excepted) concentrically and somewhat shelvingly striated, or finely and closely grooved. Anterior extremity rounded, a little tapering; posterior side angularly projecting above. Dorsal slopes rather slight, little curved. Ventral margin subarcuated in front, obliquely and somewhat convexly rising (without indentation) at the hinder end. Beaks smooth, central or very nearly so. Front dorsal area inconspicuous. Escutcheon with pouting lips, angularly defined by the posterior ridge, divided into two concave areas by a radiating linear angulation; outer one plicately wrinkled; inner one nearly smooth.—My description does not precisely agree with Mr. Adams's, but both were drawn up from the unique example in Mr. Cuming's collection.

20. *L. LATA*, *Hinds*, f. 44, 45.—*T. subæquilateralis*, compressa, oblongo-lanceolata, eburnea, polita, nisi posticè et in medio supernè sulcis inclinatis subremotis concentricè sculpta. Margo dorsalis utrinque rectiusculus et vix declivis; ventralis arcuatus. Area lanceolata, subduplex; interior sublævigata, planulata; exterior concava, sulcis inclinatis obliquè sculpta. Lunula planulata et obliquè striata.—Oblong-lanceolate, compressed, except at the umboes, which are convex, or even subventricose, scarcely gaping, of a polished ivory-white, smooth on the central umbonal region and posterior third, elsewhere concentrically graven with rather distant imbricating sulci. Anterior side slightly longer, its extremity a little attenuated, and unsymmetrically rounded. Posterior side peaked; the tip rather above the middle, with a short dorsal retusion. Front dorsal edge nearly straight, scarcely sloping; hinder dorsal edge straight or subretuse, a little sloping. Ventral margin regularly arched, much rising at both ends (obliquely so in front), devoid of retusion. Escutcheon lanceolate, well defined, subbipartite; the flattened top nearly smooth; the concave lower portion obliquely marked with distant imbricating sulci. Lunule manifest, flattened, obliquely striated. Interior subiridescent. Teeth very fine and numerous on both sides. The fry, which is grooved throughout, reminds one in shape of *navicularis*.

21. *L. BELCHERI*, *Hinds*, f. 53.—*T. angustè oblonga*, subæquilateralis, posticè sinuato-subtruncata, sulcis inclinatis subobliquis, nisi posticè, longitudinaliter sculpta. Regio postica superior infernè subito impressa, in medio lirâ vix elevatâ radiante divisa. Margo dorsalis anticè declivis et convexiusculus, posticè incurva-

tus, vixque declivis; ventralis tantum convexus. Area concava, carinâ definita; labiis protrusis. Lunula nulla. Dentes utrinque permulti.—Elongated oblong, twice as long as broad, without anterior indented ray, but in its ordinary place marked towards the lower margin with a few very obsolete radiating grooves. General surface (polished, *vide Hinds*) traversed by shelving somewhat slantingly longitudinal sulci, which are fainter in front and on the somewhat depressed umboes, and cease suddenly near the posterior end, leaving a planulate narrow strip, which is crowded with concentric wrinkles or striæ. Hinder triangle smoothish or finely wrinkled concentrically, and divided into three areas by a carinated line, which bounds the escutcheon (which is concavely impressed, but with pouting lips) by a very abrupt sinking of the surface which angularly limits the lowest arcâ in front, and by a slightly raised radiating line, which stands halfway between these two. Extremity of the slightly shorter anterior side attenuatedly rounded; posterior side not beaked; sinuously subtruncated, being angulated by the triple projection of the radiations. Front dorsal slope decided, plano-convex; hinder dorsal slope rather slight, incurved. Ventral margin merely convex in front, straightish and without indentation behind. No defined front dorsal area. Teeth very, and nearly equally, numerous on either side of the rather large, shelving, triangular cartilage-pit. Mr. Metcalfe possesses two dead left valves. As the central keel does not extend to the umboes, it is probably wholly absent in the fry.

22. L. PELLA, *Linnaeus*, f. 65, 66.—T. ovato-oblonga, æquilateralis, posticè supernè abbreviato-cuneiformis, ventricosa, polita, eburnea, striis arcuato-obliquis et anticè divaricatis undique sculpta. Regio postica superior angusta, subito excavata, angulo infernè circumscripta, supernè costâ imbricato-squamosâ. Margo dorsalis utrinque subdeclivis, anticè rectiusculus, posticè subretusus, demumque emarginatus. Area sulco profundo definita, transversim lirato-corrugata. Lunula impressa, lanceolata.—Ovate-oblong, ventricose, glossy ivory-white, scarcely marked in front by an extremely shallow broad indented ray, and behind by a very suddenly excavated acutangular curved triangle that is notched at the base, is dorsally raised and squamosely imbricated, ventrally simple and subcarinately angulated. Surface everywhere sculptured by rather fine flexuously curved shelving striæ, which, for the most part, run obliquely downwards with a double curve from the front umbo, but before it arch in an opposite direction. Sides equal: front extremity a little tapering, unsymmetrically rounded: hinder extremity briefly rostrated, its tip turned up and rounded

off acute. †Front dorsal slope nearly straight, slight: hinder dorsal slope rather slight, subretuse, emarginated eventually. Ventral margin subarcuated, much rising at both ends. Escutcheon plano-concave, corrugately lyrated across, flanked by a deep groove. Lunule concave, lanceolate, in the adult obscurely barred like the lunule, in the young finely wrinkled concentrically.

23. *L. BICUSPIDATA*, *Gould*, f. 73.—*T. inaequalateralis*, angustè ovato-oblonga; posticè attenuata, biangulata, bicuspidata; ventricosa, eburnea, obliquè striata; ad extremitatem anticam plicis angustis circiter 3 radiata. Regio postica superior excavata, inter carinas 3 serratas (quarum 2 sunt dorsales) lævigata. Margo dorsalis anticus convexus, declivis; posticus leniter declivis. Area lanceolata, sublævigata. Lunula inconspicua.—Produced ovate-oblong, a little subcylindrical, more or less ventricose, ivory-white, with about 3 narrow, close, prominent folds at the extreme front, and a posterior triangle, composed of a broad, smooth concavity, flanked by serrated keels (two approximate ones above, and one below), the ends of the two larger of which form two projecting points: surface elsewhere finely graven by numerous wavy, downwards-slanting, incised lines, whose intervals rise at the umbonal region into raised striæ. Extremity of the anterior side, which occupies about two-fifths of the total length, rounded; extremity of the attenuated posterior side biangular, deeply notched. Front dorsal slope moderate, convex: hinder dorsal slight, straight, or subretuse. Ventral margin arched in front, straighter behind. Escutcheon lanceolate, smoothish. Lunule inconspicuous. Teeth more numerous behind.

24. *L. ROSTRATA*, *Montagu*, f. 84.—*T. oblongo-rostrata*, subæqualateralis, eburnea, striis arctis longitudinalibus et posticè arcuato-obliquis undatim sulcata. Regio postica superior liris radiantibus approximatis, infernè circumscripta. Rostris extremitas angusta, recurvata. Margo dorsalis anticè vix declivis, posticè declivis et profundè incurvatus; ventralis valdè arcuatus. Area magna, longitudinaliter sulco-striata. Lunula inconspicua.—Beaked-oblong, subventricose, the ordinary site of an umbonal ridge occupied by a kind of lattice-work formed by several radiating linear keels and rather distant, transverse, raised striæ; ivory-white (sometimes very pale tawny), rather glossy, everywhere (dorsal areas excepted) waved with flexuous, closely disposed, subimbricating sulci, which, concentric at the nucleus, and somewhat so in front, become arched and slanting posteriorwards. Sides very nearly equal: front extremity very unsymmetrically rounded:

hinder side quickly forming an upturned beak, of which the rather narrow tip is convex, and above the middle. Front dorsal slope slight, straightish; hinder dorsal slope moderate, deeply incurved. Ventral margin much arcuated, rising obliquely in front, not retuse behind. Escutcheon large, defined, finely grooved lengthways. Lunule inconspicuous. Teeth numerous on both sides. Judging from the nucleus, the fry may readily be mistaken for a distinct species. Montagu described the species as new, and not as of Gmelin, whose *rostrata* was identical with *pernula*.

25. *L. CHUVA*, Gray, f. 67.—*T. L. crassæ* simillima, brevior autem, ovato-acuta, margine dorsali utrinque decliviore, ventrali magis arcuato; rostri extremitate altiore, magisque acuminatâ. Lyræ plicæ umbonalis nonnunquam infernè subobsoletæ.—Most closely resembling *crassa*, but is peaked-ovate; the slopes are consequently more decided, and the ventral margin more arched; the peak is rather more acuminate, and higher seated; the lyræ, too, are scarcely so prominent, and the arched ones on the umbonal ridge become, occasionally, almost obsolete at the lower extremity. The difference between this and *crassa*, var. *brevior*, is very trifling.

26. *L. CONFUSA*, Hanley, f. 85.—*T. æquilateralis*, ovali-acuta, posticè rostrata, haud ventricosa, cute cinereâ induta, sulcis densis concentricis undique sculpta. Rostri extremitas recurvata, acutè angularis. Plica umbonalis neque alta, nec anticè definita. Margo ventralis anticè convexus, vixque declivis; posticè declivis, principio rectiusculus, demum repentè incurvatus; ventralis utrinque acclivis, anticè arcuatus, posticè haud sinuatus. Areæ dorsales magnæ, lanceolatæ, labiis protusis: area sublongitudinaliter sulcata: lunula impressa.—Peaked-oval, convex or subventricose, with a shining ash-coloured epidermis, closely, regularly, and concentrically grooved throughout (the dorsal areas excepted); sulci shelving in front, their intervals converted into flattened costæ on the umboes and towards the umbonal ridge, which latter is neither elevated nor defined in front. Sides equal, or very nearly so: anterior extremity rounded; posterior side rather abruptly beaked, the tip, which is either in the middle or just above it, upturned and sharply angular. Front dorsal slope very slight, convex, with a sudden terminal retusion. Hinder dorsal slope moderate, at first straightish or plano-convex, eventually rather suddenly incurved. Ventral margin much rising at both ends, arcuated (at the least, in front), devoid of retusion. Dorsal areas large, pouting, lanceolate; escutcheon carinately defined, sublongitudinally grooved;

lunule impressly defined, its sulci finer. Interior bluish-white, the front edge, in adult examples, most minutely crenulated: hinge-margin broad, its teeth rather numerous on both sides. Cartilage-pit small, triangular. *Var. ? producta*.—More elongated, ventral margin less arched; hinder side more acuminate, its tip less recurved, and more acute; dorsal areas less pouting.

27. *L. CRASSA*, *Hinds*, f. 69.—*T. æquilateralis*, *ventricosa*, *oblongo-acuta*, *posticè subrostrata*, *costâ umbonali eminente et sulco profundo lato internè circumscriptâ munita*, *cute olivaceo-flavescente induta*, *sulcis crassis densis* (quarum *interstitia latiora sunt*, *anticè inclinata*, *posticè rotundata*) *undique concentricè sculpta*. *Extremitas rostri valdè angusta*, *recurvata*. *Margo dorsalis anticè vix declivis*, *posticè subdeclivis et profundè incurvatus*; *ventralis arcuatus*, *posticè multum acclivis*. *Area magna*, *lanceolata*, *longitudinaliter lyrata*: *lunula angusta*, *longitudinaliter striata*. *Var. brevior*. *T. ovato-acuta*; *marginè dorsali utrinque magis declivi*.—Peaked-oblong, strong; *ventricose*, with a curved, rounded, prominent umbonal ridge, that is cut off below by a broad and profound groove: under a yellowish olive-coloured epidermis, glossy-white (tawny when discoloured), everywhere coarsely and closely grooved concentrically; the much broader intervening lyre subimbricated in front, rounded behind. Sides very nearly equal; the front, which, if either, is the longer, with an obscure, shallow, radiating indentation (which waves the sulci), rounded at its extremity. Posterior side quickly tapering, subrostrated; the tip of the upturned beak very narrow, higher than the middle of the shell. Front dorsal slope very slight, barely convex: hinder dorsal slope rather slight, deeply incurved. Ventral margin more or less arched, not retuse, much rising posteriorly. Escutcheon large, lanceolate, well defined by the raised (and, as it were, crenated) umbonal ridge, lyrated lengthways. Lunule narrow, perceptible, finely grooved lengthways. Hinge-margin broad; cartilage-pit rather small, triangular; teeth numerous on both sides. *Var. brevior*. Peaked-ovate; the slopes more decided.

28. *L. GIBBOSA*, *Sowerby*, f. 79.—*T. æquilateralis*, *ventricosa*, *oblongo-rostrata*, *cute induta*, *costis subarctis subrotundatis undique sculpta*. *Extremitas rostri acuta*, *subrecurvata*. *Margo dorsalis anticè convexiusculus et vix declivis*, *posticè declivis demumque incurvatus*; *ventralis posticè sinuatus*. *Area magna*, *concava*, *longitudinaliter lyrata*, *plicâ umbonali supernè acutè angulari*, *circumscripta*. *Lunula inconspicua*.—Beaked-oblong, solid, *ventricose*, chalky-white under an epidermis that ranges in

tint from brownish-fulvous to pale olive, not radiatingly indented anteriorly, concentrically ribbed throughout: ribs close, about as broad as their narrow smooth intervals, somewhat rounded. Sides equal or nearly so; extremity of the anterior side (which, if either, is the longer) a little tapering, and unsymmetrically rounded: posterior side gradually beaked, the tip acute, slightly upturned below the middle. Front dorsal slope slight, plano-convex; hinder dorsal slope decided, upon the whole retuse, though a little convex before the incurved termination. Ventral margin arcuated and much rising in front, straighter and less rising behind, indented before the base of the umbonal ridge, which latter is not raised, but is sharply angulated posteriorly. Escutcheon large, concave, angularly defined by the umbonal ridge, lyrated lengthways throughout. Lunule (if any) smooth, linear, inconspicuous. Teeth rather numerous on either side.

29. L. ELENENSIS, *Sowerby*, f. 70-72.—*T. æquilateralis*, posticè rostrato-acuminata, cute cinereâ aliquando lutescente nonnunquam subolivaceâ induta, crassè et concentricè costata. Plica umbonalis eminens, subangulata, sulco infernè dilatato anticè circumscripta. Margines dorsales subdeclives; posticus incurvatus; ventralis posticè acclivis, subsinuatus. Area impressa, ovali-acuta, longitudinaliter plicato-corrugata. Lunula angustissima, transversim porcata.—*Var. gibbosa*. *T. tumida*; margine ventrali anticè multum arcuato, posticè multum acclivi: rostro valdè recurvato. *Var. media*. *T. haud tumida*; rostro haud recurvato. *Var.? pyriformis*. *T. oblongo-rostrata*, anticè valdè angustata; rostro haud recurvato.—Beaked-ovate or subovate, ventricose, clothed with an epidermis that ranges in tint from yellowish-cinereous to olivaceous ash-colour, rayed with an enlarging sulcus before the prominent subangular edge of the umbonal ridge, coarsely rather closely and concentrically ribbed throughout (the dorsal areas excepted); ribs erect on the umboes, depressed and shelving in front and below, more or less interrupted and attenuated at the posterior fang-shaped sulcus, again enlarged and very prominent on the umbonal ridge: their intervals simple. Sides equal or very nearly so: front extremity bluntly convex, somewhat narrowed: hinder side rostrato-acuminated, gaping at the tip. Dorsal slopes rather slight or moderate, the front one plano-convex: hinder one more or less incurved. Ventral margin arcuated in front, straighter and rising behind, somewhat indented near the posterior end. Lunule very narrow, well defined, ridged across: escutcheon rather profound, rather large, peaked-oval, plicately wrinkled lengthways.—*Var. gibbosa* (*Conch. Ill. f. 14*). Beaked-ovate, very ventricose, the

anterior indented ray not very conspicuous; ribs scarcely so broad as their intervals; front extremity only slightly narrowed; rostrum much recurved, its tip above the middle; ventral margin remarkably arched in front, and much rising behind.—*Var. media* (*Nuc. cuneata*, Hanley, Rec. Bivalves, pl. 19, f. 57, not description). Beaked-subovate, ventricose; the indented ray very manifest: the lower sulci narrower than the ribs; rostrum not recurved, central.—*Var.?* *pyriformis*. Beaked-oblong, much narrowed in front, ventricose; the indented ray distinct; upper costal interstices as broad as the ribs, lower ones less so; rostrum not recurved, sub-central.—Under a very powerful lens some minute radiating lines may be discerned on the umbonal ridge (the projection of the ribs upon which is a salient characteristic), and sometimes, too, on the outer portion of the front ventral margin. Were it not for the intermediate form, the produced variety? (for which, if a species, I would suggest the name *pyriformis*, but have only as yet seen a single specimen) could not possibly have been identified with the more typical (or rather the first delineated) form, the peculiarities of which seem only developed in mature examples.

30. *L. BELLULA*, *A. Adams*, f. 74.—*T. subinæquilateralis*, tumida, oblongo-acuta, posticè longior et acutè rostrata aliquantumque recurvata, cute pertenui cinereâ induta, undique lamellosocostellata. Margo dorsalis posticus subretusus, subdeclivis; ventralis in medio valdè arcuatus, posticè rectiusculus et conspicuè acclivis. Area angulo circumscripta, longitudinaliter lamellosocorrugata. Lunula parva, inconspicua.—Peaked-oblong, swollen at the umboes, much compressed behind, white under a very thin not much polished cinereous epidermis, without anterior indented ray, ridged throughout (dorsal areas excepted) with moderately distant concentric lamellar costellæ, which are flattened in front, converge posteriorly, and surmount the upper edge of the inconspicuous umbonal ridge. Extremity of the somewhat tapering and rather shorter anterior side rounded: posterior side rapidly and sharply beaked; its tip angular, slightly upturned, and rather above the middle. Front dorsal slope moderate, convex: hinder dorsal slope rather slight, somewhat retuse. Ventral margin greatly arched in the middle, rising convexly in front, peculiarly and subrectilinearly ascending behind: posterior retusion, if any, slight. Escutcheon angulately defined, lamellately wrinkled lengthways. Lunule small, rather inconspicuous, scarcely impressed, concentrically wrinkled.

31. *L. FRAGILIS*, *Chemnitz*, f. 169.—*T. æquilateralis*, subtumida,

pone umbones retusa, ovato-acuta, in medio latior, costellis concentricis densis (supernè remotioribus) undique sculpta. Margo dorsalis anticè declivis, præcipuè rectus, ad extremitatem convexus; posticè subrectus; ventralis anticè et in medio multum arcuatus, posticè multum acclivis. Areae dorsales magnæ, rugis remotis subobliquis liratae. Area ipsa subduplex; interior tantum tenuiter longitudinaliter rugosa; exterior retusa.—Peaked-ovate, ventricose or tumid at the umboes, a retusion of surface behind them, whitish (often stained with rust-colour, when dead); umbonal ridge a little convex, and defined anteriorly by a slight radiating indentation; entire surface (the dorsal areas excepted) most closely sculptured concentrically by riblets which lie further apart, and are more conspicuous on the umboes. Sides equal, or nearly so: middle region broad, quickly tapering to a rounded extremity in front, and to an acute angle, whose apex is either in the middle or rather above it, behind. Front dorsal slope moderate, at first straight, then convex. Hinder dorsal slope nearly straight. Ventral margin much arcuated in the middle and anteriorly, much and somewhat straightly rising behind, devoid of manifest retusion, except a slight one near its posterior end. Dorsal areas large, marked with rather large, obliquely subconcentric, distant, raised wrinkles, which do not extend to the middle of the bipartite, well defined escutcheon, which is retusely impressed near its margin only, the more raised core being very finely wrinkled lengthways, thus forming a series of obtuse angles. Cartilage-pit small, triangular. Hinge-margin broad: the teeth rather numerous on both sides.—Although the costellar intervals are simple, yet one or two minute, raised, radiating lines may in very fine specimens be discerned at the commencement of the retusion which precedes the posterior ridge.*

32. *L. VENTRICOSA*, *Hinds*, f. 88, 89.—*T. æquilateralis*, supernè magis minusve tumida, angustè ovali-acuta, liris concentricis undique sculpta. Extremitas rostri angusta. Margines dorsales tantum subdeclives; anticus convexiusculus; posticus rectiusculus. Areae dorsales profundè impressæ: area ipsa magna, rugis lamellosis infernè obliquis remotiusculis, supernè longitudinalibus arcuatisque, ornata. Lunula lineis elevatis obliquis infernè tuberculata.—Peaked oval-oblong, ventricose, tumid at the umboes,

* This is not the *N. striata* of King, in the 'Zoological Journal' (v. p. 337), who, not being a conchologist, has so described his species that it is practically undefined. " *T. striata*, subtumida, crassa, subtrigona, alba; latere antico (postico) productiore, substrato; long. $\frac{3}{2}$; lat. $\frac{3}{4}$ poll." His specimen was from deep water, twenty miles from the shores of Patagonia.

then rather quickly compressed, subretuse before the convex umbonal ridge, white, concentrically lyrated throughout (dorsal areas excepted); lyræ depressed and shelving anteriorly, rather distant on the umboes, close near the circumference; their intervals simple. Sides equal, or very nearly so; the anterior one subattenuated and subangulately rounded at its extremity; the posterior one angular, beaked, its tip fine and convex. Dorsal slopes rather slight; the front one plano-convex; the hinder straightish, yet a little disturbed by the pouting of the lunular lips. Ventral margin much rising at both ends, briefly subretuse before the posterior tip. Dorsal areas strongly impressed, sharply defined: the escutcheon large, adorned at its retuse circumference with rather distant slanting lamellar wrinkles, which become close and longitudinal centrally. Sides of the lunule furnished with slanting linear tubercles (or tubercular wrinkles), which do not reach the sutural edge. Teeth rather numerous on both sides.

33. *L. EBURNEA*, *Sowerby*, f. 90.—*T. æquilateralis*, *ventricosa*, anticè semielliptica; posticè acuminata vixque recurvata; undique sulcata, cute nitidâ pallidè olivaceo-lutescente induta; radii impressi plicæque umbonalis fere expers. Margo dorsalis posticus retusus; ventralis posticè multum acclivis. Area profundè impressa, longitudinaliter lirata. Lunula lanceolata, lineâ circumscripta, concentricè costellato-rugosa.—Twice as long as broad, almost, if not quite, equilateral, semielliptic in front, sharply acuminated behind, ventricose, (almost tumid at the umboes, moderately compressed posteriorly,) clothed with a shining pale yellowish-olive epidermis, with only a very faint indented ray, and a scarcely raised umbonal ridge, which is nearly smooth above. General surface regularly sulcated throughout: the interstitial spaces, which anteriorly are shelving, elevated posteriorly into converging lyræ. Hinder peak sharp, subcentral, scarcely upturned. Dorsal margin convex in front, retuse behind: ventral margin much arcuated in front, straighter and much rising behind, without marked posterior retusion. Lunule lanceolate, linearly defined, with concentric costellar wrinkles: escutcheon angularly defined, deeply impressed, lyrated lengthways. Hinge-margin broad. Teeth numerous on either side of the minute triangular cartilage-pit, more so in front.

34. *L. FULGIDA*, *A. Adams*, f. 91.—*T. æquilateralis*, oblongo-acuta, anticè tumida, lævis, cute pertenui politâ cinereo-lutescente vel olivaceo-lutescente induta, radii impressi plicæque umbonalis expers. Extremitas postica angusta, subrecurvata, rotundato-angu-

lata. Margo dorsalis anticus vix declivis; posticus declivis, retusus. Area dorsales haud definitæ.—Peaked-oblong, tumid in front, cuneiformly compressed behind, scarcely, if at all, gaping, clothed with a very thin polished epidermis, that ranges in tint from cinereous-yellow to yellowish-olive, quite smooth throughout, devoid of anterior indented ray or umbonal ridge. Sides equal or very nearly so; the anterior, if either, the shorter, tapering to an unsymmetrically rounded extremity: the posterior gradually peaked to a narrow and slightly upturned, rounded off, subcentral angle. Front dorsal slope slight, at first straight, then convex, or plano-convex: hinder dorsal slope moderate, retuse. Ventral margin arched, and much rising in front, convex and moderately rising behind, devoid of marked posterior retusion. Dorsal areas wholly undefined.

35. *L. FASTIDIOSA*, *A. Adams*, f. 82, 83.—*T. æquilateralis*, *ventricosa*, *oblongo-acuminata*, *posticè subcuneiformis*, *et vix recurvata*; *cute nitidissimâ olivaceo-lutescente induta*, *supernè lævigata*, *infernè longitudinaliter striata*; *striæ anticæ arcissimæ*, *posticæ remotiores minusque conspicuæ*. *Margo dorsalis anticus leniter declivis*; *posticus retusus, declivis*. *Area retusa, satis magna, subangulatim definita, longitudinaliter lamelloso-rugosa*: *lunula vix impressa, concentricè striata*.—*Acuminated-oblong, ventricose*, scarcely gaping even at the tip, clothed with a highly polished yellowish-olive epidermis, devoid of either umbonal ridge or indented ray, smooth on the umboes, striated lengthways below; the striæ very close and converging behind, fainter, more remote, and concentric in front. Sides equal or very nearly so: front extremity a little tapering and subangulately rounded; hinder side subcuneiformly acuminated, the tip fine, scarcely upturned, below the middle. Front dorsal slope rather slight, plano-convex: hinder dorsal slope decided, retuse. Ventral margin arched and much rising in front, straighter and less rising behind, without posterior retusion. Lunule very slightly impressed, concentrically striated, almost, if not wholly, undefined. Escutcheon retuse, rather large, subangulately defined, lamellately wrinkled lengthways.

36. *L. POLITA*, *Sowerby*, f. 68.—*T. oblongo-acuminata, æquilateralis, ad umbones ventricosa, posticè compressa, cute cinereo-virescente politâ induta, plicæ umbonalis expers, juxta extremitatem posticam lævigatam breviter obliquè striata* (in exemplis adultis in medio infernè longitudinaliter remotè sculpta). *Margo dorsalis anticè vix declivis*; *posticè retusus, declivis*. *Area impressa, angustè lanceolata, longitudinaliter lirata*. *Lunula inconspicua*.

—Acuminated-oblong, more or less ventricose at the umboes, but compressed behind, white under a polished, iridescent, ash-green epidermis, devoid of either an umbonal ridge or a conspicuous anterior indented ray; surface adjacent to the smooth site of the former obliquely striated for a brief space, elsewhere, at most, concentrically wrinkled (but in full-grown examples with conspicuous, remote, flexuously longitudinal striæ in the middle, near the lower edge). Sides equal or nearly so: front extremity unsymmetrically rounded: hinder side gradually and remarkably acuminated, the tip fine, acutangular, subcentral. Front dorsal slope slight, plano-convex; hinder dorsal slope moderate, retuse. Ventral margin much rising at both ends, arched in front, convex in the middle, gradually retuse before the hinder termination. Escutcheon impressed, narrow-lanceolate, lyrated lengthways. Lunule inconspicuous, at most linearly defined and unsculptured. Teeth very numerous on both sides of the small cartilage-pit.

37. *L. NASUTA*, *Sowerby*, f. 86.—*T. oblongo-acuta*, posticè multum sensimque attenuata et subrostrata; æquilateralis, satis ventricosa, radii impressi expers, sulcis densis longitudinaliter sculpta, ad regionem solitam convexiusculam plicæ umbonalis repentè lævigata. Margo dorsalis anticè vix declivis, posticè incurvatus et declivis. Area impressa, planulata, longitudinaliter sulco-lirata. Lunula simplex, angusta, lineâ circumscripta.—Peaked-oblong, more or less ventricose, but gradually compressed behind, white, without anterior radiating indentation; general surface very closely grooved lengthways, so that the interstitial costellæ (which are about as broad as the sulci) converge behind, and cease abruptly at the plano-convex site of an umbonal ridge. Sides equal or very nearly so; front extremity unsymmetrically rounded, rather tapering; hinder side subrostrated, much and gradually attenuated, its tip rotundately acutangular. Front dorsal slope very slight, plano-convex; hinder dorsal slope more decided, incurved. Ventral margin arched and obliquely rising in front, straighter and moderately rising without manifest retusion behind. Escutcheon flatly impressed, moderate, sulcato-lyrated lengthways. Lunule simple, narrow, linearly defined. Hinge-margin broad. Teeth moderately numerous on either side of the small and broadly triangular cartilage-pit.

38. *L. MAURITIANA*, *Sowerby*, f. 99.—*T. ovato-rostrata* (nonnunquam angustior), posticè repentè attenuato-rostrata, æquilateralis, ventricosa, candida, nitidissima, undique longitudinaliter arcè sulcata. Rostris extremitas utrinque coarctata, angustissima,

conspicue recurvata. Margo dorsalis anticè vix declivis, posticè bis incurvatus; ventralis in medio maximè arcuatus, utrinque multum acclivis. Areæ dorsales haud insculptæ; antica inconspicua; postica concaviuscula, et sulco lato profundo circumscripta. —Beaked-ovate, ventricose or tumid, only (yet much) gaping at the hinder tip, of a polished ivory-white, with a very faint anterior indented ray, closely grooved lengthways throughout; the sulci shelving, except upon the beaks and near and upon the feebly developed umbonal ridge, where they become broader and square-cut, and their intervals form costellæ. Anterior extremity rotundately subangulated above, obliquely rounded below. Posterior side attenuatedly beaked, its tip, which is contracted at its origin both above and below, very narrow (yet blunt), peculiarly upturned (in the adult), and above the middle. Front dorsal slope very slight, straightish or plano-convex: hinder dorsal slope with a double incurvation. Ventral margin much arcuated in the middle and front, straighter behind, much rising at both ends, slightly retuse near its posterior termination. Dorsal areas smooth or nearly so: the front one inconspicuous; the hinder one plano-concave, environed by a deep, broad sulcus, which angulates its sides, and makes it appear raised.—Under a powerful glass, a few radiating lyræ may be descried near the commencement of the indented ray: they are best seen in the younger individuals, which are usually pale fulvous, and do not display the cocked-up beak, being merely acuminate to a subcentral tip (Rec. Biv. pl. 19, f. 46).

39. *L. PUELLATA*, *Hinds*, f. 94.—*L. perparva*, subæquilateralis, obovato-acuta, anticè latè rotundata, in medio tumida, posticè compressa et repentè recurvato-acuminata; alba, oculo armato anticè inclinato-sulcata, posticè arctius sulco-costellata, radii impressi expers, plicâ umbonali planulatâ, sed utrinque angulari, munita. Margo dorsalis anticè vix declivis, posticè retusus declivisque; ventralis anticè multum arcuatus, posticè rector et multum acclivis. Area angulatim definita, duplex; interior planulata, lævis, lineâ carinatâ circumscripta. Lunula inconspicua. —Small, peaked-obovate, subequilateral, tumid in the middle, compressed behind, white, devoid of a coloured epidermis or an anterior indented ray; smooth to the eye, but under the lens most closely and finely (the dorsal areas excepted) sulcato-costellated; umbonal ridge planulate, subcarinately angular on either side. Front extremity broadly rounded: hinder extremity abruptly acuminate; the tip upturned, rather above than below the middle. Front dorsal slope slight, plano-convex. Hinder dorsal slope moderate, retuse. Ventral margin much arcuated in the middle

and front, much rising but straighter behind, subretuse before the hinder extremity. Escutcheon large, angularly defined, double; inner portion flattened, narrow, smooth; outer region with indistinct lamellar wrinkles. Lunule smooth, inconspicuous. Hinge-margin broad: cartilage-pit very small, the teeth on either side of it rather numerous.—Has the aspect of a *Neæra*. The epidermis is a mere iridescent film. The sculpture is occasionally obsolete on the umboes.

40. *L. CUNEATA*, *Sowerby*, f. 92, 93.—*T. parva*, *ventricosa*, *subinæquilateralis*, *ovato-acuta*, *posticè repentè rostrata*, *cute olivaceo-virescente vel olivaceo-cinereâ induta*, *concentricè et arcetè costellata*, *ad regionem solitam plicæ umbonalis lævigata*. *Extremitas rostri recurvati obtusè angularis*. *Margo dorsalis anticè brevis et subdeclivis; posticè rectiusculus satisque declivis; ventralis anticè arcuatus, posticè rector magisque acclivis*. *Area magna, excavata, longitudinaliter tenuissimè costellata*. *Lunula nulla*.—Small, beaked-ovate, ventricose, hardly even gaping at the posterior tip, without conspicuous indented ray, clothed with a not much shining ashy-olive or greenish-olive epidermis, closely costellated concentrically; the riblets obsolete on the unelevated site of an umbonal ridge, their intervals smooth, narrow (especially below). Extremity of the somewhat shorter anterior side unsymmetrically rounded: posterior side rapidly beaked, the rostrum turned up, the tip bluntly angular, nearly in or slightly above the middle. Front dorsal slope short, rather slight, straightish; hinder one moderate, upon the whole straightish, being retuse at both ends, and slightly convex in the middle. Ventral margin arched in front, straightish and more rising behind, without indentation. No defined dorsal area in front; the hinder one large, excavated, very finely longitudinally costellated throughout, concavely impressed at its circumference.

41. *L. ORNATA*, *D'Orbigny*, f. 97, 98.—*T. parva*, *angustè ovato-acuta*, *posticè sensim acuminato-rostrata*, *subinæquilateralis*, *porcâ angustâ sulcoque approximato anticè radiata*, *cute subolivaceo-cinereâ induta*, *costellis argutis densis subdepressis concentricè sculpta*. *Margo dorsalis anticè subdeclivis; posticè declivis*. *Area magna, angulatim definita, arcetè et tenuissimè longitudinaliter costellata, labiis protrusis*. *Lunula angusta, inconspicua*.—Peaked ovate-oblong, subventricose, conspicuously gaping at the hinder tip, clothed with a somewhat olivaceous ash-coloured epidermis, with an anterior indented ray that is flanked in front by a narrow ridge or keel; most closely, finely, and evenly costellated; riblets

concentric, rather depressed, usually absent above just behind the subangular yet not much raised umbonal ridge. Extremity of the somewhat shorter anterior side narrowed, bluntly rounded. Posterior side gradually attenuated to an acuminate beak, the tip subcentral, slightly upturned. Front dorsal slope somewhat convex, not very decided: hinder dorsal slope moderate, straightish, eventually incurved. Ventral margin arched in front, straighter and more rising behind, not conspicuously indented posteriorly. Lunule narrow, inconspicuous: escutcheon large, angularly defined, densely and most finely costellated lengthways, its lips protruding. Under a powerful lens, some minute interstitial lyræ may at times be descried both on the umboes and behind them.—D'Orbigny, in his plate, has corrected the larger admeasurement (20 millimètres) he had indicated in his text.

42. *L. CÆLATA*, *Hinds*, f. 95, 96.—*T. ovali-acuta* (nonnuncquam latior), posticè rostrata, æquilateralis, ventricosa, cute olivaceo-flavidâ nitidissimâ induta, undique, nisi posticè supernè, concentricè sulcata. Extremitas rostri angularis, recurvata. Margo dorsalis anticè magis minusve declivis; posticè declivis, vel subdeclivis, demum incurvatus; ventralis utrinque acclivis, anticè arcuatus, in medio tantum convexus. Areae dorsales sicut in *L. ventricosa*, obsoletius autem insculptæ.—Peaked-oval (or oboval), more or less ventricose, retuse near the hinder slope, briefly yet patulously gaping at the hinder tip, clothed with a lustrous yellowish-olive epidermis, concentrically grooved, except on the dorsal areas, and a smooth, narrow, triangular slip adjacent to the posterior slope: umbonal ridge scarcely elevated. Sides subequal; the front, if either, the longer, rounded at its extremity; posterior side quickly beaked, its angular and upturned tip central. Front dorsal edge more or less sloping and convex: hinder dorsal slope more or less decided, incurved at its termination. Ventral margin rising at both ends, arched in front, convex in the middle, nowhere conspicuously retuse. Dorsal areas nearly like those of *ventricosa*, but the sculpture somewhat obsolete.*—The shape (with its cor-

* I am unable to procure an example of a *Leda* said to resemble this species, but here condense the published description.—

L. SULCULATA, *Couth.*—Thick, with a dark-olive skin, modified oval, rounded and smooth at the anterior extremity, elsewhere with fine sharply incised concentric lines; attenuated and subrostrated behind, the tip (which is more prominent above) somewhat obliquely truncated. Umbonal ridge blunt. Beaks protuberant, anterior. Ventral edge curved. Lunule large, oval, profound, with mere wrinkles of increase. Escutcheon ample, broadly elliptical, defined by an incised line, faintly striated. Teeth 15–20. $\frac{1}{2}$ – $\frac{3}{4}$ – $\frac{3}{16}$.

The *Lembulus sulcatus* of Risso is too inadequately defined for identification.

responding modification of slopes and ventral arcuation) varies much in different individuals: the posterior smoothness seems a constant character.

43. *L. MICANS*, *A. Adams*, f. 100.—T. ovali-acuta, posticè repentè rostrata, æquilateralis, subventricosa, ante plicam umbonalem obsoletam supernè retusa, cute nitidâ cinereâ induta, undique concentricè sulcata. Extremitas rostri recurvata, angularis, subcentralis. Margo dorsalis anticè satis declivis; posticè rectiusculus, demum incurvatus; ventralis valde arcuatus, utrinque, posticè præsertim, multum acclivis. Area magna, ovali-lanceolata, longitudinaliter crassè rugosa. Lunula acutè definita, satis magna, transversim porcata.—Peaked-oval, convex or subventricose, scarcely gaping, with a glossy, somewhat iridescent, cinereous epidermis, graven throughout (dorsal areas excepted) with concentric sulci, which are shelving in front, and whose intervals become costæ at the umboes and posteriorly: umbonal ridge region not elevated. Sides equal or very nearly so: front extremity attenuatedly rounded; hinder end abruptly beaked, the tip recurved, angular, subcentral. Front dorsal slope moderate, plano-convex: hinder dorsal slope decided, straightish, incurved at the end. Ventral margin much arcuated, much rising at both ends, especially behind. Escutcheon large, oval-lanceolate, coarsely wrinkled lengthways, defined by the projection of the umbonal ridge, pouting. Lunule sharply defined, rather large, barred across with short ridges.—The posterior ridge is preceded near the beaks by a marked retusion, and there is an obsolete narrow indented ray in front of the valves.

44. *L. CONRADI*, *Hanley*, f. 101.—T. subovato-acuta, posticè longior et acutissimè acuminata, valde inæquilateralis, radii impressi expers, cute subolivaceo-flavâ induta, costis crassis concentricis (ad marginem plicæ umbonalis angularem pluribus), et sulcis supernè latis, infernè angustis, undique sculpta. Margo dorsalis anticè subdeclivis; posticè rectiusculus, declivis. Area magna, angulatim definita, infernè plicato-corrugata. Lunula nulla.—Peaked-subovate, very inequilateral, subventricose (very gradually diminishing in convexity behind), devoid of any trace of an indented ray, clothed with a scarcely lustrous subolivaceous-yellow epidermis, concentrically ribbed throughout. Ribs coarse, with smooth intervals that above are as broad as the ribs, below are mere sulci, peculiarly crowded by the addition of interstitial ones on the angular margin of the posterior ridge. Anterior side short, tapering and rounded at the extremity: posterior side gradually,

simply, and very sharply acuminate, the tip subcentral, rather below than above the middle. Front dorsal slope short, rather slight, plano-convex: hinder dorsal slope produced, moderate, straightish. Ventral margin more or less arcuated in front, rising with less convexity and without terminal indentation behind. No defined dorsal area in front: hinder one large, angularly defined, plicately wrinkled at the circumference, smoothish in the middle.—A single specimen, without known locality, is present in Mr. Taylor's fine collection. The form reminds one of Conrad's *eborea*, but the sculpture differs. The ribs on the posterior ridge form obtuse angles with the concentric ones.

45. *L. COMMUTATA*, *Philippi*, f. 80, 81.—*T. perparva*, ovato-acuta (sæpe angustior), posticè repentiè acuminato-subrostrata, subæquilateralis, albida, undique dense et concentricè lirata, porcà anticâ radiata. Margo dorsalis anticè leniter declivis; posticè vix subretusus; ventralis arcuatus, utrinque multum acclivis. Area magna, ovali-lanceolata; infernè concaviuscula, longitudinaliter crenata. Lunula minima, inconspicua.—Small, peaked-ovate (often a little elongated), subventricose, whitish, with a radiating fold near the front extremity, closely and concentrically lyrated throughout; the interstitial sulci broader and unsculptured. Extremity of the slightly shorter anterior side contracted and rounded. Posterior side rapidly acuminate; the sharp subrostrated tip nearly subcentral. Front dorsal slope very moderate, convex or plano-convex; hinder dorsal slope straightish or subretuse. Ventral margin arched, much rising at both ends, straighter behind, scarcely, if at all, retuse before the obsolete or planulate umbonal ridge. Escutcheon large, oval-lanceolate, near its subcrenated keel-like limits more concave and longitudinally crenated. Lunule more or less conspicuous, very small, merely wrinkled.*—This tiny species was apparently comprehended by Chemnitz in his *Arca fragilis* (Conch. Cab. vii. p. 199), but his figure (f. 546) represents a much larger shell.

46. *L. RETICULATA*, *Hinds*, f. 103.—*T. minima*, ventricosa, ovato-acuta, posticè acuminata vixque recurvata, æquilateralis,

* I am unable to recognize a shell said by Philippi to closely resemble his *commutata*, but to be devoid of the radiating fold, and to be nearly smooth in the middle and front.—

L. ANALIS (Nucula, a, *Philippi*, *Zeitsch. Malak.* 1851, p. 87).—"T. ovato-oblonga, gibba, anticè rotundata, posticè in rostrum acutum elongatum adscendentem producta, transversim sulcata; carinâ lamellosâ aream cingente; carinâ radiante in media areâ; serie punctorum impressorum, utrinque lunulam ornante, carinâ lateris antici omnino obsoletâ. $\frac{1}{3}$. China."

costis concentricis crassis subremotis, lirisque radiantibus interstitialibus undique decussata. Margo ventralis arcuatus, utrinque acclivis. Area profundè impressa, elliptico-lanceolata, subduplex, supernè longitudinaliter rugosa, infernè (etiamque lunula angusta) transversim costellata.—Very small, peaked-ovate, more or less ventricose, white (without epidermis?), devoid of indented ray, everywhere coarsely ribbed (dorsal areas excepted). Ribs longitudinal (not concentric); their intervals, which are quite as broad as the ribs, and in front, where the latter are somewhat divergent, rather broader, everywhere adorned with radiating lyræ. Sides equal or very nearly so; anterior end somewhat narrowed and rounded. Posterior side acuminated, the tip bluntly acutangular, subcentral, scarcely upturned. Dorsal slopes moderate; front one convex; hinder one at first straightish, then convex, eventually incurved. Ventral margin arcuated, rising at both ends. Lunule narrow, barred across; escutcheon rather large, lanceolated-elliptic, deeply and abruptly impressed, almost double, wrinkled lengthways in the middle, costellated across at the circumference. Hinge-margin very broad: cartilage-pit minute, perpendicular, triangular.

47. L. BROOKEI, *Hanley*, f. 106.—T. minuta, subæquilateralis, latè ovato-conica, posticè repentè acuminata vixque recurvata, ventricosa, eburnea, radii impressi expers, undique concentricè costata; interstitia costarum angustarum æqualiter lata, in medio lævia, utrinque creno-lirata. Margo dorsalis anticè brevis, satsique declivis; posticè rectiusculus, declivis; ventralis conspicuè arcuatus, posticè rector multumque acclivis. Area magna, plicâ umbonali depressâ creno-costatâ definita. Lunula sublævigata, sulco circumscripta.—Minute, rounded ovate-conic, tumid or ventricose, glossy ivory-white, barely gaping even posteriorly, devoid of indented ray or raised umbonal ridge, concentrically ribbed throughout (dorsal areas excepted); ribs narrow, prominent, numerous, only as broad as the intervals, which are smooth in the middle and rather obscurely creno-lyrated at each extremity. Sides very nearly equal; anterior one the shorter, peculiarly broad, rounded; posterior one abruptly and sharply acuminated, its tip very short, subcentral, scarcely, if at all, recurved. Front dorsal slope short, plano-convex, rather decided: hinder dorsal decided, straightish. Ventral margin peculiarly arcuated, straighter and much rising behind. Lunule defined by a sulcus, either smooth, or with only fine raised wrinkles: escutcheon large, defined by the creno-costated projection of the posterior ridge. Teeth rather numerous on either side.—Of this little *Ieda* I have seen but

two perfect individuals (Mus. Cuming), which I have carefully compared with the larger known species from suspicion of their being immature. In the larger and apparently adult one, the front dorsal area is traversed by a kind of interrupted flexuous continuation of the ribs: this sculpture is not perceptible on the younger example. The dorsal lips protrude.

48. *L. VITREA*, *D'Orbigny*, f. 170.—*T. perparva*, ovali-acuta, posticè repentè acuminata, subæquilateralis, alba, radii impressi expers, undique arctè et concentricè costellata. Margo dorsalis anticè convexus vixque declivis; posticè declivis, rectiusculus, sed demum incurvatus; ventralis multum arcuatus, posticè autem rector multumque acclivis. Area magna, concava, angulatim definita, longitudinaliter lamelloso-rugosa. Lunula transversim costellata, aliter inconspicua. Dentes magni, utrinque satis subæqualiterque pauci.—Peaked-oval, more or less ventricose, scarcely at all gaping, snow-white, glossy, not pellucid, without anterior indented ray or marked umbonal ridge. General surface most closely, evenly, and prominently costellated throughout; the costal interstices mere simple sulci. Sides very nearly equal: the anterior, if either, the longer, slightly tapering to a rounded extremity: posterior side quickly and simply acuminated, its tip sharp and subcentral. Front dorsal slope slight, convex: hinder dorsal slope decided, nearly straight, eventually incurved. Ventral margin, for the most part, much arcuated, yet straightish and rising considerably behind, without marked posterior retusion. Escutcheon large, rather excavated, lamellately wrinkled lengthways, sharply angulated at its circumference. Lunule transversely costellated, otherwise ill-defined. Hinge-margin broad; the large teeth nearly equally (and but moderately) numerous on either side of the extremely minute cartilage-pit.—*D'Orbigny's* types in our national collection have been the source of this description.

49. *L. JAMAICENSIS*, *D'Orbigny*, f. 173.—*T. minima*, subæquilateralis, subovato-rostrata, ventricosa, radio impresso lato antice plicâque umbonali angulari (retusionem profundam sequente) conspicuè ornata, undique costellis interstitiisque latioribus concentricè rugosa. Extremitas rostri subiti valde prominens multumque acutangularis. Margo ventralis arcuatus, bisinuatus. Area magna, subduplex; supernè sublongitudinaliter corrugata; infernè concava, lamelloso-costata, carinâ umbonali circumscripta.—Beaked-subovate, minute, ventricose, whitish, more or less glossy, with a very conspicuous broad indented anterior ray and a more or less carinately angular umbonal ridge preceded by a deep

retusion. General surface concentrically wrinkled throughout; the ribs even, and narrower than their intervals. Sides equal or nearly so; front one attenuately rounded at its extremity; hinder one rapidly beaked, its peculiarly prominent tip very acutangular, and rather below than above the middle. Dorsal slopes moderate, at first straightish; the hinder one eventually incurved and more decided. Ventral margin arcuated, straighter behind, sinuated by the two retusions. Escutcheon large, almost longitudinally wrinkled in the middle, concave at the circumference (where it is lamellately ribbed), and carinately defined by the umbonal ridge, which is subimbricated by the flattened ribs. Hinge-margin broad: teeth not very numerous, rather more in front than behind the extremely minute triangular cartilage-pit.—The types of this very small, yet distinct, species are preserved in our national collection. In one of them the costal intervals exhibit manifest traces of radiating sculpture. The lunule we cannot clearly distinguish.

50. *L. CRISPA*, *Hinds*, f. 107, 108.—*T. parva*, *æquilateralis*, *ventricosa*, *subovato-rostrata*, anticè sulco conspicuo radiata, posticè lirâ interruptâ radiante retusionem subitam præcedente ornata, liris subinclinatis (quarum interstitia postica sunt clathrata) concentricè sculpta. Extremitas rostri recurvata, obtusè acuminata. Margo dorsalis anticè vix declivis; ventralis in medio et anticè arcuatus. Area magna, rugis arctis concentricè costellata, duplex, infernè profundè excavata. Lunula angusta, lineâ circumscripta, transversim costellata.—Beaked-subovate, ventricose, gaping at the posterior tip, with a conspicuous broad indented ray in front, and, after a fine interrupted radiating lyra, a fang-shaped abrupt sinking of the surface posteriorly, the concavity of which gives prominence to the umbonal ridge. General surface concentrically costellated throughout; the riblets somewhat shelving, about as broad as their intervals, which are radiatingly lyrated at the posterior end. Sides equal or very nearly so: anterior extremity tapering, rounded; posterior side beaked, the tip bluntly peaked, recurved, subcentral. Front dorsal slope slight, planoconvex: hinder dorsal slope moderate, at first straightish, abruptly incurved at the termination. Ventral margin arcuated and externally crenulated in the front and middle, straighter and rising behind, indented before the posterior ridge. Lunule narrow, linearly defined, cross-barred: escutcheon large, with close concentric flexuous costellar wrinkles, double, the exterior being broadly and deeply excavated.—The only specimen known to me, which now belongs to Mr. Metcalfe, who purchased Mr. Hinds's collection when he quitted England, has no epidermis; its ribs

become finer and peculiarly approximate near the ventral margin. The specimen referred to in the 'Zoological Proceedings' as in Mr. Cuming's Museum, proves essentially distinct.

51. *L. HINDSII*, *Hanley*, f. 102.—T. parva, subæquilateralis, angustè ovato-acuta, anticè plicâ sulcoque lato radiata, posticè costâ umbonali carinatâ, superficiem lævigatam superiorem sequente, munita, alibi concentricè costellata; interstitia liris minutis undique decussata. Extremitas postica acuminata, vix recurvata. Area magna, concava, arcè longitudinaliter costellato-striata; interstitia impressa punctulata. Lunula parva, transversim tuberculata.—Very small, subequilateral, pointed, ovate-oblong, more or less ventricose, only gaping at the hinder tip, with a conspicuous broad anterior indented ray and fold, white, concentrically costellated, except a smooth upper space before the keeled or sharply angulated umbonal ridge; riblets regular and numerous, scarcely as broad as their intervals, which are everywhere traversed by minute radiating lyræ. Anterior extremity attenuatedly rounded: posterior side, if either, the longer, simply and sharply acuminated, the tip subcentral, acutangular, scarcely, if at all, recurved. Dorsal slopes moderate; front one convex; hinder one straightish or subretuse. Ventral margin arcuated in the front and middle, rising at both ends, straighter behind. Lunule small, narrow, subgranosely cross-barred: escutcheon large, concave, crowded with longitudinal costellar striæ, whose intervals appear punctulate from the minute transverse sculpture. About a dozen teeth on either side of the minute cartilage-pit.—Mr. Hinds had confused this rare little shell (of which Mr. Cuming, Mr. Metcalfe, and myself, each possess a single individual) with his *N. crispa*, which name has been retained for the delineated species. An incipient ridge almost renders the larger dorsal area a double one. I have seen no epidermis.

52. *L. EXCAVATA*, *Hinds*, f. 104, 105.—T. latè ovato-rostrata, subæquilateralis, ventricosa (vel tumida), anticè latè rotundata, costâ umbonali prominente angustâ ornata, lamellis concentricis (quarum interstitia latiora sunt haudque insculpta) undique costata. Extremitas rostri subiti perangusta, obtusè acuminata multumque recurvata. Margo dorsalis posticus declivis, incurvatus; ventralis anticè multum arcuatus, posticè valde acclivis. Area maxima, excavata, supernè longitudinaliter costellata. Lunula transversim costellata.—Of a rather oblique sharply-beaked abbreviated ovate shape, ventricose or tumid, with a narrow sharply elevated umbonal ridge (preceded by a slight retusion)

which is crossed by the numerous regularly disposed sublamellar concentric ribs that evenly traverse the entire surface except the dorsal areas, and a smooth nuclear region: their intervals, which are rather broader than the ribs, unsculptured, except where a few raised lines indistinctly and partially margin the broad shallow rudimentary anterior indented ray. Sides nearly equal: front extremity broadly and bluntly rounded; hinder side abruptly beaked, the tip very narrow, remarkably cocked-up, bluntly acuminated, above the middle. Front dorsal slope rather slight, short, plano-convex; hinder dorsal slope decided, incurved. Ventral margin much arcuated in front, straighter and much rising behind, retuse before its posterior termination. Lunule well defined, cross-barred by riblets: escutcheon very large, excavated, smooth at the circumference, costellated lengthways near the beaks. Hinge-margin very broad, teeth numerous, especially in front. Cartilage-pit extremely minute, triangular. Epidermis unknown.

53. *L. NICOBARICA*, *Chemn. amended by Bruguière, f. 7.*—*T. inæquilateralis, oblonga, posticè lata et supernè obtuse subcuneiformis, pallidè fulva, striis densis subobliquis (nisi posticè supernè) undique sculpta. Margines dorsales vix declives. Area dorsales angustæ, definitæ, dentes utrinque permulti.*—Oblong convex or subventricose, devoid of umbonal ridge, pale-tawny, closely graven with obliquely concentric striae, which do not extend to the hinder triangle. Extremity of the anterior side, which occupies nearly three-sevenths of the total length, unsymmetrically rounded. Posterior side rather tapering, bluntly obversely subcuneiform; the extremity broad, convex, and above the middle, with a long shallow dorsal notch. Dorsal slopes very slight, nearly straight. Ventral margin arching up in front, then convex or subarcuated, straighter behind: posterior edge oblique, somewhat convex, yet a little retuse in the middle. Dorsal areas narrow, but well defined. Cartilage-pit broadly triangular: teeth numerous on both sides.—Although long known and often described, I have never met with this species in good condition. The teeth seem to average about eighteen on one side and twenty on the other. Of the three names bestowed by Chemnitz I have preferred *Nicobarica*, because the other two are deceptive; for the shell is neither smooth nor transparent. I doubt whether Spengler ever really published his Illustrated Catalogue.

54. *L. SEROTINA*, *Hinds, f. 19–21.*—*T. subinæquilateralis, ventricosa, angustè oblonga, nisi supernè posticè sulcis remotis sub-*

inclinatis concentricè sculpta. Extremitas postica sensim attenuata, haud rostrata, supernè angulata eminentiorque. Margo dorsalis uterque vix declivis, anticè convexiusculus, posticè rectiusculus; ventralis ad extremitatem posticam subito acclivis. Area lanceolata, acutè definita, sublævigata.—Elongated-oblong, more or less ventricose, only compressed on the convex-surfaced posterior triangle, which (as well as, occasionally, the hinder umbonal region) is devoid of the distant concentric subimbricating sulci which elsewhere traverse the highly polished pale mud-yellow exterior. Anterior side rather short, filling about three-sevenths of the total length, unsymmetrically rounded. Posterior side gradually attenuated, not beaked, angulated and more prominent above, with a slight dorsal notch or sinus: posterior edge convex, oblique. Dorsal slopes trifling; front one convex, or plano-convex; hinder one straight or subretuse. Ventral margin arching obliquely upwards in front, convex behind, bending abruptly up at its termination. Escutcheon lanceolate, carinately defined, more or less smooth. Cartilage-pit sunken, triangular. Teeth numerous.—In the variety *lepida*, the hinder side is more gradually attenuated to a slightly more slanting tip, and the sulci are partially absent: in the form *serotina* the latter traverse the whole middle area, and the lunular region is slightly more prominent.

55. *L. LEPIDULA*, *A. Adams*, f. 6.—*T. tenuis*, *L. tenella* similima, sed major, magis expansa, et extremitate posticâ obtusiore minusque obliquâ; cute pallidè olivaceo-cinereâ induta, plicæ umbonalis omnino expers. Margo dorsalis anticus ad extremitatem convexus. Areae dorsales inconspicuæ. Dentes utrinque permulti.—Most closely resembling *tenella*, but larger, rather less inequilateral, more spread and less ventricose in proportion. The valves are thin, and gape at both extremities, the epidermis is of a very pale olivaceous ash-colour; the ventral margin, in the adult, sweeps almost uninterruptedly, without central retusion, to the hinder extremity, which is blunter and less oblique than in *tenella*. There is not the least trace of an umbonal ridge. The front dorsal edge is decidedly convex at the extremity. The beaks are peculiarly small, and not all prominent. Dorsal areas inconspicuous. Inside bluish-white, subiridescent: cartilage-pit small, triangular: teeth very numerous on both sides, peculiarly narrow-based, and elevated.

56. *L. TENELLA*, *Hinds*, f. 15.—*T. inæquilateralis*, ovali-subrhombea, anticè infernè valde hians, posticè supernè rotundatoangulata, eburnea, striolis arctis, anticis longitudinalibus, mediis

obliquis, posticis radiantibus, minutissimè sculpta. Margo dorsalis utrinque vix declivis, anticè brevis et convexiusculus, posticè subretusus; ventralis in medio subretusus, demum rectiusculus et obliquè subangulatim acclivis. Lunula tenuiter striolata, perspicè definita, major quam area angustissima.—Oval-subrhombic, small, subventricose at the umbonal region, gradually compressed behind, ivory-white (sometimes of a yellow cast), glossy, smooth to the eye, but under a powerful glass most minutely and closely striolate; the extreme front striolæ nearly concentric, the next sloping downwards and backwards, the hinder, which do not, however, extend to the extreme verge, radiating, and, if possible, still finer. Extremity of the anterior side, which occupies about two-fifths of the total length, and gapes considerably below, unsymmetrically rounded. Posterior side neither beaked, nor much attenuated, but with a rounded-off angle above; the hinder triangle not defined by a distinct umbonal ridge, but well marked near the umboes by the sudden decrease of the general convexity. Front dorsal slope slight, short, plano-convex: hinder dorsal edge scarcely sloping, at first subretuse, eventually plano-convex. Ventral margin obliquely arching upwards in front, subretuse in the middle, then convex and meeting the dorsal edge in an oblique and straightish line. Escutcheon peculiarly narrow (obscurely grooved?). Lunule larger, well defined, finely striolate lengthways.—The epidermis is extremely thin, and somewhat iridescent.

Sect. II., forming the Subgenus YOLDIA.

57. *L. LANCEOLATA*, *James Soub.*, f. 12.—T. subovalis, anticè semielliptica, posticè obtusè rostrata et paululum brevior, convexa, obliquè striata, cute nitidâ olivaceâ induta. Margo ventralis anticè arcuatus, posticè convexus et multum acclivis. Area magna, abruptè impressa.—Suboval, not very strong, convex, gaping at both ends, covered by a strong glossy (often dark) olive cuticle, marked lengthways with moderately distant flexuously slanting striæ, which join some remote concentric striæ, that run from the front dorsal edge, along the obscure and very shallow anterior indented ray, and cease posteriorly at the broad smooth site of an umbonal ridge. Front side slightly, yet decidedly, the longer, semielliptical (the upper and lower slopes being almost symmetrical); hinder side bluntly beaked, the almost subtruncated tip (which in the adult shell is higher than the middle) broad, slightly upturned, more prominent above. Hinder dorsal slope moderate, at first convex, then incurved. Ventral margin arched in front, merely convex but much rising behind, not refuse pos-

teriorly. Hinder dorsal area large, smooth, lanceolate, much pouting, although so abruptly impressed at its circumference that it seems angularly defined by the higher level of the general surface. No lunule. Cartilage-pit very large, broad, cochleariform. Front teeth much the more numerous.—The 'Mineral Conchology' was published before the 'Animaux s. Vertèbres,' and long before the 'Zoological Journal.'

58. L. AMYGDALÆA, *Valenciennes*, f. 8, 10, 11.—T. subæquilateralis, elongato-oblonga, anticè angustè rotundata, posticè vix brevior et subtruncato-rostrata, sublævigata, cute nitidissimâ induta, radio utrinque impressa. Margo dorsalis posticus leviter declivis, vix subretusus; ventralis anticè arcuatus, in medio subrectiusculus, posticè conspicuè acclivis. Area haud impressa, vix definita.—Elongated-oblong, fragile, merely convex, subequilateral, yet longer in front, gaping at both extremities, with a shallow indentation radiating from the acute beaks (which are reflected and by no means prominent) to both ends of the ventral margin, and obsoletely sinuating them, narrowly rounded in front, subtruncately beaked behind (posterior lip convex), covered with a polished cuticle which is brownish-olive, greenish-olive, or pure olive, in rather broad lighter and darker zones, smooth, except ventrally, where the surface is coarsely and remotely wrinkled concentrically. Dorsal edges little sloping; the front one convex, the hinder one barely retuse. Ventral edge retusely straightened in the middle, much arcuated in front, convexly rising behind. Escutcheon lanceolate, not sunken, nor sharply defined, merely indicated by a cessation of the convexity, its edges pouting; lunule wholly obsolete. Interior bluish-white: teeth very numerous.

59. L. LIMATULA, *Say*, f. 9.—T. *amygdalææ* assimilis, cute autem viridi, lateribus æquis, extremitate rostri cuneiformis angustâ, et areâ acutè definitâ.—Allied to *amygdalæa*, but more equilateral, with the posterior indentation inconspicuous, the cuticle light green (with an occasional linear darker zone of growth), the beak more decided and cuneiform, with its tip narrower, upturned, and not at all truncated, the anterior extremity more broadly rounded, the ventral margin more rising posteriorly. Escutcheon sharply defined by the very abrupt cessation of the general convexity. Lunule linear, perceptible. Teeth numerous on both sides (often 28-20).

60. L. ARCTICA, *Gray*, f. 5.—T. ovalis, convexa, lævis, subæquilateralis, cute nitidâ olivacâ zonisque saturatoribus ornata. Extremitas lateris postici brevioris et obtusè acuminati rotun-

dato-subtruncata. Margo dorsalis anticus arcuatus, declivis; posticus rectiusculus, vix declivis. Margo ventralis subarcuatus, utrinque subretusus. Areae dorsales haud circumscriptæ.—Oval, convex, yet compressed behind, much gaping at the front ventral margin, and less so posteriorly, with an almost imperceptible umbonal ridge, clothed by a highly polished olive epidermis, whose zones of increase are more intense or blackish, smooth, except for the wrinkles of growth. Anterior side slightly the longer, almost symmetrically rounded: posterior side bluntly peaked, rounded-subtruncate at the extremity, which is subcentral, but projecting more above the middle. Front dorsal edge arcuated, and moderately sloping: hinder dorsal edge straightish, and not much sloping. Ventral margin subarcuated, but with a slight anterior retusion, and a still more trifling posterior one. Dorsal areas undefined; the hinder dorsal lips pouting.

61. *L. MYALIS*, *Couthouy*, f. 18.—*T. speciei præcedenti assimilis, sed latere antico longiore minusque rotundato, extremitate lateris postici minus rostrati magis truncatâ, et areâ magnâ et acutè circumscriptâ.*—Resembling the last, but with a well marked large escutcheon, that is sharply defined by its abrupt retusion. The lunule, too, though indistinct, is wrinkled by sulci. There is no vestige of an umbonal ridge, and the posterior compression is less marked. The anterior side is decidedly the longer, and blunter (less rounded) at its extremity: the hinder termination is less peaked and more truncated, the extreme projection is, for the most part, above the middle. The epidermis, which ranges from yellowish-olive in the young to dusky-olive in the adult, is less polished. The front dorsal edge is straighter: the ventral margin rather less arched, and the retusions are still less apparent. The cartilage-pit is broadly triangular; the teeth numerous on either side.*

62. *L. WOODWARDI*, *Hanley*, f. 17, 22.—*T. pertenuis, valde compressa, valde inæquilateralis, subelliptica, posticè brevis et*

* I am unable to procure a specimen of the *N. Gouldii* of Dekay (New York Moll. p. 180, f. 221), which is said to resemble this species in general form! but to differ in the number of its teeth and in the posterior side not being angular. I condense its description, which was derived from one individual now in the State collection.—

Thin, ovate, subequilateral, with an olive-green epidermis, which has a few paler concentric lines, that become still lighter behind; with faint concentric striæ: front dorsal margin slightly curved: posterior margin slightly beaked, with three or four imbricated striæ on the sides, extending from the beaks to the margin, where the imbrications are most apparent. $\frac{3}{4}$ — $\frac{5}{8}$. Long Island Sound, New York. Eighteen teeth were present in each valve.

rotundato-acuminata, radio nullo impressa, sublævigata, cute nitidissimâ validâ flavescente-olivaceâ induta. Margo dorsalis anticus vix declivis; posticus declivis, subrectus; ventralis anticè arcuatus et multum acclivis. Nates acutissimæ, haud autem eminentes. Areae dorsales haud definitæ: lunula planulata: areae labia carinato-protrusa.—Somewhat elliptical, very inequilateral, much compressed, covered by polished yellowish-olive strong epidermis, devoid of umbonal ridge or anterior ray, smooth, except for the wrinkles of increase. Anterior side much produced, its extremity somewhat tapering, unsymmetrically rounded. Posterior side short, quickly tapering to a rounded peak which lies rather above than below the middle. Front dorsal slope almost horizontal, at first straightish, eventually convex. Hinder dorsal slope moderate, straightish. Ventral margin obliquely arching up in front, merely broadly convex in the middle, subarcuately rising behind. Beaks peculiarly sharp, yet not prominent. Dorsal areas undefined; the front one flattened, sometimes impressed; lips of the escutcheon carinately pouting. Teeth rather few (about nine and twelve at most) on either side of the cartilage-pit, which latter is depressed, and has its base rounded.—There is some faint trace of an indented ray near the hinder extremity.

63. *L. SAPOTILLA*, *Gould*, f. 16.—*T. æquilateralis*, subventricosa, lævis, subovalis, posticè obtusè acuminata et paullulum subrostrata, cute politâ luteo-subvirescente induta. Margo dorsalis anticus arcuatus, vix declivis; posticus rector, leviter declivis; ventralis anticè subito et obliquè acclivis, posticè subsinuatus. Areae dorsales haud definitæ. Nates haud eminentes.—Suboval, subventricose at the umboes, only slightly gaping at the extremities, pure white under a polished fugacious oil-yellow cuticle, smooth, or at most with wrinkles of increase. Sides equal or very nearly so; the anterior, if either, the shorter, unsymmetrically rounded; the posterior bluntly peaked, and, from the slight ventral flexure, a little subrostrated, the tip rounded. Front dorsal edge arched, scarcely sloping: hinder one straighter, a little sloping. Ventral margin a little convex in the middle, abruptly and obliquely ascending in front, convexly rising behind, forming a shallow sinus near the extremity. Dorsal areas undefined. Teeth numerous (about eighteen) on each side.*

* I have not seen the fry of this shell, but suspect it must somewhat resemble a species of which I am unable to procure a specimen, the—

L. OBESA, *Stimpson Proc. Bost. Nat. Hist. Soc.* iv. p. 113; *Shells N. Engl.* p. 10, pl. 2, f. 1.—“*T. parva*, tenuis, ovalis, inæquilateralis, posticè longior, epidermide nitida, tenuistriata; apicibus parvis; margine ventrali modicè arcuato; areola

64. L. EIGHTSII, *Couthouy*, f. 164.—T. convexa, ovalis, posticè brevior et abbreviato-subrostrata, concentricè plicato-corrugata, cute validâ olivaceo-nigrescente induta. Extremitas postica subobliquè obtusa. Margo dorsalis posticus declivis, subretusus. Area haud definita, externè subconcava. Lunula planulata. Dentes pauci.—Oval, merely convex, gaping at both ends, much so posteriorly, less so (and ventrally) in front, covered by a shining blackish-olive strong cuticle, concentrically marked by rather distant depressed, yet very manifest, pliciform wrinkles. Anterior side occupying about four-sevenths of the total length; its upper and lower slopes, the former of which is decided and subarcuated, the latter much rising, almost symmetrical; its tip (in the adult) narrower and less rounded than the broad extremity of the slightly beaked hinder side. Posterior dorsal slope decided, eventually retuse. Ventral margin everywhere arcuated, not distinctly retuse posteriorly. Front dorsal area flattened, manifest. Lips of the escutcheon, which is not sharply defined, but gradually concave at the circumference, pouting. Interior bluish-white. Only about seven teeth on either side of the cartilage-pit, which is very large, and with a rounded base.—In the only adult example known to me (belonging to Mr. Metcalfe) there is present in one of the valves, towards the lower margin, a pencil of regular closely disposed radiating striæ, and in the other of interrupted grain-like lines. A perceptible, yet almost obsolete, broad shallow indented ray is manifest in both valves.* Although stated by Jay to have been published in the ‘Annals of the Lyceum,’ no description of it is to be met with in that work.

65. L. JAPONICA, *A. Adams*, f. 14.—T. subovalis, posticè brevior et abbreviato-subcuneiformis, lævis, subventricosa, cute politâ cinereo-virescente vel pallidè olivaceo-flavâ induta. Margines dorsales vix declives; anticus subrectus; posticus productus, incurvatus. Margo ventralis in medio subretusus, utrinque convexus et valde acclivis. Umbones latiusculi, haud multum eminentes. Area angustissima, vix retusa, acutè definita. Dentes utrinque

parum conspicua; dentibus anticis 10, posticis 12, parvis. 0.22–0.12.” Massachusetts Bay, in deep water. Narrower and more inflated than the young of *Thraciaformis*.

* I am unable to identify the *N. limosa* of Philippi (Zeitschr. Malakoz. 1845, p. 75), whose shape must have approached this species. “Testa magna, ovato-oblonga, subelliptica, subæquilatera, compressa, lævi, epidermide castanea tecta; fovea ligamentali maxima, transversa, triangulari. Sinus Hudson.” We are informed in addition that the description was drawn up from a single valve of *Foldia*, that the dorsal arch was greater than the ventral one, the cartilage-pit was very large and prominent, and that there were from seventeen to twenty teeth on one side.

circiter viginti.—Suboval, more or less ventricose, compressed only at the hinder extremity, devoid of umbonal ridge, with a polished cuticle of pale greenish-ash, or very pale yellowish-olive colour, quite smooth. Anterior side occupying about three-sevenths of the total length, unsymmetrically rounded. Posterior side obversely and briefly subcuneiform, the tip well rounded and dorsal: hinder edge plano-convex. Dorsal edges scarcely sloping, the front one almost straight, the hinder one produced and incurved. Ventral margin subretuse in the middle, peculiarly and convexly rising at both ends. Escutcheon very narrow and elongated, barely retuse, carinately defined. Lunule indistinct, a little depressed. Interior subiridescent. Cartilage-pit moderate, spoon-shaped. Teeth about twenty on each side.

66. L. THRACLEFORMIS, *Storer*, f. 4, 13.—*T. ovalis vel obovalis, posticè subrhomboidalis, ad umbones acutos ventricosa, subæquilateralis, marginem versus concentricè corrugata, plicâ umbonali munita, cute tenui vixque nitidâ induta. Margo dorsalis anticus brevis, leviter declivis; posticus incurvatus, haud declivis, cum margine postico angulum obtusè formante. Extremitas postica supernè eminentior, infernè obliquè rotundata. Margo ventralis anticus valde acclivis et obliquè arcuatus. Area concava.*—Oval or oboval, subrhomboid posteriorly, ventricose at the umbonal region, gradually declining in convexity beyond the gradually developed umbonal ridge that parts off, in the adult, nearly three-sevenths of the entire surface, much gaping at both extremities, reddish-white under a rather dull fugacious epidermis, that ranges in colour from olivaceous-ash to (more rarely) olivaceous-brown; coarsely and remotely wrinkled concentrically towards the outer margin. Anterior side a little the shorter, unsymmetrically rounded, its dorsal edge short, slightly convex, and a little sloping. Hinder dorsal edge incurved, horizontal, forming a blunt angle with the posterior edge, which is arched above but more rectilinear and obliquely sloping inwards below, so that the upper corner is far more prominent than the rounded lower extremity. Ventral margin somewhat convex in the middle, obliquely arcuated and much rising in front, with an occasional sinus before the umbonal ridge. Lips of the escutcheon, which is concave and linear-lanceolate, pouting. Cartilage-pit very large: pallial sinus profound, and very large. Teeth not numerous (often fifteen to seventeen).—The chief lateral projection is rather below the dorsal line. The umboes are very prominent in young individuals, which are quite smooth, are covered with a shining epidermis of a pale greenish-ash colour, exhibit a more or less arched ventral margin,

are devoid of any umbonal ridge, and terminate posteriorly in a rounded peak.

67. *L. FRIGIDA*, *Torell*, f. 168, 169.—“*T. ovalis*, prope semi-lunaris, subæquilateralis, anticè rotundata, posticè subrostrata, compressa; tenuis, diaphana, virescens, nitida, concentricè striolata, posticè argutius. Margo dorsalis modicè convexus, umbonibus prominulis, ventralis semicircularis, posticè obtusè angulatus, leviter impressus; intus opaca, linea marginali albida obducta; denticuli utrinque septem crassiusculi, angulati.”—Unable to procure this Spitzbergen shell (possibly immature, being only the fifth of an inch long), I have copied both figure and description from *Torell*.

Sect. III., forming the Subgenus *PORTLANDIA*.

68. *L. GLACIALIS*, *Gray, as of Leach*, f. 30, 31.—*T. ovali-acuta*, ventricosa, vix hians, æquilateralis, anticè semielliptica, posticè obversè cuneiformis, cute luteâ olivaceo-flavescente vel olivaceo-tenebrosâ induta, rugis minutis arctissimis, undulatis, subgranosis, concentricè lirata. Margo dorsalis posticus vix declivis; ventralis anticè arcuatim acclivis, deinde subretusus, posticè subangulatim acclivis. Nates valde eminentes. Regio dorsalis postica magna, latè concava.—Peaked oval (at times much produced, at times abbreviated), ventricose, scarcely, if at all gaping, without anterior indented ray, with a rather glossy thin epidermis, that ranges in tint from bright yellow, or yellowish-olive (in the elongated forms) to dusky-olive (in the broader individuals); most closely and finely shagreened by raised concentric undulated subgranular wrinkles. Sides equal; the front unsymmetrically semielliptical, the hinder obversely wedge-shaped, its broad extremity being subtruncated from above inwards. Front dorsal edge just at first horizontal, then more or less arched and sloping: hinder dorsal edge but little sloping, at first somewhat retuse, then convex. Ventral margin arching up in front, subretuse behind the middle, subangular at its junction with the retuse posterior margin. No defined lunule or lozenge, but a wide and large concave hinder dorsal region marked out by an obscure rounded umbonal ridge, the surface before which is somewhat planulate. Cartilage-pit almost perpendicular, not large, triangular (with an arched base). Teeth moderately numerous (ten or twelve) on either side.—The typical or earlier known form is five-sixths of an inch long, and seven lines broad: the elongated variety *Portlandica* averages eleven-sixteenths of an inch in length and hardly more than three-

eighths of an inch in breadth. There is a most minute radiating sculpture which produces the peculiar shagreen. I do not think Leach ever published the species.

69. *L. LUCIDA*, *Loven*, f. 23, 24, 25.—*T. perparva*, ovalis vel subovata, subæquilateralis, subventricosa, sublævigata, posticè striis pertenuibus longitudinaliter sculpta, cute politâ cinereo-flavescente induta. Extremitas postica supernè eminentior et obliquè subrectangularis. Margo dorsalis anticus convexus, declivis; posticus vix declivis, demum subretusus. Nates neque prominentes nec acutæ. Areæ dorsales haud definitæ.—Very small, oval or subovate, subventricose, scarcely, if at all, gaping at either end, without umbonal ridge or indented ray, clothed with an iridescent, polished, ashy-yellow epidermis, smooth to the eye, but under a lens seen to be graven posteriorly with concentric or longitudinal scratches, which are distant below, finer and closer above. Extremity of the slightly shorter anterior side rather attenuatedly rounded: posterior end obliquely subrectangular above, its tip much above the middle; lower posterior edge convex, and more frequently oblique. Front dorsal slope moderate, convex or subarcuated: hinder dorsal slope very slight, planoconvex, subretuse at the extremity. Ventral margin convex in the middle, arching upwards at both ends. Dorsal areas wholly undefined, the surface of the hinder one a little flattened. Teeth rather, and nearly equally, numerous on either side of the very minute and shelving cartilage-pit.—In the oval form, the hinder extremity is at times subbiangular, the lower corner being, however, rounded off.

70. *L. PYGMÆA*, *Munster*, f. 26, 27.—*T. perparva*, lævis, valida, ventricosa, vix hians, subovata, posticè rotundato-acuminata, radii impressi expers, cute nitidissimâ olivaceo-flavâ vel olivaceo-cinereâ induta. Margo dorsalis posticus declivior, subrectus aut retusus. Margo ventralis utrinque subæqualiter acclivis. Nates eminentes. Areæ dorsales haud definitæ. Dentes magni, utrinque circiter 12.—Very small, tumid or ventricose, scarcely, if at all, gaping, variable as to shape, being ovate-oblong (rarely), subovate, ovate, or ovate-trigonal, with the dorsal slopes (which seem to be normally rather slight) ranging consequently from slight to decided, and the ventral margin (which rises in a curve nearly equally at both ends and is devoid of posterior retusion) from slightly (in the elongated form) to greatly (in the trigonal variety) arcuated; devoid of indented ray, defined dorsal areas, or umbonal ridge, with a highly polished olivaceous-yellow or ashy-olive some-

what iridescent epidermis, everywhere smooth, except for the wrinkles of increase or more distant furrows of growth. Anterior side rather the shorter, a little narrowed and subangulately rounded at its extremity, its dorsal slope straightish or plano-convex: posterior side rotundately peaked, its tip, which is somewhat disposed to turn up, in or below the middle, its dorsal slope, which is the more decided one, straightish or retuse. Hinge-margin broad; teeth large, about twelve on each side of the minute triangular cartilage-pit.

71. *L. RETUSA*, *Hinds*, f. 28, 29.—*T. perparva*, *valida*, *magis minusve ventricosa*, *vix hians*, *æquilateralis*, *posticè rotundato-acuminata*, *lævis* (*nisi anticè infernè*), *cute nitidâ subolivaceo-flavâ induta*. *Margo dorsalis posticus leviter declivis*, *magis minusve retusus*; *ventralis arcuatus*, *utrinque multum acclivis*. *Nates eminentes*. *Areæ dorsales haud definitæ*.—Very small, more or less ventricose, scarcely if at all gaping at either end, under a subolivaceous-yellow epidermis, polished ivory-white, devoid of indented ray or umbonal ridge, smooth, except at the extreme lower anterior extremity, where the surface is graven with a few distant shelving and somewhat slanting longitudinal scratches. Sides equal or very nearly so: front extremity subangulately rounded, tapering; hinder side rotundately peaked, its tip rather above than below the middle, a little upturned. Front dorsal slope moderate or rather slight, somewhat convex, straighter near the prominent beaks: hinder dorsal slope slight, more or less retuse. Ventral margin arcuated, much rising at both ends, rather more so behind, without posterior retusion. Dorsal areas wholly undefined. Hinge-margin very broad. Teeth rather, and nearly equally, numerous on either side of the minute shelving triangular cartilage-pit.

72. *L. ABYSSICOLA*, *Torell*, f. 167.—*T. ventricosa*, *lævis*, *angustè oblonga*, *cute politâ olivaceo-flavente induta*. *Extremitas lateris postici longioris sensimque attenuati satis angusta*, *sed rotundata*; *margo ejus dorsalis prope umbones tumidos prominentes rectus et subhorizontalis*. *Margo ventralis arcuatus*, *haud sinuatus*. *Areæ dorsales haud definitæ*.—Narrow-oblong, ventricose, scarcely gaping, with a shining olivaceous-yellow epidermis, smooth except for the wrinkles of growth, devoid of umbonal ridge or defined dorsal areas. Anterior side much the shorter (about two-fifths of the entire length), its extremity well rounded. Posterior side gradually attenuated to a rather narrow but well rounded tip: its dorsal edge straightish and subhorizontal near

the swollen and projecting umboes. Ventral margin arcuated, convexly rising, without retusion, at both ends. Inside almost pearly: cartilage-pit almost perpendicular, on either side of it about ten teeth.

73. *L. SULCIFERA*, *Reeve*, f. 165, 166.—*T. subæquilateralis*, subangustè ovata, nisi ad umbones gibbosos compressa, anticè rotundata, posticè obtusè rostrata et paululum flexuoso-concava; cute corneo-virente induta, sulcis remotis longitudinalibus vix insculpta.—Somewhat narrowly ovate, compressed, yet rather gibbous at the umboes, subequilateral, rounded in front, slightly flexuous-concave and bluntly beaked behind. Surface with distant superficial longitudinal grooves. Epidermis greenish horn-colour.—Never having seen this shell, the description is not original.

NUCULA, *Lamarck (restricted)*.

Gen. Char. More or less subtriangular, very inequilateral, closed at one and usually at both ends, clothed with an epidermis: umboes turned to the shorter side.* Inside pearly; margin sometimes crenulated: hinge-margin with a row of produced and pointed interlocking teeth on either side of the projecting support for the narrow triangular cartilage-pit, which slants to the longer side. No pallial sinus.

Sect. A. *Ventral margin crenulated.*

1. *N. DECUSSATA*, *Sowerby*, f. 109, 110, 111.—*T. valida*, vix obliqua, longitudine latitudinem multo superante, ad umbones prominentes subrectangularis, subventricosa, cute luteo-virente induta, rugis lamellaribus concentricis lineisque elevatis densis radiantibus arcè et undique decussata. Margo ventralis crassè crenatus. Lunula satis magna, protrusa, externè subgranoso-corrugata, supernè lævigata. Area subplanulata, sæpius transversim plicato-corrugata (rugis ætate obsoletis).—Very variable in shape and degree of lateral inequality, nearly rectangular at the beaks, not particularly oblique, much longer than broad, subventricose, nearly evenly diminishing in convexity on either side,

* When there is neither a pallial sinus, nor an external ligament, it is usual to consider that side the posterior which contains the larger portion of the cartilage, and that the anterior towards which the beaks incline. The position of the animal in *Nucula*, however, compels me to term the shorter end the posterior. The words *lunule* and *escutcheon* are here used with their ordinary signification, and not as equivalent to front and hinder dorsal impression.

covered by a thin greenish oil-coloured epidermis, everywhere (near the slopes excepted) conspicuously decussated by irregularly concentric costellar or lamellar wrinkles, pairs of which often become confluent anteriorly, and close-set radiating raised lines. Anterior extremity somewhat tapering, chiefly projecting below the middle, rounded; posterior end rotundately subangulated below, its dorsal slope very decided. Ventral margin closely crenated within, more rising in front, at times much arcuated in the middle, at times (in the very inequilateral specimens) only slightly so. Lunular area rather large, pouting, more or less angularly defined, for the most part subgranosely wrinkled near the circumference, smoothish in the middle: opposite dorsal area rather flattened, usually obscurely barred with wavy pliciform wrinkles, which generally become obsolete with age. Teeth about twelve on the shorter side, and twice as many on the longer.—There are three known variations. The North British form, where the wrinkles are almost lamellar, and the shape is somewhat more ovate; the N. African form, where the wrinkles are costellar and shelving, and the shape triangular; and the Mediterranean form, where the sculpture is comparatively undeveloped and the form intermediate between the two previously indicated. Mr. Cuming possesses an aged example (seven-eighths of an inch in length) in which the radiating lines appear incised near the lower margin, and the smooth lunular area is devoid of the ordinary sculpture, projection, or refinement.

2. *N. NUCLEUS*, *Lin.*, f. 121, 122, 159.—*T. obovato-trigona, raro obliqua, satis ventricosa, valida, cute luteâ vel olivaceâ et nunquam nitidâ induta, nunquam colore radiata, in medio sublævigata, utrinque tenuissimè concentricè subplicato-corrugata et (posticè præsertim) minutissimè radiatim lirata. Extremitas brevior rotundato-obtusangularis, infernè eminentior. Margo ventralis satis argutè crenulatus, arcuatus, posticè acclivis. Nates prominentes, inclinatæ. Lunula nitida, concentricè corrugata, neque granis nec lineis radiantibus sculpta. Area aut lævigata aut concentricè sculpta.*—Obovate-trigonal, almost always longer than broad, seldom oblique, strong, moderately ventricose, clothed with an epidermis that is never polished or colour-rayed: general surface smoothish in the middle but very finely concentrically and subpliciformly corrugated at both ends, and, under a lens, (particularly behind) perceptibly, though faintly, closely radiatingly lyrated. Inequality of the sides decided, yet not remarkable; extremity of the anterior side, which is produced and tapering, rounded off; its chief projection basal. Posterior end rotundately obtusangular,

and rather prominent below. Ventral margin rather finely crenated within, arched, rising posteriorly. Beaks prominent. Lunular area shining, rather obscurely, yet impressly defined, somewhat pouting, concentrically wrinkled, without radiating lines or granules. Opposite dorsal area smoothish or concentrically wrinkled. About twenty teeth on one side, and ten on the other.—The northern and southern forms differ to some considerable extent; the surface in the former is comparatively smooth, and its epidermis is yellowish; in the latter (or at least in the Mediterranean examples*) the epidermis is of a dusky-olive, the sculpture is much more decided, and the radiating lines often pervade the central portion likewise. Bruguière's description of his *A. margaritacea* (Hist. Nat. Vers, 109), for which *Arca nucleus* of Linnæus is indicated as a probable synonym, is rather generic than specific; he admitted but a single species of *nacreous Arca*, which he ascribed to St. Domingo, but referred likewise to England as a habitat, on the authority of Da Costa. As Petiver's rude figure (Gaz. pl. 17, f. 9) of the present species is cited by him as the most characteristic, we may fairly regard his *margaritacea* as, in the main, identical with the commonest of our known *Nucula*.

3. *N. STRIOLATA*, *Adams*, f. 129.—T. sp. præcedenti simillima, sed semper pallidè olivaceâ, magis obliqua, compressa, sublævigata (oculo autem armato undique striolis vix elevatis densè radiata); rugæ concentricæ obsoletæ et æqualiter diffusæ. Lunula haud definita.—Closely resembling *nucleus*, but more oblique, compressed, always of a pale-olive, smooth to the eye, but under a powerful lens the general surface everywhere densely radiated with scarcely raised striolæ: the concentric wrinkles obsolete and evenly diffused. Lunular area undefined.—The likeness to a young Mediterranean *nucleus* is most striking. Owing to the thinness of the epidermis there is an external iridescence around the lunular area.

4. *N. RADIATA*, *Hanley*, f. 123, 124.—T. *N. nucleo* simillima, sed major, longior, magis obliqua magisque inæquilateralis, radiis aliquando rubro-aurantiis nonnunquam fumosis picta, magis minusve compressa. Cutis nitidiusecula, olivacea, in junioribus olivaceo-lutea.—With the shape, sculpture, and general characters of *nucleus*, but larger, longer, more oblique, still more inequilateral

* I suspect that the *N. rugulosa* of Sowerby (Conch. Illust. Nucula, n. 28, f. 19, copied in Hanl. Rec. Bivalves, p. 171, pl. 20, f. 10) was constituted from this variety; at least, I know no species which so greatly resembles it. It is thus described:—"Ovate-triangular, with a greenish epidermis, covered with rugulose striæ; angles obtuse; anterior (*i.e.* posterior) slope with a central elevation; posterior (*i.e.* anterior) slope somewhat rounded; ventral margin very finely crenulated, 0'5."

(the beaks being almost terminal in the adult), and less prominent behind. More or less compressed, and under a not quite dull epidermis, that ranges in tint from olivaceous-yellow in the young to deep-olive in the mature, colour-rayed; rays for the most part narrow and smoke-coloured, sometimes (especially in the young) orange-red, and broader; sometimes painted with both colours. The lunule is elongated, but less prominent than in *nucleus*.—There is more posterior projection in the fry, but at that stage the elongated shape is peculiarly conspicuous and the rays more vivid.

5. N. CASTANEA, *A. Adams*, f. 130.—T. conspicuè obliqua, latitudine longitudinem æquante, compressa, cute luteo-castaneâ induta, haud radiata, sublævigata. Margo dorsalis anticus arcuatus, elongatus. Latus posticum fere nullum, infernè acclivitate repentinâ marginis multum arcuati et argutè crenulati obliquè excisum. Lunula valde prominens, bene definita.—Peculiarly oblique, about as broad as long, compressed, invested with a rather glossy, yellowish-chestnut epidermis, not colour-rayed, everywhere almost smooth, merely obscurely wrinkled concentrically, devoid of radiating or divergent sculpture. Anterior extremity narrowed, yet well rounded; front dorsal edge peculiarly elongated and arched. Posterior side scarcely any, obliquely cut off below by the abrupt ascent of the much arcuated ventral margin, which is finely crenulated within: lunular region peculiarly prominent and well defined.—Mr. Cuming and Mr. Metcalfe each possess a single specimen.

6. N. NITIDULA, *A. Adams*, f. 142.—T. obliqua, ovato-conoidalis, æquè lata ac longa, haud ventricosa, valde inæquilateralis; cute polita pallidè olivaceâ, zonisq̄ nigro-cinereis cinctâ, induta, undique lævis. Margo ventralis crenulatus, valde arcuatus, posticè conspicuè acclivis. Latus anticum rotundato-subcuneiforme. Nates prominentes. Lunula subangulatim definita, multum eminens.—Oblique, ovate-conoidal, as broad as long, by no means ventricose, extremely inequilateral, with a polished pale olive-coloured epidermis, and dark grey zones, everywhere smooth. Ventral margin crenulated within, much arcuated, rising behind so as to obliquely round off the posterior corner. Extremity of the subcuneiform anterior side rounded, front dorsal slope very decided, much produced. Beaks acute, prominent, touching. Lunular area much projecting, subangularly defined.

7. N. NITIDA, *Sowb.*, f. 120.—T. ovato-trigona, satis ventricosa (in exemplis junioribus compressa), cute nitidissimâ olivaceo-cinereâ induta, nonnunquam lineis fumosis radiata, rugis subpliciformibus concentricis striisque radiantibus subobsoletis

utrinque sculpta, in medio sublævigata. Latus posticum conspicuè breve infernè angulatum eminensque. Margo ventralis crenulatus multum arcuatus, posticè satis repentè acclivis. Area dorsales tantum lineis incrementi rudè corrugatæ; lunula haud definita, haud prominens. Margo cardinalis subangustus.—Ovate-trigonal, subventricose (compressed when young), clothed with a highly polished ashy-olive epidermis, occasionally marked with smoke-coloured linear rays: with concentric subpliciform corrugations and very faint radiating striæ at the broader end, rather less manifest ones on the narrower end; intermediate surface nearly smooth to the eye, but under the lens (the epidermis being removed) marked with radiating incised lines. Lower extremity of the peculiarly short hinder side angularly prominent, dorsal slope abrupt. Anterior end subangulately rounded. Ventral margin crenulated within, much arcuated, rather suddenly rising behind. Beaks sharply prominent. Lunular area undefined, not prominent, and as well as the simple, somewhat flattened front dorsal region merely coarsely wrinkled by the lines of growth. Hinge-margin rather narrow: teeth as in *nucleus*.—The *N. argentea* of Brown (Illust. Conch. G. B., p. 85, pl. 33, f. 14, 15) is probably the fry of this species.

8. *N. PROXIMA*, Say, f. 118, 119.—T. subtrigona, valde inæquilateralis et obliqua, latitudine longitudinem fere æquante, valida, ventricosa, cute nitidâ olivaceo-cinereâ induta, sublævigata. Latus posticum infernè haud angulatum, acclivitate conspicuâ marginis ventralis crenati multumque arcuati obtusè excisum. Margo dorsalis anticus valde declivis, rectiusculus. Nates erosæ. Lunula haud prominens, sulco tenui (in adultis) circumscripta, haud divaricatim insculpta. Margo cardinalis latus.—*Var.* T. perobliqua, cute olivaceâ, lunulâ haud circumscripta.—Subtriangular, very oblique, nearly if not quite as broad as long, ventricose, clothed with a thin glossy olivaceous ash-coloured epidermis, when adult smooth except for the pliciform wrinkles of increase, which are often conspicuous on the dorsal regions, and some very faint radiating striæ, which are most perceptible below posteriorly. Ventral margin crenated, much arcuated, much rising behind, so as to cut off without angularity the posterior corner. Front dorsal slope straightish, produced, very decided. Beaks almost terminal, peculiarly inflected, always eroded. Lunular region not prominent, defined by a thin groove (in the adult only), not divergently sculptured. Front dorsal area rather sunken. Hinge-margin broad; teeth remarkably high, curved, and sharp.—*Var.* More olive-coloured, peculiarly oblique; lunular region undefined.—

The surface, on the removal of the epidermis, appears faintly radiatingly striated, and the teeth, in the adult, are about twenty-two on one side and eleven on the other; these striæ are much more manifest in the fry, which are provided, as usual, with a much smaller number of teeth. All the specimens I have seen named "*radiata*, Dekay," appear to be the young of this species, but the furrow represented in his figure I have never descried (except as an accident of growth) in any *Nucula*.

9. *N. PAULLULA*, *A. Adams*, f. 131, 132.—*T. minuta*, perobliqua, subovata, longitudine latitudinem paululum superante, valde inæquilateralis, ventricosa, cute pallidè olivacèâ induta, undique sublævigata. Extremitas lateris antici producti subattenuati rotundata; latus posticum, acclivitate obliquâ marginis ventralis crenati et arcuati, infernè rotundato-excisum.—Minute, very oblique, subovate, not quite so broad as long, ventricose, moderately strong, very inequilateral, with a polished pale olive-coloured epidermis, everywhere smoothish, yet with irregular concentric incremental sulci: extremity of the produced and tapering anterior side rounded. Ventral margin crenated within, arched, rising behind so as to obliquely round off the posterior corner.—The same poor specimen has served Mr. Adams and myself for description, and no definite characters can be derived from it. Its beaks are eroded, but apparently much reflected: the lunular area is not either decidedly prominent or clearly defined.

10. *N. MITRALIS*, *Hinds*, f. 144.—*T. conoidalis*, valida, ventricosa (in exemplis adultis), lævis, cute nitidissimâ flavâ induta, valde inæquilateralis. Extremitas antica rotundato-subcuneiformis; postica infernè rotundato-excisa. Nates peracutæ, involutæ, eminentes. Area tuberculis transversim costellata. Lunula haud prominens, concavè defnita. Cartilago perobliqua.—Longitudinally conoidal, ventricose when adult, with a polished olivaceous-yellow epidermis, smooth. Anterior side greatly produced, its extremity rotundately subcuneiform; ventral margin arched, crenated, and rising behind so as to obliquely round off the corner of the very short and nearly straight posterior side. Beaks very acute, prominent, involute, not touching. Front dorsal region barred across by short costellar tubercles that do not extend far from the but little curved margin. Lunular region excavately defined, not prominent: cartilage very oblique.—The typical form of *mitralis* is rather sharper at the beaks and more slender at the anterior tip than in the more swollen *gibba*.

11. *N. MARMOREA*, *Hinds*, f. 145.—"*T. elliptica*, solidula, al-

bidâ, sulcata; liris ad angulum planulatis; latere antico (*i.e.* postico) brevi, subacuminato; marginibus ventralibus minutè crenulatis. $2\frac{1}{3}$ lin. Straits of Malacca."—In default of a specimen, I am compelled to copy this brief description.

12. *N. SULCATA*, *A. Adams*, f. 127.—T. obliqua, subovata, longitudine latitudinem ferme superante, crassa, undique ventricosa, cute olivaceo-cinereâ haud politâ induta, sulcisque inclinatim subarctis undique concentricè insculpta. Extremitas postica infernè rotundato-excisa. Margo ventralis crenatus, arcuatus. Sulci regionum dorsalium subobsoleti; interstitia striolis divaricatis minutis arctè ornata. Lunula valde eminens. Nates sæpius erosæ.—Oblique, somewhat ovate, for the most part longer than broad, very strong, evenly ventricose, clothed with an unpolished olivaceous ash-coloured epidermis, grooved throughout; grooves concentric, shelving, rather close. Ventral margin more or less arcuated, crenated within, rising behind so as to rotundately cut off the posterior corner. Grooves of the dorsal regions somewhat obsolete; their intervals densely marked with most minute divergent striæ; lunular area much projecting. Beaks usually eroded.—The cartilage-support protrudes greatly, and slants but little. The teeth seem to average about sixteen and ten. Even the dorsal edges are crenulated, yet very delicately.

13. *N. PULCHRA*, *Hinds*, f. 146.—“T. elliptica, solida, sulcata; interstitiis transversim striatis; marginibus ventralibus crenulatis; cardine anticè (*i.e.* posticè) dentibus 9, posticè 27–29. 7 lin.”—It is said by Mr. Hinds, from whose works both figure and description have been copied, to resemble the fossil *Duchastellii*, but to differ by its striated lunule and uninterrupted lamellæ.

14. *N. PISUM*, *Sowerby*, f. 133.—T. minima, valde inæquilateralis, satis ventricosa, subobliquè obovalis, cute pallidè olivaceâ vix nitidâ induta, rugis elevatis densis (quarum interstitia liris minutissimis posticè, et nonnunquam anticè, sunt decussata) undique (nisi ad umbones) concentricè sculpta. Extremitas postica infernè rotundato-excisa. Regiones dorsales striis divaricatis minutissimè ornata. Margo ventralis multum arcuatus, argutè crenulatus. Lunula satis prominens, haud definita.—Very small, moderately ventricose, clothed with a rather glossy yet not polished pale or cinereous-olive epidermis, rather obliquely oval. General surface (the umbonal region excepted) densely wrinkled concentrically; the corrugations raised, narrower than their intervals, which (under a powerful lens) are, on the shorter side at least, obscurely and finely lyrated across: when highly magnified, too,

both the front dorsal region and the lunular area are manifestly though faintly and minutely marked with divergent striæ. Extremity of the produced anterior side rounded, its slope moderate. Posterior side excessively short, not angulated below, but cut off, as it were, in an oblique curve, by the much arcuated ventral margin, which rises behind and is finely crenulated within. Lunular area undefined, rather prominent.

15. *N. DECLIVIS*, *Hinds*, f. 147.—“*T. parva*, obliquè elliptica, solidula, epidermide tenui fuscâ induta; latere antico (*i.e.* postico) brevi; margine dorsali longè inclinato, ventralibus crenulatis. 2 lin. Hab. ? (Mus. Belcher.)”—Unknown to me, but said to be closely allied to *pisum*, and still more oblique.

16. *N. CRENULATA*, *A. Adams*, f. 134, 135.—*T. N. exigua* assimilis, sed major, cute olivaceâ, sulcis propinquieribus, striis radiantibus subobsoletis, margine ventrali minus arcuato.—*Var. ? Paytensis*. Sculptura nonnunquam ad umbones obsoleta; liræ radiantes, conspicuæ; lunula infernè paululum eminentior, aliquantumque angulariter planulata.—Resembling *exigua*, but larger, rather more tapering at the front extremity, and more rounded off at the posterior ventral corner; the epidermis olivaceous; the grooves much closer, the radiating sculpture almost obsolete; the ventral margin less arcuated.—The type (a single individual) looks like a large *exigua*, but is more compressed in proportion, and the sulci are much closer on its nuclear portion than upon that shell. The lunular area is neither impressed nor groove-defined.—*Var. ? N. Paytensis*, *Adams*, *Proc. Zool. Soc.* 1856, p. 51. Sculpture sometimes obsolete on the umboes, the radiating lyræ very distinct; lunular area rather more angularly depressed, and slightly more projecting below (f. 160, 161).

17. *N. EXIGUA*, *Sowerby*, f. 136.—*T. minuta*, obliquè ovata, longitudine latitudinem multum superante, valida, ventricosa, nitidiuscula, pallidè lutescens, sulcis remotis inclinatis striisque radiantibus decussatis undique concentricè sculpta. Extremitas antica rotundata, margo ejus dorsalis convexus. Latus posticum brevissimum, infernè obsoletè subangulatum, haud autem prominens. Margo ventralis crenatus, arcuatus, posticè acclivis. Regiones dorsales costellis, anticis remotis, posticis approximatis, transversim ornata. Nates lunulaque haud eminentes.—Minute, obliquely ovate, decidedly longer than broad, ventricose, of a rather glossy yellowish-white; disks marked throughout with regular coarse concentric grooves, which are distant, shelving, and radiatingly decussated by finer striæ: dorsal regions barred across; the front costellæ dis-

tant, the hinder ones close. Ventral margin crenated within, much arcuated, rising behind. Anterior extremity well rounded, front dorsal slope convex. Posterior side very short, not at all projecting below, yet obsoletely subangulated. Neither beaks nor lunular region prominent.

18. *N. CASTRENSIS*, *Hinds*, f. 148.—T. elliptica, anticè (*i.e.* posticè) rotundata, epidermide olivaceâ induta; lineis divaricatis; marginibus ventralibus crenulatis; cardine anticè dentibus 5, posticè 11.

19. *N. MIRABILIS*, *Ad. and Reeve*, f. 114.—T. ovali-truncata, subventricosa, cute luteâ haud nitidâ induta, undique divaricatim arcuatè costellata; costellæ anticæ cum costellis posticis angulos acutos in medio testæ formantes. Extremitas postica infernè obliquè rectangularis. Margo ventralis utrinque acclivis, anticè arcuatus, posticè subsinuatus. Area haud circumscripta. Lunula magna, profunda, costellis parvis densisque transversim ornata, angulo circumscripta: angulus divaricatim sculptus.—Truncated-oval, subventricose, with a dull dirty-yellow epidermis, everywhere finely and somewhat arcuatedly ribbed: the front and hinder ribs, which are rounded and narrower than their intervals, diverging from each other at acute angles just behind the middle of the shell; a similar double divergence along the angular circumference of the large and strongly impressed lunule, which latter is barred across by much denser and smaller ribs. Anterior side produced, somewhat tapering, and well rounded at its extremity; its dorsal slope rather slight, convex. Posterior side short, obliquely rectangular below (in the adult). Ventral margin much arched in its anterior ascent, more or less retuse (with age) just before the end of its posterior ascent. No defined front dorsal area, but the ribs are there denser and more numerous. Umboes rather prominent; beaks obliquely coiled, recurved.

20. *N. DIVARICATA*, *Hinds*, f. 151.—“T. elliptica, anticè (*i.e.* posticè) excavata, subacuminata, posticè (*i.e.* anticè) rotundata; lineis divaricatis striata; marginibus ventralibus crenulatis; cardine anticè (*i.e.* posticè) dentibus 7, posticè (*i.e.* anticè) 22–24.”—Were it not that the described number of the teeth is much greater in the smaller shell, I should have believed this to be an immature *mirabilis*.

21. *N. MALABARICA*, *Hanley*, f. 152.—T. minuta, trigona, haud elongata, satis obliqua, tantum ad umbones angustos et elevatos ventricosa, supernè rectangularata, nitida, undique concentricè costellata: sulci interstitiales liris radiantibus exilibus ornati. Latus

posticum (pro genere ejus) hæud breve, ad extremitatem subangulatam prominens. Margo dorsalis uterque declivis et rectus: ventralis regulariter arcuatus, hæud sinuatus, intus crenatus; cardinalis latus. Dentes pauci: fossa cartilaginis perparva, hæud obliqua.—Minute, triangular, not elongated, rather oblique, ventricose at the umboes, elsewhere more or less compressed, rectangular above (the dorsal slopes being straight and decided), glossy, everywhere concentrically costellated; the interstitial sulci, except perhaps on the undefined and inconspicuous dorsal areas, adorned with fine and numerous radiating lyræ. Hinder side not so short as usual, subangular and prominent at its extremity. Ventral margin regularly arcuated, not sinuated, coarsely crenated within. Beaks peculiarly high, and laterally compressed. Hinge-margin broad: teeth few (ten and six); pit minute, perpendicular.—Possibly immature, but strongly characterized. The specimens were dead and devoid of epidermis.

Sect. B. *Margins not crenulated.*

22. N. PUELCHA, *D'Orb.*, f. 149.—T. ovato-trigona, subventricosa, infernè tantum rudè corrugata. Extremitas antica infernè rotundato-subangulata; postica infernè acutè obtusangularis; margo posticus rectiusculus satsique obliquus. Margo ventralis arcuatus, integer, posticè multum acclivis, hæud sinuatus. Nates eminentes, acutæ. Lunula angulatim circumscripta, impressa, satis magna, vix protrusa. Area hæud definita. Dentes multi. Cartilago hæud horizontalis.—Ovate-triangular, not particularly oblique, subventricose, coarsely wrinkled concentrically near the ventral margin. Front extremity subangulately rounded below. Hinder side not so very short for the genus, sharply obtusangular below; the posterior edge not perpendicular, straightish. Ventral margin arcuated, entire, much and somewhat more straightly rising behind, without posterior retusion. Beaks elevated, acute. Lunule rather large, impressed, angularly defined, scarcely pouting. Front dorsal region undefined. Cartilage not horizontal. Teeth numerous.—D'Orbigny's types of this species, which remind us of *nitida* and *convexa*, are in sorry condition, without epidermis, and worn smooth. There seem some close lamellar wrinkles upon the lunule, but of this I am not sure.

23. N. OBLIQUA, *Lam.*, f. 150.—T. magna, valida, obliquè ovata, vix ventricosa, sublævigata, valde inæquilateralis, radiis hæud picta, intus argentea, anticè rotundata, posticè infernè rotundato-angulata. Margo dorsalis anticus convexus satsique declivis; posticus declivis, subrectus vel subretusus; ventralis arcuatus,

haud sinuatus, intus subinteger (minutissimè crenulatus); cardinalis valde latus. Nates acutæ. Lunula haud sculpta, profundè circumscripta: area subinconspicua. Dentes antichi permulti; postici perpauci. Fossa cartilaginis angusta, obliqua.—Large, strong, oblique, ovate, scarcely ventricose, smoothish or with coarse incremental wrinkles in front, very inequilateral, not colour-rayed, silvery-white within, simply rounded in front, rotundately angulated below behind. Front dorsal edge convex, not remarkably sloping; hinder slope decided, straightish or subretuse, sinuated by the profound concavity which defines the lunule. Ventral margin arcuated, devoid of a sinus, not distinctly crenulated within, yet most minutely so at the outer edge. Beaks acute, not much elevated. Hinge-margin very broad: front teeth very numerous; hinder ones very few: cartilage-pit narrow, moderately slanting.—I am indebted for the recognition of this species to M. Chenu, who having delineated the type for his beautiful 'Manuel,' kindly forwarded me the unpublished woodcut. The epidermis ranges from shining olivaceous-yellow to dark ashy-olive.

24. N. CUMINGII, *Hinds*, f. 117.—T. ovali-elliptica, haud ventricosa, lævigata, lineis incrementi subpliciformibus tantum ornata, cute nitidissimâ pallidè olivaceo-virente induta. Extremitas antica subattenuatè rotundata, supernè subemarginata; postica rotundato-acuminata, et longior quam in *Nuculis* aliis. Margo ventralis integer, fere semicircularis, posticè subsinuatus. Lunula parva, lanceolata, planulata. Area permagna, prominens, retusione sulciformi circumscripta.—Oval-elliptic, only subventricose, everywhere smooth, except for the subpliciform wrinkles of increase, with a polished pale greenish-olive epidermis. Anterior extremity somewhat tapering, rounded, subemarginate above, front dorsal slope convex and nearly horizontal. Posterior side long for the genus, rotundately peaked, the peak subcentral, the somewhat retuse dorsal slope not being abrupt as usual. Ventral margin entire, almost semicircular, with a slight retusion near its posterior extremity. Lunule small, lanceolate, flatly impressed. Lozenge large, prominent, well and concavely defined in the adult. Teeth usually six and eighteen.

25. N. GRAYI, *D'Orbigny*, f. 126.—T. ovalis, longitudine latitudinem multo superante, subventricosa, lævis, cute nitidissimâ olivaceo-virente (rarius olivaceo-fuscescente) induta, anticè subattenuatè, posticè subangulatim, rotundata. Latus posticum haud prebreve. Margo dorsalis anticè convexus, prope nates haud emi-

mentes vix declivis; posticè rectiusculus, satis modicè declivis; ventralis integer, arcuatus, utrinque valde acclivis. Area dorsales haud definitæ: postica subplanulata.—Oval, thin, much longer than broad, only subventricose, with a polished greenish-olive (or more rarely brownish-olive) epidermis, smooth, with at most obsolete wrinkles of increase, which are more manifest on the lunular region, rounded at both ends, somewhat taperingly so in front, subangulately so behind. Hinder side rather elongated for the genus. Front dorsal edge convex, at first scarcely sloping; hinder one only moderate, straightish. Ventral margin entire, arcuated, much curving up at both ends. Dorsal areas undefined, the hinder one somewhat flattened. Beaks not prominent.

26. *N. STRANGEI*, *A. Adams*, f. 125.—T. valde obliqua, subovata, longitudine latitudinem multo superante, cute nitidissimâ aureo-virente induta, concentricè corrugata. Extremitas postica haud perbrevis (utpote *Nuculæ* est), infernè rotundato-angulata. Margo dorsalis anticè primum convexus vixque declivis; posticè haud repente declivis. Margo ventralis integer, arcuatus, utrinque, et posticè præsertim, multum acclivis. Lunula haud definita, propè nates parvas vixque eminentes subimpressa; labiis aliquantum protrusis. Area aliquantum prominens, obsolete circumscripta.—Very obliquely subovate, much longer than broad, very thin, rather compressed, with a polished pale golden-green epidermis, and faint but regular concentric wrinkles. Anterior extremity well rounded, front dorsal slope at first slight and convex. Posterior side not short for the genus, hinder dorsal slope short, not abrupt, but moderate, forming a rounded-off angle with the ventral margin, which is arcuated, entire, and rises greatly on both sides, but especially so behind. Lunular region undefined, somewhat impressed near the small and little projecting beaks, its lips rather pouting. Front dorsal area rather prominent, indistinctly defined by a retusion.

27. *N. SIMPLEX*, *A. Adams*, f. 137.—T. obliquè ovata, longitudine latitudinem multo superante, tenuis, subventricosa, cute nitidissimâ olivaceo-virente induta, intus cærulescens, vix lævis, obsolete concentricè striata. Extremitas lateris postici perbrevis, infernè obsolete obtusangulata. Margo ventralis integer, multum arcuatus, posticè obliquè acclivis. Nates acutæ, haud eminentes. Lunula parva, concentricè striata, infernè impresso-planulata, superne protrusa. Area prominens, haud autem definita.—Obliquely ovate, much longer than broad, thin, subventricose, with a polished epidermis that ranges in tint from pale to dark greenish-

olive; scarcely smooth, the faint striæ of growth being here and there almost regular. Anterior extremity well rounded, front dorsal slope at first slight, convex. Ventral margin entire, much arcuated, rising obliquely behind, forming a rather obscure obtuse angle with the abrupt slope of the very short posterior side. Beaks acute, not prominent. Lunule small, concentrically striated, flatly impressed below, pouting above. Front dorsal area not defined, but prominent. Nacre bluish.

28. *N. CONVEXA*, *Sowerby*, f. 112, 113.—*T. obliquè ovata*, longitudine latitudinem multo superante, valida, concentricè corrugato-subplicata. Latus posticum haud perbrevis, fere in medio angulatum. Margo dorsalis anticus propè nates prominentes rectiusculus vixque declivis, deinde curvatus satisque declivis; posticus brevis, demum retusus. Margo ventralis integer, multum arcuatus, posticè notabiliter obliquè acclivis. Lunula brevis, satis circumscripta, planulato-impressa, cordata. Area fere inconspicua. Margo cardinalis latus: dentes circiter 22-7: cartilago subhorizontalis.—Obliquely ovate, much longer than broad, strong, subpliciformly corrugated concentrically. Anterior side rounded at the extremity (sometimes a little taper); its dorsal slope at first straightish and nearly horizontal, then curved and moderately sloping. Posterior side not short for the genus, subcentrally angulated, its dorsal slope short, not very abrupt, eventually retuse. Ventral margin entire, much arched, very conspicuously slanting upwards behind. Umboes prominent. Lunular area tolerably defined, flatly impressed, short, cordiform. Front dorsal area a little indented, undefined. Hinge-margin broad; cartilage subhorizontal: teeth little raised, about twenty-two and seven (in the aged), very close, wide, and obtusangular.—The epidermis of the adult is unknown, but it is cinereous and shining in the fry, which is at that stage smooth, with its lunule projecting in the middle.*

29. *N. ANTIPODUM*, *Hanley*, f. 155.—*T. valde obliqua*, elliptica, posticè rectè truncata, anticè rotundato-attenuata, maximè inæquilateralis, valida, subventricosa, lævis, cute nitidâ pallidè

* In the 'Proceedings of the Boston Society of Natural History' (ii. p. 100), Dr. Gould refers to *N. tumida* of Reeve (? a slip of the pen) as resembling his—

N. TURGIDA.—"T. alba, subæquilateralis, subrhoïboïdea, posticè acuta, anticè rotundata, ventricosa, margine ventrali pendente, ubique lamellis concentricis obtusis reflexis confertis ornata: natibus prominentibus; cardine dentibus 21 utroque latere instructo. $\frac{3}{4}$ - $\frac{1}{4}$." No locality is mentioned, but the description is included in his account of Tavoy land and fresh-water shells. From the dentition and lamellation I should have thought it a *Leda* rather than a *Nucula*.

olivaceo-lutescente vel cinerascete induta, intus argentea. Margo dorsalis anticè convexus, declivis; ventralis arcuatus, integer, posticè haud sinuatus, et ibi conspicuè acclivis, cum margine postico rectiusculo angulum valde obtusum formans. Nates parvæ, acutæ, haud prominentes. Lunula magna, concentricè subrugosa, planulata, angulo definita. Area inconspicua.—*Var.* Extremitas antica tantum rotundata; postica aliquantum prominens magisque angulata.—Very oblique, truncated-elliptic, strong, subventricose, smooth, with a pale-yellowish or ashy-olive shining epidermis. Anterior side tapering from above to a rounded extremity; its convex dorsal edge at first but little, subsequently decidedly sloping. Posterior margin almost perpendicular, forming a very obtuse angle with the arcuated and entire ventral edge, which rises without sinuation, more peculiarly behind. Beaks small, acute, not projecting. Lunule large, more or less wrinkled concentrically, angular at its circumference from its flatness. No marked escutcheon. Hinge-margin, teeth, and cartilage not remarkable. Nacre silvery-white.—*Var.* Anterior end well rounded, not tapering from above only: posterior end more angulately prominent.—This may possibly be the *obliqua* of the ‘Voyage de la Venus.’

30. N. LAYARDI, *A. Adams*, f. 153.—*T. N. convexa* valde assimilis, tenuis, autem, minus ventricosa, tantum obsoletè, remotiusque, corrugata; lunulâ majore subangulatim circumcincta. Cutis nitidissima, cinereo-virens. Margo ventralis haud posticè sinuatus. Nates haud prominentes. Cartilago haud horizontalis. Superficies interna albo-margaritacea. Dentes circiter 15-6.—Closely resembling *convexa*, but decidedly thin, less ventricose, only faintly (rather remotely) wrinkled concentrically; the lunule rather larger, subangulately defined. Epidermis polished, greenish ash-coloured: ventral margin not indented near the hinder end. Umboes not prominent. Cartilage not horizontal: nacre white; teeth about fifteen and six, sharp, vaulted, moderately high.

31. N. ÆGEENSIS, *Forbes*, f. 154.—“*T. ovatâ*, subdepressâ, lævi, inæquilateralî, anticè rotundatâ, posticè angulatâ, marginibus internis lævibus.”—A single valve (the only specimen now attainable) was given to the author by Professor Forbes, and from it can only be gleaned as an addition to his most inadequate description, that the shell is subventricose at the umboes, the epidermis of a polished oil-yellow, the dorsal areas wholly unsculptured, the lunule concavely defined, the beaks very prominent, and the ventral margin much arcuated. For other details of shape

(certainly not strictly ovate, and by no means inequilateral for its genus,) the reader is referred to our engraving of that example, which closely resembles *tenuis* and *inflata*, but appears distinct.

32. N. M^cANDRÆI, *Hanley*, f. 143.—T. angustè subovata, in medio latior, pertenuis, semipellucida, valde compressa (nisi ad umbones), cute nitidissimâ cinereâ induta, undique lævis. Extremitas antica supernè rotundato-obtusangularis; postica minimè brevis (pro genere ejus), fere in medio rotundato-acutangularis. Margo dorsalis anticè rectiusculus haudque declivis; ventralis integer, multum arcuatus, posticè multum acclivis. Nates peracutæ, haud tamen valde eminentes. Areæ dorsales subimpressæ, haud circumscriptæ; lunulæ labiis carinato-protrusis.—Produced subovate, very thin, much compressed, except on the umboes, with a polished cinereous epidermis, everywhere smooth. Anterior side rotundately obtusangular above, the dorsal edge being horizontal and straightish, well rounded below; posterior side long for the genus, rotundately acutangular, the peak subcentral, the dorsal slope straightish, not abrupt: chief breadth subcentral. Ventral margin entire, much arcuated, much rising behind. Beaks not much projecting, yet conspicuous from their acuteness. Dorsal areas undefined, yet somewhat concavely impressed. Lunular lips carinately pouting.—The hinge resembles that of *tenuis*, but the teeth seem scarcely so numerous. I doubt, however, the maturity of the examples.

33. N. TENUIS,* *Mont.*, f. 140, 141.—T. pertenuis, undique (etiam ad umbones) compressa, anticè semiovalis, posticè brevissima et rotundato-biangulata; cute nitidissimâ olivaceo-lutescente vel olivaceo-cinereâ induta, lineis incrementi tantum insculpta. Margo dorsalis anticus prope nates acutas, perparvas, valde obliquas, vix prominentes, rectiusculus vixque declivis, deinde arcuatus et declivis; ventralis integer, ante medium valde arcuatus. Areæ dorsales minimè definitæ; lunulæ labiis protrusis. Dentes circiter 15–7.—Very thin, compressed (even at the umboes), about half as long again as broad, chiefly expanded anteriorly at about one-third the entire length, semioval in front, rotundately biangulated behind, with a polished epidermis, that ranges in tint from

* The *N. tenuis* of Gould (*Invert. Massach.* p. 105, f. 64.—*Dekay*, *N. York Moll.* 181), described from scarcely matured examples, is exactly intermediate in characters between the typical *tenuis* and the boreal *inflata*. It is more produced lengthways, less swollen, and usually greener than the latter; more trapezoidal, less arcuated ventrally, and less rising and projecting at the lower posterior corner than the former. Gould states that the manuscript name *lucida* was attached to the specimens in the Philadelphia Museum, and it is doubtful whether it should be regarded as a distinct species, or as a mere varietal link with *inflata*.

olivaceous-yellow to ashy-olive, smooth, yet with strongly marked wrinkles of increase. Ventral margin entire, arcuated (the arch very prominent just before the middle), rising somewhat more straightly behind, so as to form a rounded-off obtuse angle with the straightish or somewhat convex, rather abrupt posterior edge. Front dorsal edge just at first straightish, and subhorizontal, then much curved and descending. Posterior side very short, projecting below. Dorsal areas wholly undefined; lunular lips pouting. Beaks very small, bent much forward, scarcely prominent, yet conspicuous from their acuteness. Front hinge-margin sunken internally. Teeth (in the adult) about fifteen and seven or sixteen and eight; the front ones scarcely vaulted, and near the extremity compressed and seated on the inner edge. When not quite mature a rounded off, very obtuse, angle is exhibited at the front dorsal corner.

34. *N. INFLATA*, *Hancock*, f. 115, 116.—*T. sp. præcedenti similima, sed magis trapezæformis, (sæpius brevior) ventricosa vel tumida, umbonibus inflatis, prominentibus, cute sordidè luteo-virente, vel olivaceo-brunnèâ. Margo ventralis neque ante medium notabiliter arcuatus, nec posticè conspicuè acclivis. Extremitas postica abruptè truncata, haud infernè eminens. Lunula infernè planulata.*—Closely resembling *tenuis*, but more trapeziform, ventricose or tumid, swollen and projecting at the umboes, usually only one-fourth longer than broad; the epidermis ranging from dirty yellowish-green to olive-brown. Ventral margin neither particularly swollen before the middle, nor peculiarly rising behind. Posterior side abruptly truncated, not projecting below. Lunular region not strictly defined, but flattened at the circumference. Teeth and hinge-margin not peculiar.

35. *N. BELLOTHI*, *A. Adams*, f. 128.—*T. tenuis, subventricosa, cute nitidissimâ, in medio olivaceo-virente, luteâ autem supernè, posticè, et aliquando etiam infernè, induta; nisi ad umbones concentricè plicato-corrugata. Dimidium anticum obliquè semiellipticum; posticum supernè subrectangulare, infernè rotundato-subangulatum. Latus posticum fere excisum. Margo ventralis integer, in medio subarcuatus, utrinque acclivis. Lunula dense corrugato-plicata, vix definita, infernè concaviuscula. Area expansa, aliquantum subimpressa.*—Anterior half obliquely semi-elliptic, posterior half subrectangular above, rotundately broadly subangulated below; thin, subventricose, with a very highly polished epidermis, which is yellow dorsally, posteriorly, and, for the most part, ventrally, before the middle, and is greenish-olive

elsewhere, smooth on the umboes, but elsewhere with puckered wrinkles of increase, which are very conspicuous below. Front dorsal edge horizontal or rising, at first almost straight. Posterior side almost excised, the hinder edge being almost perpendicular, and the beaks, which, when not eroded, are acute and prominent, being almost terminal. Ventral margin entire, subarcuated in the middle, rising convexly at both ends. Lunular region much and closely puckered, not strictly defined, yet concavely impressed at its circumference, and often marked with a few irregular radiating incised lines. Front dorsal region expanded, disposed to be indented.—The hinge appears to resemble that of *tenuis*, but I have not examined any example which was uninjured in that respect.

36. N. DELPHINODONTA,* *Mighels*, f. 138, 139.—T. minima, subobliqua, latè ovato-trigona, ventricosa, cute nitidissimâ olivaceo-virente vel olivaceo-luteâ induta, infernè plicis planulatis subinclinatâ, sulcisque latis (aliquando etiam supernè) concentricè sculpta. Extremitas antica infernè rotundato-subangulata: latus posticum fere nullum, infernè obliquè retundato-excisum. Margo ventralis integer, modicè arcuatus. Nates valde prominentes, sæpius erosæ. Lunula vix definita, rudè et concentricè corrugata, valde prominens. Area inconspicua.—Minute, of a rather oblique abbreviated ovate-triangular shape, ventricose, especially behind, clothed with a polished olivaceous-green or olivaceous-yellow epidermis, concentrically divided near the lower margin by broad shallow sulci into flattened and somewhat shelving folds: the sulci here and there perceptible (but not regular) on the umbonal region likewise. Anterior extremity subangulately rounded below: posterior edge almost perpendicular. Ventral margin entire, moderately arcuated, rising behind so as to obliquely round off the posterior corner. Beaks much elevated, usually eroded. Lunular region very prominent, undefined (at most a little impressed at its margin), coarsely wrinkled concentrically. Front dorsal area undefined. Hinge-margin broad: cartilage not at all horizontal: teeth three or four, and seven to ten.

* N. NANA, *Hinds*, *Proc. Zool. Soc.* 1843, p. 98.—“T. minima, trigono-elliptica, lævigata, nitida; marginibus ventralibus minutissimè crenulatis; cardine anticè dentibus 5, posticè 11; umbonibus fuscis. Long. 1 lin.” This minute shell, said to come from the Philippines, and described from Mr. Cuming’s collection, must, I suspect, have been lost; for the three specimens named in that cabinet (f. 156) belong to this species, and do not agree with their description. As Mr. Hinds omitted to figure it, and the definition is wholly inadequate, the species may be regarded as too uncertain to be retained.

SOLENELLA, *Sowerby*.

Gen. Char. Longer than broad, not nacreous, gaping at both ends, with a prominent external ligament, and a distinct pallial sinus. Hinge with numerous sharp high teeth on one or both sides.

Sect. I. SOLENELLA proper. Species 1 and 2.—Oval, thin, unsculptured, with a polished epidermis; dorsal margin excised for the ligament: pallial sinus very large. Anterior side with very few teeth, but a blade-like continuation of the inner margin.

Sect. II. NEILO, *Adams*. Species 3.—Sculptured, the epidermis unpolished. Anterior gape slight. Teeth in a straight line, nearly equally numerous on both sides.

1. *S. NORRISII*, *Sowerby*, f. 1, 2.—*T. subovata*, *subæquilateralis*, *subcompressa*, *cute nitidissimâ olivaceâ induta*, *sublævigata*, *posticè (etiamque anticè, sed obsoletius) radio lato vix impressa*. *Extremitas lateris anticî brevioris angustiorisque, in medio retusa, supernè rotundato-subangulata, infernè obliquè rotundata*. *Margo dorsalis uterque vix declivis, anticè convexiusculus; ventralis convexus, anticè magis acclivis. Areæ dorsales nullæ. Dentes anticî permulti.*—*Var.* *Latior*, *brevior*, *rugis incrementi conspicuis; extremitas antica tantum attenuato-rotundata: margo dorsalis utrinque magis declivis.*—Subovate, somewhat compressed, gaping very much at both ends, with a polished olivaceous epidermis that ranges in tint from yellowish to cinereous, merely marked by concentric wrinkles of increase, which in aged examples become almost fold-like near the lower margin; devoid of umbonal ridge or defined dorsal areas; marked, in the adult, with an almost obsolete shallow broad indented ray behind, and a still fainter one in front, at whose terminations the ventral margin is indented. Extremity of the anterior side, which is rather, yet decidedly, the shorter and narrower, retuse in the middle, subangularly rounded above, obliquely rounded-off below: posterior end unsymmetrically rounded. Dorsal slopes slight; front one plano-convex, rather the more decided: hinder one excavated for the ligament. Ventral margin convex, more rising in front. Teeth extremely fine, very numerous in front, scarcely any behind.—*Var. brevior.* Shorter, broader, and with the slopes consequently rather more decided; wrinkles of growth numerous and conspicuous: anterior extremity merely attenuatedly rounded.

2. *S. CUMINGII*, *Hanley*, f. 3.—*T. sp. præcedenti simillima, sed anticè multum longior, et tantum rotundato-attenuata; radii*

impressi obsoleti. Extremitas postica latiuscula, obsoletè biangulata, vel rotundato-subrhomboidalis. Margo dorsalis anticus convexus satisque declivis: posticus brevis vixque declivis. Dentes postici permulti.—Suboval, rather compressed, much gaping at both ends, white under a polished yellowish olive-coloured epidermis, devoid of umbonal ridge or defined dorsal areas, merely marked with concentric wrinkles of increase, with the indented rays and their terminal retusions almost imperceptible. Anterior side very decidedly the longer, tapering to a symmetrically rounded extremity: posterior extremity broadish, either rotundately subbiangulated or faintly rhomboidally rounded, the hinder end being the more projecting. Front dorsal slope convex, moderately decided; hinder one very slight and short, excavated for the ligament. Ventral margin convex, curving up moderately in front. Teeth rather fine, numerous behind, scarcely any in front.—The most striking peculiarity is, that the anterior side, which is the shorter in *Norrisii*, is in this species the longer.

3. *S. AUSTRALIS*, *Quoy and Gaim.*, f. 32.—T. subrhombea, subinæquilateralis, ad umbones ventricosa, infernè compressiuscula, cute fugaci vix nitidâ cinereo-lutescente induta, undique concentricè lirata: regio postica supera (ultra plicam umbonalem conspicuam) tertiam superficiæ implens, in medio retusa. Extremitas lateris antici brevioris supernè angulata, infernè obliquè rotundata; postica supernè angulata, in medio incurvata, infernè rotundata. Margo dorsalis anticè rectiusculus vixque declivis; posticè concaviusculus et acclivis; ventralis in medio subretusus.—Subrhombic, more or less ventricose at the umbonal region, planoconvex below it, obliquely divided into two areas by an umbonal ridge, which parts off a posterior triangle that occupies a full third of the entire surface, and is retuse in the middle, gaping considerably at the hinder extremity: dull-white under a rather dull yellowish ash-coloured fugacious epidermis, everywhere (the dorsal areas excepted) roughened by rather distant concentric raised striæ, otherwise unsculptured. Anterior side scarcely three-sevenths of the entire length, angulated above by the almost horizontal straightish dorsal edge, obliquely rounded below. Posterior dorsal edge concavely elevated, and so produced that the angulated upper termination projects far beyond the rounded hinder ventral extremity: posterior edge incurved in the middle. Ventral margin subparallel to the dorsal, convex or subarcuated, except in the centre, where it is somewhat retuse. Lips of the escutcheon, which is sublinear and plano-concave, pouting. Lunule very narrow, if any.

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The synonyms are in italics.

- abyssicola, *Tor.*, L. sp. 72, f. 167.
 Ægeensis, *Forbes*, N. 31, f. 154.
 amygdalea, *Val.*, L. 58, f. 8, 10, 11.
 analis, *Phil.*, p. 131.
 angularis, Möller = Thraciæformis.
 antipodum, *Hanl.*, N. 29, f. 155.
 arctica, *Gray*, L. 60, f. 5.
 arctica, *Brod.* = lanceolata.
 argentea (Arca), *Poli* = ? decussata.
 argentea, *Brown.* — See nitida.
 argentea, *Da Costa.* — See nucleus.
 Australis, *Quoy & Gaim.*, S. 3, f. 32.
 Belcheri, *Hinds*, L. 21, f. 53.
 Bellotii, *Adams*, N. 35, f. 128.
 bellula, *Adams*, L. 30, f. 74.
 bicuspidata, *Gould*, L. 23, f. 73.
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 buccata, *Steen.*, L. 15, f. 63, 64,
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 Cascoensis, *Migh.* — See arctica.
 castanea, *Adams*, N. 5, f. 130.
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 caudata, *Donov.*, L. 17, f. 60.
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 Chuva, *Gray*, L. 25, f. 67.
 cælata, *Hinds*, L. 42, f. 95, 96,
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 commutata, *Phil.*, L. 45, f. 80, 81.
 complanata, Möller = minuta.
 concinna, *Adams*, L. 12, f. 54, 55.
 confusa, *Hanl.*, L. 26, f. 85.
 Conradi, *Hanl.*, L. 44, f. 101.
 convexa, *Sow.*, N. 28, f. 112, 113.
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 costellata, *Sow.*, L. 11, f. 59.
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 crenulata, *Ad.*, N. 16, f. 134, 135.
 crispa, *Hinds*, L. 50, f. 107, 108.
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 Cumingii, *Hanl.*, S. 2, f. 3.
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 cuneata, *Sow.*, L. 40, f. 92, 93.
 cuneata, *Hanl.* = Elenensis.
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 declivis, *Hinds*, N. 15, f. 147.
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 decussata, *Sow.*, N. 1, f. 109, 110,
 111.
 delphinodonta, *Mighels*, N. 36, f.
 138, 139.
 divaricata, *Hinds*, N. 20, f. 151.
 divaricata, *Valenc.* = ? obliqua.
 eborea, *Conrad*, L., † f. 176 (un-
 determined).
 eburnea, *Sow.*, L. 33, f. 90.
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 Elenensis, *Sow.*, L. 29, f. 70, 71,
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 elongata, *Daudin* = pernula.
 elongata, *Val.* = Sowerbiana.
 emarginata, "Lam." *Phil.* = pella,
Linn.
 Eolica, *Val.* = lanceolata.
 excavata, *Hinds*, L. 52, f. 104, 105.
 exigua, *Sow.*, N. 17, f. 136.
 expansa, *Reeve* = Bellotii.
 fabula, *Sow.* = pella, *Linn.*

* Supposed by Mörch, etc., to be = *delphinodonta*; is larger, less triangular, and more swollen than the ordinary form; in place of coarse distant ridges of growth, it seems to be more closely, finely, and regularly sulcated below.

† "Ovate-acute, ventricose, with minute concentric very regular lines, highly polished, ivory-white; anterior side beaked, pointed, rather the longer."

- fastidiosa*, Adams, L. 35, f. 82, 83.
fluviatilis, Schröter = *pernula*.
fragilis, Chemn., L. 31, f. 171.
fulgida, Adams, L. 34, f. 91.
frigida, Tor., L. 67, f. 168, 169.
gibba, Adams = *mitralis*.
gibbosa, Sow., L. 28, f. 79.
glacialis, Leach (teste Gray), L. 68, f. 30, 31.
gloriosa, Adams, L. 5, f. 42, 43.
Gouldii, DeKay, p. 140, f. 162.
Grayi, D'Orb., N. 25, f. 126.
Hindsii, Hanl., L. 51, f. 102.
hyperborea, Loven = *arctica*.
inconspicua, Adams, L. 19, f. 77, 78.
inflata, Hanc., N. 34, f. 115, 116.
inornata, Adams = *cuneata*.
intermedia, Oersted = *pernula*, teste Torell.
interrupta (Arca), Poli = *PELLA*.
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Japonica, Ad. & Reeve, L. 65, f. 14.
lanceolata, J. Sow., L. 57, f. 12.
lanceolata, Lam. = *Taylori*.
lanceolata, Sow. Senior = *electa*.
lanceolata, Sow. Junior = *Sowerbiana*.
Largillerti, Phil. = *bicuspidata*.
lata, Hinds, L. 20, f. 44, 45.
laternaria, Val. = *Thraciæformis*.
Layardi, Adams, N. 30, f. 153.
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lepida, Adams = *serotina*.
lepidula, Adams, L. 55, f. 6.
limatula, Say, L. 59, f. 9.
limosa, Phil., p. 142.
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lævigata, Spengl. = *Nicobarica*.
lævigatus (*Lembulus*), Beck. = *arctica*?
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M'Andræi, Hanl., N. 32, f. 143.
- macilenta*, Steenst. = *pernula*.
Malabarica, Hanl., N. 21, f. 152.
margaritacea, Brug.—See *nucleus*.
margaritacea, Sow. = *radiata*.
margaritacea, Adams = *convexa*.
marmorea, Hinds, N. 11, f. 145.
Martini, Bolten = *pernula*.
Mauritiana, Sow., L. 38, f. 99.
Metcalfei, Hanl., L. 9, f. 34.
micans, Adams, L. 43, f. 100.
minuta, Phil. (as of *Brocchi*) = *commutata*.
minuta, Gould = *tenuisulcata*.
minuta, Muller, L. 16, f. 61, 62.
minuta, Mont. = *caudata*.
mirabilis, Ad. & Reeve, N. 19, f. 114.
mitralis, Hinds, N. 10, f. 144.
Montagui, Gray = *rostrata*.
Mulleri, Gray = *Thraciæformis*.
myalis, Couth., L. 61, f. 18.
myalis, Hanl. = *arctica*.
nana, Hinds, N. p. 163.
nasuta, Sow., L. 37, f. 86.
navicula, Valenc. = *Australis*.
navicularis, Couth. = *Thraciæformis*.
Nicobarica, Brug., L. 55, f. 7.
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paulula, Adams, N. 9, f. 131, 132.
Paytensis, Ad., f. 160, 161.—See *crenulata*.

- pella*, Linn., L. 22, f. 65, 66.
pella, Gm. = fragilis.
pella, Sow. = confusa.
pella, Brug. = commutata.
pellucida, Gm. = Nicobarica.
pernula, Müll., L. 14, f. 56, 57, 58.
pisum, Sow., N. 14, f. 133.
plicifera, Adams = bicuspidata.
Polii, Phil. = decussata.
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pulchra, Hinds, N. 13, f. 146.
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radiata, Hanl., N. 4, f. 123, 124.
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reticulata, Hinds, L. 46, f. 103.
retusa, Hinds, L. 71, f. 28, 29.
Rossianus, Risso = *pella*, Linn.
rostrata, Gmel. & Schum. = *pernula*.
rostrata, Mont., L. 24, f. 84.
rostrata, Sow. = caudata.
rugulosa, Sow., p. 149.
sapotilla, Gould, L. 63, f. 16.
semiornata, D'Orb. = *pisum*, † var.
- semisulcata*, Adams = *lata*.
serotina, Hinds, L. 54, f. 19, 20, 21.
siliqua, Reeve = glacialis.
simplex, Adams, N. 27, f. 137.
Sowerbiana, D'Orb., L. 2, f. 33.
Strangei, Adams, N. 26, f. 125.
striata, King, p. 123.
striata, Phil. = commutata.
striata, Sow. = fragilis.
striolata, Adams, N. 3, f. 129.
sulcata, Phil. = decussata.
sulcata, Adams, N. 12, f. 127.
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sulcifera, Reeve, L. 73, f. 165, 166.
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tumida, Hinds = convexa.
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 YOLDIA, pp. 106, 138.
Woodwardi, Hanl., L. 62, f. 17, 22.

* "T. oblonga, tumida, inclinatè sulcata, rectè et attenuatè rostrata, posticè rotundata."

† As the engraving of this shell would hardly warrant this synonym, I subjoin a description of D'Orbigny's types, which now rest in our national Museum.—

N. SEMIORNATA, D'Orb. *Amér. Mérid.* 624. pl. 84. f. 27, 28, 29.—Somewhat obliquely ovate, much longer than broad, subventricose, with a shining ashy-olive epidermis, concentrically traversed, towards the ventral margin, especially in front, by somewhat wavy and rather irregular riblets, and adorned on the dorsal regions with divergent curved close costellar striæ; otherwise unsculptured, yet with traces of the radiating crenulæ near the shorter end. Anterior side much produced, its tip well rounded and slightly tapering; its dorsal edge convex. Posterior side extremely short, its lower corner cut off by the oblique rise of the arched and finely crenulated ventral margin. Posterior edge almost perpendicular, convex. Dorsal areas undefined. $\frac{1}{2}$. San Blas, N. Patagonia.

MONOGRAPH OF THE GENUS

HARPA.

Char. Gen. Molluscum gasteropodum, testâ subcanaliferâ, ventricosâ, ovali, costis longitudinalibus reflexis plus minusve regularibus supernè angulatis et acuminatis ornatâ; columellâ et spiræ parte encaustis; spirâ brevi, coronatâ, apice mammillatâ; aperturâ magnâ, anticè emarginatâ, labio externo reflexo, labio interno tenuiter expanso; columellâ planulatâ, anticè acutâ, plicâ canaliferâ costatâ ad dorsum reflexâ.

The peculiar form and reflected ribs of the *Harps* distinguish them from the shells of every other genus. In early stages of growth the shells are striated, but the striæ become obliterated with age.

Species.

1. *H. COSTATA*, *Linn.*, f. 4, 5, 23.—*H. inflatâ*, roseâ, super costas albo-fasciatâ, inter costas longitudinaliter striatâ, fusco sparsim pictâ; costis crebris, supernè vix trilobatis, ad angulum acutè productis, tunc depressis, ad spiram in culmine plicato elevatis; aperturâ latâ, flavidâ, labio interno incrassato, prope medium castaneo maculato.—Linnæus having described a species resembling the "*Buccinum Harpa*," but with crowded ribs, I agree with the author of '*Ipsa Linnæi Conchylia*' that we may conclude this shell, usually known as *H. imperialis*, to be the one intended.

2. *H. VENTRICOSA*, *Lamk.*, f. 18-22, 25.—*H. testâ inflatâ*, subquadratâ, inter costas longitudinaliter striatâ, strigis undulatis acutis castaneis laqueatâ; costis extantibus, fusco et albo fasciatis, supernè angulatis, plerumque latè reflexis, prope angulum subtrilobatis, acutè carinatis; spirâ anfractibus nigro encaustis; aperturâ magnâ, supernè subquadratâ; labio interno suprâ, medio et infra fusco-nigrescente maculato.—This common but beautiful species is distinguished from others by a certain squareness of outline in

the upper part of the whorls, and by the square and pointed flutings of colour between the ribs. Fig. 21 is a close-ribbed variety of this species, and in fig. 18 the markings have become irregular and zebra-like. Fig. 25 represents the young shell.

3. *H. NOBILIS*, *Rumph.*, f. 1, 2, 3.—*H.* testâ subcylindricâ, inter costas lævigatâ, maculis fuscis et rubris seriatim pictâ; costis planulatis, latis, pallidè roseis, transversè nigro-lineatis, ad angulum acutis, infra crenulatis; aperturâ mediocri, labio externo infra crenulato.—Narrower and more cylindrical than *H. ventricosa*, with no dividing points at the upper part of the ribs. Aperture rather narrowing towards the base. The ribs and outer lip of the aperture are crenulated at the lower part.

4. *H. NABLIUM*, *Mart.*, f. 14-17, and 24.—*H.* testâ solidâ, obliquè ovali, supernè declivi, carneâ, rubro et fusco fasciatâ, inter costas strigis undulatis laqueatâ; costis crassis, decumbentibus, plerumque inæqualibus, fasciatis, nonnunquam lineis nigris quasi-articulatis; spirâ elevatâ, encaustâ, declivi, lævi; columellâ maculis spadiceis magnis pictâ.—Our distinct and almost specific variety, f. 16, of which we have only seen two specimens, namely, Mr. Cuming's and our own, is the same as figured in the third volume of Martini, under the name *H. nablium*. Chemnitz afterwards figured a bad specimen of the ordinary variety as "*Buccinum Harpa antiquata*." There are many beautiful varieties of *H. nablium* (known as *H. conoidalis*) which pass into each other by infinite gradations. The slope of the spire, the more obliquely oval form, and other points distinguish them all from *H. ventricosa*.

5. *H. ARTICULARIS*, *Lamk.*, f. 9, 10, 11.—*H.* testâ inflatâ, ovali-ventricosâ, inter costas grisescente pallidè maculis undulatis ornatâ; costis regularibus, pallidè fulvis, lineis latis transversis duplicatis quasi articulatis; aperturâ magnâ, labio interno colore castaneo nigricante latè infuso; spirâ breviusculâ, acutè coronatâ.—This shell is lighter, more ventricose, and less oblique than any of the varieties of *H. nablium*; it is of a greyish colour, the spire is shorter, less enamelled, and more sharply crowned with rib-points. The markings between the ribs are pale, while those upon them are very strong, and the colour in front of the shell is uniformly spread, instead of being in patches, as in the last species.

6. *H. CANCELLATA*, *Chemn.*, f. 26.—*H.* testâ parvâ, pallidâ, transversè lineis elevatis duplicatim striatâ; costis distantibus tenuibus supernè acutis; spirâ brevi, apice elevato acuto.—As the young of all the species of *Harpa* are spirally striated, I am not certain of this being a distinct species, but more than half suspect

it may be the young of *H. articularis*, in very early whorls of which may be observed a similar duplicate striation. I am glad of an opportunity of figuring this unique specimen in Mr. Hanley's collection, which might have been the very original of Chemnitz's figure.

7. *H. RIVOLIANA*, *Lesson*, f. 12, 13.—*H.* testâ subangulatâ, paululum turbinatâ, griseâ, inter costas minutè fasciatim et undulatum fusco strigatâ; costis decumbentibus, angustis, interruptim longitudinaliter nigro-lineatis, supernè triangulatis, ad angulum supremum acuminatis, anticè undulatum crenatis; spirâ brevi, anfractu ultimo solum encausto.—This species, *H. crenata* of Swainson, is unquestionably distinct from *H. rosea*, which, besides the difference in colour, is not at all angular or turbinated above, and has the spire much more produced.

8. *H. ROSEA*, *Klein*, f. 6, 7, 8.—*H.* testâ ovali, subangustatâ, roseâ, inter costas minutè fasciatim et undulatum fusco strigatâ et maculis magnis rubro pictâ; costis decumbentibus, angustis, interruptim longitudinaliter fusco-lineatis, supernè subspinosis, anticè undulatum crenulatis; spirâ elevatâ, anfractibus rotundis; labio interno tenuissimè encausto.—More oval than *H. Rivoliana* (*Crenata*, Sw.) and more rounded at the upper part of the whorls and ribs. The pinky tint and rosy patches between the ribs are constant, although the dark bands in var. f. 6 give a rich purplish aspect to the shell.

9. *H. MINOR*, *Rumph.*, *Mart.*, f. 27, 28, 29.—*H.* testâ angustâ, fulvâ seu pallidè griseâ, inter costas fusco seu purpureo undulatum minutè strigatâ; costis plerumque inæqualibus, supernè acutè nodosis, transversè creberrimè fusco-lineatis; spirâ elevatâ, anfractibus coronatis;—variat costis crebris.—The more volutiform variety with numerous ribs is regarded as distinct by some collectors, but the varieties are so numerous and the gradations so subtle that I cannot by any means adopt the separation. I am even doubtful as to the propriety of separating the next.

10. *H. CRASSA*, *Mörch*, f. 30, 31.—*H.* testâ *H. minori* simili, sed crassiore; costis supernè angulatis.—The only tangible difference between this and the last is the angle or shoulder formed on the upper part of the ribs. It is rather conventionally than scientifically that I should adopt a distinct name for this variety or possibly "incipient species."

11. *H. GRACILIS*, *Brod.*, f. 32, 33.—*H.* testâ *H. minori* simili, sed tenuiore, pallidâ, elongatâ, transversè minutissimè striatâ, posticè angulatâ; spirâ vix coronatâ.—This probable species departs

from the typical form of *H. minor* in the opposite direction to that of *H. crassa*, being elongated, thin, and narrow, with the aperture slightly contracted towards the spire and widened in front.

12. *H. VIRGINALIS*, *J. Gray*, f. 34, 35.—*H. testâ albâ*, *H. crassæ* simili, sed spirâ brevior et magis declivi; costis obtusis, supernè angulatis, interstitiis unicastatis.—I am indebted for a drawing of this unique shell, which I have seen, to the kindness of *J. Gray*, Esq., of Glasgow, who has had it in his collection for some years. It may quite possibly prove a variety of *H. crassa*, but the penultimate whorl is less elevated, and an intercostal riblet, which occurs accidentally and irregularly in some species, assumes a rather regular and formal aspect in the more advanced part of this interesting shell.

INDEX OF SPECIES AND SYNONYMS.

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| <i>antiquata</i> , Ch.—nablium, 4. | <i>multicostata</i> , Sowb.—costata, 1. |
| <i>articularis</i> , Lamk., 5, f. 9, 10, 11. | nablium, Mart., 4, f. 14–17, 24. |
| <i>Cabritii</i> , Bern.—ventricosa, 2. | nobilis, Rumph., 3, f. 1, 2, 3. |
| <i>cancellata</i> , Chem., 6, f. 26. | <i>oblonga</i> , Schm.—minor, 9. |
| <i>costata</i> , Linn., 1, f. 4, 5, 23. | <i>Rivoliana</i> , Lesson, 7, f. 12, 13. |
| <i>crassa</i> , Mörch, 10, f. 30, 31. | <i>roseacea</i> , Mart.—rosea, 8. |
| <i>crenata</i> , Sw.—Rivoliana, 7. | rosea, Klein, 8, f. 6, 7, 8. |
| <i>Davidis</i> .—costata, 1. | <i>solida</i> , A. Ad.—crassa, 10. |
| <i>gracilis</i> , Brod., 11, f. 32, 33. | <i>striata</i> , Lamk.—ventricosa, 2. |
| <i>imperialis</i> , Lamk.—costata, 1. | <i>striatula</i> , A. Ad.—nablium, 4. |
| <i>Lyra-Davidis</i> , Mart.—costata, 1. | ventricosa, Lamk., 2, f. 18–22, 25. |
| <i>minor</i> , Rumph., 9, f. 27, 28, 29. | <i>virginalis</i> , <i>J. Gray</i> , 12, f. 34, 35. |

MONOGRAPH OF THE GENUS

GALEOMMA, *Turton*.

Genus.—Molluscum acephalum, bimusculosum; testâ bivalvi, transversim ovatâ, terminibus subacutis omnino divaricatim striatâ, striis dorsalibus divaricatim adscendentibus; valvis ad marginem ventralem latè hiantibus; cardine edentulo seu dentibus utrâque valvâ duobus parvis, quorum unâ nonnunquam duplicatâ; ligamento parvo, lineari, interno; pallii impressione integrâ.

In distinguishing between the species of this genus and those of SCINTILLA, I have thought the best guide would be the presence of sculpture in the former and its absence in the latter, and have therefore displaced the four species included by M. Deshayes in his division of Galeomma, described as “lisses et brillantes à ouverture médiocre,” namely, *ambigua*, *splendida*, *polita*, and *Layardi*. The Galeommæ lie in mud and sand under stones, with their valves spread open.

In the following descriptions, I have chosen rather to attend to comparative characters than to repeat those which are more positive. I adopt this method in concurrence with the following sentiments expressed by Buffon:—

“It is only by *comparing* that we can judge, and our knowledge turns entirely on the relation that things bear to those which resemble them.”

Species of Galeomma.

Plate 234.

1. G. TURTONI (f. 1, 2, 3, 4), *Sowb.*—Testâ oblongâ, albâ, ad latera obliquè subtruncatâ, terminis acutis, striis elevatis duplicatis et divaricatis moniliferis sculpta, striis ad marginem dorsalem adscendentibus, margine ventrali validè hiantè; cardine edentulo. *Obs.* The pointed ends and wide hiatus of this white British shell are well known. The sculpture consists of beaded striæ diverging in pairs and rising upwards towards the dorsal edge.

2. *G. MACROCHISMA* (f. 7, 8), *Desh.*—Testâ pallidè fulvâ, quam *G. Turtoni* breviorè; terminis magis obtusis; valvis medio coarctatis; dentibus nullis. *Obs.* This is the Philippine analogue of our British species, but shorter and more truncated in form.

3. *G. ARGENTEA* (f. 13, 14), *Desh.*—Testâ minutè striatâ, quam *G. Turtoni* magis compressâ et ad terminos truncatâ, dentibus minutis; intus quasi-argenteâ. *Obs.* Much flattened and more truncated at the ends than *G. Turtoni*, with the inside shining like silver, and the outside very minutely striated.

4. *G. FORMOSA* (f. 11), *Desh.*—Testâ ovali, oblongâ, aurantio-fulvâ, subcompressâ; terminis acutis; striis medio evanidis, ad marginem dorsalem adscendentibus; dentibus parvis. *Obs.* This species also approaches the typical form, but the striæ are very faint on the body of the shell, which is of an orange-brown tint.

5. *G. INFLATA* (f. 5, 6), *Desh.*—Testâ fulvâ, inflatâ; terminis rotundatis, medio coarctato; latere postico majore, striis minutis medio subevanidis; dentibus parvis.

6. *G. PAUCISTRIATA* (f. 9), *Desh.*—Testâ albidâ, subinflatâ, subovali, medio coarctatâ; terminis obtusis, striis numerosis divergentibus, ad marginem dorsalem adscendentibus. *Obs.* The sculpture is regular but much more close than in *G. Turtoni*. It is a thin shell, obtuse at the edges.

7. *G. INDECORA* (f. 15), *Desh.*—Testâ albidâ, tenui, subinflatâ; striis distantibus, subevanidis. *Obs.* This is like the preceding, but is rather more equilateral, the sculpture far less distinct, and the valves not so much inflated.

8. *G. ANGUSTA* (f. 10), *Desh.*—Testâ quam *G. paucicostata* angustiorè. *Obs.* In sculpture similar to *G. paucicostata*, but more straight and narrow.

9. *G. CHLOROLEUCA* (f. 12), *Desh.*—Testâ pallidè aurantiâ, ovali, medio coarctatâ; hiatu angusto; striis subevanidis. *Obs.* The melon tint and general proportions of this species bring it very near to *Scintilla ambigua*, but on careful examination, it is found to be striated.

MONOGRAPH OF THE GENUS

SCINTILLA.

Genus.—Molluscum acephalum, bimusculosum; testâ bivalvi, politâ, transversim subovatâ; terminis rotundis seu subtruncatis; margine ventrali clauso vel paululum hiante, margine dorsali nonnunquam hiante; cardine dentibus utrâque valvâ duobus, quorum postico nonnunquam duplicato, ligamento parvo, lineari, interno; pallii impressione integrâ. *Obs.* Very few of the species gape in front, and none so widely as in the true *Galeomma*. Some of them are open at the ends and dorsal margin. When living, the valves lie spread open, with the mantle turned back over the edges and often a great part of the surface, which probably gives them the brilliant polish by which they are distinguished from *Galeomma*.

Species of Scintilla.

Plates 234, 235.

Sect. I. *Species with an hiatus in the ventral margin.*

1. SC. LAYARDI (f. 20), *Desh.*—Testâ tenuissimâ, albâ, compressâ, subæquilaterâ; terminis subtruncatis; margine ventrali hiante. *Obs.* It is like a true *Galeomma*, excepting that it has no sculpture.

2. SC. SPLENDIDA (f. 14, 15).—Testâ politissimâ, quam *Sc. Layardi* altiore; latere antico subtruncato. *Obs.* Much wider from apex to base than *Sc. Layardi*, which otherwise it resembles.

3. SC. POLITA (f. 19), *Desh.*—Testâ albâ, compressâ, tenui, oblongâ, subquadratâ, concentricè undulatâ; latere antico brevior, truncato. *Obs.* A rather flat, thin white shell, truncated at both extremities, slightly open in front.

4. *Sc. AMBIGUA* (f. 1, 2, 3, 4).—Testâ pallidè aurantiâ, tenui, oblongâ, depresso punctulato, prismaticâ, subdiaphanâ, subinflatâ; latere antico subtruncato, postico rotundato, majore; margine ventrali hiatu medioeri; dente antico in valvâ sinistrâ bifidâ. *Obs.* The substance of this shell is so far diaphanous that the muscular impressions can be seen on the outside. The ventral opening is not large.

5. *Sc. AURANTIACA* (f. 5), *Desh.*—Testâ aurantiâ, quam *Sc. ambigua* magis elongatâ; hiatu parvo. *Obs.* The narrowness of this shell is hardly sufficient to distinguish it from the preceding. The hiatus is, however, smaller.

6. *Sc. PALLIDULA* (f. 6), *Desh.*—Testâ pallidâ, *Sc. ambigua* simili, sed margine ventrali vix hiante. *Obs.* The very small ventral opening is the principal difference between this and *Sc. ambigua*.

7. *Sc. FORBESII* (f. 7, 8), *Desh.*—Testâ inflatâ, ovali, pallidè aurantiâ; latere antico paululum breviorè; subtruncato margine ventrali arcuato, vix hiante. *Obs.* A little more regularly oval, and a little more equilateral than *Sc. ambigua*.

8. *Sc. BORNEENSIS* (f. 10), *Desh.*—Testâ albidâ, concentricè substriatâ, subinflatâ, latere postico majore, latere antico obliquè subtruncato; margine ventrali subcontracto. *Obs.* Like *Sc. Adamsii*, but more inflated, slightly contracted at the ventral edge, and faintly striated or undulated concentrically on the surface.

9. *Sc. ROSEA* (f. 11), *Desh.*—Testâ roseâ, politâ, inflatâ, clausâ, oblongâ; latere postico longiore et latiore, latere antico parvo, declivi. *Obs.* Of a beautiful rose tint; this shell is also remarkable for the smallness of its anterior as compared with its posterior side.

10. *Sc. PUDICA* (f. 12), *Desh.*—Testâ *Sc. roseæ* simili, sed latere antico subquadrato; margine ventrali paululum aperto. *Obs.* More square and truncated than *Sc. rosea*, with a very slight opening in the ventral margin.

11. *Sc. RECLUZIANA* (f. 13). *Desh.*—Testâ tenui, roseâ-purpurecente, oblongâ, latere antico truncato; margine ventrali recto, clauso. *Obs.* A thinner and more purple shell, more straight at the ventral margin and truncated on the anterior side than *Sc. pudica*.

Sect. II. *Species with no hiatus.*

12. SC. ADAMSI (f. 9), *Desh.*—Testâ pallidâ, oblongâ, compressâ; latere antico brevior, truncato; margine ventrali clauso, recto. *Obs.* A pale oblong species, with the margins quite closed.

13. SC. OWENII (f. 18), *Desh.*—Testâ diaphanâ, albâ, clausâ fasciis concentricis opacis, oblongâ, quam *Sc. Borneensis* brevior; latere antico paulò brevior, truncato. *Obs.* A transparent shell with opaque bands, shorter and more truncated than *Sc. Borneensis*, and closed.

14. SC. STRANGEI (f. 16), *Desh.*—Quam *Sc. Owenii* magis opacâ; margine dorsali posticè magis declivi, anticè magis elevato. *Obs.* A more opaque-white shell than *Sc. Owenii*, with the dorsal margin more sloping on the posterior, and more elevated on the anterior side.

15. SC. FABAE (f. 17), *Desh.*—Testâ lacteâ, ovali, inflatâ, posticè rotundatâ, anticè vix truncatâ. *Obs.* More inflated and rounded than the preceding, not so truncated at the anterior side.

16. SC. PORULOSA (f. 21), *Desh.*—Testâ pallidissimè roseâ, compressâ, oblongâ, concentricè vix undulatâ; latere antico brevior, subtruncato. *Obs.* Flatter and more straight than the preceding species.

17. SC. CANDIDA (f. 33), *Desh.*—Testâ lacteâ, ovali, clausâ, subinflatâ; margine ventrali subrotundo; latere postico subdeclivi, latere antico brevi, declivi. *Obs.* A milk-white oval shell, closed all round.

18. SC. TENUIS (f. 34), *Desh.*—Testâ quam *Sc. candida* longior, rectiusculâ, tenuior, anticè magis truncatâ. *Obs.* Slightly straighter, longer, thinner, and more truncated anteriorly than *Sc. candida*.

19. SC. JUKESII (f. 42, 43), *Desh.*—Testâ ovali-oblongâ, albâ, subdiaphanâ, fasciis opacioribus, subæquilatèrâ, utrinque subtruncatâ, paululum hiantè; margine ventrali clauso, recto. *Obs.* This fine shell is slightly open at the extremities and dorsal margin.

20. SC. CUMINGII (f. 36, 37, 38), *Desh.*—Testâ solidâ, ovali, albâ, partim minutissimè granulatâ, clausâ; margine undulato crenulato; cardine laminato; latere antico paululum minore.

Obs. A very curious, white, oval shell, which, although to the eye smooth, is minutely granulated and striated near the margin, and has its inner edges crenulated or undulated in a singular manner.

21. *SC. SCINTILLANS* (f. 44), *Desh.*—Testâ ovali-subquadratâ, nitente, clausâ, apice et medio semipellucidâ, cœruleâ, prope marginem opacâ, crassiore, luteâ; latere antico brevior; margine dorsali utrinque declivi. *Obs.* Bluish and half-transparent at the apex and in the centre, thicker, more opaque and yellowish towards the margin.

22. *SC. SOLIDULA* (f. 48, 49), *Desh.*—Testâ ovali-subquadratâ, solidâ, pallidè fulvâ; latere antico brevior; terminis obliquè subtruncatis. *Obs.* Similar in form to *S. scintillans*, but not so glassy or shining, more truncated, and of the same thickness and colour throughout.

23. *SC. OVULINA* (f. 47), *Desh.*—Testâ quam *Sc. solidula* magis tumidâ, angustâ et truncatâ. *Obs.* A rather narrower, more tumid and more truncated shell than *Sc. solidula*.

24. *SC. TURGESSENS* (f. 45, 46), *Desh.*—Testâ albâ, solidâ, ovali-subquadratâ, valde inflatâ; margine ventrali recto; margine dorsali declivi; terminis truncatis; apice tumido. *Obs.* A very tumid white shell, with straight ventral margin and truncated extremities.

25. *SC. TURGIDA* (f. 51, 52), *Desh.*—Testâ albâ, tenui, inflatâ; latere antico brevi, truncato, latere postico tumido, rotundo; margine dorsali elevato; margine ventrali posticè inflato, anticè contracto. *Obs.* This differs from *Sc. turgescens* in being thinner and having the posterior side much more inflated than the anterior.

26. *SC. DESHAYESII* (f. 50), *Sowb.*—Testâ albâ, pellucidâ, inflatâ, ovali-subquadratâ, concentricè undulatâ; apice rotundo; margine dorsali utrinque declivi; terminis subtruncatis; margine ventrali subrotundo, latere antico brevior. *Obs.* I am obliged to change this name on account of the removal of the species named by Deshayes *Galeomma Layardi* into this genus.

27. *SC. PISUM* (f. 54, 55), *Sowb.*—Testâ parvâ, luteâ, semipellucidâ, clausâ, subovali, tumidâ, concentricè leviter striatâ; latere antico brevi, latere postico inflato. *Obs.* A small inflated yellow shell, with the posterior side more inflated than the anterior.

28. *SC. SUCCINEA* (f. 58), *Desh.*—Testâ fuscâ semi-pellucidâ, quadratâ, compressâ, clausâ; apice tumido; margine postico laterali obliquo. *Obs.* Rather flat and nearly square.

29. SC. OPALINA (f. 41), *Desh.*—Testâ tenuissimâ, translucidâ, albidâ, ovali, subcompressâ, clausâ, obliquâ; marginibus dorsalibus declivis. *Obs.* A very transparent little shell with sloping dorsal edges, and rather oblique.

30. SC. STRIATINA (f. 40), *Desh.*—Testâ parvâ, tenuissimâ, hyalinâ, albâ, compressâ, clausâ, subæquilaterali, concentricè striatâ; margine ventrali recto. *Obs.* Distinguished from *Sc. opalina* in being more straight and concentrically striated.

31. SC. DECLIVIS (f. 39), *Sowb.*—Testâ parvâ, clausâ, albidâ, intus subfuscâ; margine dorsali utrinque declivi; terminis subrotundatis. *Obs.* A small shell, sloping at both sides, being partially transparent; it is tinged from the inside with purplish brown.

32. SC. OBLIQUA (f. 35), *Sowb.*—Testâ quam *Sc. declivis* magis truncatâ et rectâ; latere antico brevissimo. *Obs.* Distinguished by the shortness of the anterior side.

Sect. III. *Species with an hiatus in the latero-dorsal margin.*

33. SC. HYALINA (f. 23, 24), *Desh.*—Testâ ovali, diaphanâ, pallidâ, subinflatâ, subæquilaterali; terminis hiantibus; apice inflato. *Obs.* A transparent shell of an oval form, with the margin gaping at both ends.

34. SC. REEVEI (f. 29, 30), *Desh.*—Testâ ovali, brevi, pallidè luteâ, diaphanâ, inflatâ; latere postico subdeclivi, latere antico breviusculo truncato; margine dorsali utrinque hiante. *Obs.* Oval, short, rather truncated at the anterior side, diaphanous, open at the dorsal edge on both sides.

35. SC. HANLEYI (f. 22, 27, 28), *Sowb. G. B. 2.*—Testâ hyalinâ, ovali, albâ; latere postico rotundo, latere antico brevior; margine dorsali, et terminis hiantibus. *Obs.* A compressed, transparent white species, gaping at both extremities.

36. SC. PHILIPPINENSIS (f. 31, 32), *Desh.*—Testâ quam *Sc. Singaporina* magis oblongâ, rectiusculâ; latere antico magis truncato. *Obs.* More straight and truncated than *Sc. Hanleyi*.

37. SC. CRYSTALLINA (f. 53), *Desh.*—Testâ parvâ, translucidâ, fulvâ; margine dorsali utrinque paululum hiante. *Obs.* A pretty little buff-coloured shell, slightly open at the dorsal margin.

38. SC. ANOMALA (f. 25, 26), *Desh.*—Testâ albâ, pellucidâ, compressâ, subquadratâ; marginibus dorsalibus paululum hiantibus. *Obs.* This little white shell is much like the scale of a fish.

39. *SC. HYDATINA* (f. 56, 57), *Desh.*—Testâ hyalinâ, tenuissimâ, pallidè fulvâ, compressâ, subovali; terminis rotundis; margine dorsali utrinque aperto. *Obs.* Very transparent and flat, oval, and open at the dorsal edge.

40. *SC. HYDROPHANA* (f. 62), *Desh.*—Testâ semipellucidâ, pallidè fulvâ, subovali, compressâ, quam *Sc. hydatina* magis oblongâ; terminis declivis, paulò apertis. *Obs.* Rather less pellucid and more oblong than *Sc. hydatina*.

41. *SC. CROCEA* (f. 63), *Desh.*—Testâ aurantiâ, compressâ, pellucidâ, subquadratâ; terminis obliquè truncatis; apice acuto; marginibus dorsalibus paulò apertis. *Obs.* Flatter, more transparent, and longer in proportion to its height than *Sc. succinea*, and with the dorsal margins a little open.

42. *SC. CUVIERI* (f. 59, 60), *Desh.*—Testâ tenui, subrotundâ, subinflatâ, concentricè leviter striatâ, pallidè fulvâ, leviter radiatâ; margine dorsali ad latera paululum aperto; latere antico breviusculo, paululum angustato. *Obs.* This shell is nearly circular, with the anterior side slightly contracted.

43. *SC. TIMORENSIS* (f. 61), *Desh.*—Testâ subquadratâ, flavidâ, compressâ; margine dorsali ad latera paululum aperto, terminis subtruncatis, margine ventrali rectiusculo. *Obs.* Much more square than the preceding.

44. *SC. FLAVIDA* (f. 64), *Desh.*—Testâ pallidâ, quam *Sc. Timorensis* paululum magis rotundâ, anticè haud tantum truncatâ. *Obs.* More pale, thin and rounded than *Sc. Timorensis*.

45. *SC. VITREA* (f. 68), *Desh.*—Testâ tenuissimâ, pallidâ, fasciis opacis cinctâ, pellucidâ, compressâ, subquadratâ; terminis obliquè truncatis. *Obs.* A very flat, scale-like transparent shell.

46. *SC. SQUAMA* (f. 65), *Desh.*—Testâ albâ, pellucidâ, compressâ, concentricè undulatâ, ovali, margine dorsali ad latera aperto; latere antico breviusculo, subtruncato. *Obs.* This delicate, transparent, scale-like shell is concentrically undulated.

47. *SC. PELLICULA* (f. 66, 67), *Desh.*—Testâ obliquè ovali, albâ, pellucidâ; undis concentricis magnis, lateribus subtruncatis. *Obs.* A more oblique shell than *Sc. squama*, with the centric ridges larger.

GALEOMMA AND SCINTILLA.

PLATES 235, 236.

(All the Specimens from Mr. Cuming's Cabinet, and identified by M. Deshayes.)

Figs.	PLATE CCXXXV.	Figs.
	GALEOMMA.	
1-4.	<i>Turtoni</i> , <i>Sowb.</i> , 1.	25, 26. <i>anomala</i> , <i>Desh.</i> , 38.
5, 6.	<i>inflata</i> , <i>Desh.</i> , * 5.	27, 28. <i>Hanleyi</i> , <i>Desh.</i> , 35. Also f. 22.
7, 8.	<i>macrochisma</i> , <i>Desh.</i> , 2.	29, 30. <i>Reevei</i> , <i>Desh.</i> , 34.
9.	<i>paucistriata</i> , <i>Desh.</i> , 6.	31, 32. <i>Philippinensis</i> , <i>Desh.</i> , 36.
10.	<i>angusta</i> , <i>Desh.</i> , 8.	33. <i>candida</i> , <i>Desh.</i> , 17.
11.	<i>formosa</i> , <i>Desh.</i> , 4.	34. <i>tenuis</i> , <i>Desh.</i> , 18.
12.	<i>chloroleuca</i> , <i>Desh.</i> , 9.	35. <i>obliqua</i> , <i>Desh.</i> , 32.
13, 14.	<i>argentea</i> , <i>Desh.</i> , 3.	36-38. <i>Cumingii</i> , <i>Desh.</i> , 26.
15.	<i>indecora</i> , <i>Desh.</i> , 7.	39. <i>declivis</i> , <i>Sowb.</i> , 31.
	SCINTILLA.	40. <i>striatina</i> , <i>Desh.</i> , 30.
1-4.	<i>ambigua</i> , <i>Desh.</i> , 4.	41. <i>opalina</i> , <i>Desh.</i> , 29.
5.	<i>aurantiaca</i> , <i>Desh.</i> , 5.	42, 43. <i>Jukesii</i> , <i>Desh.</i> , 19.
6.	<i>pallidula</i> , <i>Desh.</i> , 6.	44. <i>scintillans</i> , <i>Desh.</i> , 21.
7, 8.	<i>Forbesii</i> , <i>Desh.</i> , 7.	45, 46. <i>turgescens</i> , <i>Desh.</i> , 24.
9.	<i>Adamsii</i> , <i>Desh.</i> , 12.	47. <i>ovulina</i> , <i>Desh.</i> , 23.
10.	<i>Borneensis</i> , <i>Desh.</i> , 8.	48, 49. <i>solidula</i> , <i>Desh.</i> , 22.
11.	<i>rosea</i> , <i>Desh.</i> , 9.	50. <i>Deshayesii</i> , <i>Sowb.</i> , 26. <i>Layardi</i> , <i>Desh.</i>
12.	<i>pudica</i> , <i>Desh.</i> , 10.	51, 52. <i>turgida</i> , <i>Desh.</i> , 25.
13.	<i>Recluziana</i> , <i>Desh.</i> , 11.	53. <i>crystallina</i> , <i>Desh.</i> , 37.
14, 15.	<i>splendida</i> , <i>Desh.</i> , 2.	54, 55. <i>pisum</i> , <i>Sowb.</i> , 27.
16.	<i>Strangei</i> , <i>Desh.</i> , 14.	56, 57. <i>hydatina</i> , <i>Desh.</i> , 39.
17.	<i>faba</i> , <i>Desh.</i> , 15.	58. <i>succinea</i> , <i>Desh.</i> , 28.
18.	<i>Owenii</i> , <i>Desh.</i> , 13.	59, 60. <i>Cuvieri</i> , <i>Desh.</i> , 42.
19.	<i>polita</i> , <i>Desh.</i> , 3.	61. <i>Timorensis</i> , <i>Desh.</i> , 43.
20.	<i>Layardi</i> , <i>Desh.</i> , 1.	62. <i>hydrophana</i> , <i>Desh.</i> , 40.
21.	<i>porulosa</i> , <i>Desh.</i> , 16.	63. <i>crocea</i> , <i>Desh.</i> , 41.
22.	<i>Hanleyi</i> , <i>Desh.</i> (See f. 27, 28.)	64. <i>flavida</i> , <i>Desh.</i> , 44.
23, 24.	<i>hyalina</i> , <i>Desh.</i> , 33.	65. <i>squama</i> , <i>Sowb.</i> , 46.
		66, 67. <i>pellicula</i> , <i>Desh.</i> , 47.
		68. <i>vitrea</i> , <i>Desh.</i> , 45.

* Monographs of Galeomma and Scintilla, Pro. Zool. Soc. 1855, p. 167-181.

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MONOGRAPH OF THE FAMILY

FISSURELLIDÆ.

GENUS FISSURELLA.

Char. Gen. Molluscum gasteropodum; testâ externâ, patellæformi, dorsum tegente, ætate ad apicem perforatâ, cicatrice musculari, submarginali, crescentiformi, anticè interruptâ.

In the very earliest stage of growth, the shell in all *Fissurellidæ* is subspiral with the margin entire. Then a passage is made for the anal tube by a notch or sinus in the margin. In *Scutus*, or *Parmophorus*, the sinus continues slightly marked to the margin of the adult shell. In *Emarginula* it is continued in the form of a distinct marginal notch. In *Cemoria*, the margin closes round the notch, leaving a hole near the apex, which is left entire; in *Rimula*, the hole is left half-way towards the margin; and in *Fissurella* and the four following genera the spiral nucleus altogether disappears, leaving a hole at the apex in its place more or less enlarged by absorption. I adopt the proposed separation from *Fissurella*,—1st. Of *Fissurellidea*, because the shell is covered by the animal; 2nd. Of *Clypidella*, because it is peculiar in form and only covers part of the animal; 3rd. Of *Macrochisma* for the last two reasons, besides the peculiar form and position of the foramen; and 4th. Of *Pupillea*, on account of the insertional ridge of the margin. I cannot agree to separate the larger number of remaining species under the generic name of *Lucapina* as proposed, because the crenulated margin, the forward inclination of the apex, the truncated internal callus and slight differences in the fringes of the animal's mantle, are so much questions of *degree* that it is practically impossible to divide the species so as to preserve consistency in all the characters.

*Species of Fissurella.*Sect. I. *Shells with distinct internal marginal border.*

1. NIGRA (f. 14), *Lesson*.—Testâ magnâ, elevatâ, ovali, nigrescente, sublævigatâ, striis evanidis radiatâ, foramine albo, marginatâ, subcentrali, anticè depressâ, intùs albâ; margine cæruleo, subcrenulato, ad apicem callo interno latè crenulato. *Obs.* A broad, smooth, nearly oval species, of a dark inky colour.

2. LIMBATA (f. 23, 24), *Sowb.*—Ovali, conicâ, anticè vix attenuatâ, lævi, radiis rubris vel spadiceis latis radiatâ; aperturæ margine intùs violaceo; foramine oblongo, subcentrali, intùs vix calloso. *Obs.* Not so elevated as the preceding, and very brightly rayed with purple bands.

3. BRIDGESII (f. 21, 22, 34), *Reeve*.—Crassâ, depressâ, oblongâ, sublævigatâ fulvo-griscescente, anticè attenuatâ, intùs albâ; margine lato, purpureo, lævi; foramine ovali paululum infra medium posito, marginibus elevatis, intùs calloso. *Obs.* Rather flat, attenuated in front, and of a greyish-brown colour. A very curious specimen in Mr. Cuming's collection is represented (f. 22), in which the foramen has been completely filled up with callus, which usually surrounds it. The same phenomenon has very nearly occurred with the specimen of *F. maxima* represented at f. 9. In both cases, the anal tube must have been bent round so as to pass under the side of the basal aperture. F. 34 is a narrower variety.

4. FULVESCENS (f. 36), *Sowb.*—*F. Bridgesii* simili, sed flavidâ, rubro radiatâ; terminibus paululum elevatis. *Obs.* Very like the preceding, but yellow, with purplish-red rays, and the ends a little elevated.

5. GRISEA (f. 85), *Reeve*.—*F. Bridgesii* simili, sed magis ovali et elevatâ; foramine magis centrali. *Obs.* This may be an abnormal form of *Bridgesii*, more oval and elevated, with the foramen more central.

6. CRASSA (f. 16, 17), *Lamb.*—Oblongâ, crassâ, depressâ, olivaceo-fulvâ, obscurè radiatâ, lævigatâ concentricè et ad marginem undulatâ; intùs callosâ, radiatim rugatâ; areâ medianâ roseâ; foramine elongato, in medium contracto, intùs validè calloso. *Obs.* A peculiarly flattened oblong species, thickened within.

7. PULCHRA (f. 31), *Sowb.*—Ovali, lævi, depressâ, anticè paululum attenuatâ, fulvo-griscescente, prope medium fasciis radiatâ et maculis rubris nigris et albis variegatâ; foramine subcentrali, oblongo medio contracto. *Obs.* Shorter than *F. Bridgesii*, with delicately variegated rays.

8. BELLA (f. 25), *Rve.*—Ovali, radiatim leviter striatâ, anticè contractâ, subacuminatâ, concentricè griseo fasciatâ, fasciis purpureis radiata, intùs albâ; margine purpureo maculato, angusto; foramine oblongo, vix infra medium posito. *Obs.* This pretty species is rather pointed in front, it has purple rays and almost obsolete striæ.

9. LATIMARGINATA (f. 6, 7, 12), *Sowb.*—Subovali, anticè attenuatâ, fulvo-purpureo radiatim striatâ, intùs albâ; margine purpureo lato, vix crenato; foramine subcentrali. *Obs.* In form resembling *Bridgesii* and *bella*, but radiately striated, and having a remarkably broad purple border. F. 12 represents a narrower form.

10. BIRADIATA (f. 1, 2, 3), *Frembley.*—Subovali, depressâ, anticè attenuatâ, subacuminatâ, radiatim striatâ, cinereâ, radiis binis albis lateralibus apice decurrente; intùs albâ; margine subpurpureo lato; foramine subcentrali, medio contracto. *Obs.* In form resembling *F. bella*, but of a uniform colour, excepting the white rays, which are lost in adult specimens, and having a broad margin instead of a narrow one. Fig. 3 represents *F. galericulum*, which is only a contracted form of this species.

11. PERUVIANA (f. 38—41), *Lamb.*—Plus minusve ovatâ, posticè subcontractâ, plerumque elevatâ, purpureo plus minusve radiatâ, striis elevatis graniferis radiatâ; foramine subcentrali, rotundo; marginibus elevatis. *Obs.* Amidst the variations to which this species is subject, there is a strong tendency to purple radiation, granular striation, and a form elevated near the apex. F. 39 is abnormally conical. After some doubt and consideration, I have concluded that the more oblong and flattened form may be distinguished as follows.

12. AFFINIS (f. 42, 179), *Gray, Sowb., Con. Ill.*—*F. Peruviana* similis, sed magis oblongâ et depressâ. *Obs.* This less conical and more oblong form is separated to avoid the extreme inconvenience of including opposite characters under the same name, although the gradations are perplexing.

13. CLYPEUS (f. 63).—Ovali, depressâ, costellis subnoduliferis radiatâ, lutea rufescente, fasciis albis duabus lateralibus et fasciis 16 nigrescentibus interruptim sagittatis radiatim picta, intùs albâ; margine luteo maculis purpureis interrupto; foramine ovali, supra medium posito. *Obs.* In colouring and marginal character so much like var. f. 40 of *F. Peruviana*, that it might be almost taken for a specimen of that species unnaturally depressed.

14. MURICATA (f. 68), *Rve.*—*F. Peruviana* simili, sed costellis nonnullis majoribus imbricatis, colore purpureo-nigrescente prope foramen annulatâ. *Obs.* I am strongly inclined to believe this another variety of *Peruviana*, with some of the ribs enlarged and imbricated.

15. MEXICANA (f. 26, 27, 28, 78), *Sowb.*—Oblongâ, depressâ, tenui, radiatim striatâ, rubrâ, purpureo radiatâ seu nigrâ, intûs albâ; margine purpureo vel nigro, angusto; foramine magno, albo marginato. *Obs.* Oblong, striated thin shell, either black or beautifully rayed with purple or red. Foramen large, edged with white.

16. PHILIPPIANA (f. 30), *Rve.*—*Mexicana* similis, sed costellis nonnullis extantibus subimbricatis; foramine magis angusto et contracto. *Obs.* It is more imbricated than *F. Mexicana*, with more contracted fissure.

17. ATRATA (f. 71), *Rve.*—*F. Philippiana* simili, sed parvâ, sublævigatâ, late marginatâ; costellis nonnullis prope marginem undulatum imbricatis. *Obs.* It is like *F. Philippiana*, but with a comparatively smooth surface, stellated with white near the apex, with some of the ribs imbricated with peculiar undulations near the margin.

18. EXQUISITA (f. 32, 128), *Rve.*—Oblongâ, subdepressâ, anticè paululum attenuatâ, tenui, albâ, griseo concinnè 18-radiata-radiatim æqualiter costellatâ; costellis subnoduliferis; foramine oblongo; margine utrinque bilobato. *Obs.* Neatly rayed with eighteen grey bands, and sculptured with numerous equal, granulated, fine ribs.

19. ORIENS (f. 19, 20), *Sowb.*—Oblongâ, depressâ, solidâ, leviter radiatim striatâ, luteâ seu griseâ concentricè fasciata, fasciis griseis vel rubris radiatâ; intûs albo margine griseo, angusto. *Obs.* A much more solid and broader shell than *F. Mexicana*.

20. PICTA (10, 11, 35), *Gmel., Lamb.*—Ovali, subconicâ, solidâ, sublævigatâ, costellis leviter granulatis, luteâ vel nigrescente, purpureo vel nigro radiatim fasciatâ, intûs albo, griseo latè marginato; foramine oblongo, intûs calloso, circumscripto. *Obs.* One of the larger species with broad margin of an inky colour, or whitish with inky rays. *F. Darwini* (f. 35), *Rve.*, seems to me only a variety of this.

21. POLYGONA (f. 137, 177), *Sowb., G. B. 2.*—Ovali, angulatâ,

anticè attenuatâ, albâ, purpureo interruptim radiatâ, striis scabris numerosis et costellis catenæformibus rarioribus extantibus radiatâ, intùs albâ; margine maculato. *Obs.* This beautiful shell is distinguished by scabrous striæ with noduliferous or chain-like ribs at intervals.

22. MAXIMA (f. 8, 9), *Sowb.*—Magnâ, ovali, anticè paululum attenuatâ, crassâ, costis lævibus undulatim nodosis radiatâ, fulvâ, purpureo radiatim fasciatâ; margine undulatim crenulato, intùs albo, calloso; foramine ovali, centrali, intùs calloso. *Obs.* A large well-known shell, broadly rayed with purple bands and thick undulated ribs. F. 9 is a singular specimen, in which the fissure is nearly closed by shelly deposit. See *F. Bridgesii* for a case of entire closure.

23. CONCINNA (f. 4, 178, 206), *Philippi.*—*F. maxima* simili, sed multo magis angustâ; costis nonnunquam magis nodosis. *Obs.* Very probably a variety of *F. maxima*, but so constantly narrower in all stages of growth as perhaps to merit distinction. The smaller specimens are much more rugose, and the surface undulated. M. Hanley's larger specimen is as smooth as *F. maxima*. I cannot doubt the identity of Mr. Reeve's *Hondurasensis*.

24. STELLATA (f. 82), *Rve.*—*F. maxima* simili sed parvâ; radiis prope apicem interruptis et sagittatis. *Obs.* Although this little shell appears full grown, it presents a very close miniature resemblance to its gigantic ally. Near the apex, the purple rays are interrupted and arrow-headed.

25. CUMINGII (f. 5, 132), *Rve.*—Latâ, ovali, depressâ, anticè paulo attenuatâ, purpureo, vel rubro radiatâ, lineis elevatis scabris costellatâ, intùs albâ, purpureo latè marginatâ; foramine ovali. *Obs.* Broad, depressed, brownish, purple or purple-rayed, with scabrous striæ; a very broad purple margin. The young specimen, f. 132, is Mr. Hanley's.

26. LATA (f. 13), *Sowb.*—Latè ovali, elevatâ, luteâ, fasciis purpureis et costellis moniliferis radiatâ; foramine ovali. *Obs.* A much more elevated shell than the last, with beaded riblets.

27. COSTATA (f. 15, 205), *Lesson.*—Latissimâ, pallidè fulvâ obscurè radiatim fasciatâ, depressâ, anticè paululum attenuatâ, costellis irregularibus moniliferis radiatâ, intùs albâ; margine lato, pallidi subviridi; foramine parvo, ovali. *Obs.* The irregularity of the nodules, and the less conical form, independently of colour distinguish this from the preceding. *F. rudis* of *Deshayes*, may

probably belong to either. F. 205 is a remarkably wide and nodulose specimen procured during progress.

Sect. II. *Without defined internal border.*

28. NIGRO-PUNCTATA (f. 33).—Crassâ, conicâ, subrotundâ, irregulari sordidè fulvâ, costellis nigris moniliferis irregularibus alternatim minoribus radiatâ, intùs viridi, prope apicem incrassatâ, ad marginem aperturae crenulatâ, nigro punctatâ; foramine magno, medio contracto. *Obs.* A rough, rather round, irregular shell, green within and radiated without by black beaded ribs.

29. COARCTATA (f. 60), *King.*—*F. nigro-punctatæ* simili, sed magis lævigatâ; foramine medio validè contracto. *Obs.* It is doubtful whether the contraction of the aperture be not merely accidental; and varieties of the last species occur which are almost as smooth as this; but, although I should have been unwilling to found a species from so worn a specimen, I am willing to adopt it as founded by others.

30. VIRESCENS (f. 37), *Sowb.*—Ovali-rotundâ, conicâ, viridescens, costis rotundis alternatim majoribus radiatâ, intùs viridi; margine crenulato; foramine subovali, medio angusto. *Obs.* Green, with alternately large and small rounded ribs.

31. MONILIFERA (f. 175), *Sowb., G. B. 2.*—Ovali, conicâ, rugosâ, costellis alternatim nigris et fulvis moniliferis radiatâ; foramine magno, ovali, medio subangusto, intùs calloso, rubro lineato. *Obs.* This must have been a beautiful shell when in living condition, the alternate ribs consisting of minute regular black beads. A pink line defines the inner callus. The worn but still pretty specimen is in M. Hanley's collection.

32. ALBA (f. 88, 89), *Carpenter.*—Ovali, tenui, conicâ, costellis irregulariter noduliferis alternatim minoribus nonnunquam nigrescentibus radiatâ; foramine oblongo, medio subangusto, paulo supra medium posito. *Obs.* Were it not a rather thin white shell, it might be taken for a variety of *F. nigropunctata*; but the ribs are more regularly alternate, and the nodules upon them are larger and longer. The fissure is placed a little towards the anterior.

33. ALABASTRITES (f. 43, 44), *Rve.*—Crassâ, ovali, albâ, rugosâ, costis crassis, inæqualibus, irregulariter nodosis; foramine oblongo, magno, medio contracto. *Obs.* A coarsely-ribbed, thick, white shell.

34. GLAUCOPIS (f. 45), *Rve.*—Subviridi, *F. alabastriti* simili sed foramine parvo, cæruleo marginato. *Obs.* The smallness of

the foramen, which is bordered with blue, presents a striking peculiarity in this shell, which otherwise resembles *F. alabastrites*.

35. *NODOSA* (f. 59), *Born.*—Ovali-subrotundâ, elevatâ, pallidâ, lateribus convexis, costis elevatis nodulos magnos ferentibus radiatâ; foramine subcentrali, ovali, medio contracto. *Obs.* The well-known species with large nodules on the ribs.

36. *HUMPHREYI* (f. 61), *Rve.*—*F. nodosæ* simili, sed costis noduliferis, minoribus, alternatim minimis, interstitiis cœruleis. *Obs.* The nodulous ribs much less prominent and alternating in size.

37. *CONOIDES* (f. 51), *Rve.*—Ovali, crassâ, rugosâ, irregulariter costatâ, albâ, intùs viridi; foramine ovali, nigro marginato. *Obs.* A conical white species, green within, and having a black ring round the fissure.

38. *OBTUSA* (f. 75, 76), *Sowb.*—Ovali, convexâ, leviter costatâ, costis albis distantibus et interstitiis striatis roseis vel rubris radiatâ; intùs viridi; foramine parvo, paulo supra medium posito. *Obs.* Has the sides convex like *Humphreyi*, with distant white ribs and red striated interstices; the inside is green, and the foramen small.

39. *BARBADENSIS* (f. 49, 144–146), *Gmel.*—Ovali, posticè paululum attenuatâ, albâ vel pallidè fulvâ, fasciis nigris vel rubris plus minusve interruptis variegatâ, costis crassis imbricatis rugosis inæqualibus radiatâ; intùs viridi; margine laqueato; foramine paulo supra medium posito, parvo, subquadrato. *Obs.* The ribs on this species are irregular and unequal, imbricated with little exfoliations, colouring and markings variable, but always green inside. *F. editia*, *Rve.* (f. 49), is slightly more depressed, attenuated in front, and characterized by smaller ribs.

40. *RADIATA* (f. 48, 50), *Lamk., Sowb.*—Quam *F. Barbadensis* magis depressâ, posticè attenuatâ; costis minimè imbricatis. *Obs.* Variety f. 49 of *Barbadensis* approaches this species in the form, which is more depressed and attenuated in front; but in this species the ribs are not imbricated. It is better to adopt the late G. B. Sowerby's identification of this Lamarekian species, with the description of which it agrees pretty accurately, than to give it a new name, as Mr. Reeve has done.

41. *RUGOSA* (f. 46, 47), *Sowb.*—Ovali, validè compressâ, posticè attenuatâ, costis rugosis inæqualibus quarum tribus anticis maximis

radiatâ, pallidè fulvâ albâ et rubrâ radiatim fasciatâ; intùs viridi; foramine paulo supra medium posito, subquadrato. *Obs.* Very much depressed, with three front ribs largely developed.

42. *ASPERELLA* (f. 56), *Sowb.*—*F. rugosæ* simili, sed costis multo magis depressis et minutis. *Obs.* In this species the three prominent ribs are depressed, although shown prominently by being left white. The shell is more finely striated.

43. *MICROTREMA* (f. 54, 55), *Sowb.*—Ovali, anticè paulo attenuatâ, subangulatâ, compressâ, castaneo rubescente vel olivaceâ, costis minutis irregularibus scabris; intùs viridi; margine crenulato; foramine parvo, nigro-marginato, supra medium posito, intùs calloso; callo albo, nigro-marginato. *Obs.* Like *F. asperella*, but with the minute ribs imbricated; inside green, foramen very small.

44. *NATALENSIS* (f. 69), *Krauss.*—Ovali-oblongâ, subelevatâ, anticè angustatâ, albâ fusco-nigrescente variegatâ, costis rugosis inæqualibus rotundis radiatâ; intùs albâ; foramine oblongo, magno, tripartito. *Obs.* Rather narrow in front, with irregular rounded ribs; a long, divided foramen.

45. *NUBECULA* (f. 73). *Linné.*—Ovali, anticè angustatâ et magis quam posticè elevatâ, albâ, fusco-subviridi nubila, radiis subviridibus griseo maculatis radiatim fasciatâ, costis subplanulatis interstriatis radiatâ; intùs albo-viridescente; foramine oblongo, medio paulum contracto. *Obs.* The specimen figured from Mr. Cuming's collection agrees very well with the description in the 'Systema' with which it has been identified. It is more elevated than the following, with a much more elongated foramen.

46. *ROSEA* (f. 91, 92, 150), *Lamk.*—*F. nubecula* simili, sed magis depressâ, costis nonnullis exstantibus, rubro radiatâ et variegatâ; intùs viridi; foramine ovali, brevi.

47. *OSTRINA* (f. 84), *Rve.*—Ovali depressâ, purpureâ, albo prope apicem radiatâ, costellis parvis striatis depressis radiata; intùs viridi; foramine oblongo. *Obs.* This obscure little shell is oval depressed, finely ribbed, green within.

48. *MUTABILIS* (f. 70, 74, 79, 93), *Sowb.*—Ovali, anticè angustatâ, lateribus subcompressis, griseâ vel rosçâ, irregulariter planulatim costatâ et striatâ, intùs albâ; callo interno circumscripto; foramine ovali, medio coarctato. *Obs.* The front of this shell is narrowed by the compression of the sides; its surface is radiated by impressed striæ dividing the flattened unequal ribs,

and lighter ones upon them. Var. f. 74 is the *F. incarnata* of Krauss, and is the original of the 'Conchological Illustrations.'

49. CATILLUS (f. 81), *Rve.*—Parvâ, *F. mutabili* simili, sed minutè æqualiter striatâ, fasciis latis rubris prope apicem radiatâ. *Obs.* More evenly striated than *F. mutabilis*, and radiated with brown bands, which near the margin are suddenly interrupted.

50. TÆNIATA (f. 77), *Sowb. G. B. 2.*—*F. mutabili* simili, sed lævigata, fasciis fuscis duplicatis 11 radiatâ. *Obs.* In form resembling the preceding, but without striæ, and marked by eleven pairs of brown rays.

51. ROTA (f. 72), *Rve.*—Ovalis, anticè angustatâ et depressâ, fulvâ, fasciis fuscis et costis depressis radiatâ; foramine ovali, sub-centrali, anticè subinclinato. *Obs.* A pretty little brown-rayed species, with ribs divided by impressed striæ. The fore part is narrow and depressed.

52. MACROTREMA (f. 86, 90), *Sowb.*—Ovali, crassâ, lateribus convexusculis, subviridi, purpureo-nigrescente radiatâ vel omnino pictâ, costis depressis striatis inæqualibus subrotundis radiatâ; intùs viridi, propè apicem plurimum tinctâ; foramine magno, profundo, medio validè contracto.

53. LONGIFISSA (f. 66), *Sowb. G. B. 2.*—*F. macrotremæ* simili sed vividè rubro radiatâ; foramine elongato, angusto, tripartito; intùs callo roseo-marginato. *Obs.* The fissure of this brightly-rayed shell is so peculiarly long and narrow as to distinguish it from the preceding, which it otherwise resembles.

54. OBSCURA (f. 80), *Sowb.*—Ovali depressâ, irregulariter convexâ, subviridi, et purpureâ lineis roseis striatâ, costis distantibus inæqualibus subnodosis radiatâ; intùs viridi; foramine oblongo, viridi, medio contracto. *Obs.* Distinguished from the two preceding by the distant compressed ribs, which are somewhat nodulous.

55. NIGROCINCTA (f. 64, 65), *Carpenter.*—Ovali, convexâ, vix anticè attenuatâ, impresso-striatâ, fasciulis linearum nigrarum radiatim fasciatâ, interstitiis nigro-punctatis; intùs albâ; callo nigro-marginato; aperturæ margine acutè denticulato interstitiis nigris. *Obs.* A pretty little shell, striated with depressed lines, and radiated by black lines in bunches of three. The margin is sharply denticulated with black interstices. The internal callus is defined by a sharp black line.

56. TENEBROSA (f. 67), *Sowb. G. B. 2.*—*F. nigrocinctæ* simili, sed magis rotundâ; radiis nigris, nebulosis; costellis vix elevatis, subnodosis; margine aperturae vix crenulato. *Obs.* A more rounded shell, more loosely ribbed and cloudily black-rayed than the preceding, only slightly crenulated at the margin of the aperture.

57. BALANOIDES (f. 94), *Rve.*—Ovali, conicâ, subviridi, fusco vel olivaceo radiatim fasciatâ, costellis depressis subevanidis radiatâ; intus viridi; margine leviter crenulato. *Obs.* This shell resembles in general appearance a smooth variety of *Patella vulgata*, plus the fissure.

58. NIMBOSA (f. 136), *Linn.*—Ovali, anticè subattenuatâ, conicâ, elevatâ, subviridi, inter costas lineis nigris et viridibus radiatim fasciatâ; costellis albis, subnodulosis; foramine ovali, profundo, medio contracto; intus viridi; margine crenulato-nigro, punctato.

59. VOLCANO (f. 87), *Rve.*—Ovali, conicâ, prope foramen elevatâ, costellis scabris rotundis inæqualibus radiatâ, fasciculis rubris nigro-punctatis radiatim fasciatâ; foramine alto; intus albâ; margine crenato, maculato.

Margin denticulated. Apex leaning forward. (Gen. "Lucapina.")

60. NEGLECTA (f. 139), *Desh.*—Latâ, prope margines depressâ, prope apicem elevatâ, anticè subattenuatâ, posticè dilatâ, lateribus medio arcuatis concentricè undulatim striatâ, fulvo-grisescente; costis rotundis, striatis, alteris distantibus exstantibus, alteris intermediis numerosis depressiusculis; intus albâ; margine duplicatim denticulato, prope apicem calloso; callo posticè truncato; foramine anticè declivi. *Obs.* The ribs are peculiarly festooned with striæ arching upwards; about every fourth rib is more prominent than the intermediate.

61. METCALFEI (f. 140, 141, 142), *Rve.*—Quam *F. neglecta* angustiore, costellis magis æqualibus. *Obs.* Although narrower and more finely sculptured, this species, which includes *F. viminea* of the same author, exhibits the same festooned striation over the ribs, and otherwise resembles *F. neglecta*.

62. SUBROSTRATA (f. 215), *Guild., Sowb.*—Irregulariter ovali, posticè attenuatâ, depressâ, marginibus ad terminos elevatis, fuscâ, scabrosâ, costis acutè imbricatis subangulatis radiatâ; intus albâ;

margine laqueato; foramine parvo, rotundo, supra medium posito. *Obs.* This rough shell was distinctly figured in 'Conchological Illustrations,' f. 75, under the above name, which has the priority over *F. salebrosa*.

63. DUBIA (f. 208), *Rve.*—Irregulariter oblongâ, depressâ, terminis elevatis, fuscâ, griseo obscure radiatim fasciatâ, irregulariter costis rotundis scabris imbricatis radiatâ; foramine oblongo, infra medium posito. *Obs.* I have some difficulty in placing this and the preceding species. It has been suggested to place them with *F. pustula* and *fascicularis* under the genus *Clypidella*, but, although they resemble those shells slightly in form, perhaps accidentally so, the other characters do not correspond.

64. JUKESII (f. 147, 148, 149), *Rve.*—Ovali, subelevatâ, albidâ, striis elevatis concentricis et costis angulatis acutè imbricatis radiantibus cancellatâ; costis nonnullis exstantibus; intùs albâ; margine duplicatim dentato; callo griseo posticè subtruncato; foramine quadrato; margine griseo, anticè declinato, supra medium posito. *Obs.* This species is subject to considerable variations in elevation, sculpture, etc.; but the characters pass from one variety to another interchangeably. The foramen is square, edged with black, and placed considerably above the middle. F. 147 is *F. Jukesii* of *Reeve*; f. 148 is *F. fimbriata* of the same author; f. 149 is named in the same work as *F. australis* of *Krauss*, but it is quite distinct from that species.

65. SIEBOLDII (f. 138), *Rve.*—*F. Jukesii* simili, sed costis quinque posticis, distantibus, validè exstantibus. *Obs.* A variety of *F. Jukesii* occurs, which has some of the front ribs very prominent, and that variety presents an approach to this species, in which the five principal ones are very prominent indeed and strongly imbricated. This being a Chinese shell, is an additional reason for distinguishing it from its Australian analogue.

66. CALYCVLATA (f. 126, 127), *Sowb.*—Oblongâ, posticè expansâ, anticè lateribus compressis, apice elevato, costellis tribus magnis imbricatis posticis alteris minoribus et interstitialibus minimis radiatâ, liris concentricis cancellatâ; intùs albâ; foramine subrotundo, multo ante medium posito, intùs callo septum formante marginato. *Obs.* Remarkable for the internal callus near the apex, which forms a kind of septum with a pit behind it, and the three prominent notched ribs.

67. VARICOSA (f. 52, 53), *Sowb. G. B. 2.*—Oblongâ, conicâ,

apice elevato, costis tribus maximis validè nodulosis posticis, sex anticis magnis, cum minoribus interstitialibus radiatâ, lineis elevatis distantibus concentricis cancellatâ; intus callo vix septiformi; foramine parvo, rotundo, anticè posito et declinato. *Obs.* It is not internally chambered as in *F. calyculata*. The three posterior prominent ribs are very coarsely knobbed.

68. EXCELSA (f. 154, 155, 156), *Rve.*—Ovali, elevatâ, liris concentricis et costis elevatis inæqualibus acutè imbricatis cancellatâ; apice elevato; foramine parvo, subrotundo, anticè posito. *Obs.* *F. alta*, of C. B. Adams, has the cancellation a little coarser; but there are scarcely two specimens alike.

69. NIGRO-OCELLATA (f. 160, 161), *Rve.*—*F. excelsæ* simili, sed maculis nigris, inter costis prope marginem positis. *Obs.* In form scarcely differing from *F. excelsa*, but with a minute black spot between each of the principal ribs near the margin.

70. OCTAGONA (f. 159). *Rve.* *L. excelsæ* simili, sed costis tribus magnis posticis validè nodosis. *Obs.* The specimens so named in Mr. Cuming's collection, which most nearly resemble the figure of this species, do not appear much more "octagonal" than *L. excelsa*; but the three prominent ribs in front are singularly knobbed.

71. CYATHULUM (f. 152, 153), *Rve.*—Ovali, elevatâ, liris distantibus concentricis et costis distantibus acutis angulatim nodulosis radiantibus cancellatâ, fusco variegatâ; foramine parvo, rotundo; apice elevato. *Obs.* This species, by the coarseness and sharpness of its cancellations, holds a middle position between the *F. excelsa* group and the next species.

72. IMBRICATA (f. 162), *Sowb. G. B. 2.*—Ovali, depressâ, sordidè albâ, fusco radiatim fasciatâ, liris concentricis et costis alternatim inæqualibus acutè imbricatis cancellatâ; foramine parvo, subcentrali. *Obs.* An ordinary patellæform species, but cancelled by concentric ridges and imbricated ribs.

73. LISTERI (f. 130, 131), *D' Orb.*—Ovali, depressâ, liris concentricis et costis 20 principalibus cum alteris interstitialibus rotundis obtusè noduliferis cancellatâ, fusca, albâ, vel viridi radiatim fasciatâ; intus albâ; callo prope apicem subtruncato; foramine cæruleo marginato, supra medium posito, anticè declinato, angustato. *Obs.* This is the most coarsely cancellated among those shells which have been included in the designation *F. Græca*. It is West Indian.

74. SIMILIS (f. 143), *Sowb. G. B. 2.*—*F. listeri* simili, sed

multo magis elevatâ; costis tenuioribus. *Obs.* The ribs are thinner and the shell more elevated and conical than *F. Listeri*; these with the Australian habitat may justify the distinction.

75. RETICULATA (f. 112), *Donov.*—Oblongâ, anticè attenuatâ, depressâ, costis parvis moniliferis inæqualibus et liris concentricis cancellatâ, pallidè fulvâ, viridi vel fusco radiatâ; intus albâ; margine denticulato; lateribus arcuatis; foramine parvo, multo supra medium posito, declinato. *Obs.* This cancellated species has some of the front ribs more prominent than the others. The basal margin is arched at the sides.

76. COSTARIA (f. 117), *Desh.*—*F. reticulata* simili, sed costis et liris minoribus, magis æqualibus; margine basali ad latera recto. *Obs.* The sculpture is finer than in *F. reticulata*, the ribs more regular, and the basal margin not arched.

77. SINGAPORENSIS (f. 118, 119).—Oblongo-ovali, depressâ, albâ vel pallidè fulvâ, interruptim fusco seu griseo radiatim fasciatâ, subarcuatâ, regulariter cancellatâ; foramine ovali, multo supra medium posito, anticè declinato. *Obs.* Like *F. reticulata*, but of a more oval form and more regular cancellation.

78. LATIORA (f. — omitted), *Sowb. G. B. 2.*—Quam *F. Singaporensis* multo latiore. *Obs.* I omitted a figure of this, not intending to distinguish it from the preceding, than which, however, it is much broader.

79. AUSTRALIS (f. 158), *Krauss.*—Oblongo-ovali, depressâ, posticè convexâ, costellis æqualibus moniliferis cum alteris minoribus intermediis et liris minutis concentricis cancellatâ. *Obs.* The cancellation is much more close and regular than in *F. Singaporensis*, and besides the long radiate ribs, there are others intermediate which, beginning later, are shorter.

80. LINEATA (f. 134, 135), *Sowb.*—Ovali, anticè subattenuatâ, declivi posticè convexâ, regulariter cancellatâ; costellis nonnullis, moniliferis, rubris; intus albâ; margine duplicatim denticulato; foramine ovali, anticè posito declivi. *Obs.* Although first figured from a smaller specimen, there can be no doubt of the identity of this shell, to which the name subsequently given by Mr. Reeve was therefore unnecessary. A few of the beaded ribs are a little prominent and coloured red, and although this is not the case with the larger variety which is obscurely rayed with clouded green, yet the more prominent ribs are present undistinguished by the red line.

81. DENSICLATHRATA (f. 157), *Ree.*—Ovali, subdepressâ, co-

nicâ, omnino æqualiter cancellatâ, sordidè albâ viridi-griscescente latè fasciatâ; apice elevato; foramine subcentrali, rotundo. *Obs.* A patellæform species, evenly cancellated, with the foramen near the centre, painted by obscure greenish or greyish bands.

82. VENUSTA (f. 109), *Rve.*—Ovali, depressâ, albâ, costellis lævibus cum alteris intermediis radiantibus et liris concentricis regulariter cancellatâ; foramine paulo supra medium posito. *Obs.* A beautifully cancellated, white, patellæform species.

83. BOMBAYANA (f. 166), *Sowb. G. B. 2.*—Ovali, depressâ, liris concentricis et costis acutis scabris æqualiter cancellatâ, fulvâ, fusco radiatim fasciatâ; intùs albâ; marginè crenulato; foramine rotundo, supra medium posito. *Obs.* A pretty species, resembling *F. venusta*, but delicately ranged with brown bands and with the costellæ scabrous.

84. FUNICULATA (f. 100, 129), *Rve.*—Ovali, posticè vix attenuatâ, subconicâ, concentricè tenuiter striatâ, costis rotundis scabris numerosis quarum nonnullis majoribus exstantibus imbricatis radiatâ, albâ, fulvo-radiatim fasciatâ, nonnunquam costis majoribus fusco-lineatis; foramine ovali, declinato, multo ante medium posito. *Obs.* The original variety, f. 129, has its delicate radiate bands bordered by rather prominent brown ribs, forming beaded lines in pairs; and although the var. subsequently named *F. dactylosa* has not these ribs coloured, it presents the same sculpture and is no doubt identical.

85. NIGRIRADIATA (f. 167), *Rve.*—Parvâ, ovali, conicâ, albâ, liris concentricis et costis moniliferis validis radiantibus quarum 9 interruptim nigris cancellatâ; foramine subrotundo, simplice. *Obs.* A small, coarsely cancellated species, 9 of whose beaded ribs are interruptedly black.

86. PANAMENSIS (f. 123), *Sowb.*—Parvâ, elevatâ, albâ, conicâ, fusco prope marginem fasciatim variegatâ, lineis fuscis angulatis ornatâ, omnino minutè cancellatâ, costellis albis paulo exstantibus radiatâ; apice elevato; foramine circulari, simplice, longè ante medium posito. *Obs.* In the 'Conchological Illustrations,' this very distinct shell is united with the one which Mr. Reeve has since named *F. excelsa*: see f. 154, 155, 156.

87. LARVA (f. 102, 103, 104), *Rve.*—Oblongâ, depressâ, fusco-subviridi, albo radiatâ vel albâ, nigro vel griseo radiatim fasciatâ, concentricè lirâtâ, costis 18 exstantibus rotundis valde imbricatis et interstitiis tricostatis radiatâ, intùs albâ; marginè duplicatim denticulato; callo prope apicem posticè truncato; foramine decli-

nato, anticè angustato, supra medium posito. *Obs.* Of an oblong depressed form, with eighteen imbricated rounded ribs, and three smaller ones in the interstices. The fissure is singularly narrowed anteriorly.

88. DYSONI (f. 105, 106), *Rve.*—*F. larvæ* simili, sed magis conicâ; costis magis angulatis, acutè imbricatis. *Obs.* More conical than *F. larvæ*, with the ribs and imbrications more angular.

89. FUMATA (f. 95, 96, 97), *Rve.*—Ovali, conicâ, anticè angustatâ, albâ vel griseo-nebulosâ, post foramen angulatim elevatâ, concentricè liratâ; costellis rotundis crebris, quarum 18 majoribus radiatis; foramine declinato, anticè angustato, cæruleo marginato, ante medium posito. *Obs.* The variety figured in Reeve's work appears to be an unusual one; the smoky tints of our figures are more natural to it. The apex is elevated into a point behind the anteriorly-narrowed fissure.

90. ALTERNATA (f. 98, 99), *Say.*—Oblongâ, quam *F. fumata* magis angustâ, fusco-subviridî fasciatim variegatâ; costis majoribus acutè imbricatis. *Obs.* Narrower than *F. fumata*, with the more prominent ribs sharply imbricated, and the colouring variegated.

91. RUPELLII (f. 107, 108), *Sowb.*—Ovali, anticè subincurvâ, posticè convexâ, albâ, fasciis quatuor vel octo nigrescentibus, vel fulvâ vel prope marginem rufescente-nigro radiatâ, costis validis rotundis moniliferis et liris concentricis parvis cancellatâ; intùs albo, margine minutè denticulato; foramine declivi, ovali, simplice, supra medium posito. *Obs.* The rounded and beaded large ribs distinguish this species from others.

92. TICAONICA (f. 110), *Rve.*—Oblongâ, posticè gibbosâ, anticè valde declinatâ, concentricè leviter liratâ, costis scabris radiatâ, albâ viridî tinctâ, nonnunquam viridî interruptim radiatâ; foramine angustato, tripartito, prope marginem anticum posito. *Obs.* The tripartite fissure, the fine and rather sharp cancellation, and the nearness of the apex to the ventral margin, serve to distinguish this species.

93. PROXIMA (f. 115), *Sowb. G. B. 2.*—*F. Ticaonica* simili, sed posticè haud tantum gibbosâ, anticè haud tantum declinatâ. *Obs.* Less gibbous posteriorly and less suddenly inclined than *F. Ticaonica*, which it nearly resembles. The variety figured is marked by green lines.

94. CAYENNENSIS (f. 101), *Lamk.*—Ovali, posticè arcuatâ, anticè declivi, costellis scabris crebris radiatâ, fuscâ, nigro et albo variegatâ; intùs albo, callo nigro-marginato, truncato, margine

aperturæ minutè denticulato; foramine brevi, declinato. *Obs.* Regularly radiated with close, equal, scabrous ribs.

95. VIRIDULA (f. 62), *Lamk.*—Ovali, subarcuatim elevatâ, viridî vel fuscâ; costis radiantibus, rotundis vix nodulosis, quarum 20 albis extantibus, et alteris intermediis fuscis vel viridis minoribus; intûs albo margine crenulato, prope apicem subcæruleo; callo nigro-marginato; foramine angusto, medio coarctato. *Obs.* A beautiful species, with radiating white ribs and three ribbed green or greyish-brown interstices.

96. TEGULA (f. 57), *Rve.*—Parvâ, oblongâ, crassâ, posticè arcuatâ, anticè brevi, declivi, griseâ, nigro radiatâ; inter radios nigros costis depressis, quarum posticis majoribus radiatis; intûs pallidè griseo, aperturæ margine minutè denticulato nigro, callo nigro-marginato; foramine oblongo. *Obs.* Small, narrow, arched, grey with black rays between smooth depressed ribs.

97. LINCOLNI (f. 133), *Grey, Sowb.*—Ovali, albâ, arcuatim elevatâ, anticè paulo angustiore, marginibus laqueatis extantibus concentricè liratâ, costis scabris et fasciis purpureis radiatâ; intûs albo, callo circulari, tumido; aperturæ margine denticulato, maculato; foramine rotundo, antico profundo, margine postico elevato. *Obs.* A whitish shell with purple rays, rendered scabrous by the fluted edges of former stages of growth, and radiating ribs roughened by the crossing of these lines.

98. ASPERA (f. 125), *Sowb.*—Ovali-subrotundâ, conicâ, elevatâ, fusco-nigricante, vel obscurè fasciatâ; liris elevatis, fimbriatis; concentricis, et costis numerosis angulatim nodulosis scabris; intûs pallidè cæruleo; callo rotundo, tumido; margine aperturæ duplicatim denticulato; foramine rotundo, supra medium posito, anticè declinato. *Obs.* A darkly-coloured shell roughened by concentric fringes and angularly-knobbed ribs.

99. LIMA (f. 124), *Sowb. G. B. 2.*—*F. asperæ* simili, sed liris concentricis et costis radiantibus multo minoribus; foramine parvo, oblongo. *Obs.* The sculpture is so much finer than *F. aspera* as to compel the separation; the foramen is also small and narrow.

100. DIGITALE (f. 122), *Rve.*—Ovali-subrotundâ, obliquè elevatâ, striis minutis scabris radiatâ; apice validè versus marginem anticum inclinato; olivaceâ, prope apicem subcæruleâ, intûs albâ, versus callum griseâ; margine olivaceo; foramine parvo. *Obs.* Finely reticulated, greyish-olive, much inclined anteriorly, with a small rounded fissure.

101. TENUISTRIATA (f. 111), *Rve.*—Oblongâ, gibbâ, albâ, apice versus marginem anticum inclinâtâ, prope apicem minutè cancellatâ, versus marginem minutè radiatim scabroso-striatâ; foramine magno, rotundo. *Obs.* An oblong gibbous white shell, very short, anteriorly cancellated near the apex, the radiate ribs thinning out into even striæ near the basal margin. The foramen is very large and round.

102. PILEOPSIDES (f. 120, 121), *Rve.*—Obliquè gibbosâ; apice ultra marginem basalem incurvato; pallidè fulvâ, prope apicem rubro tinctâ; costis crenulatis, rotundis, quarum alternis depressis radiatâ; foramine elongato, declinato. *Obs.* The name is happily chosen to express the curving of the apex and its leaning beyond the front basal margin.

103. GIBBA (f. 114, 168), *Philippi.*—Oblongâ, albâ, convexâ, liris concentricis et costis noduliferis radiantibus cancellatâ; foramine oblongo; variat subolivaceâ, fasciis viridis radiatâ. *Obs.* Distinguished by Philippi from the following by the greater convexity of its back and sides. *F. candida*, of the 'Con. Ill.' probably belongs to this.

104. GIBBERULA (f. 113, 117), *Lamk.*—Oblongâ, posticè attenuatâ, albâ vel variegatâ, cancellatâ; lateribus depressis; margine basali arcuato; foramine oblongo. *Obs.* This species has the sides and back more depressed, the basal margin more arched, and the anterior more narrowed than the preceding.

105. GRANIFERA (f. 165), *Pease.*—*F. gibba* simili, sed multo brevior. *Obs.* Much shorter than *F. gibba*.

106. ARCUATA (f. 163, 164), *Sowb. G. B. 2.*—Parvâ, albâ, fulvo radiatâ, radiatim minutè striatâ, antice angustâ; apice versus marginem anticum declinato; dorso gibboso, arcuato; margine ventrali arcuato; foramine parvo. *Obs.* Small, white, with fawn-coloured rays, much inclining forward, and having a curiously-arched and gibbous back.

107. MINUTA (f. 169), *Sowb. G. B. 2.*—Parvâ, elongatâ, dorso arcuatâ, fulvo-virescente, radiatim linearum fasciculis fasciatâ, concentricè liratâ, costellis crebris minutè noduliferis radiatâ; intùs griseo; margine crenulato; foramine parvo, nigro-marginato, prope marginem anticum posito. *Obs.* This little shell was figured in the 'Conchological Illustrations,' and agrees well with Lamarck's description of the species. Mr. Reeve's subsequently-imposed name, *F. gemmulata*, must therefore be dropped.

108. VARIEGATA (f. 172, 173), *Sowb. G. B. 2.*—Quam *F. minuta* magis depressâ, cancellatâ, albâ, fasciis interruptis radiantibus variegatâ; foramine oblongo, margine albo. *Obs.* This species is variegated with interrupted radiating bands; it is flatter than *F. minuta*, and has not the arched back nor the black-edged foramen of that species.

109. ANGUSTATA (f. 170, 171), *Sowb. G. B. 2.*—Elongatâ, angustatâ, dorso arcuato, albâ, nonnunquam fulvo radiatim fasciatâ, minutè cancellatâ; foramine parvo, circulari. *Obs.* Differing from the preceding in the smallness of the foramen and in the narrow and arched form.

110. PICA (f. 181), *Sowb.*—Oblongâ, dorso arcuato, albâ, angulatim olivaceo variegatâ, costis scabris numerosis et alteris minoribus alternis radiatâ; intùs pallidè cæruleo; margine denticulato, ad latera elevato, arcuato; foramine rotundo, validè antico. *Obs.* An elongated arched species, variegated by angular broad patches of olive-green. The foramen is round.

111. INÆQUALIS (f. 183, 184), *Sowb.*—*F. pica* simili, sed coloribus suffusis; foramine elongato, tripartito. *Obs.* The colours in this species are radiated and suffused, the back is less arched than in the preceding, and above all, the fissure, instead of being rounded, is long, narrow and lobed.

112. CORBICULA (f. 180), *Sowb. G. B. 2.*—Quam *F. pica* et *F. inæqualis* magis depressâ, patellæformi, validè cancellatâ. *Obs.* Less arched than the preceding, with coarser cancellation.

113. LANCEOLATA (f. 182), *Sowb., G. B., 2.*—Quam *F. pica* et *F. inæqualis* anticè multo magis angustata. *Obs.* The sudden narrowing of the front part distinguishes this from the two preceding species, besides the cancellation being a little more depressed.

114. ARTICULATA (f. 176), *Sowb. G. B. 2.*—Elongatâ, compressâ, fulvâ, fusco fasciatim variegatâ, liris concentricis et costis radiantibus moniliferis alternatim majoribus, quarum nonnullis nigro articulatis, cancellatâ; foramine elongato, longè supra medium posito. *Obs.* A beautifully sculptured and figured species in the collection of Mr. Hanley, in which some of the most prominent ribs at regular intervals are articulated with black.

115. CANCELLATA (f. 187, 189), *Solander.*—Oblongâ, depressâ, roseâ-grisescente, plerumque griseo in fasciis radiantibus variegatâ; liris concentricis et costis radiantibus rotundis noduliferis alternatim majoribus cancellatâ; intùs griseâ; callo interno angusto,

distincto; margine aperturæ minutè denticulato; foramine magno, circulari, longè ante medium posito. *Obs.* *F. suffusa*, *Rve.*, is only a variety of this without the variegated bands.

116. ÆGIS (f. 188), *Rve.*—*F. cancellata* simili, sed magis depressâ; fasciis distantibus; costis magis distantibus et acutè angustatis; foramine oblongo. *Obs.* Flatter than *F. cancellata*, with narrower, more distant, and sharper ribs.

117. ELONGATA (f. 185), *Philippi.*—Quam *F. ægis* multo angustiore. *Obs.* Although much narrower than *F. ægis*, this shell is not very distinct from that species.

118. CRUCIATA (f. 191), *Krauss.*—Quam *F. ægis* ad apicem magis elevatâ, costis radiantibus haud tantum extantibus, albâ, fasciis fuscis quatuor cruciatim radiatâ. *Obs.* The apex is more elevated and the ribs sharper and closer than (although not so prominent as) in *F. ægis*. *Obs.* It is white, radiated by four brown bands.

119. LENTIGINOSA (f. 190), *Rve.*—Ovali-oblongâ, subdepressâ, costis scabris alternatis crebris radiatâ, albâ, griseo fasciatim maculatâ et variegatâ; intùs griseâ; margine denticulato; foramine magno, rotundo. *Obs.* Rather more gibbous than the three preceding species, with the ribs sharp and close as in *F. cruciata*. *Obs.* It is white, speckled with grey in radiating bands.

120. CRENIFERA (fig. omitted).—Oblongâ, validè depressâ, albâ, fasciis rubris sex latis pictâ, costis distantibus nodosis radiatâ; intùs albo margine crasso, crenulato; foramine oblongo, prope medium posito. *Obs.* A figure of this has been inadvertently omitted; it is flat and oblong with nodulous ribs, and a nearly central oblong foramen.

121. ACULEATA (f. 186), *Rve.*—*F. crenifera* simili, sed albâ, costis alternis acutè imbricatis. *Obs.* Differing from *F. crenifera* in the sharp imbrications of the more prominent ribs.

122. SAGITTATA (f. 83).—Oblongâ, depressâ, radiatim striatâ, albâ, fasciis roseis 11 et maculis angulatis fasciatâ, intùs albâ; marginibus terminalibus paulo elevatis; foramine oblongo, paulo supra medium posito. *Obs.* Prettily radiated with pink bands, between which are angular brown spots.

123. CRENULATA (f. 18), *Sowb.*—Magnâ, expansâ, ovali-oblongâ, posticè depressâ, anticè gibbâ, fulvâ-griscescente, striis impressis radiatâ; striis concentricis crenulatis; intùs albâ; callo apicali valido; margine crenato, aperturæ margine denticulato, ad latera

paululum elevato; foramine maximo, ovali, albo marginato. *Obs.* A large shield-like species.

124. HANLEYANA (f. 174), *Sowb. G. B. 2.*—Parvâ, albâ, subdepressâ, anticè angustatâ, minutè cancellatâ, intùs albâ, margine leviter crenulatâ; foramine subtrigono, lateribus aculeatis, prope medium posito. *Obs.* The triangular fissure in this species has a little elevated point at each side.

GENUS FISSURELLIDEA.

Char. Gen. Molluscum gasteropodum, testâ patellæformi, dorsali pallio tectâ ad apicem, fissurâ magnâ perforatâ, margine aperturæ ad extremitates elevato.

The characters of the shells alone are not sufficient to distinguish this genus from the preceding, although the fissure is larger than in *Fissurella*, and the basal margin is elevated at both ends; but in *F. hiantula* the shell is covered almost entirely by a lobe of the mantle, and although the animals of the other species are not all known, I have placed together those whose shell would appear probably to belong to the same type.

Species of Fissurellidea.

1. HIAANTULA (f. 193, 194, 195), *Lamk.*—Testâ oblongâ, anticè subangustatâ; lateribus compressis, terminis elevatis; impresso-striatâ griseo, olivaceo vel rubro variè radiatâ et pictâ, intùs albâ; callo valido, margine leviter crenulato; foramine magno, ovali, paululum infrâ medium posito. *Obs.* Rather narrower anteriorly, and, by being as it were pinched in at the sides, the basal margin is open at both ends.

2. CHEMNITZII (f. 29, 192), *Sowb.*—Ovali, crassâ, anticè angustatâ, lateribus compressis, roseo radiatâ, concentricè undulatim striatâ, costis complanatis et interstitiis minoribus radiatâ, intùs albâ; callo valido; foramine magno, ovali, subcentrali. *Obs.* A large, thick flat-ribbed, rose-rayed shell.

3. FLORESCENS (f. 202, 203), *Sowb. G. B. 2.*—Oblongâ, tenui, anticè angustatâ, subdepressâ, terminis paululum elevatis, concentricè undulatim striatâ, costis depressis inæqualibus radiatâ, fulvâ, rufo variegatâ, intùs albâ; margine crenulato, roseo, callo apicale roseo marginato; foramine magno, paululum infra medium

posito. *Obs.* A very pretty shell in Mr. Hanley's collection, in some respects resembling *F. Chemnitzii*, but much thinner, and not so much pinched at the sides or elevated at the ends.

4. INCARNATA (f. 199), *Krauss.*—Oblongâ, roseâ, albo radiatâ, tenuissimè radiatim striatâ, anticè angustatâ; terminis paululum elevatis; foramine centrali, magno. *Obs.* Rose-coloured with whitish rays very finely striated, the ends a little turned up, but not so much so as *F. hiantula*:

5. SELLA (f. 197), *Sowb. G. B. 2.*—Brevi, anticè angustatâ; lateribus paulo compressis, terminis validè elevatis; fulvâ-rubescente, minutè striatâ, intùs griseâ; margine lævi, callo purpureo circumscripto. *Obs.* An interesting saddle-shaped shell, which has the peculiar pinched-up character of *F. hiantula*, etc., but is much shorter. It has the ends raised more than any other species.

6. SCUTELLA (f. 207), *Sowb. G. B. 2.*—Subquadratâ, depressâ, lævi, concentricè minutissimè striatâ; terminis elevatis; fulvâ, fuscis fasciis inæqualibus radiatâ; foramine magno, medio subangustato. *Obs.* The upturned edges of this almost square species seem to place it in this genus or group.

7. NIGRITA (f. 196), *Sowb.*—Oblongâ, depressâ; lateribus compressis, terminis elevatis; radiatim striatâ, nigrâ; foramine maximo, ovali, centrali. *Obs.* Black, finely striated, with the ends raised, and very large central fissure.

8. COMPLANATA (f. 201), *Sowb. G. B. 2.*—Oblongâ, depressâ, albâ, terminis paululum elevatis, lineis impressis radiatâ, concentricè crenulatis minutissimè striatâ; intùs margine incrassato, crenulato, callo lato circumscripto; foramine maximo, ovali, centrali. *Obs.* A thick shell with ends slightly elevated, and very large fissure.

9. LIMATULA (f. 204), *Rve.*—Oblongâ, depressâ, striis impressis radiatâ, lineis concentricis crenulatis cinctâ, pallidè fulvâ, fasciis griseis 6 inæqualibus radiatâ, intùs alba; callo apicali circumscripto; margine incrassato, minutè crenulato; foramine magno, ovali. Radiated with impressed lines, which are striated by festooned or crenulated lines of growth.

10. ÆQUALIS (f. 200), *Sowb. G. B. 2.*—Oblongâ, depressâ, lævi, griseâ, albo 12 radiatâ, terminis vix elevatis; margine postico undulato; intùs albâ; foramine magno, centrali. *Obs.* Although the ends are scarcely raised, the general form of this shell seems to place it near *F. nigrita*, etc.

GENUS PUPILLÆA.

Char. Gen. Molluscum gasteropodum, testâ patellæformi, dorsali internâ; testæ foramine maximo, ovali; margine basali, areâ depressâ cincto. *Obs.* The species upon which this genus is founded, has the peculiarity of a depressed insertional rim, resembling that by which the valves of a *Chiton* are inserted into the surrounding integument. The shell is covered by the mantle.

PUPILLÆA APERTA (f. 228, 229), *Sowb.*—Oblongâ, subconicâ, crassâ, anticè magis gibbâ, posticè magis depressâ, griseâ, inæqualiter nigro fasciatâ et punctatâ; margine impresso, albo, tenui; foramine maximo, ovali. *Obs.* The nearest shell to this in form is *Fissurellidea nigrata*, but neither that nor any other has a similar insertional rim at the base.

GENUS CLYPIDELLA.

Char. Gen. Molluscum gasteropodum, testâ patellæformi, dorsi partem tegente; testæ foramine parvo, subcruciformi; margine antico elevato. *Obs.* The flat saddle-shaped character of the shell, and its small size compared with the animal, and the different appearance of the animal itself, are perhaps sufficient to justify the separation of the two known species composing this genus from the other *Fissurellidæ*.

Species of Clypidella.

1. PUSTULA (f. 209, 210, 211), *Lamk.*—Testâ subcirculari, depressâ, anticè paululum angustatâ, margine elevato; emarginatè albâ seu roseâ, seu roseo radiatim fasciatâ, costis depressis, crebris, concentricè striatis et interstitiis linearibus radiatâ; intùs albâ, margine crenulato; foramine subcruciformi roseo marginato prope marginem anticum posito. *Obs.* The ribs are depressed and close together, and the anterior margin is a little sinuous and elevated.

2. FASCICULARIS (f. 212, 213, 214), *Lamk.*—Sub-pyriformi, gibbosâ, anticè subacuminatâ; radiis rugosis, elevatis radiatâ; foramine subcruciformi, prope medium posito. *Obs.* Peaked in front, not emarginated, with the ribs more rugose and rounded than in *C. pustula*, and the fissure placed nearer to the centre.

GENUS MACROCHISMA.

Char. Gen. Molluscum gasteropodum; testâ patellæformi, oblongâ, dorsali, versus extremitatem positâ; testæ foramine maximo, elongato, prope marginem anticum posito, terminis elevatis. *Obs.* Mr. Cuming remarks that the animal of this genus is very large and elongated, with the shell placed near the hinder extremity. The shell has the compressed sides and elevated extremities of the genus *Fissurellidea*, but it is much prolonged backwards; and the foramen is very long, narrowed behind, widened in front, where it is placed close to the anterior margin of the shell, which is depressed immediately in front of it.

Species of Macrochisma.

1. MAXIMA (f. 216, 217), *A. Adams.*—Testâ oblongâ, radiatim striatâ, fusco et rubro radiatim fasciatâ, posticè subdepressâ, obsoletè bicostatâ; margine antico validè elevato, sinuato, intus margine incrassato; foramine anticè angustato. *Obs.* This, and not *M. hiatula*, is the species figured in the 'Conch. Illust.' as *F. macrochisma*.

2. SINENSIS (f. 219), *A. Ad.*—*M. maxima* simili, sed tenuiore, posticè terminis validè elevatis. *Obs.* It is a thinner shell than *M. maxima*, with the margin elevated at both extremities.

3. ANGUSTATA (f. 225), *A. Ad.*—*M. maxima* simili, sed angustiore, ad latera obliquè striatâ. *Obs.* Narrower than *M. maxima*, with oblique striæ at the sides.

4. COMPRESSA (f. 218), *A. Ad.*—*M. maxima* simili, sed lateribus compressis, colore pallidè fulvo, posticè fuscâ, fasciâ roseâ anticè utrinque radiatâ; foramine validè attenuato. *Obs.* A much narrower shell than *M. maxima*, of a different colouring, and with the fissure greatly lengthened.

5. PRODUCTA (f. 224), *A. Ad.*—Elongatâ, albâ, tenuissimè radiatim striatâ; anticè margine vix elevato, posticè margine depresso subrostrato; costâ posticâ elongatâ, depressâ, striatâ, foramine anticè lato. *Obs.* Very long, depressed posteriorly by a broad flat rib, and drawn out into a point or beak.

6. MEGATREMA (f. 227), *A. Ad.*—Ovali, parvâ, tenui, albâ, posticè roseo punctatâ, posticè roseo biradiatâ, obtusâ; foramine

maximo, elongato, medio expanso. *Obs.* The foramen occupies two-thirds the length of the entire shell, which ends abruptly at the posterior end.

7. CUSPIDATA (f. 226), *A. Ad.*—Parvâ, minutè striatâ, griseo variegatâ, tenui, posticè attenuatâ, subacuminatâ; foramine maximo, posticè acuminato. *Obs.* Differing from the last in its greyish colour, in the narrowness and pointedness of the foramen and posterior margin. These last two species may prove to be the young of some other species.

8. HIATULA (f. 198), *Swains.*—Oblongo-subquadratâ, radiatim striatâ, fuscâ; anticè margine validè elevato, posticè margine paululum elevato; foramine oblongo, magno, prope medium posito. *Obs.* A wide species, in which the fissure is not placed so near the front edge, and in which the space between the fissure and margin is scarcely depressed. It forms almost a link between this genus and *Fissurellidea*.

9. DILATATA (f. 220), *A. Ad.*—Oblongâ, striatâ, subquadratâ, depressâ, rubrâ; anticè margine elevato vix sinuato, posticè paululum angustato obscure quadricostato; foramine magno, supra medium posito. *Obs.* Not quite so broad as the preceding, and having the foramen rather nearer the front margin, with the space between slightly depressed.

10. BAKIEI (f. 221), *A. Ad.*—Oblongâ, subquadratâ; margine antico elevato, reflexo, lateribus anticè depressis, margine postico depresso subtruncato; costis rotundis subnodulosis anticè alternatim majoribus radiatâ; albâ, fasciis radiantibus, lineis fulvis variegatis ad laterâ et inter costas posticas ornato; foramine prope marginem posticum posito.

11. TASMANIÆ (f. 223), *Sowb. G. B. 2.*—Quam *M. Bakiei* angustiore, tenuiore; costis et striis tenuioribus; apice post foramen elevato. *Obs.* Narrower than the last, with much finer striæ.

12. NOVÆ-CALEDONIÆ (f. 223), *Sowb. G. B. 2.*—Ovali, rubro-grisescente, minutè punctatâ, costellis minutis posticè majoribus radiatâ; margine antico elevato, margine postico subdepresso vix acuminato; foramine breviusculo, prope marginem anticum posito. *Obs.* A more regularly oval species than the preceding, and of a speckled reddish colour.

MONOGRAPHS OF THE GENERA
CEMORIA, CRANOPSIS, ZEIDORA, RIMULA,
EMARGINULA, SCUTUS, & TUGALIA.

BY ARTHUR ADAMS AND G. B. SOWERBY.

Note.—Owing to engagements interfering to prevent the completion of Mr. Adams's manuscript, the arrangement of these monographs and final decision respecting many species has fallen into the hands of G. B. S.

The specimens are nearly all from Mr. Cuming's collection.

GENUS CEMORIA, *Leach.*

PLATE X.

Char. Gen. Conica, radiatim costata, apice centrali; fissura ad apicem posita, fornice interno arcuato.

In this genus, which is *Sipho* of Brown, *Puncturella* of Lowe, and *Rimula* of American conchologists, the foramen is situated at the apex of the shell, and is not simple, as in *Fissurella*, but is furnished with an internal arched process.

1. NOACHINA (f. 10, 11), *Linn.*—Conica, apice obliquè perforata, foramine intùs coarctato, marginato; costis minimis, inæqualibus, radiantibus; apice minimo retorto.

2. GALEATA (f. 12), *Gould.*—Solida, cinerea, elevata, globoso-conica, apice centrali, acuto prorsum, porrecto, striis filiformibus confertis radiata, et striis minoribus concentricis decussata; fissura brevis, fusiformis; apertura rotundato-ovalis; margine expanso acuto, minutissimè crenulato; fornice costa transversali anticè suffulto, fossam trigonalem utroque latere formante.

3. CONICA (f. 1, 2), *D'Orb.*—Conica, apice incurvato, acuto, fissura angustata, costis radiantibus æqualibus crassis et striis concentricis decussata; apertura ovali, margine crenulato. *Obs.*

This species, figured from a specimen in Mr. Cuming's collection, is of quite a different form to *C. fastigiata*, and seems to approach more nearly to *C. noachina* in specific characters.

4. CUCULLATA (f. 3, 4, 5), *Gould*.—Solida, cinerea, perinæquilateralis, costis ad 40 acutis compressis majoribus et minoribus alternantibus radiata, et striis concentricis confertis muricata; apice elevato, acuto, adunco, prorsum spectante; fissura lanceolata; apertura ovata, margine sulcis inæqualibus alternantibus crenulato; facie internâ porcellanâ; fornice tenui, simplici, arcuato.

5. NOBILIS, (f. 6-9), *A. Adams*.—Elato-conica, vertice acuminato, prorsum inclinato, acuto; costis longitudinalibus, validis, æquidistantibus; interstitiis striis concentricis instructis; fissura angusta, lanceolata, margine valde crenato. *Obs.* Resembling *C. cucullata* of *Gould*, but with the ribs stronger, wider apart, and equal; the apex, moreover, is considerably more elevated and acute.

6. COGNITA (f. 13), *Gould*.—Conica, alba, radiatim costulata; apice incurvato; apertura rotundato-ovali. *Obs.* Similar to *Cemoria conica*, *D'Orb.*, but less elevated and the ribs more regular (*Gould*).

7. FALKLANDICA (f. 14), *A. Adams*.—Albida, conica, apice incurvato, radiatim costata; costis longitudinalibus, validis, subdistantibus, æqualibus, striis concentricis confertis corrugatis; fissura angusta, lanceolata; apertura ovata, margine crenato, fornice costâ transversali. *Obs.* In this species the ribs are very distinct, and the concentric raised lines are acuminate where they cross the ribs.

8. FASTIGIATA (f. 15, 16), *A. Adams*.—Albida, elevato-conica, nitida, vertice acuminato involuto, costellis longitudinalibus æqualibus æquidistantibus, interstitiis planis lineis incrementi concentricis; fissura lanceolata; apertura ovalis, margine crenulato, fornice costâ valde arcuatâ, transversali, simplici.

GENUS CRANOPSIS, *A. Adams*.

PLATE X.

Gen. Char. Testa conica, capuliformis, extûs cancellata, apice recurvo integro; fissurâ in medio positâ inter apicem et marginem anticam, fornice interno arcuato.

In this genus the position of the foramen is the same as in *Rimula*, but is furnished with the internal calcareous arch peculiar to *Cemoria*.

1. PILEOLUS (f. 1, 2), *A. Adams*.—Pileiformis, costellis radiantibus crenulatis, interstitiis cancellatis, vertice posticè valde incurvato; fissura anticè acuta, margine posticè reflexo. *Obs.* This species is more cap-shaped and the apex more involute than in *C. pelex*; it is also more laterally compressed and of smaller size.

2. PELEX (f. 3, 4), *A. Ad. Ann. and Mag. Nat. Hist.* 1860.—Pileiformis, liris radiantibus crenulatis, interstitiis cancellatis ornata; fissura intùs concamerata, marginibus callosis extùs labiis elevatis longitudinalibus marginatis; foramine lineis incrementi transversis apicem versus currentibus, margine crenulato.

GENUS ZEIDORA, *A. Adams*.

PLATE X.

Char. Gen. Testa oblonga, depressa, extùs cancellata, apice postico, margine antico fissurato, internè laminâ septiformi transversâ instructa.

This genus resembles *Emarginula* in the fissured anterior margin, but the interior has a horizontal septum similar to that of *Crypta* (or *Crepidula*).

1. RETICULATA (f. 1, 2), *A. Adams*.—Oblonga, dorso convexa, lineis elevatis longitudinalibus radiantibus et lirulis concentricis pulcherrimè decussata; apertura margine crenulata; fissura profundè angusta. *Obs.* This species differs from *Z. calceolina* in being much more convex, less obtuse anteriorly, and in the fissure being narrow and deeply incised; the sculpture moreover is very different, being finely reticulated instead of widely cancellate.

2. CALCEOLINA (f. 3), *A. Adams*.—Oblonga, lineis elevatis concentricis et radiantibus eleganter cancellata; sulco mediano lateribus elevatis; apice posticè deflexo; septo margine acuto integro. *Obs.* Wider and more depressed than *Z. reticulata*, and the concentric and radiating lines form a much wider network.

GENUS RIMULA, *De France*.

PLATE X.

Char. Gen. Testa conica, apice postico recurvo; extùs cancel-

lata, fissurâ in medio inter apicem et marginem anticum positâ, internè simplici.

The medium position of the foramen is the same as in *Cranopsis*, but in *Rimula* there is no internal arched process.

1. CUMINGII (f. 1.), *A. Adams*.—Parva, ovata, opaca, costellis longitudinalibus radiantibus lineisque transversis crassis concentricis cancellata; cancelli transversi, elongati; costis nodulosis, subæqualibus, prominentibus, distantibus, anterioribus duabus anticè divergentibus, interstitiis costellis duabus instructis, perforatione elongatâ, subquadratâ.

2. PROPINQUA (f. 2.), *A. Adams*.—Parva, elongato-ovalis, costellis prominentibus, asperis, longitudinalibus, radiantibus, subdistantibus, interstitiis valde cancellatis; cancelli transversi, subquadrati; costellis duabus anterioribus anticè convergentibus, ad aperturæ marginem junctis perforatione angustate-ovali, anticè acuminatâ.

3. EXQUISITA (f. 3, 4), *A. Adams*.—Magna, ovalis, semipellucida, alba, costis longitudinalibus radiantibus lineisque elevatis transversis concentricis cancellata; cancelli subquadrati, costis crenulatis, inæqualibus, prominentibus, anterioribus duabus divergentibus, interstitiis costellis duabus instructis; supra perforationem concava, perforatione elongatâ subquadratâ.

4. CARINATA (f. 5), *A. Adams*.—Parva, ovalis, costellis simplicibus permultis confertis longitudinalibus radiantibus ornata; interstitiis cancellatis; cancelli punctiformes; costellis duabus anterioribus anticè convergentibus et apud aperturæ marginem junctis; interstitiis, supra perforationem, convexis, supra verticem extendentibus, quasi carinâ; perforatione ovali, angustâ, anticè angustatâ.

5. MAZATLANICA (f. 6), *Carpenter*.—Minutissima, oblonga, arcuata, costis crassis subimbricatis radiata, rugis minutis concentricè lirata; fissura versùs apicem attenuata.

GENUS EMARGINULA, *Lamarck*.

PLATES X TO XIII.

Char. Gen. Testa conica, apice recurvo, extùs cancellata; margine antico plus minusve fissurato.

In this genus the foramen is so far removed from the apex as

to form in the adult a fissure in the front edge of the shell; in young individuals, however, the foramen is entire. *A. Adams.*

(I do not find it possible to distinguish satisfactorily the subgenera "*Submarginula*" and "*Clypidina*." The notch, upon which the division principally depends, graduates from a great depth in some species to being scarcely perceptible in others, but no line of demarkation can be drawn. In most species the depth of notch depends on the age of the specimen, being deeper in the young. *G. B. S.*)

1. PLANULATA (pl. x. f. 1), *A. Adams.*—Elongato-ovalis, complanata, vertice subcentrali posticè inclinato, albida, costellis radiantibus æqualibus, imbricato-asperis lineisque concentricis incrementi decussata, basi arcuatâ; aperturæ margine anticè valde inciso, incisurâ latâ et profundâ. *Obs.* Anterior not so short as in *E. incisura*. The slit much shorter and more abrupt.

2. INCISURA (pl. x. f. 2), *A. Adams.*—Elongato-ovalis, planulata, pallidè fulva, vertice antico retrorsum inclinato, costellis inæqualibus, radiantibus, longitudinalibus, imbricato-asperis, et lineis elevatis, concentricis, decussata, basi arcuatâ, aperturæ margine crenulato, anticè declinato, valde fissurato, incisurâ magnâ, longâ, haud usque ad verticem productâ, marginibus intus callosis. *Obs.* In this species the slit is long, and a half-cut continuation of it extends to the apex. This is, unfortunately, not fully shown in the figure.

3. CLYPEUS (pl. x. f. 3), *A. Adams.*—Elongato-elliptica, valde depressa, testacea, maculâ luteolâ in medio dorsi, vertice subcentrali, posticè inclinato, costis confertis, æqualibus, radiantibus, imbricato-asperis, ornata, basi arcuatâ; aperturæ margine crenulato, anticè valde fissurato, fissurâ magnâ, aperturâ intus bimaculosâ. *Obs.* Narrow, scabrous, and has some prominent ribs.

4. HUZARDI (pl. x. f. 4), *Payr.*—Ovalis, patelliformis, valde depressa, alba, vertice subcentrali, brevi, leviter reflexo; costellis longitudinalibus numerosis minoribusque interpositis; striis transversis; margine crenulato. *Obs.* Very depressed, beautifully cancellated, with posterior end short.

5. DILECTA (pl. x. f. 5), *A. Adams.*—Elongato-ovalis, subquadrangularis, alba, valde depressa, vertice subpostico, retrorsum declinato, costis subdistantibus, radiantibus, asperulatis, et liris elevatis, concentricis, pulcherrimè cancellata, basi arcuatâ; aperturæ margine denticulato, anticè valde fissurato. *Obs.* More

obtusely conical than *E. Huzardi*, with sculpture closer and apex nearly central.

6. OBOVATA (pl. x. f. 6), *A. Adams*.—Elongata, obovata, depresso-conica, testacea, vertice subcentrali, retrorsum inclinato, costellis radiantibus, imbricato-asperis, et liris elevatis, concentricis, cancellata; apertura posticè rotundata, anticè angustata, margine creno-denticulato, anticè profundè inciso. *Obs.* Sharply cancellated. The slit very long.

7. CLATHRATA (f. 54), *Pease*.—Depressa, posticè lata, anticè angustata; interstitiis foveolatis et costellis concentricis cancellata; apice versus marginem posticum posita; costis magnis, rotundis. *Obs.* The ribs, particularly the six or eight posterior ones, are large and rounded, the interstices deeply pitted.

8. ACULEATA (f. 58), *A. Adams*.—Elongato-ovalis, depressa, rufescens, vertice subpostico, retrorsum inclinato, costis radiantibus, aculeato-asperis, prominentibus, interstitiis valde clathratis; apertura margine denticulato, anticè fissurato, fissurâ profundâ. *Obs.* Not so enlarged posteriorly as *E. obovata*.

9. EXIMIA (f. 63), *A. Adams*.—Elongato-ovalis, valde depressa, alba, subpellucida, vertice postico retrorsum inclinato, costis radiantibus, distantibus, prominentibus, imbricato-nodosis, interstitiis liris transversis et longitudinalibus latè cancellata; totâ superficie linealis radiantibus et concentricis pulcherrimè decussatâ; apertura margine denticulato, anticè profundè inciso. *Obs.* Remarkable for the large regular pits between the ribs.

10. ELONGATA (f. 33), *Phil.*—Oblongo-ovata, subdepressa, costis radiantibus, nodulosis, alternatis et lineis elevatis crebris cancellata, interstitiis tenuissimis, nitentibus; apice versus marginem posticum recurvo. *Obs.* The shell here described seems best to agree with Philippi's figure.

11. MICANS (f. 60), *A. Adams*.—Elongato-ovalis, pallidè fusca, nitida, vertice posticè declinato, costellis radiantibus et lineis elevatis transversis, regulariter cancellata; cancelli quadrati; apertura margine denticulato, incisurâ magnâ et longâ. *Obs.* Scarcely differing from *E. elongata*, which also has the interstices deep and shining, excepting in being a much more conical shell.

12. CONCINNA (f. 34, 39, 40), *A. Adams*.—Ovato-depressa, albida, vertice postico, ad marginem declinato, costis sulcosis, distantibus, radiantibus (circa 12), interstitiis lineis longitudinalibus, et transversis, concinnè decussatis; apertura margine dentato, anticè profundè inciso.

13. SCABRIUSCULA (f. 36), *A. Adams*.—Elongato-elliptica, depresso-conica, testacea, vertice subpostico, retrorsum inclinato; costis inæqualibus, radiantibus, imbricato-subaculeatis, asperis, et lineis elevatis, concentricis cancellata; apertura anticè angustata, basi arcuatâ, margine creno-denticulato. *Obs.* Distinguished by small red spots on the intermediate smaller ribs.

14. CANCELLATA (f. 15, 16), *Phil.*—Ovato-subdepressa, lata, pallidè fulva, costis numerosis, alternatis, et lineis elevatis concentricis acutè cancellata, cicatrice post fissuram profundam foveolata; dorso arcuato, apice postico, declinato. *Obs.* In this species the cicatrix above the fissure is deeply pitted.

15. BELLULA (f. 55, 56), *A. Adams*.—Elongato-elliptica, subdepressa, albida, vertice subpostico, declinato, costis distantibus prominentibus, lineisque transversis concinnè sculptis; carina, supra incisuram, puncturata; aperturæ margine denticulato, intus sulcato, anticè profundè inciso. *Obs.* The sculpture is sharp, almost aculeated, and the cicatrix above the notch is elevated into a prominent keel, pitted between two ridges.

Hab. Catanuan, Province of Toyabos, island of Luzon, on dead shells, 10 fathoms. *Mus. Cuming.*

16. CANDIDA (f. 45, 46), *A. Adams*.—Elliptica, depresso-conica, obliqua, alba, vertice subpostico, retrorsum declinato, costis radiantibus imbricato-asperis (majoribus cum minoribus alternatis), interstitiis clathratis; aperturæ margine denticulato, anticè profundè inciso. *Obs.* Differing from *E. bellula* in being more depressed, and more coarsely and obtusely sculptured.

17. VIMINEA (f. 12, 13), *A. Adams*.—Ovato-conica, albida, vertice centrali, retrorsum inclinato, costellis radiantibus, nodulosis, subæqualibus, et lineis crassis, transversis, regulariter cancellata; cancelli profundi, punctiformes; aperturæ margine crenato, anticè profundè inciso.

18. CUCULLATA (f. 19, 20), *A. Adams*.—Obovalis, obliquè conica, alba, vertice producto, subpostico, intorto; costis prominentibus nodulosis, radiantibus, interstitiis cancellatis; aperturæ lateribus anticè angustatis, margine denticulato, posticè rotundato, anticè profundè fissurato, incisurâ longâ et latâ. *Obs.* Very elevated, narrowest in front, with some prominent distant ribs posteriorly.

19. LONGIFISSA (f. 62), *Sowb.*—Subdepresso-conica, omnino minutissimè cancellata, apice elevato paulùm post-mediano, costis circa 16 magnis, cum alternis minoribus; fissura profunda, cica-

trice profundâ, ad apicem continuatâ. *Obs.* Of a light buff colour, very minutely cancellated.

20. *SOLIDULA* (f. 47, 48), *Phil.*—Parva, elliptica, arcuato-depressa; costis crebris rotundis, et lineis elevatis minutissimis cancellata; apice retrorsum inclinato; fissura linearis. *Obs.* In this little white species the cross ridges are very minute, and the ribs close and rounded.

21. *STRIATULA* (f. 59), *Quoy.*—Ovato-conica, fragilis, granulosa, longitrorsum transversimque tenuissimè costulata; vertice obliquo, recurvo, margine crenulato, rimâ valde excavatâ. *Obs.* The ribs are characterized by punctured striæ.

22. *CRASSICOSTATA* (f. 41, 42), *Sowb.*—Ovalis, anticè subangustata, costis crassis crebris noduliferis radiata, interstitiis clathratis, apice postico, dorso arcuato, cicatrice supra suturam carinatâ, foveolatâ. *Obs.* Oval, arched, with thick, rather close, beaded ribs; the apex very posterior.

23. *RETICULATA* (f. 37, 38, 49), *Sowb. Min. Con.*—Ovalis, convexo-conica, costellis longitudinalibus striisque transversis cancellata, pellucida, albida; vertice curvo, margine crenulato. *Obs.* *E. reticosa* of Adams; differs in no respect from the well-known British shell, and locality alone cannot be held sufficient to establish a species in the absence of other distinctions.

24. *ROSEA* (f. 22, 23), *Bell.*—Ovata, conica, alba, translucida, longitudinaliter costata, transversim striata; apice peracuto, valde inflexo, recurvo. *Obs.* This European shell is, when fresh, of a rose tint. It is coarsely ribbed.

25. *CAPULIFORMIS* (f. 25, 26), *Phil.*—Angusta, arcuata, dorso perelevato, apice valde recurvo, costis crassis circa 12; liris contricis solidis, interstitiis foveolatis. *Obs.* A small, narrow shell, much more elevated and horn-shaped than *E. rosea*.

26. *ADAMSIANA* (f. 27, 28), *Sowb.*—Subrosea, elliptica, costis magnis rugosis cum parvis intermediis radiantibus, et liris inæqualibus, omnino minutè scabrosis, cancellata, dorso arcuato; apice post marginem posticum declinato. *Obs.* This species is much more coarsely ribbed than *E. rosea*, and the surface of the ribs is minutely cancellated.

27. *MACULATA* (f. 31, 32), *A. Adams.*—Depresso-conica, capuliformis, alba, fusco-maculata, costellis radiantibus nodulosis, vertice posticè inclinato; apertura ovalis, margine crenulato anticè profunde fissurato; fissura longa, angusta. *Obs.* A very pretty

cup-shaped species, mottled with pale-brown, and with the radiating ribs distinctly nodulous.

28. GALERICULATA (f. 24), *A. Adams*.—Obliquè conica, capuliformis, vertice valde curvato, ultra marginem posteriorem decumbente, costellis angustis, crenulatis, radiantibus interstitiis lineis elevatis, transversis, concinnè clathratis; costa antica supra incisuram granulato-punctata; aperturæ margine crenulato, anticè profundè inciso.

29. CRASSA (f. 21), *J. Sowerby, Min. Con.*—Solida, elliptica, conica, posticè latior, costis inæqualibus minutè nodosis radiata, lineis minutis concentricis vix clathrata; apice elevato, postico, vix declinato. *Obs.* The ribs have a tendency to associate in bundles, and the cross bars are so minute and faint as to scarcely leave pits between.

30. PUNCTULATA (f. 14, 35), *A. Adams*.—Elongato-elliptica, depresso-conica, testacea, apice acuto, subpostico, retrorsum inclinato, costis radiantibus, et liris concentricis, elevatis, cancellata, liris ad costas nodulosis, basi arcuata; aperturæ margine excurvato, crenulato, apice profundè inciso. *Obs.* G. B. S. is of opinion that *E. excurvata* of *A. Adams* is identical with this. Both shells differ from *E. crassa* in being distinctly and strongly reticulated.

31. EMENDATA (f. 11), *Sowb.*—Ovalis, conica, fusca, apice elevato, versus marginem posticum recurvo, vix declinato, costis crebris æqualibus, rotundis, striatis et lineis elevatis concentricis ornata; fissura elongata, anticè contracto, ad marginem clausa. *Obs.* This darkly-coloured shell is remarkable for the slit narrowing towards the anterior, till at the margin its edges appear reunited.

32. TENUICOSTATA (f. 17, 18), *Sowb.*—Elliptica, elevato-conica, concentricè viridi subfasciata, costis numerosis, noduliferis et striis concentricis minutis concentricè cancellata; figura profunda, cicatrice post fissuram foveolatâ. *Obs.* This species resembles *E. puncticulata*, but is much more finely sculptured. It is also less expanded posteriorly than either *E. puncticulata* or *E. crassa*.

33. PUNCTATA (f. 29, 30), *A. Adams*.—Ovato-conica, albido-grisea, pulcherrimè viridi punctata, vertice subcentrali, posticè inclinato; costis longitudinalibus, majoribus cum minoribus alternatis, concinnè granulatis; aperturæ margine crenulato, excurvato, anticè valde fissurato.

34. VARIEGATA (f. 9, 10), *A. Adams*.—Depresso-conica, alba,

griseo variegata; apice obtuso, subcentrali, costis rugosis inæqualibus acutis numerosis, margine denticulato.

35. FULIGINEA (pl. x. f. 7, 8), *A. Adams*.—Elliptica, valde depressa, fuliginea, apice subcentrali, posticè inclinato, costellis æqualibus, radiantibus, granulosis, confertis et lineis incrementi concentricis, ornata; apertura ovalis, intùs viridis, margine crenulato, anticè fissurato, incisurâ intùs in canalem productâ.

36. JAPONICA (f. 43, 44), *Sowb.*—Subpurpurea, subelliptica, conica, posticè angustata, lateribus compressis, apice obtuso; fissura parva, costis inæqualibus rugosis, margine intùs posticè incrassato. *Obs.* Distinguished by a compression of the sides, the narrowness of the posterior end, and the thickening of the inner posterior edge.

37. FISSURATA (f. 104), *Chemn.*—Depresso-conica, lata, rubra, solida, apice obtuso mediano, costis numerosis, minutè nodulosis radiata, interstitiis lævibus; fissura parva, cicatrice intùs incrassatâ. *Obs.* A rather wide, solid, purplish-red shell.

38. SCABRICOSTATA (f. 61), *A. Adams*.—Ovalis, valde depressa, albida, fasciis tribus, lutescentibus, radiantibus, anticè ornata; vertice subcentrali, posticè inclinato, costis radiantibus, distantibus, corrugatis, interstitiis valde clathratis et corrugatis; aperturae margine dentato et denticulato, anticè valde inciso. *Obs.* The broad ribs of this little flat shell are minutely scabrous, and *E. pumila* of *A. Adams* being similarly characterized, the two shells are here re-united. (G. B. S.)

39. VANICORENSIS (f. 52), *Quoy et Gaim.*—Oblongo-conica, arcuata, fragilis, alba, margine crenulato, costellis longitudinalibus, rugosis, striis transversis granulatis; fissura angusta. *Obs.* The ribs are closer and smoother than in *E. scabricostata*.

40. PUMILA (f. 61), *A. Adams*.—Orbiculato-ovalis, valde depressa, apice subcentrali, posticè inclinato, costis radiantibus nodosis, inæqualibus, et lineis elevatis concentricis incrementi, decussata; aperturae margine denticulato-crenato, anticè profundè sinuato; sinu subquadrato, intùs in canalem producto. *Obs.* A small, white, flat species.

41. LÆVICOSTATA (f. 57), *A. Adams*.—Parva, elliptica, valde depressa, apice subpostico, retrorsum inclinato, costis lævibus radiantibus (circa 14) interstitiis costellis longitudinalibus, et lineis transversis latè clathratis, aperturae margine denticulato, lateribus anticè valde inciso. *Obs.* The cancellated ribs of this little flat species are comparatively smooth and the interstices deeply pitted.

42. POLYGONALIS (f. 78, 90), *A. Adams*.—Elongato-ovalis, depresso-conica, alba, octoradiata, vertice subcentrali, posticè inclinato, costis radiantibus subnodulosis, longitudinalibus (octo majoribus) lineis concentricis incrementi aspera; apertura octagonalis, margine crenulato, anticè valde sinuato, sinu intùs in canalem producto. *Obs.* Mr. Adams's *E. denticulata* (f. 90) is only the young state of this shell.

43. CRASSILABRUM (f. 79), *A. Adams*.—Elliptica, crassa, rudis, alba, depresso-conica, vertice subcentrali, eroso, costis radiantibus, distantibus, inæqualibus, subaculeatis, ornata; aperturæ margine crenato-denticulato, posticè recto, anticè rotundato, sinuato, sinu intùs in canalem producto.

44. CUMINGII (f. 76), *Sowb.*—Oblonga, irregulariter polygona, lata, valde depressa, subviridis, costis angulatis rugosis inæqualibus radiata, apice paululùm anticè posito; fissura subquadrata. *Obs.* Much more depressed and wide than *E. scutellata*, and the sculpture less deeply cut and rugose.

45. SCUTELLATA (f. 53), *Deshayes*.—Oblonga, irregulariter polygona, angusta, depressa, subviridis, costis rotundis elevatis, rugosis, valde inæqualibus radiatis et liris irregularibus concentricis cancellata; apice acuto, paululùm versus marginem posticum inclinato; fissura subquadrata, cicatrice in carinam elevatâ. *Obs.* Besides the points enumerated in the description of *E. Cumingii*, this species differs from it in having the apex nearest to the posterior side.

46. LATA (f. 81), *Quoy*.—Elongato-ovalis, valde depressa, vertice vix elevato, posticè inclinato, costis radiantibus nodulosis, crassis, et lineis incrementi transversis, ornata; aperturæ margine irregulari, crenulato, intùs calloso, anticè valde sinuato.

47. IMBRICATA (70, 71), *A. Adams*.—Ovato-oblonga, subquadrangularis, cinereo-albida, vertice parvo, centrali, posticè inclinato, costis radiantibus imbricato-asperis, inæqualibus, et lineis crassis irregularibus incrementi decussata; aperturæ margine dentato, anticè valde sinuato, sinu subquadrato, intùs in canalem producto.

48. AUSTRALIS (f. 67, 94), *Quoy*.—Ovalis, brevis, pallidè fulva vel cinerea, elevato-conica, costis radiantibus scabris, inæqualibus et lineis elevatis decussata; costis tribus anticis majoribus, apice submediano, paululùm recurvo; sinu parvo, extùs in costam, intùs in canalem producto. *Obs.* In this species the sides are less compressed and the sculpture less coarse than in *E. imbricata*. Fig. 94 is a flattened variety.

49. TASMANIÆ (f. 72), *Sowb.*—Elevato-conica, pallidè fulva, costis distantibus magnis, rugosis, et alternis minoribus radiata, posticè expansa, anticè angustata, costis duabus prominentibus duplicatis, et cicatrice in costam validam productâ; fissura brevis, apice acuto, obliquè recurvo. *Obs.* The two prominent anterior ribs are not so much produced as in *E. australis*, while the rib formed by the cicatrix is more so; the apex is very acute and turned backwards slightly on one side.

50. PANHIENSIS (f. 73, 74, 75), *Quoy.*—Griseo-rufescens, elevato-conica, tenuis, vertice subcentrali, posticè inclinato; costis tubereulosis, radiantibus, albidis, et lineis transversis, elevatis, subclathratis, costa antica prominente; aperturæ margine dentato, anticè valde sinuato, sinu intùs in canalem producto.

51. NODULOSA (f. 77), *A. Adams.*—Ovata, obliquè conica, albido-rufescens, vertice subcentrali, posticè declinato, costis longitudinalibus nodosis, radiantibus, duabus latere anterioribus permagnis, liris irregularibus transversis decussata; aperturæ margine irregulari posticè acuminato, anticè truncato, sinuato, sinu intùs in canalem producto. *Obs.* It is like *E. Panhiensis*, but the rugosities are swelled into large bosses on the large ribs.

52. SCULPTILIS (f. 89), *A. Adams.*—Ovalis, obliquè conica, albida, viridi radiatim maculata, vertice subcentrali, posticè valde declinato; costis radiantibus, longitudinalibus corrugatis; interstitiis pulcherrimè punctato-clathratis; costâ anticâ prominente crenulatâ; aperturæ margine undulato et crenulato, posticè rotundato, anticè truncato et sinuato, sinu intùs in canalem producto. *Obs.* Clathrated as in *E. Panhiensis*, but not so elevated and more compressed at the sides, with a brown marginal spot between each of the larger ribs.

53. ALVEOLATA (f. 82, 83), *A. Adams.*—Tenuis, alba, subpellucida, depresso-conica, vertice subcentrali, posticè inclinato, costis radiantibus lirisque transversis irregulariter alveolata; costis ad liras nodulosis; alveolis pellucidis; aperturæ margine dentato, anticè sinuato, sinu intùs in canalem producto.

54. CRATITIA (f. 91), *A. Adams.*—Ovata, conica, albida, vertice obtuso, centrali, posticè haud inclinato, costis radiantibus distantibus, nodulosis; interstitiis costellis duabus longitudinalibus, et lineis elevatis, transversis eleganter cancellatis; aperturæ margine crenulato anticè sinuato, sinu quadrato, intùs in canalem producto. *Obs.* Only the formation of the fissure and cicatrix distinguish this from *E. viminea*.

55. GUADALOUPENSIS (f. 69), *Sowb.*—Ovata, depressa, irregularis, rugosa, apice subcentrali, costis radiantibus magnis quarum tribus posticis majoribus, duabus anticis maximis, cum alteris intermediis et parvis; costis concentricis irregularibus; interstitiis foveolatis; fissura parva, cicatrice in costam elevatam productâ. *Obs.* If such a shell as *E. Panhiensis* were flattened, it would present an appearance resembling this species.

56. OCTORADIATA (f. 66), *Gmel.*—Ovata, conica, patelliformis, costata, alba vel albo-virescente, anticè intùs canaliculata, margine subemarginato, costis octo eminentioribus. *Obs.* The eighth ray is formed by the cicatrix of the fissure, which ends in a slight notch at the margin.

57. DEPRESSA (f. 64, 65, 68), *Blainv.*—Patelliformis, alba, ovato-oblonga, lateraliter depressa, costata, costis novem eminentioribus; striis transversis clathratis.

58. RUGOSA (f. 92, 93, 95, 96, 97, 98, 99, 100, 101, 102), *Quoy.*—Elongato-ovalis, obliquè conica, costis radiantibus, elevatis, distantibus, asperulatis, interstitiis costellis longitudinalibus et lineis scabriusculis valde cancellata; vertice subcentrali, posticè inclinato; aperturæ margine dentato-crenulato, incisurâ profundâ, intùs in canalem productâ. *Obs.* In the whole of the varieties figured, which have received so many names, we see only the same general characters with different degrees in the asperity of the ribs, resulting from the age of individuals and other modifying circumstances.

59. PULCHRA (f. 50, 51), *A. Adams.*—Depresso-conica, viridis, albo pulcherrimè radiatim picta, vertice subcentrali, posticè inclinato, costis radiantibus, inæqualibus aculeato-asperis, interstitiis lineis elevatis transversis clathratis; aperturæ margine denticulato, anticè inciso, fissurâ brevi subquadratâ. *Obs.* This resembles the sharper and younger specimens of *E. rugosa*, but all the radiating ribs in the anterior half of the shell are equal.

60. STELLATA (f. 103), *A. Adams.*—Solidula, albida, elliptica, depresso-conica, apice subcentrali; costis elevatis, subspinulosis, radiantibus; interstitiis costellis et striis crebris decussantibus, exasperatis; aperturæ margine dentato, sinu sublaterali, intùs in canalem apicem versus producto. *Obs.* This differs from any of the varieties of *E. rugosa* in the production of the ribs at their marginal termination, and the greater coarseness of the sculpture generally.

61. SULCIFERA (f. 84, 85), *A. Adams.*—Ovalis, depresso-conica,

viridescens, vertice obtuso, ad partem posteriorem posito; costellis radiantibus, interstitiis haud æquantibus, et striis incrementi ornatis, basi arcuatâ; aperturæ margine crenulato, incisurâ haud profundâ sublaterali, intùs in canalem productâ. *Obs.* In the one-sided position of the notch in this *one* species G. B. S. does not see a sufficient reason for the erection of a separate genus.

62. NOTATA (f. 86, 87, 88), *Linn.*—Ovalis, depressa, cinerea, nigro lineata et maculata; apice postico, obtuso; costis radiantibus nigris, rugosis, inæqualibus; margine antico vix emarginato, intùs cicatrice inconspicuâ. *Obs.* In this species the fissure has been filled up almost or quite to the margin, and is only perceptible by a slight notch and an inconspicuous cicatrix.

GENUS SCUTUS, *Montfort.*

Parmophorus, Scutellites, Dascinum, etc.

PLATES XIII., XIV.

Char. Gen. Molluscum gasteropodum; capite proboscidiiformi; tentaculis crassis et subulatis; oculis in tuberculis ad bases externas positis; pallio super testam reflexo; pedum latera cirrorum serie instructis; testâ oblongâ, sulciformi, depressâ, apice dorsali obliquè posticè inclinato; aperturæ margine anticè sinuato; impressione musculari oblongâ, posticè semicirculari.

1. ELONGATUS (f. 1, 2, 10, 21), *Lamk.*—Tenuis, elongata, antèrius integra, striis exiguis radiata; marginibus acutis. *Obs.* The concentric lines are scarcely waved. The surface is slightly striated.

2. UNGUIS (f. 19), *Linn.*—Solida, glabra, utrinque subtruncata, striis concentricis inæqualibus impressa, dorsi animalis longitudinem æquante, marginibus incrassatis. *Obs.* Very straight, oblong, square at the anterior end, with straight lines of growth.

3. BREVICULUS (f. 6), *Blaine.*—Solida, glabra, dorso convexo animalis longitudinem non æquante. *Obs.* This shell is very much shorter in front than the other species.

4. CORRUGATUS (f. 4, 7), *Reeve.*—Elongata, utrinque subtruncata, dorso plano, striis concentricis validis corrugatis instructo. *Obs.* Shaped like *S. elongatus*, but with the concentric lines waved strongly so as to form a corrugated surface.

5. GRANULATUS (f. 3, 20).—"Testa superne tuberculis parvis granulata." *Obs.* The concentric lines are waved and thickened into little knots or tubercles. These are not so conspicuous in the variety termed *S. imbricatus*, Quoy et Gaim. The shell is narrowed in front, with an arched back.

Subgenus TUGALIA, Gray.

PLATE XIV.

Char. Gen. Testa patelliformis, oblonga, anticè angustata, dorso elevato, arcuato; apice postico et recurvo; aperturæ margine crenulato et anticè profundè sinuato.

The narrowness of the shell in front, the arched character of the back, the decussated structure of the outer surface, and the crenulated margin of the aperture, will be thought to distinguish this sufficiently from *Parmophorus*.

1. PARMOPHORIDEA (f. 5, 11, 16), Quoy.—Ovato-oblonga, convexa et arcuata, margine denticulato, luteo-virescente, striis tenuissimis asperis atque confertis cancellata; vertice obtuso, rimâ fere nullâ. *Obs.* This is convex and rather narrow at the anterior end, the radiating ribs strongest.

2. OSSEA (f. 18), Gould.—Crassa, rudis, albida, quadrangulâri-elliptica, costis radiantibus numerosis inæqualibus acutis et striis incrementi decussata, basi arcuatâ; margine crenulato, cicatrice musculari bene impressâ, incisurâ haud profundâ, intus vix in canalem productâ. *Obs.* Much like *T. cinerea*, but not so long nor so tapering in front.

3. CINEREA (f. 15, 17), Gould.—Cinerea, *E. osseo* similis sed tenuior, altior, magis dispositè et delicatè clathrata, cicatrice musculari inconspicuâ; incisurâ minimè profundâ, in canalem anteriorem valde insignem productâ. *Obs.* The rays are imbricated, and the form is more elongated and depressed than in *T. parmophoridea*. *T. ossea* is a shorter and thicker shell.

4. CARINATA (f. 13), A. Adams.—Elongato-ovalis, dorso carinata, costis longitudinalibus, radiantibus, confertis et striis transversis, concentricis, decussata; apice posticè declinato, basi arcuatâ; aperturæ margine crenulato, extremitate anteriore sinuatâ, sinu intus in canalem producto. *Obs.* The anterior sinus is continued to the apex as a keel without and a groove within the shell.

5. DECUSSATA (f. 12), *A. Adams*.—Elongato-ovalis, albida, planulata, dorso carinata, costellis longitudinalibus, radiantibus, et lineis elevatis concentricis eleganter clathrata, vertice acuto, postico; aperturæ margine crenulato, anticè sinuato, sinu intus in canalem producto. *Obs.* With a regularly cancellated sculpture and a keel from the anterior margin to the apex.

6. CICATROSA (f. 14), *A. Adams*.—Elongato-ovalis, alba, dorso valde depressa, costellis radiantibus et lineis concentricis elevatis decussata, vertice subpostico depresso excavato quasi cicatricoso, subpellucido, basi arcuatâ; aperturæ margine crenulato, extremitate anteriore sinuatâ, sinu intus in canalem producto. *Obs.* The sinus and cicatrix as in *T. carinata*, but the shell flat and strongly cancellated.

7. SCUTELLARIS (f. 8, 9), *A. Adams*.—Elongato-ovalis, viridofusca, tenuis, dorso planulata, vertice postico, acuto, vix elevato, costellis radiantibus subdistantibus, et striis concentricis incrementi decussata; extremitate anteriore vix sinuato; aperturâ intus fuscâ, margine crenulato.

ALPHABETICAL LIST OF FISSURELLIDÆ.

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FISSURELLIDEA (Fissidea.), p. 202.	ZEIDORA, (Zei.), p. 209.
PUPILLEA (Pup.), p. 204.	RIMULA (Rim.), p. 209.
CLYPIDELLA (Clyp.), p. 204.	EMARGINULA (Em.), p. 210.
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- aculeata*, *Reeve*, Fis. 121, f. 186.
aculeata, *A. Ad.*, Em. 8, f. 58.
acuminata, *A. Ad.*, Em. rugosa, pl. xiii.
Adamsiana, *Sowb.*, Em. 26, f. 27, 28.
adpersa, *Reeve*, Fis. cancellata, pl. viii.
regis, *Reeve*, Fis. 116, f. 188.
æqualis, *Sowb.*, Fissidea. 10, f. 200.
affinis, *Gray*, *Sowb.*, Fis. 12, f. 42, 179.
alba, *Carpenter*, Fis. 32, f. 88-89.
Alabastrites, *Reeve*, Fis. 33, f. 43, 44.
alta, *C. B. Ad.*, Fis. excelsa, pl. vii.
alternata, *Say*, Fis. 90, f. 98, 99.
altitus, *Gould*, Em. Otia, Conch. p. 116, not known.
alveolata, *A. Ad.*, Em. 53, f. 82, 83.
ambigua, *Sc. unguis*.
ambigua, *Chemn.*, *Sc. unguis*, pl. xiv.
angustata, *Sowb.*, 109, f. 170-171.
angustata, *A. Ad.*, *Mac.* 3, f. 225.
angustatus, *A. Ad.*, *Sc. elongatus*, pl. xiii.
annulata, *A. Ad.*, Em. rugosa.
antipodis, *Lamk.*, *Sc. unguis*, pl. xiv.
aperta, *Sowb.*, *Pup.* f. 228, 229.
apertura, *Mont.*, *Cem. noachina*, pl. x.
arcuata, *Sowb.*, Fis. 106, f. 163-4.
articulata, *Sowb.*, Fis. 114, f. 176.
- aspera*, *Sowb.*, Fis. 98, f. 125.
asperella, *Sowb.*, Fis. 42, f. 56.
aspera, *Gould*, Em. rugosa, pl. xiii.
atrata, *Reeve*, Fis. 17, f. 71.
australis, *Krauss*, Fis. 59, f. 158.
australis, *Lamk.*, *Sc. unguis*, pl. xiv.
australis, *Quoy*, Em. 48, f. 67, 94.
Bakei, *A. Ad.*, *Mac.* 10, f. 221.
balanoides, *Reeve*, Fis. 57, f. 94.
Barbadensis, *Gmel.*, Fis. 39, f. 49, 144-146.
bella, *Reeve*, Fis. 8, f. 25.
bellula, *A. Ad.*, Em. 15, f. 55, 56.
Bombayana, *Sowb.*, Fis. 83, f. 166.
biradiata, *Frembly*, Fis. 10, f. 1, 2, 3.
breviculus, *Blainv.* *Sc.* 3, f. 6.
Bridgesii, *Reeve*, Fis. 3, f. 21, 22, 34.
calceolina, *A. Ad.*, *Cran.* 3, f. 3.
calyculata, *Sowb.*, Fis. 66, f. 126-127.
cancellata, *Gray*, Fis. reticulata, pl. v.
cancellata, *Solander*, Fis. 115, f. 187-189.
cancellata, *Ph.*, Em. 14, f. 15, 16.
candida, *A. Ad.*, Em. rugosa, pl. xiii.
candida, *Sowb.*, Fis. gibba, pl. v.
candida, *A. Ad.*, Em. 16, f. 45, 46.
capuliformis, *Ph.*, Em. 25, f. 25, 26.
carinata, *A. Ad.*, *Rim.* 4, f. 5.

- carinata, *A. Ad.*, Tug. 4, f. 13.
catillus, *A. Ad.*, Em. lata, pl. xii.
catillus, *Reeve*, Fis. 49, f. 81.
 Cayennensis, *Lamk.*, Fis. 94, f. 101.
 Chemnitzii, *Sowb.*, Fissdea. 2, f. 29,
 192.
 cicutrosa, *A. Ad.*, Tug. 6, f. 14.
 cinerea, *Gould*, Tug. 3, f. 15, 17.
 clathrata, *Pease*, Em. 7, f. 54.
 clypea, *A. Ad.*, Em. 3, f. 3.
 clypea, *Sowb.*, Fis. 13, f. 63.
 coarctata, *King*, Fis. 29, f. 60.
 cognita, *Gould*, Cem. 6, f. 13.
 conica, *D'Orb.*, Cem. 3, f. 1, 2.
 complanata, *Sowb.*, Fissdea. 8, f. 201.
 compressa, *A. Ad.*, Mac. 4, f. 218.
compressa, *Reeve*.—*See radiata*, Fis.
 concinna, *Phil.*, Fis. 23, f. 4, 173, 206.
 concinna, *A. Ad.*, Em. 12, f. 34, 39, 40.
 conica, *Bl.*, Em. rosea, pl. xi.
 conoidea, *Reeve*, Em. rugosa, pl. xiii.
 conoides, *Reeve*, Fis. 37, f. 51.
 corrugatus, *Reeve*, Sc. 4, f. 4, 7.
 corbicula, *Sowb.*, Fis. 112, f. 180.
 costaria, *Desh.*, Fis. 76, f. 117.
 costata, *Lesson*, Fis. 27, f. 15, 205.
 crassa, *Lamk.*, Fis. 6, f. 16, 17.
 crassa, *J. Sowb.*, Em. 29, f. 21.
 crassicostata, *Sowb.*, Em. 22, f. 41,
 42.
 crassilabrum, *A. Ad.*, Em. 43, f. 79.
 cratitia, *A. Ad.*, Em. 54, f. 91.
 crenifera, *Fis.* 120.
 crenulata, *Sowb.*, Fis. 123, f. 18.
 cruciata, *Krauss*, Fis. 118, f. 191.
 cucullata, *A. Ad.*, Em. 18, f. 19, 20.
 cucullata, *Gould*, Cem. 3, f. 3, 4, 5.
 Cumingii, *A. Ad.*, Rim. 1, f. 1.
 Cumingii, *Sowb.* Em. 44, f. 76.
 Cumingii, *Reeve*, Fis. 25, f. 5, 132.
 curvirostris, *Desh.*, Em. rosea, pl. xi.
 cuspidata, *A. Ad.*, Mac. 7, f. 226.
 Cuvieri, *Savig.*, Em. Huzardi, pl. x.
 cyathulum, *Reeve*, Fis. 71, f. 152, 153.
 Darwinii, *Reeve*, Fis. picta, 20.
 decussata, *A. Ad.*, Tug. 5, f. 12.
 digitale, *Reeve*, Fis. 100, f. 122.
 densicathrata, *Reeve*, Fis. 81, f. 157.
 denticulata, *A. Ad.*, Em. polygonalis,
 pl. xii.
 depressa, *Blainv.*, Em. 57, f. 64, 65,
 68.
 dilitata, *A. Ad.*, Mac. 9, f. 220.
 dilecta, *A. Ad.*, Em. 5, f. 5.
 dubia, *Reeve*, Fis. 63, f. 208.
 Dysoni, *Reeve*, Fis. 88, f. 105–106.
 echinata, *Gould*.—*See Cumingii*, Cem.
 elongata, *Phil.*, Em. 10, f. 33.
 elongata, *Phil.*, Fis. 117, f. 185.
 elongatus, *Lamk.*, Sc. 1, f. 12, 10, 21.
 emendata, *Sowb.*, Em. 31, f. 11.
 excurvata, *A. Ad.*, Em. puncticulata,
 pl. xi.
 eximia, *A. Ad.*, Em. 9, f. 63.
 Europæa, *Sowb.*, Fis. reticulata, pl. v.
 excelsa, *Fis.* 68, f. 154, 155, 156.
 exquisita, *A. Ad.*, Rim. 3, f. 3, 4.
 exquisita, *Reeve*, Fis. 18, f. 32, 128.
 Falklandica, *A. Ad.*, Cem. 7, f. 14.
 fascicularis, *Lamk.*, Clyp. 2, f. 212, 213,
 214.
 fastigiata, *A. Ad.*, Cem. 8, f. 15, 16.
 florescens, *Sowb.*, Fissdea. 3, f. 202–3.
 fimbriata, *Reeve*, Fis. Jukesii, pl. vi.
 fissura, *Linn.*, Em. reticulata, pl. xi.
 fissurata, *Chemn.*, Em. 37, f. 104.
 Flemingii, *Macgill.*, Cem. noachina,
 pl. x.
 fuliginea, *A. Ad.*, Em. 35, f. 7, 8.
 fulvescens, *Sowb.*, Fis. 4, f. 36.
 fumata, *Reeve*, Fis. 89, f. 95, 96, 97.
 funiculata, *Reeve*, Fis. 84, f. 100, 129.
 fungina, *Gould*, Em. rugosa, pl. xiii.
 galeata, *Gould*, Cem. 2, f. 12.
 galericulata, *A. Ad.*, Em. 28, f. 24.
 galericulum, *Reeve*, Fis. biradiata, 10.
 gemmulata, *Reeve*, Fis. minuta, pl. vii.
 gibba, *Phil.*, Fis. 103, f. 114, 168.
 gibberula, *Lamk.*, Fis. 104, f. 113.
 gibbosus, *Anton*, Sc. breviculus, pl.
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 gibbosus.—*See breviculus*:
 glaucopis, *Reeve*, Fis. 34, f. 45.
 granifera, *Pease*, Fis. 105, f. 165.

- granulatus*, *Blainv.*, Sc. 5, f. 3, 20.
Græca, *Penn.*, Fis. reticulata, pl. v.
grisea, *Reeve*, Fis. 5, f. 85.
Guadaloupensis, *Sowb.*, Em. 55, f. 69.
Hanleyana, *Sowb.*, Fis. 124, f. 174.
hiantula, *Lamk.*, Fissidea. 1, f. 193-95.
hiatula, *Swains.*, Macr. 8, f. 198.
Hondurasensis, *Reeve*, Fis. biradiata,
 10.
Humphreyi, *Reeve*, Fis. 36, f. 61.
Huzardi, *Payr.*, Em. 4, f. 4.
imbricata, *Sowb.*, Fis. 72, f. 162.
imbricata, *A. Ad.*, Em. 47, f. 70, 71.
imbricatus, *Quoy*.—See *granulatus*.
incarnata, *Krauss*, Fissidea. 4, f. 199.
inæqualis, *Sowb.*, Fis. 111, f. 183, 184.
Inceli, *Reeve*, Fis. lineata, pl. vi.
incisura, *A. Ad.*, Em. 2, f. 2.
indusica, *Reeve*, Fis. lineata, pl. vi.
intermedius, *Reeve*, Tug. cinerea, pl.
 xiv.
Jamaicensis, *Gmel.*, Fis. nodosa, 35.
Japonica, *Sowb.*, Em. 36, f. 43, 44.
Jukesii, *Reeve*, Fis. 64, f. 147, 148, 149.
larva, *Reeve*, Fis. 87, f. 102, 103, 104.
lata, *Quoy*, Em. 46, f. 81.
lata, *Sowb.*, Fis. 26, f. 13.
lanceolata, *Sowb.*, Fis. 113, f. 182.
latimarginata, *Sowb.*, Fis. 9, f. 6, 7, 12.
latisior, Fis. 78, f. omitted.
lævicostata, *A. Ad.*, Em. 41, f. 57.
lævis, *Recluz*, Em. reticulata, pl. xi.
lentiginosa, *Reeve*, Fis. 119, f. 190.
lima, *Sowb.*, Fis. 99, f. 124.
limatula, *Reeve*, Fissidea. 9, f. 204.
limbata, *Sowb.*, Fis. 2, f. 23, 24.
Lincolni, *Gray*, *Sowb.*, Fis. 97, f. 133.
lineata, *Sowb.*, Fis. 80, f. 134, 135.
Listeri, *D'Orb.*, Fis. 73, f. 130, 131.
longifissa, *Sowb.*, Fis. 53, f. 66.
longifissa, *Sowb.*, Em. 19, f. 62.
micans, *A. Ad.*, Em. 11, f. 60.
maxima, *Sowb.*, Fis. 22, f. 8, 9.
macrotrema, *Sowb.*, Fis. 52, f. 86, 90.
macrochisma, *Humph.*, Mac. maxima,
 pl. ix.
maculata, *A. Ad.*, Em. 27, f. 31, 32.
Metcalfi, *Reeve*, Fis. 61, f. 140, 141,
 142.
Mazatlanica, *A. Ad.*, Rim. 5, f. 6.
maxima, *Humph.*, Mac. 1, f. 216,
 217.
Mediterranea, *Gray*, Fis. neglecta,
Desh., pl. vi.
megatrema, *A. Ad.*, Mac. 6, f. 227.
Mexicana, *Sowb.*, Fis. 15, f. 26, 27, 28,
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micans, *A. Ad.*, Em. clongata, pl. xi.
microtrema, *Sowb.*, Fis. 43, f. 54, 55.
minuta, *Lamk.*, Fis. 107, f. 169.
monilifera, *Sowb.*, 31, f. 175.
muricata, *Reeve*, Fis. 14, f. 68.
mutabilis, *Sowb.*, Fis. 48, f. 70, 74,
 79, 93.
Natalensis, *Krauss*, Fis. 44, f. 69.
neglecta, *Desh.*, Fis. 60, f. 139.
nigra, *Lesson*, Fis. 1, f. 14.
nigra, *Ph.*, Fis. Philippiana, *Reeve*.
nigrita, *Sowb.*, Fissidea. 7, f. 196.
nigriradiata, *Reeve*, Fis. 85, f. 167.
nigrocincta, *Carpenter*, Fis. 55, f. 64, 65.
nigro-ocellata, *Reeve*, Fis. 69, f. 160,
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nigro-punctata, *Sowb.*, Fis. 28, f. 33.
nimbosa, *Linn.*, Fis. 58, f. 136.
Noachina, *Linn.*, Cem. 1, f. 10, 11.
nobilis, *A. Ad.*, Cem. 5, f. 6, 7, 8, 9.
nodosa, *Born.*, Fis. 35, f. 59.
nodulosa, *A. Ad.*, Em. 51, f. 77.
notata, *Linn.*, Em. 62, f. 86, 87, 88.
Novæ-Caledoniæ, *Sowb.*, Mac. 12, f.
 222.
nubecula, *Linn.*, Fis. 45, f. 73.
obovata, *A. Ad.*, Em. 6, f. 6.
obscura, *Sowb.*, Fis. 54, f. 80.
obtusa, *Sowb.*, Fis. 38, f. 75, 76.
octagona, *Reeve*, Fis. 70, f. 159.
octoradiata, *Gmel.*, Em. 56, f. 66.
oriens, *Sowb.*, Fis. 19, f. 19, 20.
ossea, *Gould*, Tug. 2, f. 18.
ostrina, *Reeve*, Fis. 47, f. 84.
Panamensis, *Sowb.*, Fis. 86, f. 123.
parmophoridea, *Quoy*, Tug. 1, f. 5, 11,
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- Panhiensis, *Quoy*, Em. 50, f. 73, 74, 75.
 pelex, *A. Ad.*, Cran. 2, f. 3, 4.
 Peruviana, *Lamk.*, Fis. 11, f. 38, 39, 40, 41.
 Philippiana, *Reeve*, Fis. 16, f. 30.
 Philippiana, *Dunk.*, Fis. gibba, pl. v.
 pica, *Sowb.*, Fis. 110, f. 181.
 picta, *Dunk.*, Em. pulchra, pl. xi.
 picta, *Gmel.*, Fis. 20, f. 10, 11, 35.
 pileata, *Gould*, Em. Otia, Conch. p. 116, not known.
 pileolus, *A. Ad.*, Cran. 1, f. 1, 2.
 pileolus, *Migh.*, Em. rosea, pl. xi.
 pileopsides, *Reeve*, Fis. 102, f. 120, 121.
 planulata, *A. Ad.*, Em. 1, f. 1.
 polygona, *Sowb.*, Fis. 21, f. 177.
 polygonalis, *A. Ad.*, Em. 42, f. 78, 90.
 princeps, *Migh.*, Cem. noachina, pl. x.
 producta, *A. Ad.*, Mac. 5, f. 224.
 propinqua, *A. Ad.*, Rim. 2, f. 2.
 proxima, *Sowb.*, Fis. 93, f. 115, 116.
 pulchra, *Sowb.*, Fis. 7, f. 31.
 pulchra, *A. Ad.*, Em. 59, f. 50, 51.
 punctata, *A. Ad.*, Em. 33, f. 29, 30.
 punctulata, *A. Ad.*, Em. 30, f. 14, 35.
 pumila, *A. Ad.*, Em. 40, f. 80.
 pustula, *Lamk.*, Clyp. 1, f. 209, 210, 211.
 quadriradiata, *Reeve*, Fis. Rupellii, pl. v.
 radiata, *Lamk.*, Fis. 40, f. 48, 50.
 radiata, *Gould*, Em. Otia, Conch. p. 116, not known.
 reticosa, *A. Ad.*, Em. reticulata, pl. xi.
 reticulata, *A. Ad.*, Zei. 1, f. 1, 2.
 reticulata, *Sowb.*, Em. 23, f. 37, 38, 49.
 reticulata, *Donov.*, Fis. 75, f. 112.
 rosea, *Bell*, Em. 24, f. 22, 23.
 rosea, *Lamk.*, Fis. 46, f. 91, 92.
 rota, *Reeve*, Fis. 51, f. 72.
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 rugosa, *Quoy*, Em. 58, f. 92, 93, 95—102.
 rugosa, *Sowb.*, Fis. 41, f. 46, 47.
 Rupellii, *Sowb.*, Fis. 91, f. 107, 108.
 sagittata, *Reeve*, Fis. 122, f. 83.
 scabricostata, *A. Ad.*, Em. 38, f. 61.
 scabriuscula, *A. Ad.*, Em. 13, f. 36.
 scabricula, *A. Ad.*, Em. rugosa, pl. xiii.
 sculptilis, *A. Ad.*, Em. 52, f. 89.
 scutella, *Sowb.*, Fissdea. 6, f. 207.
 scutellaris, *A. Ad.*, Tug. 7, f. 8, 9.
 scutellata, *Desh.*, Em. 45, f. 53.
 sella, *Sowb.*, Fissdea. 5, f. 197.
 Sieboldii, *Reeve*, Fis. 65, f. 138.
 similis, *Sowb.*, Fis. 74, f. 143.
 Sinensis, *A. Ad.*, Mac. 2, f. 219.
 Singaporensis, *Reeve*, Fis. 77, f. 118, 119.
 solidula, *Ph.*, Em. 20, f. 47, 48.
 solidula, *Costa*, Em. crassa, pl. xi.
 spinosa, *Gmel.*, Fis. nodosa, 35.
 stellata, *A. Ad.*, Em. 60, f. 103.
 stellata, *Reeve*, Fis. 24, f. 82.
 striatula, *Quoy*, Em. 21, f. 59.
 subrostrata, *Guild.*, Fis. 62, f. 215.
 suffusa, *Reeve*, Fis. cancellata, pl. viii.
 sulcifera, *A. Ad.*, Em. 61, f. 84, 85.
 tæniata, *Sowb.*, Fis. 50, f. 77.
 Tasmanicæ, *Sowb.*, Em. 49, f. 72.
 Tasmanicæ, *Sowb.*, Mac. 11, f. 223.
 tegula, *Reeve*, Fis. 96, f. 57, 58.
 tenebrosa, *Sowb.*, Fis. 56, f. 67.
 tenuicostata, *Sowb.*, Em. 32, f. 17, 18.
 tenuistriata, *Sowb.*, Fis. 101, f. 111.
 textilis, *Gould*, Em. Otia, Conch. p. 116, not known.
 Ticaonica, *Reeve*, Fis. 92, f. 110.
 trapezium, *Sowb.*, Fis. scutella, pl. ix.
 tumidus, *Quoy*, Sc. breviculus, pl. xiv.
 unguis, *Linn.*, Sc. 2, f. 19.
 Vanikorensis, *Quoy*, Em. 39, f. 52.
 varicosa, *Sowb.*, Fis. 67, f. 52, 53.
 variegata, *A. Ad.*, Em. 34, f. 9, 10.
 variegata, *Sowb.*, 108, f. 172, 173.
 venusta, *Reeve*, Fis. 82, f. 109.
 viminea, *Reeve*, Fis. Metcalfei, pl. vi.
 viminea, *A. Ad.*, Em. 17, f. 12, 13.
 violacea.—*See* nigra, Fis.
 virescens, *Sowb.*, Fis. 30, f. 37.
 viridula, *Lamk.*, Fis. 95, f. 62.
 vulcano, *Reeve*, Fis. 59, f. 87.

MONOGRAPH
OF THE RECENT SPECIES OF THE GENUS
SOLARIUM of Lamarck.

By SYLVANUS HANLEY, B.A., F.L.S., ETC.

Char. Gen. More or less conoidal or disciform, with a large umbilical cavity, which, for the most part, is denticulately crenated within; periphery more or less angular in general; mouth never pearly; operculum horny; spiral, oval, or circular.

SECTION A. (*Architectonica*, Bolten.)—Periphery angular; mouth rhombic; whorls belted above, usually with radiating sculpture; inner lip straight, or nearly so, with a single canaliculated notch at the termination of the umbilical cord, which latter is always creno-dentated; umbilicus never ribbed spirally; operculum suboval, flattened, quickly spiral at one end; internal nucleus circular-based, composed of very numerous erect scales.

SECTION B. (*Philippia*, Gray.)—Shell as in the last, but the whorls not belted posteriorly, and devoid of radiating sculpture; operculum circular-based, multispiral, concave externally, internally with a small abrupt central mammillary apex.

SECTION C. (*Torinia*, Gray.)—Surface corded throughout; periphery bluntly biangulated or even rounded, more rarely angular; mouth more frequently suborbicular; umbilicus in the typical species relatively narrow, and encircled by one or more spiral ridges; operculum circular-based, multispiral, composed of numerous membranaceous layers, either forming a peak or truncated.

My aim in adopting these sections is to enable the conchologists of both the Lamarckian, and the more modern English school, to arrange their cabinets according to their several predilections.

Otherwise I should have preferred for divisional purposes, the selection of characters wholly based upon the shell, and independent of the rarely obtained opercula. I am inclined to think that such species as *S. infundibuliforme* are quite as far removed from *Torinia* as *Philippia* is from *Architectonica*, and that the loosely coiled *Bifrontia* is scarcely within the limits of the genus.

* Sect. A. ARCHITECTONICA.

1. PERSPECTIVUM (f. 36, 37, 38), *Linn.*—T. depresso-conica, sulcis remotis validis (corpore lævi excepto) radiatim sculpta. Anfractus spiraler unisulcati, infra suturam angustam brunnei et deinde candidi (rarius subarticulati), infra sulcum spiralem zonâ fuscâ ornati, deinde latè fulvi seu cinerei; cingulum suprasaturale rufum seu fuscum, nonnunquam albo angustè articulatam. Carina angusta, fulvo remotè articulata. Sulcus peripheriæ superior perangustus et sæpius (etiamque inferior) unifilosus; areæ basalis medium sulcis radiatum, maculis lineisve interruptis intus marginatum. Crenæ umbilici latioris brunneæ, permultæ.—VAR. (*incisa*, Phil.). T. pallida; anfractuum zona superior, nisi in corpore, fere albida; zona infra sulcum angusta, in corpore articulata; cingulum suprasaturale brunneo et albo articulatam. Carina angusta, acuta. Maculæ articulationesque basales sæpius pauciores et remotiores: cingulum album basale haud crassè crenatum.—VAR. (*Australis*, Phil.). T. pallidè cinerea; zona anfractuum superior fere ut in var. præcedente; zona angusta, infra sulcum spiralem continua. Sulci radiantes crassi et valde remoti. Cingulum suprasaturale brunneo-rufescente articulatam. Carina obtusa. Area basalis media sulcis, plicisve, crassis radiata. Umbilici parvi crenæ rufæ, satisque magnæ. *Obs.* Not only the Linnæan type of *Trochus perspectivus*, but the great majority of the synonyms in the tenth edition of the 'Systema' indicate this common species. Var. *S. incisa*, Phil., is very pale in colour, with the crenated edge of the umbilicus white with light brown spots: the peculiarities of his *Australe* are most perceptible in young specimens.

2. TROCHLEARE (f. 19, 20), *Hinds.*—T. *S. perspectivo* persimilis, sed major, carneo-fulva; differt etiam apice nunquam cinereo-nigrescente, sulcis radiantibus magis contiguis, vittâ infra sulcum spiralem angustiore (quartam partem latitudinis illius areæ tantum implente), et semper in anfractu ultimo articulata, sulco spirali, sulco peripheriæ et sulco cingulum suprasaturale præcedente latis; articulationibus carinæ acutissimæ brunneis, latisque; maculis in mediâ arcâ disci inferioris magis irregularibus, flammisque simu-

lantibus. *Obs.* This common shell has been generally accepted as the *Trochus perspectivus* of Linnæus. Of the many figures cited by that author in the tenth or standard edition of his 'Systema,' not one represents it; and in the twelfth, or final edition only one (Seba, iii. pl. 40, f. 1, 2). Hinds, whose ideal of the Linnæan species was the *S. maximum*, described this species from a rather elevated abnormal specimen.

3. MAXIMUM, (f. 5, 6), *Phil.*—T. depresso-conica, sulcis confertis obliquis (corpore lævi excepto) radiata. Anfractus, infra suturam latam, sulcis profundis 2 (quorum superior est latior), et super cingulum suprasuturale, quod (etiamque carina, basis cingula, zonaque superior) fusco-rufescente et albido est articulatam, aliis tenuioribus obscuris instructi. Area mediæ fulvæ; apicem versus cinereæ, pallido violaceo tinctæ. Sulcus peripheriæ superior latus, filis 1-2 divisus; inferior filosus, satisque latus. Basis area mediæ plerumque marginem exteriorem versus subretusa; anteriorem versus maculis subremotis brunneis notatam subplana, et sæpius radiatim crassè sulco-plicata. Crenæ umbilici amplissimi permultæ, vix pergrandes, albæ seu pallidæ, aliquando sparsim maculatæ. *Obs.* The deeper the spiral sulci, the more elevated are the belts. The second zone is never articulated.

4. MODESTUM, (f. 11, 12, 27, 28), *Phil.*—T. depresso-conica, radiatim sulcata (corpore lævi excepto). Anfractus superne bis longitudinaliter sulcati; vitta superior angusta, alba, vel brunneo remotè maculata, vel brunneo pallidiore confertius nebulosa; vitta inferior brunnea, et aliquantulum latior. Area mediæ lata, fulva; cingulum super suturam angustam vel brunneum (aliquando superne tantum), vel brunneo pallidiore et saturatiore subarticulatam. Carina albida, vel strigis fulvis perangustis ornata, vel brunneo remotissimè subarticulata. Sulcus peripheralis angustus unifilosus. Basis vel tota immaculata, vel cingula ejus brunneo remotissimè articulata, et margo interior area mediæ lævigatæ (aut sulcis obsoletis radiatæ) maculis linearibus brunneis pictus. Sulcus inter carinam et cingulum proximum basale satis latus, unifilosus. Umbilicus (et crenæ ejus albæ satisque multæ) haud permagnus. *Obs.* Mr. Taylor possesses an example which is devoid of the second spiral groove.

5. QUADRICEPS (f. 3, 4, 25, 26), *Hinds.*—T. depresso-conica; sutura conspicuè canaliculata. Anfractus omnes sulcis 3 spiralibus crassis (infimo præsertim) divisi, et sulcis subcontiguis radiantibus (nisi in anfractu ultimo) crassè decussati. Vitta prima et quarta brunneo et albido (vel pallidè fulvo) subremotè articulatæ; vitta

secunda et tertia (omnium latissima) cæruleo-cinereæ, livido-carneæ, aut rubro-fulvæ. Sulcus, inter cingula gemina peripheriæ lata æqualia similiterque maculata, multo angustior quam cingula ipsa et in adultis filiosus. Basis area media sulcis rudibus radiata, et umbilicum versus (tantum in senioribus amplum et multidentatum) maculis remotis marginata. Crenæ umbilici (in junioribus ampli) rufæ vel livido-fuscæ. *Obs.* This species, although named only a few years, was probably known to the older conchologists. Both Gualtier (pl. 65, f. O, outer) and Chemnitz (Conch. Cab. v. f. 1691-2, copied as *S. granulatum?* in Kuster's Chemnitz) have figured *Solaria*, which closely resemble the more mature examples.

6. TAYLORI (f. 31, 32), *Hanley*.—T. depresso-conica, solida, fulva; sutura latè canaliculata. Anfractus in cingula 4, fusco-rufescente articulatum picta (tertio, quod duo præcedentia fere æquat, excepto) et sulcis radiantibus (nisi in anfractu ultimo) rudibus subremotis in rhombos latiores (c. 3 excepto) quam altos diffracta, sulcis latiusculis (tertio præsertim) eximè divisi. Sulcus præcedens peripheriæ cingula gemina, subæqualia, similiterque picta, valde latus, profundus; intervallum in adultis filiosum, æquè latum. Area basis media maculis brunneis perparvis tantum juxta marginem anteriorem ornata; alibi magis minusve lævis. Sulcus carinæ declivi proximus latiusculus, vix filiosus. Cingulum inter sulcos latos umbilico vicinos, conspicuè angustum. Umbilici subangusti crenæ satis magnæ, carneo-rufescentes. *Obs.* In the only examples known to me, the articulation is not developed upon the earlier turns; the first belt, however, is paler than the rest. The coarser sculpture, and the articulation of the second zone, alike distinguish it from *maximum* and *quadriceps*.

7. NOBILE (f. 35), *Bolten*.—T. valida, depresso-conica, albo-violascens; sutura caniculata. Anfractus cingulis 4, granoso-crenatis (nisi in anfractu ultimo adularum, ubi lævia fiunt), et quinto (vel potius filo suturali), minore, minusque elevato, instructi: c. primum, sæpius in adultis pallidius, et deinde quartum, maculis subremotis fulvis vel castaneis, quarum series minores sensim in c. secundo, et postremo in omnibus apparent, ornatum; c. tertium a c. præcedente (utrumque in adultis postremo vix eminent) striâ merâ, a c. sequente, et prominente, sulco lato, divisum. Carina satis magna utrinque filo, quorum superius (a sulco satis lato præcessum) crassius est, circumsepta. Basis area media (nonnunquam pallidè fulva) cing. 3-4 granosis punctisque pictis, quæ raro marginem ejus exteriorem pertingunt, munita. Crenæ um-

bilici coarctati paucæ, permagnæ, in adultis albida. *Obs.* Our figure of the adult (f. 35) does not adequately represent the most striking characteristics, the twin central belt and the broad groove which succeeds it. Figure 2 is a fair representation of the young of both this and the succeeding species, which greatly resemble each other in that immature state which best displays the granular sculpture.

8. GRANULATUM (f. 1, 2), *Deshayes (as of Lamarck)*.—T. valida, depresso-conica, violaceo-albida, vel pallidè cæruleo-violacea: sutura modicè canaliculata. Anfractus cingulis 4 granoso-crenatis (vel potius subgranosis), ultimo in adultis, ubi lævia, semper, autem eminentia, fiunt, excepto, et præterea, filo suturali, in primis subgranoso, instructi: c. superius, latiusque, maculis brunneis magnis, satisque proximis, conspicuè ornatum; c. cætera subæqualia, et in anf. inferioribus (etiamque in basi) adutorum maculis minoribus confertim picta; intervalla omnia sulcis latis æqualibus profundè exarata. Carina, basis, etc., sicut in *S. nobile*, nisi, fortasse, dentes plures et vix albidus. *Obs.* The only adult specimen known to me did not arrive in time for delineation. The broad separation of its second and third belts, which do not become depressed as in *nobilis*, easily distinguish it from the mature of that earlier-known shell. The tints are likewise deeper, and the spots more numerous. Lamarck's too briefly described *granulatum*, as defined by the synonyms, should rather be the previous species.

9. BAIRDII (f. 48, 49), *Hanley*.—T. depresso-conica, pallidè fulva; cingula (primo, ultimoque albo, exceptis) maculis obscuris remotis picta: sutura perangusta. Anfractus in cingula 5, sulcis radiata, divisi; 2 prima subæqualia (secundum fortasse paululum minus); tertium ambobus præcedentibus simul æquum; quartum, sulco præcessum, primo aliquantum latius; quintum, sulco lato præcessum, manifestè angustum. Peripheriæ carina secunda (sulcum satis angustum? sequens) adeo eminens ut peripheria acutangularis videtur. Crenæ umbilici magnæ. *Obs.* The unique example of our national museum is not mature, but has too salient characters to be passed over.

10. PICTUM (f. 33, 34), *Phil.*—T. *S. purpurato* persimilis, sed pallidè fulva; suturæ niveæ et maximè canaliculatæ; maculæ longinquæ; sulci radiantes rudiores; peripheriæ sulcus inferior haud filiosus; disci basalis medium album, serie macularum fulvobrunnearum versus umbilicum (cujus crenæ candidæ nonnunquam sunt sparsim maculatæ) tantum ornatum. Sculptura

basalis in junioribus fere pliciformis. *Obs.* The acquisition, by Mr. Taylor, of all the original specimens of *Solaria*, described by Hinds, from Sir E. Belcher's collection, has enabled me to identify, by a long chain of connecting links, the immature *fragilis* of that naturalist with the adult *pictum* of Philippi. The type of the former was sharply carinated, nearly white, with the fourth belt continuously and the first interruptedly brown; the prominent radiating riblets of the white lower disk are obscurely cut towards the umbilicus by a faint spiral groove; the umbilical teeth are smaller and more numerous. The mere fry are not unlike the top of *S. quadriceps*, but the great length of the third row of grains distinguishes them. The adult appears to have been known to both Seba (iii. pl. 40, f. 41, 42) and Chemnitz (f. 1694, copied in Kuster's edition, Sol. pl. 2, f. 4), although I dare not positively pronounce upon their somewhat rough drawings.

11. CUMINGII (f. 44, 45), *Hanley*.—T. subdepresso-conica, albida seu pallidè fulva, infra sulcum spiralem zonâ latâ submaculosâ picta: dimidium inferius anfractuum majorum seriebus 3 macularum linearium brunnearum ornatum. Anfractus sulcis (nisi labrum versus) subconfertis radiati, et sulco unico spirali infra cingulum album (margine superiore brunneo submaculoso (?) passim ornatum) supernè instructi; pars inferior aræ mediæ costellis tenuibus obsolete cincta: cingulum marginale (seu inferius) nullum. Carina parva, angusta, brunneoque maculata. Basis albæ area mediæ, tantum umbilicum versus modicum et crenis rufis permultis munitum punctis picta: cingulum infraperipherale procul a carinâ, angustum, tantum obscure maculatum.

12. PURPURATUM (f. 7, 8), *Hinds*.—T. sæpius depresso-conica, striis confertis radiata. Anfractus suturâ angustâ divisi, sulcis 2 (quorum superior fortasse est major) cincti, pallidè cærulescentepurpurei, maculis rufis (sæpe flammæ simulantibus) ad carinam, cingula, zonas 2 superiores anf. ultimi penultimique plerumque etiam ad cingulum anf. cæterorum primum (aliquando omnino album), ubi, sicut in cingulo suprasaturali maculæ magnæ fiunt et distantes, ornati. Cingulum sulcum peripheriæ perangustum et nonnunquam filosum præcedens, satis latum (sæpe latius quam ipsa carina). Basis mediæ maculis brunneis undatis satisque magnis (aliquando vel concurrentes strigas radiantes formant, vel oritur series interveniens) utrinque marginata. Sulcus inter cingula basis externa satis latus, unifilosus. Crenæ umbilici, nunquam late patentis et in var. elevatâ coarctati, brunneæ, multæ, satisque magnæ. *Obs.* The elevated form has a slight fulvous

glaze over the lilac tint, and three rows of spots on the central area of the lower disk.

13. *PERDIX* (f. 17, 18), *Hinds*.—T. depresso-conica, sulcis subcontiguis (corpore lævi excepto) subobsoletè radiata, spiraliter unisulcata. Anfractuum zona superior candida, maculis ferrugineis (sæpiusque remotis) ornata: area infra sulcum profundum sublata pallida, aliquando maculis linearibus ferrugineis (sæpe autem obscuris) supernè marginata. Cingula peripheriæ perangusta, arcè tenuiterque crenata, et, cum cingulo suprasaturali cingulisque externis disci inferioris, albo et ferrugineo articulata. Sulcus peripheriæ profundus, in latitudine cingula vicina æmulans, haud filiosus. Aræe basalis medium sulcis radiatum, pallidè albo-purpurascens, tantum ad marginem interiorem obscurè maculatum. Crenæ umbilici vix unice ampli, candidæ, permultæ.

14. *DUNKERI* (f. 29, 30), *Hanley*.—T. conica, haud multum depressa, sæpe trochiformis. Discus superior sicut in *S. perdice*, sed magis fulvus, et nonnunquam maculis linearibus parvis distantibus subbrunneis, in seriebus spiralibus paucis, subobsoletè ornatus; cingula, etiam, latiora multoque confertius crenata, maculis brunneis confertioribus magisque conspicuis, picta: carina lata. Discus inferior (in exemplis pulchrioribus) sicut in *S. purpurato*: area media lineis nonnullis brunneis interruptis aliquando cincta: sulci radiantes conspicui. Crenæ umbilici magnæ, plerumque brunneæ. *Obs.* The keel is peculiarly broad below. The exterior spiral sulci of the lower disk are almost cancellated in immature examples.

15. *LÆVIGATUM* (f. 21, 22), *Lamarck*.—T. subdepresso-conica, infernè albida, supernè violaceo pallido magis minusve tineta, luteo-fuscescente vel fulvo notata. Anfractus sulcis profundis 2 (præter eum qui cingulum elevatum super suturam modicè canaliculatam præcedit) cincti; vittæ superiores 2 æquales, tertia aliquantulum latior, cingulum angustissimum. Vittæ apicem versus obliquè decussatæ, labrum versus lævigatæ; utraque maculis informibus, prima magnis et distantibus, secunda et tertia parvis et sæpius spiraliter linearibus, notata. Peripheriæ cingula subæqualia; sulcus ejus superior subangustus, inferior latus, haudque filiosus. Area media basis magis minusve lævis, marginem anteriorem versus maculis magnis irregulariter circumscripta, alibi lentiginibus linearibus parvis frequentibus cincta. Crenæ umbilici coarctati magnæ, plerumque albidæ, aliquando ferrugineæ. *Obs.* The edge of the pillar is apt to be crenated, and the umbilical wall is usually spirally striated in fine examples.

16. REEVEI (f. 9, 10), *Hanley*.—T. fulvo-carnea, vel livido-carnea, in utroque anfractu maculis parvis saturatè fulvis in seriebus 5-6, ordinatis, cincta; striis, denique obsoletis, contiguis tenuibus transversim obliquis radiata; sutura haud canaliculata. Anfractus haud celeriter expansi, cingulo suprasuturali (nonnunquam duobus) quod sæpius est albidum et fulvo-brunneo remotè articulatam, infra sulcum spiralem latum minimè profundum ornati, alibi inconspicuè (sulco infra zonam primam excepto) spiraliter sculpti. Basis et peripheria fere ut in *S. lævigato*, sed cingulum proxumbilicale (cum crenis parvis permultisque umbilici coarctati) confertim maculosum. *Obs.* The upper disk of this shell, whose apex is of a dark liver colour, reminds one a little of *Trochus zizyphinus*; upon the lower there is an obsolete spiral sulcus beyond that which bounds the proxumbilical belt. The only specimen known to me is an elevated abnormal form, and I think both the conoidal shape and the lower suprasutural belt result from the coiling of the (7) whorls upon the carinal belt instead of, as usual, upon the groove above it. The central rows of spots are somewhat linear. *S. lævigatum* and *S. purpuratum* are its nearest congeners.

17. FULIGINOSUM (f. 13, 14), *Hinds*.—T. depresso-conica, sulcis subremotis (in ultimo anfractu obsoletis) radiata; sutura angusta, profunda. Anfractus in medio pallidi et strigis brunneis latis obliquis undulati. Vitta super sulcum spiralem unicum angustum profundum satis lata, brunnea, leviter autem albo infra marginata. Cingula brunneo et albo articulata; c. suprasuturale angustum; sulcus inter c. peripherale latum et carinam angustam fulvo-maculatam perangustus et crassè unifilosus. Basis planulata: sulcus perangustus, infra carinam filiosus: area media pallida versus umbilicum satis amplum (cujus crenæ permultæ sunt et rufo-fuscæ) maculis subrhombeis subcontiguis brunneis satis arcuè ornata. *Obs.* In the only mature individual I have yet seen, the umbilical wall is adorned with spiral brown lines, and the characteristic streaks, which do not reach to the encircling sulcus, are converted into two interrupted zones on the earlier volutions.

18. HANLEYI (f. 15, 16), *Sowerby*.—"T. depressa, supra conica, infra lenticularis; inter anfractus sutura profunda; anfractus supra maculis rubris longitudinalibus ornati, prope suturam fulvo unifasciati, tum lineâ albâ cincti, infra medium profundè bisulcati; carina marginalis acuta, infra distanter fulvo punctata. Basis arcuata, ventricosa; sulcus angustus, infra carinam fusco articulatus.

Area media crebrè rugosa, prope umbilicum fusco minutè maculata, tum carinâ parvâ moniliferâ albâ cincta. Umbilici margo nodulis magnis fuscis ornata. *Obs.* The most distinguishing features of this beautiful shell are the brown-reddish flashes of colour, in which it resembles *S. fuliginosum*, and the rounded lenticular base, in which it differs from all species of the *Architectonica* section." Possibly an abnormal form of 17.

19. DISCUS (f. 57, 58), *Philippi*.—“T. depresso-conica, lenticularis, acutangula, anfractibus supra planulatis, cingulis tribus moniliformibus valde depressis subobsoletis ornatis; basi lineâ parum elevatâ marginem cingente, aliaque impressâ, umbilicum mediocrem valde crenatum cingente, sculpta.” *Obs.* Unknown to me. Philippi adds that the colourless specimen sent him by Scacchi, in tolerable condition, exhibited two scarcely raised threads between the belts; that its keel, although acute and very depressed, was rounded off at the angle; that its convex base (a little concave, however, before the extreme margin), rayed with dichotomous folds, a continuation of the umbilical teeth, was otherwise smooth (the specified sculpture excepted); that its umbilical ridge projected considerably inwards; and that its mouth was very depressed, and very sharply angulated at the outer lip.

20. PLACENTULA (f. 23, 24), *Hinds*.—T. discoidea, fulva; cingulum marginale rufo maculatum, carinam unicam latam obtusam pervalidam, valde eminentem, denique formans. Anfractus pauci, vix convexi, cingulo granoso latiusculo alium simile perparvum, quod labrum versus evanescit, sequente, inferne instructi; striis paucis distantibus etiamque cincti: anf. apicales juxta suturam perangustam nonnunquam plicato-corrugati. Basis juxta carinam concaviuscula et filis 2-3 tenuissimis circumcincta; sequitur deinde filum vix granosum, striolæque paucæ spirales; umbilicum versus satis amplum pallidum multidentatum, convexa vel tumida, et denique rugis radiantibus crassis plicata, sulcoque unico nonnunquam cincta. *Obs.* Remarkable for the absence of secondary keels, and of an infrasutural sulcus.

21. PSEUDO-PERSPECTIVUM (f. 83, 84), *Brocchi*.—T. depresso-conoidea, supra luteo-fulva, infra albida; nisi fortasse ad carinam latam, declivem, peracutamque, immaculata: sutura subcanaliculata. Anfractus supernè rotundati, et nisi juxta apicem spiræ depressum, ubi sulcis arcuatis radiati sunt, læves; pars (circiter) tertia inferior sulcis duobus, cingulisque duobus, quorum superior est angustius, ornata; cingula apicem versus crenulata,

postremum lævigata. Basis pars exterior satis lata, cingulis angustis pluribus (3-4) ornata (fortasse in exemplis senioribus obsoletis). Crenæ umbilici satis ampli parvæ, permultæ, tantum a costis aliæ partis basis rudibus radiantibus sulco unico volvente divisæ. *Obs.* In the only recent example (brilliant in colour, semi-translucent in texture) of this beautiful fossil at present known, the keel protrudes downwards, the ribbed portion of the base is convex, and the belted area is somewhat concave. The absence of an umbilical belt is a striking peculiarity.

** Sect. B. PHILIPPICA.

22. HYBRIDUM (f. 39, 40, 41, 42, 43), *Linn.*—T. subdepresso-conica, lævis: sutura angusta. Anfractus pauci, fulvi rufi vel fuscii, supernè tumidi et nonnunquam maculis albis obsoletis variegati; infernè nonnunquam aliquantum gradati et cingulis geminis albo articulatis angustis semper instructi. Cingulum peripherale articulatum, jacens inter vicina 2 cingula minora (quorum inferius depressum raro est articulatum), rotundatum. Basis valde convexa, nonnunquam juxta cingulum angustum articulatum, quod cingulum umbilicale caudidum latissimum amplectitur, vittâ albâ pallidâve ornata. Crenæ umbilici modicè tantum coarctati parvæ, permultæ.—*VAR. undata*, f. 42, 43. Alba, strigis angustis undatis fuscis, vel fusco-luteis, undique radiata, eodemque colore infra suturam ornata; basis zonis 1-2 similibus, sed pallidioribus, nonnunquam picta; maculis albis zonata. Anfractus superne albo latè et confertim maculati; cingula alba, remota, etiam strigis communibus ornata.—*VAR. australis*. Conoidea, vel depresso-conoidea. Anfractus fulvo-fuscii seu rufo-brunnei, aut lineis saturatoribus, aut infernè maculis albis (sæpe angulatis satisque magnis) et supernè maculis parvis confertis, circumcincti. Peripheriæ sulcus latior quam cingula ejus angustissima. Color basis (etiamque anfractuum apicalium) in lineis saturatoribus et pallidioribus spiraleriter ordinatus. *Obs.* The epidermis is occasionally disposed in spiral lines near the mouth. The type of *Layardi* is only a young, and hence depressed form of this variable species.—*VAR. undata*, f. 42, 43, and var. *australis*, present variations in colour and marking.

23. OXYTROPIS (f. 46, 47), *Adams.*—"T. conico-depressa, discoidea, latè umbilicata, albida, luteo fuscoque variegatim picta, nucleo magno albedo vitreo, anfractibus planiusculis, transversim lineatis, ad suturas cingulis 2 elevatis instructis; ad peripheriam acutè angulata, cingulis 2 cincta, basi convexiusecula; margine

umbilici crenato, corrugato." *Obs.* An unmistakably young shell, which I cannot well distinguish from a depressed form of *hybridum*: the umbilicus, however, is unusually open, and the ordinary infrasutural keel is not developed.

24. CINGULUM (f. 55, 56), *Kien.*—T. *S. hybrido* simillima, sed multo major; anfractus declives, haud supernè tumidi, multo magis expansi, vittâ latâ, fulvâ, sæpius in strigis angustis ordinatim defluente, ita ut maculæ candidæ magnæ fere confluentes dimidium inferius confertim ornant (labrum versus color albus fulvum plerumque superat), supernè picti; basis semper pallidè fulva, concolor, porcis obsoletissimis circumcincta. Carina eminens, et præ cingulis vicinis, magna: cingulum infra peripheriam vel obscurum, vel angustum. Umbilici maximè coactati cingulum latissimum. *Obs.* Operculum circular, infundibuliform, membranaceous; its apex solid, mammillary, carved.

25. LUTEUM (f. 52, 53, 54), *Lamk.*—T. subdepresso-conica, lævis, lutea aut fulva, ad cingulum suprasuturale unicum elevatum zonamque infrasuturalem angustam, etiamque ad cingula peripheriæ 2 (quam intervallum spiraler striolatum angustiora) albo et fusco-rufescente tenuiter articulata. Anfractus pauci, rotundati. Sutura angusta. Basis rotundata, haud cingulata. Crenæ umbilici valde coactati albæ, latæ, paucæ.—VAR. Basis umbilicium versus rugis pliciformibus radiata.—VAR. Zona obsoleta; cingulum peripheriæ superius unicè latius: basis planior.

*** Sect. C. TORINIA.

26. PERSPECTIVIUNCULUS,* (f. 59 to 64), *Chemn.*—T. figurâ maximè varians, sæpe conoidea, nonnunquam orbiculari-subco-

* A shell which, if not identical, must be nearly allied, is thus described by Valenciennes in the Zoology to Humboldt and Bonpland's Voyage (vol. ii. p. 270):—

S. BICANALICULATUM.—T. conica, subgranulosa, albida, flammulis (multis) rubrofuscis eleganter picta; apertura rotundata, umbilicium versus canaliculis 2 angulosis.—Acapuleo. 6-4 lin.

The author remarks that the description of *Heberti* would mostly apply to it, but that shell appears to have a coarser granulation, and three umbilical channels. The belts, of which there are 4 upon each turn, and 6 upon the almost flat base, are but slightly granulated. The mouth is rounded by the obsoleteness of the keel. There are 2 ridges in the open umbilicus, the outer of which is the spiral keel whose white grains gleam so conspicuously within it.

Menke, erudite, but ever obscure, has quoted two figures of *perspectiviunculus* (Geve, f. 275, and Chemn. f. 2708, 9) for his *Euomphalus radiatus* (Zeit. Malak. 1850, p. 170), a shell referred to that species by Carpenter, yet whose umbilicus suits not the following description:—"T. orbiculata, convexo-depressa, spira planiuscula; fusconigra, albo radiata; anfractibus 5, liris conspicuis densè granulato-crenatis, confertis cinctis: ultimo rotundato, sulcis 2, latioribus juxta umbilicium patulum obsoletis; apertura circulari, peristomatibus acuti marginibus callo tenui junctis." 5½ lin. "Allied to *infundibuliformis*."

noidea, aliquando orbiculari-depressa, alba, chocolati colore vel fusco-rufescente variegata, tessellata, vel radiatim et undulatim strigata: nonnunquam color brunneus, tantum super suturam angustam (sed manifestam), etiamque ad peripheriam, albo est articulatus. Anfractus convexi, sulcis spiralibus validis latitudine variantibus, in cingula 4 subæqualia convexa obliquè creno-granosa, quorum postremum plerumque est articulatum, et totum primum aliquando est album, divisi. Sulcus peripheriæ cæteris tantum latior. Basis subplanulata, cingulis 6 similibus (minus autem elevatis) instructa. Cingulum amplectens umbilicum coarctatum cujus porca unica valida est eminens et nodulosa, sæpius album, aliquando fucatum, sæpe zonâ chocolateâ circumscriptum. Apex plerumque nigricans.—VAR. ? *planulata*. Conspicuè depressa; sulci spirales lati, crenati: umbilicus patens.—VAR. *tessellata* (*Areola Chemn.* p. 134, f. 1710, 1, probabiliter = Trochus a. *Gmel.* 3573. Sol. a. *Phil.* in Kust. Chem. Sol. pl. 2, f. 12, 13). Strigata, vel tessellata, color albus brunneum superans; anfractuum cingulum primum, et cingula 2 circa umbilicum alba, immaculata. *Obs.* A very long series of specimens has induced me to unite forms that at first I should scarcely have hesitated to rank as distinct. The species varies greatly as to shape, breadth of sulci, prominence of the belt, and diversity of colour and pattern: the umbilicus is always more contracted in the Trochoid than in the Rotelliform examples. In one specimen only have I descried two umbilical ridges. As a general rule the depressed specimens, if dark, come from the Sandwich Isles, if with much white from Annaa; the latter when conoid from Borneo, the former if conoid from the Society Isles: the flammular are chiefly from the Philippines and the Red Sea. *Planulata* (f. 63) is perhaps distinct.

27. BISULCATUM (f. 71, 72), *D'Orbigny*.—T. perparva, orbiculari-discoidea, fulva, in cingulo peripherali, et cingulo supra suturam angustam distinctam brunneo rufescente vel fulvescente articulata. Anfractus pauci, sensim aucti, cingulis 5 granosis angustis instructi; quintum, fortasse, latius. Anf. ultimus cingulis granosis 7, quorum ultima 2 sunt latiora, præterea ornatus: intervalla satis lata (haud merè sulci), undique clathrata. Peripheriæ biangulatae porcæ 2 conspicuè eminentes: sulcus medius angustus, clathratus, vix filosus. Umbilici satis ampli crenæ parvæ et permultæ; paries satis altus, haud spiraliter porcatus, rudè transversim corrugatus. *Obs.* Between *dorsuosum* and *perspectiviunculus*.

28. DORSUOSUM, (f. 73, 74), *Hinds*.—T. orbiculari-depressa;

sutura haud canaliculata. Anfractus planulati, brunnei fulvi vel lividi, cingulis 5 confertim et satis rudè crenogranosis ornati; cing. 4 prima æqualia, contigua, quintum latius articulatam. Peripheria obtusè bicarinata; cingulum infra sulcum medium angustissimum (aliquando autem filiosum) minus quam alterum eminens. Basis cingulis crenogranosis 6 instructa; ultimum latum, haud semper album, umbilicum magis minusve angustum margine ejus dentato amplectans. Porca umbilicalis inter sulcos profundos 2, in aperturâ costas simulantes, unica, valida, angusta.

29. CYCLOSTOMA (f. 65, 66, 67), *Menke*.—T. conica, nigro-fumosa, ad peripheriam albo articulata. Anfractus spiræ supernè declives, in cingula 4, quorum inferiora 2, cæteris majora, albo (nonnunquam, autem, ultimum solum) sunt articulata, sulcis latius divisi: cingula et intervalla sulcis radiantibus confertis validis crenolirata. Cingula corporis 10, distincta. Basis pallidior, rotundata; sulcorum ejus sculptura magis obscura. Umbilici pallidè coarctati crenæ validæ; porcæ ejus spirales 2-3.—*VAR. cylindracea* (Philippi, haud Chemn.). Castanea, vel hepatica, vix conspicuè articulata, inter cingula passim fili spirales: quartum cingulum anf. ultimi a proximis latè segregatum.—*VAR. latior*. Intervalla costarum unifilosa; sulcus peripheriæ latus; basis magis explanata; umbilicus magis coarctatus.

Obs. In the more characteristic examples, the bands upon the base are pale, and the sulci chestnut; the intervals between the belts, too, are not threaded: other specimens, however, show a very narrow thread beneath the fourth, fifth (which with the ninth, are the broadest), and the sixth belt.

Menke has so imperfectly described both this and *Æthiops*, that it would have been impossible to have determined his species, had it not been for their republication by his friend Philippi.

The *S. nubilum* of Menke (MSS.), founded on a single worn specimen, was not improbably a variety of this polymorphous species. It is said to differ in being much smaller, having an additional umbilical ridge, and in the sulci being narrower, pricked, and more shallow. Philippi thus describes it (*Zeitschrift Malak.* 1848, p. 170):—

“T. globoso-conica, albida, in mediis anfractibus fusco maculata seu tessellata; anfractibus convexiusculis, sulcis 3 seu 4 impresso-punctatis exaratis, ultimo anfractu terete sulcis 10 exarato; umbilico angusto, margine obsolete crenulato, intus cingulis spirilibus 4 munito.” 3-3½ lin. Cape Haiti.

The shell is figured in Philippi's monograph (*Kuster, Sol.* pl. 4, f. 2).

30. *ÆTHIOPS* (f. 68, 69, 70), *Menke*.—T. conica, vel fumoso-nigra, vel saturatè hepatica; supra suturas, et ad peripheriam, albo articulata. Spiræ anfractus supernè declives, infernè rotundati, cingulis 5 moniliformi-crenatis (quorum 3 superiora multo sunt minora et 2 inferiora nonnunquam filo sunt divisa) ornati: intervalla angusta. Anfractus ultimus cingulis plus quam 10 munitus: sulci peripherales filosi. Basis rotundata, tenebroso-cinerea. Porcæ umbilicales 2-3. Apertura chocolati colore fucata. *Obs.* Intermediate examples will probably demonstrate the unity of this and *cyclostoma*. Menke, who founded his species upon a young shell, has so ill defined it, that the name has usually been ascribed to the dark form of *perspectiviunculus*.

31. *MIGHELSII* (f. 87, 88), *Philippi*.—T. orbiculari-conica, alba, nonnunquam, raro autem, strigis pallidè fulvis concentricè nebulosa: sutura latè canaliculata. Anfractus pauci (5), rapidè dilatati, subdepressi, rotundati, cingulis granoso-crenatis, quorum angustissimum est primum, latissimumque ultimum, vel 4 latè sejunctis, vel 5 confertis et depressis insculpti. Sequitur in anfractu ultimo intervallum (seu sulcus) inconspicuè filosum, et cingulum præcedenti simile. Basis eximiè rotundata, cingulisque obsoletis circiter 7-8 instructa. Umbilicus subcoarctatus, carinæ dentatæ expers; paries ejus porcis 1-2 (sæpe inconspicuis) munitus. Apertura utrinque rotundata, dimidium longitudinis testæ fere implens: labium tenue et expansum.

32. *VIRGATUM* (f. 85, 86), *Hinds*.—T. parva, orbiculari-discoidea, pallidè fulva, ad suturam angustè canaliculatam, parietem umbilicalem, sulcum latum cingulum suprasuturale præcedentem, sulcum peripherale, etiamque ad primum ultimosque 2 sulcos basis, chocolateo-rufescente picta. Anfractus spiræ pauci, seriebus 5 (mediis minoribus) granorum angustorum confertorum instructi; ultimus, cingulis additis 6, quorum primum ultimaque 2 sunt majora, satis latè sejunctis, ornatus. Sulcus peripheriæ biangulatæ angustus, clathratus. Cingulum umbilici ampli introrsum eminens; crenæ ejus albæ, parvæ, permultæ; paries ejus minimè altus, haud manifestè porcatus.

33. *CÆLATUM* (f. 75, 76), *Hinds*.—T. parva, orbiculari-discoidea, fulva, maculis saturatioribus in cingulis albidis, aliisque radiantibus obsoletioribus in basi, ornata: sutura latissimè canaliculata. Anfractus pauci, lentius crescentes, infernè cingulo prominente granoso sulcum spiralem sequente, et supernè cingulo angustiore depresso sulcum angustiore præcedente, muniti; area media lata, costellis frequentissimis (grana cinguli superioris duplo

superantibus) radiata. Peripheriæ carinæ 2, granosæ, æqualiter eminentes: intervallum latum, clathratum, unifilosum. Basis crenis undique clathrata, cingulis 6, quorum 3 interiora contigua sunt et latiora, exterius (in adultis tantum manifestum) merum est filum a carinâ subremotum, instructa. Apertura parva, subrotunda. Umbilici maximi paries uniporcatus; crenæ parvæ, permultæ.

34. FENESTRATUM (f. 77, 78), *Hinds.*—T. subdepresso-orbicularis, pallida; sutura lata, profunda, tenuiter clathrata. Spiræ anfractus pauci, sensim dilatati, merè convexi, cingulis crenogranosis 6, quorum quintum vix manifestum est, undique instructi; cingula 4 prima vicina: grana cing. sexti (etiamque quinti) magis eminentis et sulco latiore et clathrato præcessi, minora. Anf. ultimus costis adjunctis 9 cinctus; quarum 3 peripherales, aliquantulum eminentiores, et 3 infraperipherales angustiores, sulcis latioribus sunt divisæ; basis intimæ costæ 3, latiores, confertæ (cingulis 4 primis similes) granisque rudioribus ornata: latiora intervalla densè et tenuiter clathrata. Peripheria et apertura rotundata. Crenæ umbilici magni parvæ, permultæ; paries ejus satis altus, rugis elevatis minutis confertis concentricis, porcisque tenuibus spiralibus, decussatus. *Obs.* The type, which is the only specimen I have ever seen, and is apparently adult, has only three turns beyond the smooth nucleus; its want of colour may result from its not having been taken alive.

35. ASPERUM (f. 79, 80), *Hinds.*—T. discoidea, albida. Anfractus plani, lentè dilatati, cingulis approximatis densè et acutè granosis undique sculpti. Grana cing. primi, secundi, tertii que monilia planata simulantes, satis magna; quarti pertenuæ; quinti valde rudes: series minimæ 2 suturam latè canaliculatam quoque ornant. Infra cingulum dilatatum quintum anfractus ultimi, quod carinam unicam et valde eminentem format, oritur canaliculus (seu sulcus latus, profundus) granarum minimarum seriebus 2–3 eximè ornatus. Basis rotundata, granarum seriebus 7 instructa; quarum externæ 3 cæteris minores sunt. Apertura parva, subrotunda. Crenæ umbilici pergrandis, patulique, parvæ, permultæ, utraque parietem valde humilem longè eminentes. *Obs.* The only individual (the original type) known to me is composed of 5½ volutions.

36. DILECTUM (f. 50, 51), *Deshayes, Conch. de l'Île de Bourbon.*—“T. suborbiculato-discoidea, supra convexiuscula, apice obtusissima, subtùs plana, latè umbilicata; anfractibus senis, planis, suturâ canaliculatâ distinctis, lentè crescentibus, utroque latere

unicâ serie granulorum marginatis, in medio quinqueliratis; liris minutè granosis; ultimo anfractu ad peripheriam carinato; carina denticulata; subtùs convexiusculo, profundè sulcato, sulcis gradatim latioribus, eleganter granoso-crenulatis, ultimo in ambitu umbilici præ eminenti subtùs canaliculato; apertura minima, circularis, basi et lateraliter emarginata." *Obs.* Unknown to me.

37. STRAMINEUM (f. 95, 96, 97), *Chemn.*—T. orbiculari-co-noidea, fulva (nonnunquam maculis saturatioribus in cingulo infimo ornata); sutura conspicuè canaliculata; apex depressus. Anfractus pauci ($6\frac{1}{2}$), rapidè crescentes, æqualiter convexi, sulcis spirali-bus et crenis (nonnunquam granosis, nonnunquam, præsertim in basi exemplorum seniorum, subobsoletis) decussantibus undique sculpti: intervalla 4 superiora proximata, in exemplis senioribus vix elevata, quintum angustum, sextumque (costa rotundata, eminensque) confertius crenatum. Anfractus ultimus cingulis multis (15–16) instructus, quorum 4 prima et 4 ultima latiora magisque depressa sunt; c. peripheriæ (plerumque sextum et 2 sequentia) eminentiora fiunt; cætera infra peripheriam angustiora, magisque remota: filum unicum vel ad, vel infra peripheriam nonnunquam interest. Basis subplanulata. Crenæ umbilici magis minusve coarctati parvæ permultæque (nisi in exemplis senioribus, *List. pl.* 635, f. 23); paries ejus porcis 2 vel 3 cinctus in senioribus, sulcis spirali-bus subinvisibilibus tantum insculptus. Labrum rotundatum.—*VAR. junior.* Sutura vix canaliculata; apex satis eminens: cingulorum unum in anfractibus omnibus absens.—*VAR. fulva.* Anfractus conspicuè planulati: cingulum ultimum carinam marginalem in spirâ, et in anfractu ultimo carinam peripheralem eximè eminentem simulans. Sulci latiores; crenæ rudes: cingula peripheriæ plerumque 2, costellâ unâ (vel filâ 2) interveniente. Porca parietis umbilici tantum una. *Obs.* Kümmerer has well delineated this species in his *Conch. Rudolstadt* (pl. 11, f. 1). In characteristic specimens there are 3 peripheral belts, of which the second is the smallest. Mr. Hinds drew up his description from a very young shell now in the collection of Mr. Taylor. According to Philippi, *canaliculatum* of Lamarck is the fossil analogue.

38. CYLINDRACEUM (f. 98, 99, 100), *Chemn.*—T. orbicularis, haud valida, mere fulvo- vel livido-brunnea; spirâ vix elevata; sutura conspicuè canaliculata. Anfractus supernè subplani, in cingula 4, granoso-crenata, et satis latè sejuncta (filo passim interveniente), divisi. Peripheria, præ speciebus affinis, rotundata. Basis valde convexa, cingulis similibus sed remotioribus

(plerumque obsolete sculptis) et filis interjectis nonnullis instructa. Umbilicus patulus, cingulo dentato solito, haud circumscriptus; paries ejus costellis 2-3, etiamque passim filis striisque spiraliter corrugatus. Apertura suborbicularis.—*VAR. Vermetiformis*. Subovata; anfractus laxi, permulti; umbilicus magis coarctatus.

39. INFUNDIBULIFORME (f. 91, 92, 93), *Chemn.*—*T. S. cylindraceo* simillina, sed magis solida, periphæria magis bicarinata; basis costellis confertis æqualibus eminentioribus circumcincta, vixque filosa: porcæ umbilicales rudiores æquales, confertæ.—*VAR. Chemnitzii* (Kien.). Planior, vix granosa.—*VAR. ?* strigata*. Periphæria, et cingulum anfractuum ultimum, albido et fulvo-fuscescente ornata. *Obs.* This species closely resembles the preceding, but is more solid, with the periphery more bicarinated. The mouth, from the slow volitional increase, is very small. In the variety (?) *strigata* (f. 91) there are 3 approximate narrower, and 3 broader belts under the lower peripheral one; the threads, if any, are most minute: there are 4 or 5 ridges on the umbilical wall.

40. TROCHOIDES (f. 89, 90), *Desh.*—*T. conica*, alba: sutura angusta. Anfractus merè convexi, neque rotundati, nec scalariformes, in cingula subgranosa 4, quorum primum est angustissimum, tertium est maximum, et quartum moniliforme, sulcis tenuibus divisi. Sulcus periphæriæ profundus, haud autem latus. Basis cingulis 6 ornata; intimum subdentatum. Porcæ umbilici coarctati 3. Apertura, tertiam plenam partem totius altitudinis implens, rotundato-quadrata; columella patula, multisulcata.

41. SOVERBII (f. 81, 82), *Hanley.*—*T. subdiscoidea*, fulvo et albido-fulvo undatim nebulosa seu variegata: sutura angustè cancellulata. Anfractus (pauci?) filis elevatis obliquis transversim clathrati, in cingula 4 crenogranosa, quorum 3 superiora, cum sulcis suis, æqualia sunt, et ultimum, cum sulco præcedente, aliquantum est latius, divisi: infra secundum oritur denique cingulum alium. Periphæria declivis, haud biangulata, sed cingulis

* In the 'Zeitschrift für Malakozoologie,' 1850 (p. 171), Menke has described as nearly related to this species a Mazatlan shell which, if not this doubtful variety, is entirely unknown to me. The somewhat rude figures he refers to (*Chemnitz*, v. f. 1708, 9; *Gevc*, f. 275) as illustrative, which are almost universally accepted as representations of *perspectivunculus*, do not exhibit the patulous umbilicus he especially indicates. His generic allocation is, likewise, peculiar. "EUOMPHALUS RADIATUS. E. testa orbiculata, convexo-depressa, spira planiuscula; fusco-nigra, albo radiata; anfractibus 5, liris conspicuis densè granulato-crenatis, confertis cinctis: ultimo rotundato, sulcis 2 latioribus juxta umbilicum patulum obsolete; apertura circulari, persistomatis acuti marginibus callo tenui junctis. Alt. 2, 4, diam. 5, 5 lin."

nonnullis similibus, minus autem vicinis, sulcisque clathratis instructa, ita ut cingula circiter 13-14 ultimum anfractum ornant. Basis planæ vel retusæ cingula 4 intima (seu ultima) multo remotius clathrata, sulcis latioribus sejuncta; crenæ permultæ c. ultimi (omnium latissimi) ultra parietem humilem umbilici modici conspicuè eminent.*

Of the following species, ascribed rightly or wrongly to this genus, I am unable to procure examples.

TRICINCTUM, *Phil. in Kuster, ed. Chemn. Solar. p. 36.*—"T. minima, albida, fusco radiata; anfractibus teretibus, suturâ profundâ divisis, transversim corrugatis; cingulis 2 in anfractibus superioribus, 3 in anfractu ultimo, supremo striis elevatis a suturâ radiantibus secto; umbilico aperto, pervio, marginato, striis elevatis radiantibus, sulcisque concentricis granulato-decussato. Gabon, in Guineâ. $1\frac{1}{2}$ lin." The unfigured specimen was in the collection which M. Llargilliert bequeathed to the city of Rouen. From its minuteness and the peculiarity of its umbilicus its generic location may be doubted.

IMPLEXUM, *Mighels, Proc. Bost. N. H. ii. p. 22 (copied by Phil. in Kust. ed. Chemn. Solar. p. 37).*—"Depressed, subdiscoid, greyish-white, with a few brown spots; whorls 3, flattened, with 5 rounded revolving ridges on each, intersected by numerous, impressed, transverse striæ; aperture circular; umbilicus large and deep. $\frac{4}{15}$ inch. Oahu." The description (in English only) is too brief for the determination of a species: it would tolerably suit a young *dorsuosum*.

DELPHINULOIDES, *D'Orb. Moll. Cuba, p. 67 (copied in Phil. Kuster, Solar. p. 35), pl. 19, f. 21-24.*—"T. trochoidea, transversim costata, alba; spira elevata, conica; anfractibus convexis, supra 5 costatis, subtus 8 (costatis); umbilico lato, non canaliculato, costato, internè subcrenulato; apertura rotundata. 4

* In the Zoology to Humboldt and Bonpland's Voyage (ii. p. 269), I find a species described (said to be almost the living analogue of the fossil *millegranum*) which probably belongs to this section.

S. GRANOSUM, *Valenc.* "T. conoidea, subdepressa, infra rotundata, gibbosa, penitus ubique granosa, rufo variegata: umbilico coarctato, dentato. Acapulco. 9-4 lin." The shape is said to be less conic than in *granulatum*, and the whorls, each having 5 or 6 granulated belts, the keel alone being smooth, to be more convex; the colouring to be reddish with conspicuous chestnut spots along the course of the spire, and red spots, paler than the others, near the white keel; the base, which is granulated throughout, to be encircled by 5 rows of slightly rounded tubercles: the umbilical teeth to be strong and white.

mill." The figure neither displays the trochoid shape nor the elevated spire attributed to the species. If a *Solarium*, it is an abnormal one. The type is not recorded as present in the British Museum catalogue of D'Orbigny's collection.

PLANORBIS, *Blainv. Dict. Sc. Nat.* xlix. p. 411.—"Small, white, nearly flat, discoid, with scarcely tuberculated spiral sulci and transverse striae. The very open umbilicus with a row of tubercles, the last of which is notched. Mouth rounded." I cannot pretend to identify a species from so inadequate a definition, the original of which is in the French language.

EGENUM, *Gould, Proc. Bost. N. H.* iii. p. 84; in *Wilkes Exploring Expedition*.—"T. parva, ovato-conica, exalbida, submargaritacea; spira anfractibus 6 convexis, liris acutis 4 cinctis, posterioribus granulatis; basis convexiuscula, perforata; umbilico scalariformi, ad ambitum acuto, crenulato; apertura circularis, labiis fere continuis. $\frac{3}{10}$ — $\frac{1}{4}$ inch." Gould remarks that it is not strictly a *Solarium*; yet nearer one in aspect than a *Trochus*, closely resembles *S. dealbatum*, and in size, form, and colour, reminds one of *Margarita obscura*.

BICARINATUM, *Phil. in Kust. ed. Chemn. Sol.* p. 23, pl. 3, f. 14.—"T. depressa, strigis albis et nigris alternantibus picta: anfractibus lævissimis, superius carinato-angulatis, supra carinam planis, infra eam plano-declivibus; ultimo in peripheriâ acutè carinato: umbilico latè infundibuliformi, striis elevatis radiantibus concentricisque cancellato, in ambitu crenulato: apertura exactè rhombea. $1-1\frac{1}{3}$ lin. Chinese seas." Judging from the figure, I much doubt its being a member of this genus.

NANUM, *Koch, Zeit. Mal.* 1851, teste *Philippi, in Kust. Chemn. Sol.* pl. 4, f. 5.—"T. depresso-globosa, alba, strigis radiantibus rufis picta; anfractibus rotundatis, superius angulatis, cingulis elevatis subgranulatis circa 4 in anfractibus superioribus; basi lævi; umbilico medioeri, infundibuliformi, margine crenato, intus striis elevatis radiantibus et concentricis granulato-decussato; apertura subrhombea. $2\frac{1}{4}$ — $3\frac{1}{4}$ lin. Chili?"

ARCHITE, *Costa, Mem. Acad. Napoli*, 1844.—"T. orbiculato-plana, albo-flavidula, longitudinaliter sulcata, transversim crenulata; anfractibus supra carinatis; umbilico amplissimo, denticulato." $7\frac{1}{2}$ mill. Tarentum. It is further said to be flat and angular above, with a rounded mouth, and only fine denticulations at its umbilicus. Possibly a form of *stramineum*.

The *Trochus perspeculatus* of Meuschen was a *Solarium*: it is thus inadequately described in the 'Zoophylaceum Gronovianum'

(p. 323, n. 1485):—"Testa crenato-umbilicata, convexa, obtusa, marginata, longitudinaliter crenato-striata." It is said to come from the Indian seas, and only to differ from his *perspectivus* (the synonymy of which includes *trochleare*, and almost all the then known allied species) by its contiguous, longitudinal, crenated striæ.

GENUS BIFRONTIA, *Desh.*

Gen. Char. Discoidal, planorbular, paucispiral, keeled above and below; body-whorl slightly detached; apex sunken; mouth squarish; no umbilicus; operculum externally conical, truncated at the top.

1. *ZANCLÆA* (Bif. f. 1, 2), *Phil.*—*T. parva, tenuis, discoidea, fulva* (sæpius colore saturatiore et pallidiore alternè nebulosa), supra plano-concava, infra concava. Anfractus pauci, laxati (plerumque ad aperturam, apicemque, disjuncti), cingulo confertim squamoso-granoso, supernè et infernè utrinque marginati; alibi læves, nitidi, et (areâ latissimâ subplanâ inter peripheriæ carinas 2 exceptâ) convexi. Cingulum interius multo minus; c. exterius, in anfractu ultimo carinam valde eminentem simulans. Apertura subquadrata; labium continuum, haud reflexum, sculpturæ expers. *Obs.* None of my specimens exhibit the peripheral threads delineated (pl. 28, f. 11a), but not described, by Philippi. The operculum is of a truncated conic shape and subcentrically lamellar; it is very like that of *Torinia*. The entire shell is enveloped by a dull epidermis, which at times is so wrinkled, that the periphery seems spirally striated. One or both of the keels is here and there obscurely cloven.

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The synonyms are in italics.

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| <p><i>Æthiops</i>, <i>Menke</i>, 30, f. 68, 69, 70.
 <i>Architæ</i>, <i>Costa</i>, p. 245.
 <i>areola</i>, <i>Gmel.</i> = <i>perspectivunculus</i>.
 <i>asperum</i>, <i>Hinds</i>, 35, f. 77, 78.
 <i>australe</i>, <i>Phil.</i> = <i>perspectivum</i>.
 <i>Bairdi</i>, <i>Hanl.</i> 9, f. 48, 49.
 <i>biangulatum</i>, <i>Gray</i> (Appendix, King's Australia).—Not a <i>Solarium</i> ("nacreous").
 <i>bicanaliculatum</i>, <i>Val.</i>, p. 237.
 <i>bicarinatum</i>, <i>Phil.</i>, p. 245.</p> | <p><i>bisulcatum</i>, <i>D'Orb.</i>, 27, f. 71, 72.
 <i>cancellatum</i>, <i>Krauss</i> (Süd-Afrik. Conch. 95, pl. 5, f. 29).—Not a <i>Solarium</i>.
 <i>Chemnitzii</i>, <i>Kien.</i> = infundibuliforme, var.
 <i>cingulum</i>, <i>Kien.</i>, 24, f. 55, 56.
 <i>cælatum</i>, <i>Hinds</i>, 33, f. 75, 76.
 <i>cratera</i>, <i>Schumach.</i> (193, for <i>Chemn.</i> f. 2065, 66), is <i>Helix Turcica</i>.</p> |
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- crenellus* (*Turbo*), Linn. = infundibuliforme.
- Cumingii, *Hanl.*, 11, f. 44, 45.
- cyclostoma, *Menke*, 29, f. 65, 66, 67.
- cyclostomum*, *Mighels* = *Mighelsii*.
- cylindraceum*, *Desh.* and *Phil.* = cyclostoma.
- cylindraceum*, *Chemn.*, 38, f. 98, 99, 100.
- cylindrica* (*Torinia*), *Gray.* Figur. Mollus.—Name only for *S. variegatum* of Quoy, *Astrol.* pl. 62, f. 24, 25, undescribed.
- cylindricus* (*Trochus*), *Gmel.* = *cylindraceum*.
- dealbatum*, *Hinds* = *Trochoides*.
- Delphinuloides*, *D'Orb.*, p. 245.
- dilectum, *Desh.*, 36, f. 50, 51.
- discus, *Phil.*, 19, f. 57, 58.
- dorsuosum, *Hinds*, 28, f. 73, 74.
- Dunkeri*, *Hanl.*, 14, f. 29, 30.
- egenum, *Gould*, p. 245.
- fenestratum, *Hinds*, 34, f. 79, 80.
- formosum*, *Hinds* = *perspectivum*.
- fragile*, *Hinds* = *pictum*.
- fuliginosum, *Hinds*, 17, f. 13, 14.
- fulvum*, *Hinds* = *stramineum*.
- Gothica* (*Architectonica*), *Bolten* = *stramineum*.
- granosum, *Valenc.*, p. 244.
- granulatum, *Lam.*, 8, f. 1, 2.
- granulatum*, *Philip.* = *quadriceps*.
- gyrus*, *Meusch.* = *perspectiviunculus*.
- Hanleyi*, *Sow.*, 18, f. 15, 16.
- Herberti*, *Desh.* = *cyclostoma*.
- hybridum, *Linn.*, 22, f. 39, 40, 41, 42, 43.
- hybridum*, *Gmel.* = *cingulum*, probably.
- implexum, *Mighels*, p. 244.
- incisum*, *Phil.* = *perspectivum*.
- infundibuliforme, *Chemn.*, 39, f. 91, 92, 93, 94.
- inornatum, *D'Orb.*, *Phil.* *Kuster*, *Sol.* p. 35.—Not a *Solarium*.
- lævigatum*, *Lam.*, 15, f. 21, 22.
- Layardi* (*Philippia*), *Adams* = hybridum.
- luteum, *Lam.*, 25, f. 52, 53, 54.
- maculatum*, *Reeve* = *fuliginosum*.
- maximum, *Phil.*, 3, f. 5, 6.
- Mighelsii*, *Phil.*, 4, f. 87, 88.
- modestum, *Phil.*, 4, f. 11, 12, 27, 28.
- nanum, *Koch*, p. 245.
- nobile, *Bolten*, 7, f. 35.
- nubilum, *Menke*, p. 239.
- oxytropis (*Philippia*), *Adams*, 23, f. 46, 47.
- perdix, *Hinds*, 13, f. 17, 18.
- perspectivum*, *Linn.*, 1, f. 36, 37, 38.
- perspectivum*, *Sowb.* and *Phil.* = *trochleare*.
- perspectivum*, *Enc. Méth.* = maximum.
- perspectivum*, *Lam.* (description) = maximum.
- perspectiviunculus*, *Meusch.* = hybridum.
- perspectiviunculus*, *Chemn.*, 26, f. 59, 60, 61, 62, 63, 64.
- perspeculatus*, *Meusch.* (indeterminable), p. 246.
- Philippii*, *Contraîne.*—Not a *Solarium*.
- pictum*, *Phil.*, 10, f. 33, 34.
- placentale, *Hinds*, 20, f. 23, 24.
- planorbis, *Blainv.*, p. 245.
- pseudo-*perspectivum*, *Broc.*, 21, f. 83, 84.
- purpuratum, *Hinds*, 12, f. 7, 8.
- quadriceps, *Hinds*, 5, f. 3, 4.
- radiata* (*Architectonica*), *Bolten*, comprises *hybridum* and *cingulum*.
- radiatus (*Euomphalus*), *Menke*, p. 243.
- Reevii*, *Hanl.*, 16, f. 9, 10.
- Siculum*, *Cantr.* = *stramineum*, var.
- Soverbii*, *Hanl.*, sp. 41, f. 81, 82.
- stellatum*, *Phil.* = *purpuratum*.
- sulcatum*, *Lam.*—See pseudo-*perspectivum*.

- stramineum, *Chemn.*, 37, f. 95, 96, 97.
 Taylori, *Habl.*, 6, f. 31, 32.
tessellatum, *Desh.* = *perspectiviunculus*.
tricinctum, *Phil.*, p. 244.
trochleare, *Hinds*, 2, f. 19, 20.
Trochoides, *Desh.*, 40, f. 89, 90.
Valenciennesii, *Mösch.* = ? *granulatum*.
variegatum, *Lam.* = *perspectiviunculus*.
variegatus (Trochus), *Gmel.* = *perspectiviunculus*.
verrucosum, *Phil.* = *nobile*.
virgatum, *Hinds*, 32, f. 85, 86.
Zanclæa (Bifrontia), *Phil.*, p. 246, Bif. f. 1, 2.
zonatum, *Phil.* = *perspectivum*.

MONOGRAPHS OF THE GENERA
CYCLOSTREMA, ADEORBIS, AND TEINOSTOMA.

By ARTHUR ADAMS, R.N., F.L.S., ETC.

GENUS CYCLOSTREMA, *Marryatt*.

Shell orbicular depressed, widely umbilicated; spire small; whorls rounded, spirally ridged, radiately ribbed or cancellated. Aperture not pearly within, orbicular; peritreme continuous, acute.

This genus with its allies, which we have here, for the sake of convenience, considered in the light of subgenera, together with the genus *Adeorbis*, appear to constitute a peculiar group of *Trochids*, the shells of which may at once be distinguished by the absence of pearly nacre in the interior of their apertures. The genus *Vitrinella*, of C. B. Adams, seems more nearly related to the *Scissurella* race than to *Adeorbis*.

1. CANCELLATA (pl. 255, f. 5, 6), *Marryatt*.—Testa alba, lineis longitudinalibus et transversis elevatis decussantibus inde cancellata; aperturâ labiis cancellatis; cancellis transversim striatis. *Obs.* This beautiful shell, procured by Captain Marryatt from West Indies, and made the type of a peculiar genus at the suggestion of Dr. Leach, differs from the other species of the genus in being plicate above and below a peripheral keel; the specific name is hardly characteristic. We have reproduced the original description.

2. LEVIS (pl. 255, f. 3, 4), *Kien*.—Testa orbicularis, nivea; spirâ depressâ; anfractibus transversim costellatis; costellis regularibus, superis, distantioribus; interstitiis leviter concavis; suturis profundis subcanaliculatis; labro simplici; umbilico peramplo. *Obs.* The *Cyclostrema diatretum*, Gould, is the same as this species, which has been considered by Reeve as the *Turbo*

niveus of Chemnitz. That shell however appears to be accurately represented by our *Tubiola nivea*, f. 35 and 36.

3. REEVIANA (pl. 255, f. 9, 10), *Hinds*.—Testa orbicularis, subdiscoidea, mutica; spirâ depressiusculâ; anfractibus convexis, longitudinaliter carinulatis; carinulis numerosis, superis, distantioribus; interstitiis liris obliquis corrugato-clathratis; labro simplici; umbilico peramplo. *Obs.* In sculpture this perhaps is the most beautiful species of the genus, although some others may equal it in elegance of form. It is dedicated to a voyage-naturalist who was well qualified to appreciate the beautiful in shells.

4. CINGULIFERA (pl. 255, f. 13, 14), *A. Ad.*—Testa orbicularis, nitida; spirâ depressâ; anfractibus rotundatis; carinulis transversis, acutis, æquidistantibus; interstitiis (sub lente) tenuissimè longitudinaliter striatis; aperturâ subcirculari, supra subangulatâ; umbilico mediocri. *Obs.* This is a solid species with wide-apart conspicuous concentric ridges, the intervals being, in very fresh specimens, finely concentrically striated. In good condition it is almost semiopaque and has a glossy appearance.

5. MICANS (pl. 255, f. 7, 8, 27).—Testa turbinata, alba, nitida; anfractibus convexis, longitudinaliter obliquè costellatis, transversim carinulatis; carinulis nodulosis; umbilico mediocri; aperturâ circulari; peristomate continuo, subincrassato. *Obs.* This is the *Cyclostrema pulchellum* of Dr. Dunker, who obtained it from Japan. The author has likewise found the species abundantly in the inland sea of that country, but had previously described the species from the Philippine Islands.

6. ANGULATA (pl. 255, f. 1, 2), *A. Ad.*—Testa orbicularis, discoidea; spirâ depressâ; anfractibus transversim costellatis; costellis regularibus, æquidistantibus; interstitiis tenuissimè striatis; anfractu ultimo biangulato, supra costellato, in medio plano, infra costellato; aperturâ subangulatâ; peritremate interrupto; umbilico permagno. *Obs.* This is a very fine and elegant species, brought by Mr. Cuming from the prolific islands of the Philippine Archipelago.

7. SULCATA (pl. 255, f. 11, 12), *A. Ad.*—Testa orbicularis, discoidea; spirâ planiusculâ; anfractibus convexis; costellis transversis, confertis, regularibus, interstitiis; profundè sulcosis; suturis profundis, canaliculatis; umbilico patulo; peromphalo lævi. *Obs.* This species is common in the China Sea; Mr. Cuming has found it in the Philippines, and the author has met with it rather abundantly in the seas of Japan.

8. BEANI (pl. 255, f. 25), *Fisch.*—Testa crassiuscula, complanata, orbicularis, alba, latè umbilicata, supra concentricè et validè costata (costis 5), subtus nitida, obsolete sulcata, compressa, concava; anfractibus $4\frac{1}{2}$, subplanulatis, ultimo acutè bicarinato, inter carinas lævi; aperturâ rotundâ; margine dextro arcuato, supra minutè sulcato, infra angulato. *Obs.* A singular species, described by M. Fischer from Guadeloupe, with the peripheral keel, causing an angular projection at the lower part of the peritreme.

9. VERREAUXII (pl. 255, f. 17, 18), *Fisch.*—Testa crassiuscula, complanata, discoidea, alba, nitida, latè umbilicata, concentricè minutè sulcata; anfractibus 4, subplanulatis, ultimo permagno dilatato, carinis tribus munito, 1 superiore, 1 media, area plana separatis, et 1 inferiore minore; aperturâ rotundatâ, transversâ; margine dextro elongato, carinis productis tricuspido, subincrassato. *Obs.* This species is remarkable for the points of the peristome, which are formed by the prolongation of the keels, and which cause it to somewhat resemble in form the genus *Teinostoma*.

10. TORNATA (pl. 255, f. 19, 20), *A. Ad.* Testa orbicularis, turbinato-discoidea; spirâ elatiusculâ; anfractibus convexis, costellis concentricis elevatis æquidistantibus ornatis; interstitiis simplicibus; suturis profundis; umbilico profundo. *Obs.* This species very closely resembles in sculpture and general appearance *C. sulcata* (f. 11, 12), but its form is different, the spire being more elevated, the whorls more rounded, and the umbilicus smaller.

11. SCHRAMMI (pl. 255, f. 26), *Fisch.*—Testa planorboidea, compressa, orbicularis, corneo-alba, apertè umbilicata; costis radiantibus validis; carinâ medianâ insertione costarum cristatâ, et carinis 2 (1 superiore, 1 inferiore, obsolete nodosis) ornatâ; anfractibus 3; aperturâ rotundatâ; margine dextro acuto. *Obs.* This species has the aspect of a small Ammonite, or a *Planorbis cristatus*, with three rows of spines.

12. CINGULATA (pl. 255, f. 23, 24), *Dkr.*—Testa subdiscoidea, lactea, umbilicata; spirâ depressâ, anfractibus quaternis, subito crescentibus, tricarinatis instructâ; suturâ incisâ; aperturâ subrotundatâ. *Obs.* A very neatly formed carinate species, figured from a specimen obtained by the author in Japan, and which seems to represent very nearly the figure of *C. angulata* figured by Dr. Dunker in his 'Mollusca Japonica.'

13. EXCAVATA (pl. 255, f. 15, 16), *Cpr.*—Testa orbiculato-

depressa, solidiuscula, alba, latè et profundè umbilicata; spirâ prominulâ; anfractibus subconvexis, supra lævibus, infra concentricè sulcatis, umbilico carinâ prominente circumcincto. *Obs.* A species of simple sculpture, of very elegant form, described by P. P. Carpenter from the seas of China.

14. ANAGLYPTA (pl. 255, f. 28, 29), *A. Ad.*—Testa depresso-turbinata, alba, nitida, profundè et latè umbilicata; spirâ elatiusculâ; anfractibus rotundatis; carinulis concentricis acutis crenulatis; interstitiis lineis radiantibus latè clathratis ornatis, basi carinulis confertis denticulatis instructis; umbilico magno, intus radiatim lirato; aperturâ orbiculari, margine crenato. *Obs.* A very beautiful, richly-embossed shell, with a style of sculpture very much resembling that of *C. Reeviana*, but the form is more turbinate than in that pretty species.

15. AMMONOCERAS (pl. 255, f. 21, 22), *A. Ad.*—Testa depresso-turbinata, discoidea, latè umbilicata, alba, solida, concentricè striata, radiatim costata; costis tenuibus, subdistantibus, ad suturas evanidis; anfractibus rotundatis; aperturâ circulari; peritremate continuo; labio callo parvo resupinato instructo. *Obs.* The only species resembling this is *C. Schrammi*, Fisch., from Guadeloupe, which has the same remarkable Cornu-Ammonis appearance, but the whorls of which, instead of being rounded, have two concentric keels which gives the species, says M. Fischer, the appearance of *Planorbis cristatus*, with three rows of spines.

16. BIFORCATA (pl. 255, f. 30, 31), *A. Ad.*—Testa parva, subdiscoidea; spirâ depressâ, albidâ, latè umbilicatâ; anfractibus 3, subplanulatis, ultimo anticè dilatato, supra lævi, infra concentricè striato, ad peripheriam liris duabus validis transversis instructo; aperturâ circulari; peritremate continuo, simplici. *Obs.* This little species differs from any of those described, and may easily be recognized by the double keel which surrounds the periphery.

Subgenus DARONIA, *A. Ad.*

Shell orbicular, discoidal, evolute, spire depressly concave; whorls rounded, more or less disunited; aperture circular; peritreme continuous. *Obs.* I have considered it advisable to keep this as a distinct subgenus, on account of the very peculiar form and sculpture of the shell. The type species greatly resembles *Ammonia spirula*, L., or *Spirula australis*, Lam.

1. SPIRULA (pl. 255, f. 32, 33), *A. Ad.*—Testa orbicularis, discoidea, evoluta; spirâ depresso-concavâ; anfractibus rotundatis,

primis contiguus, ultimo distincto, transversim costulatis; costellis subconfertis, æquidistantibus; interstitiis tenuissimè longitudinaliter striatis; aperturâ circulari; peritremate continuo. *Obs.* The figure is from a beautiful perfect specimen, picked up by Mr. Cuming on the sands in one of the Philippine Islands. It is at present unique in his unrivalled collection.

2. CYCLOTINA (pl. 255, f. 34), *A. Ad.*—Testa discoidea, orbicularis, vix evoluta; spirâ planâ; anfractibus rotundatis, contiguus, minutè striatis, simplicibus; aperturâ circulari, expansiusculâ; peritremate continuo. *Obs.* This species was picked up on the sands at Kino-O-Sima, in Japan, by the author. It is not quite perfect, but is very distinct from *D. spirula*.

Subgenus TUBIOLA, *A. Ad.*

Shell subevolute or loosely enrolled; whorls rounded, simple, concentrically striated; aperture subcircular; peritreme continuous; margin acute, entire. *Obs.* This little group resembles somewhat *Daronia*, but the texture and aspect more approximates the genus *Adeorbis*.

1. NIVEA (pl. 255, f. 35, 36), *Chemn.*—Testa ovato-orbicularis, nivea, tenuis, semipellucida; spirâ depressâ; anfractibus rapidè crescentibus, convexiusculis, concentricè creberrimè liratis lineisque incrementi decussatis; suturis profundis, subcanaliculatis; anfractu ultimo magno, anticè dilatato, ad peripheriam rotundato, ad peritrema contiguo; aperturâ perobliquâ, subcirculari, posticè angulatâ; peritremate continuo, simplici, acuto; umbilico peramplo, patulo, perspectivo. *Obs.* This shell agrees exactly with the original figure and description of Chemnitz's *Turbo niveus*. The *Delphinula nivea*, Reeve, is the same as *D. laevis*, Kien., and *C. diatretum*, Gould.

2. CORNUELLA (pl. 255, f. 37, 38), *A. Ad.*—Testa subdiscoidea, ovato-oblonga, tenuis, sordidè alba, latè umbilicata; apice elato; anfractibus $3\frac{1}{2}$, rapidè accrescentibus, rotundatis, ultimo ad peritrema soluto, striis incrementi ornato; aperturâ perobliquâ, transversim ovatâ; peritremate continuo, acuto, integro, dilatato. *Obs.* In this species the whorls are disunited as in *Daronia spirula*, but they are not rolled on the same plane as in that group.

3. DIVISA (pl. 255, f. 39, 40), *J. Adams.*—Testa turbinata, subevoluta, alba, tenuis, latè umbilicata, infra spiraliter costellata; aperturâ magnâ, circulari. *Obs.* Shell "pure white, lower disk spirally striated or costellated, aperture large and circular, umbilicus capacious."

Subgenus MICROTHECA, *A. Ad.*

Shell globosely turbinate, widely umbilicate, somewhat porcellanous, radiately rugosely plicate; sutures channelled; whorls crenulate at the sutures. Aperture semicircular; peritreme continuous; inner lip thickened, arcuate; outer lip with the margin thickened; umbilicus crenulate. *Obs.* These very peculiar little shells are closely allied to *Morchia*, but the last whorl does not embrace the others, as in that form, and the umbilicus is narrower and crenulated at the margin. The outer lip also is varied.

1. CRENELLIFERA (pl. 255, f. 41, 42), *A. Ad.*—Testa globosoturbinata, latè umbilicata, alba, solida, semiopaca, longitudinaliter plicato-rugosa; suturis canaliculatis; anfractibus ad suturas crenulatis; aperturâ subcirculari; labio incrassato, arcuato; umbilico margine crenato. *Obs.* In the general form and crenate suture this curious little species resembles *Isanda coronata*, *A. Ad.*, which, however, on account of the polished porcellanous character of the shell, I have referred to the family *Umbonidæ*.

Subgenus MORCHIA, *A. Ad.*

Shell obliquely ovate, depressed, widely umbilicated, convex above, flat beneath; whorls rapidly increasing, the last dilated, ascending, and embracing the other whorls as far as the apex. Aperture oblong, oblique, somewhat horizontal, dilated below, narrowed above; peritreme continuous, thickened. *Obs.* This curious little genus resembles *Teinostoma* in the fact of the last whorls embracing the others, but the base is not covered with a callus, and the mouth is not anteriorly produced.

1. OBVOLUTA (pl. 255, f. 43, 44), *A. Ad.*—Testa obliquè ovata, alba, depressa, latè umbilicata; anfractu ultimo ad peripheriam angulato, striis incrementi confertis ornato, ad suturas corrugato-crenulato; umbilico patulo. *Obs.* This shell appears to be rare in Japan. I only obtained two specimens; one at Tsu-Sima, in 26 fathoms, and the other at Takano-Sima, in shell-sand. It is a curious form, with an open umbilicus, and with the last whorl encroaching upon and nearly covering the others, as it does in *Neritula* and *Teinostoma*.

GENUS ADEORBIS, *Searles Wood.*

Shell depressly conical-orbicular, deeply umbilicated; whorls flattened, spirally striated or smooth, the last more or less angu-

late at the periphery. Aperture not pearly within, transversely ovate; inner lip sinuated; peritreme interrupted; outer lip arcuate, simple, acute. *Obs.* The principal difference between this genus and *Cyclostrema* consists in the more or less trochiform appearance of the shell, in the whorls being either smooth or spirally striated, and especially in the peritreme not being circular and continuous.

1. SUBCARINATA (pl. 256, f. 7), *Montag.*—Testa suborbicularis, depressa, latè umbilicata; anfractu ultimo ad peripheriam subcarinato, liris quatuor spiralibus ornato; aperturâ rotundato-ovatâ; labio subreflexo, labro acuto. *Obs.* This somewhat rare British species is the type of the genus; the animal, however, does not appear to have been hitherto studied.

2. PLANA (pl. 256, f. 3, 4), *A. Ad.*—Testa orbicularis, dorso plano-convexa; spirâ depressâ; anfractibus planis, supra transversim striatis, infra lævibus; aperturâ subcirculari, supra angulatâ; umbilico peramplo, anfractibus intus conspicuis. *Obs.* A large (for the genus) species, with a very flat spire and with the whorls concentrically finely striated.

3. ELEGANS (pl. 256, f. 1, 2), *A. Ad.*—Testa orbicularis, discoidea, tenuis, semipellucida; spirâ depressâ; anfractibus rotundatis, transversim omnino striatis; suturis distinctis; aperturâ subcirculari, supra angulatâ; umbilico peramplo. *Obs.* A beautiful semipellucid species, remarkable for the extreme elegance of its form; the aperture is peculiarly angulated at the fore part.

4. PLANORBULA (pl. 256, f. 5, 6), *A. Ad.*—Testa orbicularis, planorbula; spirâ depressâ; anfractibus lævibus, rotundatis; suturis distinctis; aperturâ subcirculari, supra angulatâ; umbilico permagno, patulo. *Obs.* The aperture in this cyclotiform species is circular and somewhat dilated, yet the sum of all the characters shows it to belong more properly to *Adeorbis* than to any other genus.

5. NITIDA (pl. 256, f. 9, 10), *A. Ad.*—Testa orbicularis, lævis, tenuis, nitida; spirâ elatiusculâ; anfractibus prope suturam subangulatis; suturis profundis, subcanaliculatis; aperturâ subcirculari, supra angulatâ; umbilico magno, peromphalo angulato, acuto. *Obs.* The principal peculiarity of this species is the angular keel round the umbilicus; the whorls and aperture are more rounded than usual and the surface of the shell is polished. It may possibly belong to the genus *Cithna*, *A. Ad.*

6. ADAMSII (pl. 256, f. 8), *Fisch.*—Testa translucida, corneo-

alba, nitida, complanata, suborbicularis, umbilicata; supra minutissimè et concentricè striata, subtus læviuscula; anfractibus $3\frac{1}{2}$, rapidè accrescentibus, ultimo compressiusculo, non carinato; aperturâ subovatâ, parum transversâ; margine dextro tenui, fragili. *Obs.* A pellucid, shining, rather solid species, very finely concentrically striated.

7. ANGASI (pl. 256, f. 37, 38), *A. Ad.*—Testa valde depressoconica, latè umbilicata, alba, tenuis, semipellucida; anfractibus rapidè crescentibus, ultimo magno convexo concentricè striato, radiatim obsoletè plicato, ad suturas crenulato, ad peripheriam acutè angulato et concinnè crenato, ad basin radiatim corrugato-plicato; aperturâ semiovatâ; labio rectiusculo, acuto; labro posticè ascendente. *Obs.* This is the largest and most beautiful species of *Adeorbis* yet discovered. It was found by Mr. G. F. Angas in Coodgee Bay, outside Port Jackson Heads, on the sand.

8. SINENSIS (pl. 256, f. 21, 22), *A. Ad.*—Testa discoidalis; spirâ prominulâ, albâ, subporcellanâ, opacâ, striis incrementi radiatibus et lineis spiralibus transversis decussatâ; anfractibus regulariter crescentibus, ultimo ad peripheriam obtusè angulato; umbilico patulo, perspectivo, margine carinato; aperturâ quadrato-orbiculari; labro mediocri. *Obs.* This is a rather large opaque-white species, having very much the aspect of *Ethalia*, but there is no trace of an umbilical callus.

9. JAPONICA (pl. 256, f. 20), *A. Ad.*—Testa discoidalis; spirâ depressâ; alba, nitida, tenuis, semidiaphana, radiatim striata; anfractibus regulariter crescentibus, convexiusculis; umbilico patulo, margine valde carinato; labro mediocri. *Obs.* The most common species met with in the seas of Japan, not however characterized by any remarkable peculiarities either of form or sculpture.

10. CLAUSA (pl. 256, f. 25, 26), *A. Ad.*—Testa discoidalis; spirâ depressâ; albida, subdiaphana, striis incrementi radiatim ornata; anfractibus rapidè crescentibus, ultimo ad suturas vix angulato, ad peripheriam rotundato; umbilico callo, tenui, vix clauso; labro producto. *Obs.* In this species the umbilicus is partly occupied by a callosity, as in some species of *Ethalia*.

11. ORBELLA (pl. 256, f. 16, 17), *A. Ad.*—Testa discoidalis; spirâ planatâ; alba, subporcellana, nitida, semiopaca, radiatim striata, basi transversè confertim sulcata; anfractibus regulariter crescentibus, ultimo ad peripheriam rotundato; umbilico patulo, perspectivo, margine rotundato; labro subproducto. *Obs.* In

this species the umbilicus is open and the peromphalus obtusely keeled; the whorls are radiately striated.

12. PROMINULA (pl. 256, f. 23, 24). *A. Ad.*—Testa discoidalis; spirâ elatiusculâ; alba, subdiaphana, nitida, striis incrementi ornata; anfractibus rapidè crescentibus, ultimo ad peripheriam rotundato; umbilico mediocri, margine carinato; labro producto. *Obs.* In this species the spire is conical and more raised than is usual in this genus, and the margin of the umbilicus is keeled.

13. DEPRESSA (pl. 256, f. 14, 15), *A. Ad.*—Testa discoidalis; spirâ planatâ; alba, vix opaca, radiatim striata; anfractibus rapidè crescentibus, ultimo ad peripheriam rotundato; basi rugulis radiantibus ornata; umbilico patulo, margine valde rugoso-crenato; labro mediocri. *Obs.* This is a very depressed species, very similar in form to *A. plana*, but the aperture is more circular and not so oblique as in that species, and the size also is much less.

14. PATRUELIS (pl. 256, f. 35, 36), *A. Ad.*—Testa ut in *A. Japonica* discoidalis, sed spirâ elatiusculâ; alba, nitida, semipellucida, radiatim striata; anfractibus regulariter crescentibus, convexiusculis, ultimo ad suturam vix angulato, ad peripheriam rotundato; umbilico angusto, margine carinato; labro mediocri. *Obs.* This species has resemblances to several others, but cannot properly be affiliated to any; the last whorl is slightly angulated at the suture, and the margin of the umbilicus is carinate.

15. CORNICULUM (pl. 256, f. 29, 30), *A. Ad.*—Testa ovato-discoidalis, tenuis, nitida, subdiaphana, radiatim minutissimè striata; anfractibus rapidè crescentibus; umbilico angusto, margine valde carinato; labro producto. *Obs.* An orbicular turbinate thin species, with shining whorls and a narrow umbilicus.

16. SUTURALIS (pl. 256, f. 27, 28), *A. Ad.*—Testa ovato-discoidali; spirâ prominulâ; albida, tenuis, semipellucida, striis incrementi radiatim ornata; anfractibus rapidè crescentibus, prope suturas subcarinatis, ultimo ad peripheriam subangulato; suturis canaliculatis; umbilico angusto, margine rotundato; labro mediocri. *Obs.* A somewhat globose species, with the sutures deeply impressed.

17. NANULA (pl. 256, f. 31, 32), *A. Ad.*—Testa ovata, subconvexa, tenuis, semidiaphana, nitida; anfractibus rapidè crescentibus, convexiusculis, ultimo subventricosus ad peripheriam angulato; umbilico angusto, margine rotundato; labro mediocri.

Obs. A small thin depressed species, very shining and with convex whorls; the margin of the umbilicus is not carinate.

18. *CARINATA* (pl. 256, f. 18, 19), *A. Ad.*—Testa ovato-orbicularis, obliqua, depresso-conoidalis, subdiaphana, alba, latè umbilicata; anfractibus convexiusculis, transversè tenuiter striatis, rapidè accrescentibus, ultimo anticè dilatato, ad peripheriam acutè carinato; aperturâ subtrigonalì, anticè angulatâ et productâ; umbilico margine acuto. *Obs.* The keel at the periphery is marked and prominent, forming an acute ledge round the last whorl. The only other species at all resembling it is *A. subcarinata*, found in the British seas.

19. *TROCHULA* (pl. 256, f. 12, 13), *A. Ad.*—Testa orbicularis, depresso-conoidea, profundè umbilicata, supra convexa, infra plana, alba, semipellucida; anfractibus $5\frac{1}{2}$, planiusculis, lentè accrescentibus, suturis marginatis; anfractu ultimo anticè vix dilatato, ad peripheriam obtusè angulato; aperturâ subangulatâ, anticè vix productâ; umbilico margine acuto. *Obs.* This species resembles a small depressed *Trochus*, with a flat base, a somewhat angular periphery, and a deep, rather narrow umbilicus.

20. *SUBANGULATA* (pl. 256, f. 33, 34), *A. Ad.*—Testa ovato-orbicularis, subdepressa; vertice elatiusculo; alba, radiatim tenuiter striata, profunde umbilicata; anfractibus $3\frac{1}{2}$, convexiusculis, ultimo anticè dilatato, supernè obtusè angulato, infra subplano; aperturâ subquadratâ, anticè productâ; labro supra subangulato; umbilico margine acuto. *Obs.* The angular projection of the whorls is not at the periphery but above it, which causes the subquadrate form of the aperture; whereas in the British *A. subcarinata* and the Japanese *A. carinata* the periphery is carinate, more or less, and the aperture triangular.

21. *DIAPHANA* (pl. 256, f. 39, 40), *A. Ad.*—Testa depresso-orbicularis, alba, tenuis, pellucida, latè et profundè umbilicata; spirâ prominulâ; anfractibus $3\frac{1}{2}$, subplanulatis, lineis incrementi ornatis; anfractu ultimo anticè vix dilatato, ad peripheriam rotundato; aperturâ circulari; umbilico patulo, perspectivo, margine carinato. *Obs.* This little pellucid shell is more globose than the species of *Adeorbis* generally, and the aperture is nearly circular, with a continuous peritreme.

GENUS TEINOSTOMA, *A. Ad.*

Shell with the spire depressed, polished or spirally sculptured; whorls rapidly increasing, umbilical region callous. Aperture

produced, elongate, remote from the axis; peritreme rounded towards the axis, sometimes angulate at the periphery. *Obs.* Perhaps the natural position of this genus is in the family *Umbonidae*, the species more nearly resembling those of *Ethalia* than any other group. In form and texture, however, they have very great resemblances to the shells we have just passed in review. An examination of the animal must determine the question.

1. *POLITUM* (pl. 256, f. 43, 44), *A. Ad.*—Testa orbiculato-ovata, supernè convexa, lactea, opaca, lævis, nitida; anfractibus rapidè crescentibus; aperturâ elongatâ, anticè valde productâ et acuminatâ; umbilici regione callo magno lævi obtectâ; labro supra anfractum penultimum reflexo. *Obs.* This is the species which served for the type of the genus as originally constituted. It is a rare shell from the Philippines, and is in the Cumingian collection.

2. *CARPENTERI* (pl. 256, f. 41, 42), *A. Ad.*—Testa orbiculato-ovata, supernè convexa, lactea, opaca, lævis, nitida; umbilico callo oblecto; anfractibus rapidè crescentibus; aperturâ productâ, anticè acuminatâ; labro supra anfractum penultimum reflexo. *Obs.* The only shell at all resembling this is *T. amplexans*, Cpr., which however has a rounded aperture, whereas in this species it is anteriorly produced. The spire is entirely concealed by the last whorl, leaving only a minute pit at the apex, and the umbilical callus has a slight rinal fissure.

3. *CONCENTRICUM* (pl. 256, f. 45, 46), *A. Ad.*—Testa orbiculato-ovata, supernè convexa, alba, solida, semiopaca, sulcis concentricis confertis concinnè insculpta, lineisque incrementi radiantibus subtilissimè decussata; anfractibus rapidè crescentibus, ultimo dilatato, ascendente, alios involvente, vix usque ad apicem; peripheriâ rotundatâ, basi convexâ; umbilico callo convexo, lævi, omnino oblecto; aperturâ subcirculari, anticè vix productâ. *Obs.* A solid convex species, with the surface finely concentrically grooved, a peculiarity which distinguishes it from any of the species already known.

4. *RADIATUM* (pl. 256, f. 47, 48), *A. Ad.*—Testa orbiculata, depressa, supernè convexiuscula, basi subplana, semiopaca, alba, lineis incrementi radiantibus conspicuè ornata; umbilico callo excavato angulato oblecto; anfractibus subito crescentibus, ultimo alios involvente usque ad apicem; aperturâ depressâ, anticè productâ. *Obs.* This species is distinguished by its depressed form, and the conspicuous radiating lines which proceed from the axis towards the periphery. The callus covering the umbilicus presents a sharp angular excavated edge near the inner lip.

5. LUCIDUM (pl. 256, f. 49, 50), *A. Ad.*—Testa obliquè ovata, depressa, supernè convexa, infernè planiuscula, alba, lævis, pellucida, striolis incrementi obsoletè radiata; umbilico callo plano subcirculari opaco oblecto; anfractibus rapidè crescentibus, ultimo ascendente, alios involvente usque ad apicem; aperturâ subhorizontali, depressâ, antice productâ. *Obs.* This species differs from the others already described in being smooth and pellucid; the last whorl is also considerably more dilated anteriorly.

6. AMPLECTANS (pl. 256, f. 51, 52), *Cpr.*—Testa parva, alba, planata, lævis, peritremate rotundata; callositate spirali, umbilicum tegente, labium versus subplanatâ, supra parietem intus suturam decurrente; aperturâ rotundatâ; labro supra anfractum penultimum reflecto; suturâ haud impressâ. *Obs.* In this species the aperture is produced and angular, the callus covering the umbilical region is very large and thick, and the shell is very flat above.

7. SUBSTRIATUM (pl. 256, f. 53, 54), *Cpr.*—Testa minima, planata, opaca, alba, subnitente; striolis spiralibus, prope suturam impressam monstrantibus; callositate angustissima, longiore, circa rimam umbilicalem gyrante, prope labium vix planato; aperturâ rotundatâ; labio solido, anfractus penultimos haud amplectante. *Obs.* There are a few spiral striæ near the suture in this species, the callosity is very long and narrow, and the aperture is nearly circular.

Subgenus CALCEOLINA, *A. Ad.*

Shell neritiform, oblong, depressed; spire small; whorls rapidly increasing, umbilical region callous; aperture semicircular; inner lip with a large wide callus, covering posteriorly the umbilicus; margin of the callus straight, simple.

1. PUSILLA (pl. 256, f. 55, 56), *C. B. Ad.*—Testa albida, subopaca, superficie rugulis incrementi confertissimis striatâ; suturâ valde impressâ; anfractu ultimo depresso, magno, ad peripheriam compresso. *Obs.* The specimens of this peculiar form, brought by me from Japan, do not seem to differ in any respect from the *Neritina pusilla* of C. B. Adams. The neritiform aspect and straight inner lip cause it at once to be separated from the other species of *Teinostoma*.

CYCLOSTREMA, ADEORBIS, TEINOSTOMA.

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MONOGRAPH OF THE GENUS

ARGONAUTA, *Linnaeus*.

Molluscum Cephalopodum.

Testa involutè discoidea, unilocularis, papyracea, minutè granulata, alba seu pallida, disci margine nigrescente; anfractibus bicarinatis, tuberculatis; lateribus radiatim liratis; spirâ immersâ.

The "paper sailor" is a testaceous receptacle formed by the female Cephalopod for the deposition and care of her eggs. It is secreted by the hinder pair of arms, which in the female are expanded into broad membranes, and have been regarded as the sails of a ship-like vessel; but they principally serve to envelope the shell after its formation.

Description of the Species (the Shells).

Plates 257, 258.

1. ARGO (f. 1, 2), *Lamk.*—Testa subcompressa, transversè oblonga, lateribus planiusculis; rugis tenuibus, numerosis; carinâ angustâ, concavâ, tuberculis numerosis acutis; aperturâ subtrigonâ, angustâ; marginibus prope axem profundè arcuatis, inkrasatis, in angulis plus minusve auriculatis. *Obs.* This is the most compressed species, the sides gradually converging to a narrow keel, with very sharp tubercles. From the large square-mouthed shell with the angles of the mouth produced into auricles, to the transversely elongated and more finely ribbed varieties, with scarcely any angle, the gradations are too minute to admit of specific distinction.

2. GRUNERI (f. 9), *Dunker.*—Testa præcedenti similis, sed parva, transversè valde elongata; carinâ convexâ, latiusculâ, minutè verrucosâ. *Obs.* Much more elongated than *A. argo*; wider at that part of the aperture which is farthest from the spire. The keel tubercles become more and more obtuse, till at the outer edge they almost disappear.

3. TUBERCULOSA (f. 3), *Lamk.*—Testa convexa, rotunda; rugis in tuberculis divisis; carinâ latâ, tuberculis magnis subdistantibus; aperturâ latâ, auriculis productis, lateribus convexis. *Obs.* Much more convex and rounded, with the radiating ribs broken up into small tubercles.

4. GONDOLA (f. 4), *Dillwyn.*—Testa semiorbicularis, valde convexa, pallidè fusca; rugis validis, distantibus, alternatim brevioribus; carinâ latissimâ, distanter tuberculatâ; aperturâ latè hiantè, auriculis exterius productis. *Obs.* This is the widest shell of the genus, the aperture widely gaping, and the keel very broad, and the auricles produced and twisted outwardly.

5. HIANI (f. 5, 6), *Dillwyn.*—Testa convexa, subelongata, fulva; rugis leviter elevatis, alternatim brevioribus; carinâ latâ obtusè et distanter tuberculatâ; aperturâ latâ, lateribus convexis, auriculis rotundatis minimè productis. *Obs.* As compared with the preceding, the ribs are not so pronounced, the tubercles not so large and more obtuse, the mouth is narrower, and the auricles not produced nor twisted outwards in this species.

6. OWENI (f. 7, 8), *Ad. and Reeve.*—Testa semiorbicularis, subcompressa, fulva; rugis validis, alternatim brevioribus; carinâ latâ, validè tuberculatâ; aperturâ oblongâ, prope spiram angustatâ, lateribus compressis, auriculis vix productis. *Obs.* The ribs are more distinctly pronounced, and the sides of the shell, particularly near the axis, much more compressed than in *A. hians*.

MONOGRAPH OF THE GENUS

POMATIAS, *Studer.*

PLATE CCLIX.

Gen. Char. Molluscum terrestre, gasteropodum.

Testa turrita, pyramidalis, concentricè liris elevatis striata; anfractibus numerosis, duobus apicalibus papillaribus lævibus; aperturâ rotundato-subtrigonâ; margine intus continuo, extus reflexo, ad columellam angulato.

Operculo corneo, paucispirali, bilaminato.

Obs. These shells are turreted, pyramidal, striated, with the two apical whorls papillary and smooth. The aperture is slightly trigonal, the inner edge continuous, the outer edge flattened outwards and angulated at the base of the columella. Operculum horny, with few whorls, composed of two layers concamerated within. The differences between the species consist chiefly in the character of the striation.

SPECIES.

1. AURITUS (f. 1, 2), *Zeigl.*—*T. tenuis*, subventricosa, pallidè fulva; striis crebris, numerosis, alteris rarioribus crescentibus; labro expanso, posticè acuminato, ad columellam in auriculam dilatato.

Obs. The largest of the genus; having the body covered with nearly equal striæ, with a few sharp and prominent at intervals. The peritreme is expanded into a decided auricle at the base of the columella, and pointed at its junction with the upper whorl.

2. TESSELLATUS (f. 15, 16).—*T. P. aurito* similis sed brevior; striis crassiusculis, æqualibus, ad suturam paululum exstantibus; pallida, maculis distantibus ad suturam quadratis, ad medium anfractum longitudinalibus bifasciata; aperturâ auritâ, posticè vix acuminata. *Obs.* The outer lip is more rounded at the top and the striæ more regular and equal than in *P. auritus*. A row of

distant spots near the suture, and another of longitudinal spots on the middle of the body-whorl.

3. STRIOLATUS (f. 5, 6), *Porro*.—T. *ventricosa*, pallida, fasciis fuscis interruptis tribus; striis crebris, numerosis, alteris rarioribus magis elevatis; labro angusto, tenui. *Obs.* More like *P. tessellatus* than any other, but the lip is thin and very little expanded; in striation it resembles *P. auritus*.

4. PHILIPPIANUS (f. 21, 22), *Gredler*.—T. *P. tessellato* similis sed gracilior; labro duplicato. *Obs.* In the striation and general appearance this resembles the last, but is a much narrower shell, with the inner edge of the aperture forming a ring raised above the flattened outer portion. The middle row of spots not so linear.

5. SCALARINUS (f. 17, 18), *Villa*.—T. *P. Philippiano* similis, sed labro simplici angusto; macularum seriebus duabus, et fasciâ basali. *Obs.* The lip is duplicated and very little expanded. There is a band of brown colour near the base of the last whorl, besides the two rows of spots above.

6. PATULUS (f. 11, 12), *Drap.*—T. elongata, polita, fusco-plumbea; striis tenuissimis, crebris, versus anfractum ultimum subevanidis; aperturâ subrotundâ, patulâ, labro duplicato. *Obs.* Towards the lower whorls the very fine striæ become faint and almost disappear; the body of the whorl appearing polished and shining.

7. TERSALINUS (f. 13, 14), *Zeigl.*—T. quam *P. patulus* brevior, fasciatim maculata. *Obs.* Shorter than *P. patulus*, and having three bands of spots.

8. OBSCURUS (f. 3, 4), *Drap.*—T. subcylindrica, fusco-plumbea, fusco-rubescente triseriatim maculata; striis tenuibus, crebris; labro paululum expanso, vix angulato. *Obs.* A rather pupæform species, with two rows of spots and a band near the base of the last whorl.

9. MACULATUS (f. 7, 8), *Drap.*—T. quam *P. obscurus* magis angusta, labro haud tantum expanso. *Obs.* This species—or it may be only variety—is narrower, with less expanded lip than *P. obscurus*. *P. apprimus* is a variety of this.

10. CINERASCENS (f. 9, 10).—T. *P. obscuro* similis, sed immaculata; striis crassioribus. *Obs.* The striæ in the upper whorls are thicker, and the shell is more pyramidal. It is uniform in colour.

11. HIMALAYÆ (f. 19, 20), *Benson*.—T. pallida; anfractibus

rotundis ; suturâ profundâ ; striis crebris crassis, super anfractum ultimum alternatim brevioribus ; aperturâ subrotundâ ; labro retrorsum reflexo, duplicato, angusto. *Obs.* This little whitish shell has the whorls separated by a deep suture, a roundish mouth with the peritreme reflected backwards, and the striæ, which are thick and regular on the earlier whorls, are on the last alternately shortened.

POMATIÆ.—PLATE CCLIX.

- | Fig. | Sp. | |
|---------|----------------------------------|--|
| 1, 2. | 1. AURITUS, <i>Zeigl.</i> | Albania. |
| 3, 4. | 8. OBSCURUS, <i>Drap.</i> | Montpellier. |
| 5, 6. | 3. STRIOLATUS, <i>Porro.</i> | Italy. |
| 7, 8. | 9. MACULATUS, <i>Drap.</i> | S. Germany. — <i>P. apprimus</i> ,
Mousson. |
| 9, 10. | 10. CINERASCENS, <i>Ross.</i> | Dalmatia. |
| 11, 12. | 6. PATULUS, <i>Drap.</i> | S. France. |
| 13, 14. | 7. TERSALINUS, <i>Zeigl.</i> | |
| 15, 16. | 2. TESSELLATUS, <i>Weig.</i> | Island of Corfu. |
| 17, 18. | 5. SCALARINUS, <i>Villa.</i> | Dalmatia. |
| 19, 20. | 11. HIMALAYÆ, <i>Benson.</i> | Darjiling. |
| 21, 22. | 4. PHILIPPIANUS, <i>Gredler.</i> | Lombardia. |

Completion of the late G. B. Sowerby's Monographs of
VOLUTA, from *Thes.*, p. 220, Plate 55, and MELO,
p. 416, Plate 83. By his Son.

PLATES 260, 261, 262.

7. VOLVACEA, *Lamk.* — Should be FLAVICANS, *Gmel.*, by priority. (Reeve.)

9. UNDULATA, *Lamk.*, f. 28 only,—f. 99 is V. ANGASII, sp. 73.

11. PALLIDA, *Gray.*—Should be VOLVA, *Chem.*, by priority. (Reeve.)

12. RETICULATA, *Reeve*, is our f. 94 (*pallida*, var.). It is the true *V. reticulata*, as stated by Mr. Reeve in his monograph. Our figure 47, 48, to which the name was inadvertently attached, is certainly a different shell. See 12*.

12*. REEVII, *Sowb.*, as *reticulata*, f. 48, 49, is a broad shell with very short spine and conical shape. It is somewhat differently marked from Sp. 12, and quite distinct.

34. MAMILLA, *Gray.*—The first figures in Mr. Reeve's monograph and my father's were taken from the shell in a very young state. Very large specimens have since been procured.

35. PAPILLOSA, *Swains.*—M. Kiener mixes this with *V. fusiiformis*, and names the two species together *V. Sowerbyi*. Mr. Reeve changes the name to "*papillaris*," as conveying a more correct meaning. I think it best to retain the original name, as being in general use.

42. INDICA, *Sowb.*—My father objected to Linnaeus's name *Lapponica*, as implying a false locality. Mr. Reeve remarks that the name is only a corruption of "*Lapphorn*," or Dog's-car shell, used for this species by the Dutch. Mr. R. agrees with my father as to the propriety of abandoning the old name, but instead of accepting his proposed substitute, gives a third name,

“*interpunctata*.” If the original name is dropped, the *first* substitute must be adopted; but I think retaining even an ill-constructed name preferable to multiplying synonyms, and should therefore say of the name *Lapponica*, in general use, *stet*.

46. POLYZONALIS, *Lamk.*—Should be *VIRESCENS*, *Gmel.*, by priority.

59. ABYSSICOLA (f. 124), *Ad. and Rve.*—“Testa pyriformis, tenuis; spirâ brevî, subturritâ, apice acutâ; anfractibus supernè depresso-canaliculatis, liris numerosis acutis longitudinalibus et transversis undique creberrimè subprofundè cancellatis; liris supernè mucronatis; columellâ quadriplicatâ; aperturâ subangustâ, labro tenui, fulvescente-cinereâ, fasciis rufo-fuscis angustis tribus vel quatuor cingulatâ.” *Obs.* The cancellated surface of this *Voluta* connects it with those Eocene fossils, such as *V. lima*, *elevata*, *crenulata*, etc., which Swainson has generalized under the name *Volutilithes*. One specimen dredged from a bank of dead shells and rounded ironstones in 132 fathoms, Cape of Good Hope.

60. GUTTATA (f. 122), *Rve. Conch. Icon. pl. xxii. f. 56.*—Oblonga, subpyriformis, solida, pallida, maculata, basi paululum recurva; spirâ acuminatâ, elongatâ; anfractibus plicatis, plicis subevanidis; aperturâ breviusculâ; labro incrassato, intus obsolete denticulato; columellâ obscurè plicatâ. *Obs.* This little shell approaches the *Mitræ* in form.

61. COLUMBELLA (f. 123), *Sowb.*—Parva, oblonga, lævigata, pallida, maculis rufis picta; spirâ acuminatâ; aperturâ elongatâ; labro medio incurvo; columellâ obscurissimè plicatâ. *Obs.* Having the form of *Columbella nitida*, and showing rather faint plicæ on the columella.

62. DELICIOSA (f. 131), *Montrouzier.*—Resembles an inflated specimen of *V. nucleus*, with similar markings, but no ribs except on the whorls near the apex.

63. CASSIDULA (f. 130), *Reeve.*—Resembling *V. nucleus*, but with the ribs more distant and slightly angulated on the upper part of the whorls.

64. DESHAYESII (f. 134), *Reeve.*—A now well-known species, resembling *V. aulica*, but straight-sided, with the teeth less oblique and more thickened and flattened.

65. SOPHIA (f. 132), *Gray.*—The “four rows of distant chestnut-red spots” constitute the chief difference between this and *V. Norrisii*.

66. MARIA-EMVA (f. 133), *Gray*.—Described from a single shell sent to Dr. Gray by Mr. Cuming for description, and now deposited in the British Museum. It resembles *V. subnodosa* in general form and colouring, but has a thick papillary spire, like that of *V. scapha*.

67. ROSSINIANA (f. 135), *Bernardi*.—This magnificent species resembles *V. imperialis*, but it has not the coronal spines produced, its sides are not so straight, the outer lip is expanded.

68. EXOPTANDA (f. 136), *Sowb.*—A fine shell of a rather conical form, with an angle near the top of the outer whorl. It is finely reticulated, with two bands. The spire is mamillated. The aperture is rather narrow, and of a rich orange colour. Port Lincoln, S. Australia.

69. INNEXA (f. 137), *Reeve*.—Differs from *V. rutila* in being more angular, having tubercles on the angle; the colouring is similar in pattern, but paler.

73. LOROISI (f. 138), *Valenciennes, Journ. de Conch.*—Described from a worn specimen in the French Museum. It is of a rounded oval form, of a pinkish colour with brown zebra-like stripes. The plicæ on the columella are almost obsolete.

71. PRÆTEXTA (f. 125), *Reeve (Amoria Turneri Cumingii, Gray)*.—Resembling *V. reticulata*, *Reeve*; of more solid texture, much finer reticulations, with two rows of distant dark-brown markings on the body-whorl. The teeth are fewer and less oblique.

72. TURNERI (f. 129), *Gray*.—Resembling *V. pallida*, *Gray*, but the longitudinal lines, which appear in some specimens of the latter near the apex, ornament the whole body-whorl in the former; besides which are two rows of distant cloudy large spots on the last whorl. I believe it to be distinct, at least sufficiently so for conventional purposes.

73. ANGASII (f. 29), *Sowb.*—I propose to distinguish by this name the shell which has been usually regarded as the Tasmanian variety of *V. undulata*. The figure 29 hardly represents the difference sufficiently, being from a less developed specimen. But the angular form and close angular markings of one, as compared with the graceful elongation and less suddenly curved lines of the other, are constant in all stages of development, nor have I seen any intermediate degrees which would cause embarrassment. The differences have been pointed out in a note from Mr. G. F. Angas, who has collected both species. The note concludes with the

following observations:—"Mr. Reeve has figured the Port Lincoln one (as if from Tasmania) as *V. undulata*, Lam., which shell agrees best with the description. If you consider them sufficiently distinct, pray name and describe the Tasmanian and Bass's Straits one as new. I have very rarely met with the Tasmanian shell as far up the east coast of Australia as Port Stephens. The Port Lincoln variety appears strictly confined to the S. Australian shores westward of Cape Northumberland, and ranges to the islands of the great Australian Bight, its metropolis being Port Lincoln."

74. ELLIOTI (f. 126, 127), *Sowb.*—Fusiformis, subangulata, solida; spirâ pallidè fulvâ, lineis fascis seu rubris fluctuatis longitudinaliter pictâ, breviusculâ, apice subirregulari papillari; anfractibus paululum inflatis, suturis albis tumidis; aperturâ posticè subangulatâ, anticè contractâ; labro paululum incrassato, vix dilatato; columellâ anticè incrassatâ; plicis quatuor, obliquis. *Obs.* Intermediate in character between Dr. Gray's *V. Turneri* and the elongate form of *V. undulata*. It is decidedly more angular than the former, from which it is more particularly distinguished by the form of the spire. In *Turneri* and *pallida*, as well as in Reeve's *reticulata* and *prætexta*, the spire is regular and conical, whereas in *V. Ellioti* the second or third whorl is always a little swelled and generally obliquely placed. This places it with *V. undulata* in Dr. Gray's division of the group, as having the "apex large, subpapillary." In fact, its apex is much more like that of *V. undulata* than that of any other of the series. The lip is less thickened than in *V. undulata*, more so than in *V. Turneri*, *pallida*, etc. See my pamphlet and plate accompanying this.—VOLUTA ELLIOTI, name, figures, and description distributed Aug. 15, advertised in *Court Journal*, Aug. 27.—*Amoria Turneri* Jamrachi?, *Gray, Ann. and Mag. of Nat. Hist. Sept. 1, 1864.*

MELO, Pl. IV. Thes. 262.

Continued from Thes. pl. 84, and page 416.

CYMBÆ, Thes. vol. i. p. 410.

Sp. 9. *Cymbium*, Linn., changed on account of uncertain synonymy to *Cisium*, Martyn.

3. ÆTHIOPICUS (—PICA, by error), f. 33, is of a more developed specimen, completing the representation of the species with f. 9, 13, 14, 19.

9. MUCRONATUS (f. 34) should be GEORGINÆ, *Gray*. I give a more mature specimen to complete the representation with f. 23, 28.

10. UMBILICATUS (f. 33). Mr. Reeve considers this to be *V. ducalis* of Lamarck, but the description in the *Ann. S. Vert.* does not identify it. The chief characteristic of *V. ducalis* is the shortness of the spines and the invariable protuberance of the spire beyond them; while in *M. umbilicatus* the spines are, except in a young state, long, and the shoulder on which they rest is high above the apex, leaving it in a hole or *umbilicus*. The reticulated markings are a matter of minor importance. The mature specimen, f. 32, completes the representation with f. 18, 29, 30.

11. REGIUS (f. 31), *Schreb. et Wagn.*—Mr. Reeve has compared this with *Cymbium Æthiopicum*, showing the differences. There are specimens of *M. diadema* figured in the 'Iconica' which more nearly resemble it. It is, however, a more rounded shell, with a less oblique columella.

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DESCRIPTION OF FIGURES IN PLATES 260, 261, 262.

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VOLUTA.

- Fig. Sp.  
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*Aug. 27.* — *Amoria Turneri* Jamrachi?, *Gray,*  
*Ann. and Mag. Nat. Hist., Sept. 1, 1864.* — N.  
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MELO, Pl. 262.

31. 11. REGIUS, *Schreb. and Wag.* — *Voluta regia.* — Eastern  
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 32. 10. UMBILICATUS. Developed specimen. — *C. ducalis,*  
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 34. 9. GEORGINÆ, *Gray, Griffith's 'Animal Kingdom.'* —  
 (with f. 23, 28.) *M. mucronatus, Brod., Sowb. Thes. Conch. sp. 9.*  
 Developed specimen.



SECOND\* MONOGRAPH OF THE GENUS

HELICINA,

INCLUDING THE GENERA TROCHATELLA, LUCIDELLA, HELICINA,  
SCHLASCHEILA AND ALCADIA, OF AUTHORS.

---

*Char. Gen.* Molluscum terrestre. Testa spiralis, helicoidea, labio interno ab anfractu ultimo haud distincto, plerumque circa columellam calloso. Operculum testaceo-corneum, subquadratum, non spirale.—Land-mollusk. Shell spiral, helicoid, inner lip not distinct from last whorl, generally callous round the columella. Operculum horny-testaceous, rather square, non-spiral.

My objection to the smaller genera adopted by some authors chiefly arises from the impossibility of defining them. Taking the genus *Helicina* as above described, its limits are perfectly discernible; no one having a complete specimen in hand, can doubt whether it be a *Helicina* or not. The definition includes all that belongs to it, and excludes all that is foreign to it. This cannot be said of any description that has been or that can be given to *Trochatella*, *Alcadia*, etc. The notch between the columella and base of the outer lip, upon which the latter genus is founded, is a thing of infinitesimal degrees, from a little depression in front of a thick tooth to a spirally incised slit, and thence to a scarcely perceptible sinus in the thin peritreme of some smaller species. (See Plates I. and II.) The chief character of *Trochatella* is the absence of callus at the base of the lower whorl, but if that were made the basis of division it would in-

\* The number of species contained in the former monograph is so small compared with those which are now known, that it has been thought better to make the present monograph complete, even at the inconvenience of repeating the figures of the former seventy species. The advantage of this will be to preserve to the eye the entire series in the order of their affinities. Subscribers will not lose by this, as we have compensated by giving them a considerable number of extra figures in the present double part.

clude many incongruous shells, and exclude others which notwithstanding are enumerated in the lists hitherto published.

I have endeavoured to group together, without defining, those species most nearly resembling each other, and if the groups so formed do not correspond with the generic divisions referred to above, it is because particular characters are not always found in, or confined to, shells of the same general aspect. *Generic names require generic definitions*, and the genera into which the *Helicinæ* have been divided cannot be defined. Yet a system of general grouping without such definitions may be usefully employed.

This being a second monograph, I have not here given full descriptions of the species, but have been content with mentioning in a word or two about each some peculiarity of the shell as compared with others of the same group,—trusting in this way, by the help of the figures, to give a better idea of the species than would be done by more elaborate descriptions in which many characters would have to be repeated.

#### HELICINA.

##### Sect. I. *Aperturâ inter columellam et labrum emarginatâ.*

With a notch or depression in the outer lip next the columella.  
Including genus *Alcadia*.

##### a. *Testa solida, labro crasso.*—Solid, thick-lipped.

1. BRIARÆA, *Poey*, (f. 1, 2, 3.)—Lævigata, depressa.—Smooth, depressed.
2. TITANICA, *Poey*, (f. 4.)—Rugata, magis elevata.—Wrinkled, more elevated.
3. SAGRAIANA, *Orb.*, (f. 5, 447.)—Lævigata, elevata.—Smooth, elevated.
4. BASTITIANA, *Poey*, (f. 6.)—Labro obliquè producto.
5. BAYAMENSIS, *Poey*, (f. 7.)—Subrotunda, distanter rugata.—Rather round, distantly wrinkled.
6. CATALINIANA, *Pfr.*, (f. 8.)—Quam sp. 3 magis elevata.—More elevated than sp. 3.
7. PULCHERRIMA, *Lea*, (f. 9, 10.)—Rotunda, crebrè lirata.—Round, closely ridged.
8. SUBMARGINATA, *Gray*, (f. 11, 12, 13.)—Spiraliter lineopuncturata.—Spirally punctured in lines.

9. *FESTIVA*, *Sly.*, (f. 14.)—*Distanter plicata*, rubro interlineata.—Distantly plaited with intermediate red lines.

10. *SILACEA*, *Morel*, (f. 15, 16.)—*Trochiformis*, *crassilirata*.—Trochiform, with thick plaits.

11. *OCHRACEA*, *Poey*, (f. 17.)—*Quam* sp. 10 magis rotunda.—Rounder than sp. 10, *b. Testa tenuiora*.—Thinner.

12. *MAJOR*, *Gray*, (f. 18, 19, 478.)—*Ad basin leviter emarginata*.—Notch slight.

13. *BROWNII*, *Gray*, (f. 20, 21, 22.)—*Ad basin spiraliter incisa*.—Notch spirally incised.

14. *PALLIATA*, *C. B. Ad.*, (f. 23.)—*Subdepressa*, labro subexpanso.—Subdepressed, outer lip somewhat expanded.

15. *RAMPHOSTYLA*, *Pfr.*, (f. 24, 25.)—*Labro suprâ deflexo, infrâ flexuoso*.—Outer lip bent down above, flexuous beneath.

16. *MICROSTOMA*, *C. B. Ad.*, (f. 26, 27.)—*Subdepressa*, labro suprâ et infrâ flexuoso.—Subdepressed, outer lip flexuous above and beneath.

17. *DISSIMULANS* *Poey*, (f. 28, 29.)—*Dèpressa*, labro deflexo, fissurâ distinctâ.—Depressed, outer lip bent down, fissure distinct.

18. *MACILENTA*, *C. B. Ad.*, (f. 30, 31.)—*Fissurâ spiraliter elongatâ*.—Fissure long.

19. *VELUTINA*, *Poey*, (f. 32.)—*Labro vix deflexo*.—Outer lip scarcely depressed.

20. *HISPIDA*, *Pfr.*, (f. 33, 34.)—*Epidermide ciliata*.—Epidermis hairy.

21. *RUBELLA*, *Orb.*, (f. 35, 36.)—*Labro tenui, vix emarginato*.—Outer lip thin, scarcely notched.

22. *MINIMA*, *Orb.*, (f. 37, 38.)—*Labro tenui, infrâ sinuato*.—Outer lip thin, sinuous beneath.

23. *EXSERTA*, *Gundl.*, (f. 39.)—*Columellâ ante sinum productâ*.—Columella produced in front of notch.

24. *SOLITARIA*, *C. B. Ad.*, (f. 40, 41.)—*Labro reflexo, fissurâ parvâ*.—Outer lip reflected, small notch.

25. *ORESIGENA*, *Orb.*, (f. 42.)—*Quam* sp. 24 magis globosa.—More globose than sp. 24.

26. *NITIDA*, *Pfr.*, (f. 43.)—*Labro acuto*.—Outer lip sharp.

27. SPRUCEI, *Pfr.*, (f. 44.)—Quam sp. 25 spirâ magis conicâ.—Spire more conical than sp. 25.

28. ELECTRINA, *Pfr.*, (f. 45.)—Semipellucida.—Half-transparent.

29. MEGASTOMA, *C. B. Ad.*, (f. 46, 47, 48.)—Sinu parvo.—Sinus small.

30. LACINIOSA, *Mighæls*, (f. 49.)—Labro vix sinuato.—Outer lip scarcely notched.

31. INCRUSTATA, *Gundl.*, (f. 50.)—Labro ante columellam producto.—Outer lip produced in front of columella.

32. ROTUNDA, *Orb.*, (f. 51, 52.)—Quam sp. 29 magis globosa.—More globose than sp. 29.

33. SUCCINEA, *Pfr.*, (f. 53.)—Semipellucida.—Half-transparent.

34. RETRACTA, *Poey*, (f. 54, 55.)—Columellâ subretractâ.—Columella rather drawn back.

35. SUBFUSCA, *Menke*, (f. 56, 57.)—Depressa, labro acuto.—Depressed, outer lip sharp.

36. DUBIOSA, *C. B. Ad.*, (f. 58, 59.)—Columellâ trigonâ.—Columella trigonal.

37. INTUSPLICATA, *Pfr.*, (f. 60, 61.)—Post columellam plicata.—A plait behind columella.

38. LITTORALIS, *Gundl.*, (f. 63, 64.)—Sinu parvo.—With small sinus.

39. MAXIMA, *Sowb.*, (f. 62.)—Depressa, aperturâ magnâ.—Depressed, aperture large.

Sect. II. *Aperturâ ferè integrâ, suprâ et infrâ sinuatim cuneatâ, operculo birostrato.*—Genus SCHIASCHEILA, *Shuttleworth*.

The three known species composing this little section differ from other *Helicinae* in the form of the operculum, which is beaked at each extremity, in the existence of a sinus in the peritreme at each end to receive the beaks, and in the columella being partly separated from the body whorl. These characters are interesting, although scarcely definable and exclusive enough to be considered of generic importance.

40. NICHOLETTI, *Shuttl.*, (f. 67.)—Subconica, seriatim ciliata.—Subconical, ciliated.

41. ALATA, *Menke*, (f. 65, 66.)—Subglobosa, ciliata.—Subglobose, ciliated.

42. PANNUCEA, *Morelet*, (f. 68, 69.)—Quam sp. 41 magis globosa.—Globose.

Sect. III. *Labro suprâ et infrâ tumido, sinuato.*

In this section a swelling and bending forward of the outer lip above and below, which in *H. lineata* (f. 35) amounts almost to a tooth in the lower part, leads by gradation into the group called LUCIDELLA.

43. STRIATULA, *Sowb.*, (f. 70.)—Subdepressa, labro vix tumido. Subdepressed, outer lip very little swelled.

44. ADAMSIANA, *Pfr.*, (f. 71, 72.)—Labro tumidiusculo.—Outer lip a little more tumid.

45. LEANA, *C. B. Ad.*, (f. 73, 74.)—Depressiuscula.—Rather depressed.

46. DEPRESSA, *Gray*, (f. 75.)—Labro sinuatim compressa.—Outer lip sinuously compressed.

47. BEHANIANA, *Pfr.*, (f. 76.)—Spirâ magis elevatâ.—Spire more elevated.

48. CORONULA, *Shuttl.*, (f. 77, 78.)—Spirâ subcoronata.—Spire subcoronated, *i.e.* with fine wrinkles on the top of the whorls.

49. PPLICATULA, *Pfr.*, (f. 79, 80.)—Obliquè crassiplicata.—Obliquely thick-plaited.

50. VINGSA, *Shu.*, (f. 81, 82.)—Obliquè tenuiplicata.—Obliquely thin-plaited.

51. RUGOSA, *Pfr.*, (f. 83, 84.)—Quam sp. 49 magis depressa.—More depressed than sp. 49.

52. UNIDENTATA, *Pfr.*, (f. 87.)—Spiraliter lirata, labro infrâ validè tumido.—Spirally ridged, outer lip with a strong swelling below.

53. LIRATA, *Pfr.*, (f. 88, 89.)—Quam sp. 52 magis angulata.—More angular than sp. 52.

54. SEMISTRIATA, *Sowb.*, (f. 86.)—Suprâ lirata, infrâ lævis.—Ridged above, smooth beneath.

55. LINEATA, *C. B. Ad.*, (f. 85.)—Lirata, labro infrâ unidentato.—Ridged, outer lip with a tooth-like projection.

Sect. IV. *Lirata, labro sinuoso, suprâ et infrâ dentato.*—Genus  
LUCIDELLA, Swainson.

The swelling of the labrum above and below, forms tooth-like projections. These, together with the sinuous depression of the upper part of the lip, contract the aperture in a peculiar manner.

56. AUREOLA, *Fer.*, (f. 94, 479.)—Striata, subrotunda.—Striated, roundish.

57. UNDULATA, *Pfr.*, (f. 92, 93.)—Undulatum striata.—Undulately striated.

58. INÆQUALIS, *Pfr.*, (f. 95.)—Angustata, elevata.—Narrow, subconical.

59. TRIDENS, *Shuttl.*, (f. 90, 91.)—Carinata, labro tridentato.—Keeled, outer lip three-toothed.

Sect. V. *Trochiformis, solida, spiritaliter lirata.*—Genus TROCHATELLA, Swains., inclusa.

I have searched in vain for any definition of this section sufficiently exclusive and inclusive to constitute it a logical or convenient genus. Pfeiffer and A. and H. Adams appear to rely upon the absence of the basal callus or circular extension and thickness of the inner lip, although those authors enumerate among *Trochatellæ* some species showing that character slightly, and exclude great numbers of *Helicinæ* which have no more callus than their most typical *Trochatellæ*. We must be content, therefore, with uniting in a scarcely defined section the following pyramidal, spirally grooved species:—

60. SINUOSA, *Pfr.*, (f. 96.)—Labro sinuoso, labio interno cal- lum posticum emittente.—Outer lip sinuous, inner lip with a posterior callus.

61. CRASSI-COSTATA, *Sowb.*, (f. 97.)—Crebrè lirata, labro lami- nate, columellâ rectâ.—Closely ridged, outer lip laminar, colu- mella straight.

62. VIRGINEA, *Lea*, (f. 98.)—Subglobosa, col. latâ.—Sub- globose, col. broad.

63. GLOBOSA, *Gr.*, (f. 99.)—Rotunda, leviter lirata.—Round, lightly ridged.

64. REGINA, *Mort.*, (f. 100-105.)—Labro sinuatim lobato.—Outer lip sinuously lobed.
65. EXCAVATA, *Pfr.*, (f. 106, 107.)—Columellâ latè concavâ.—Columella wide, concave.
66. REMOTA, *Po.*, (f. 108.)—Elevata, col. angustâ.—Elevated, col. narrow.
67. CHRYSOSTOMA, *Th.*, (f. 109, 110.)—Liris distantibus.—Ridges distant.
68. SLOANEI, *Orb.*, (f. 111-114.)—Leviter striata.—Lightly striated.
69. POLITULA, *Poey.*, (f. 115, 116.)—Trochiformis, columella excavatâ.—Trochiform, col. excavated.
70. CALIDA, *Wer.*, (f. 117, 118.)—Crassa, labro calloso.—Thick, inner lip callous.
71. LITTORICOLA, *Gund.*, (f. 121, 122.)—Quam sp. 69 angustior.—Narrower than sp. 69.
72. COSTATA, *Gray.*, (f. 123.)—Labio non calloso.—Inner lip not callous.
73. TRICARINATA, *So.*, (f. 119, 120.)—Trochiformis, liris tribus spiralibus acutis et aliis minoribus cineta.—Trochiform, tricarinated, with smaller striæ.
74. SEMILIRATA, *Pfr.*, (f. 125.)—Supernè lirata, labro reflexo.—Ribbed above, outer lip reflected.
75. TANKERVILLII, *Gray.*, (f. 129.)—Magna, trochiformis, liris et carinâ serratis.—Large, trochiform, ridges and keel serrated.
76. PULCHELLA, *Pfr.*, (f. 126-128.)—Subcarinata.—Slightly keeled.
77. CHITTYANA, *Pfr.*, (f. 131.)—Liris distantibus.—Ridges distant.
78. OPIMA, *Sh.*, (f. 129, 130.)—Quam sp. 74, 75 magis solida, ventricosa.—More solid and ventricose than sp. 74, 75.
79. PETITIANA, *Orb.*, (f. 132, 133.)—Labro elevato, expanso.—Outer lip raised, expanded.
80. TROCHLEA, *Gd.*, (f. 134, 135.)—Depressa, supernè distanter lirata.—Depressed, distantly grooved above.
81. PETROSA, *Gund.*, (f. 136-7.)—Tenuissimè striata.—Very finely striated.

82. CAPILLACEA, *Gd.*, (f. 138.)—*Liris hirsutis*.—Ridges hairy.

83. ELEGANTULA, *Pfr.*, (f. 139, 140.)—*Anfractibus distinctis*.—Whorls distinct.

84. RUPESTRIS, *Pfr.*, (f. 143, 144.)—*Quam sp. 81 magis depressa?*—More depressed than sp. 81.

85. RUBICUNDA, *Gund.*, (f. 141, 142.)—*Quam sp. 81, 82 liris crassioribus*.—Ridges thicker than in sp. 81, 82.

86. ELEGANS, *Orb.*, (f. 145.)—*Perelevata, acuta*.—Much elevated, sharp.

87. CALLOSA, *Poey.*, (f. 146.)—*Labio posticè calloso*.—Inner lip with an upper callus.

#### Sect. VI. *Conica, lavis*.

The following are of a conical form, without sculpture:—

88. SCOPULORUM, *Mor.*, (f. 147.)—*Angusta, acuta*.—Narrow, sharp.

89. COLUMELLARIS, *Gund.*, (f. 148-151.)—*Tenuis, inflata*.—Thin, wide.

90. FESTA, *Gund.*, (f. 152, 153.)—*Interruptim spiraliter sulcata*.—Describing the shell from memory, I think the surface is marked by pits formed by the interruption of spiral grooves.

91. JUGULATA, *Py.*, (f. 154-156.)—*Labro valde reflexo*.—Outer lip strongly turned back.

92. PYRAMIDALIS, *Sby.*, (f. 157.)—*Anfractu ultimo subrotundo*.—Last whorl rather round.

93. ELONGATA, *Orb.*, (f. 158.)—*Anf. ult. angulato*.—Last whorl angular.

94. TROCHULINA, *Orb.*, (f. 159.)—*Anf. ult. rotundo*.—Last whorl round.

95. ERYTHRÆA, *Wrt.*, (f. 461-463.)—*Solida, conica, rubrofusca*.—Solid, conical, reddish-brown.

96. ALBO-VIRIDIS, *Wrt.*, (f. 464.)—*Tenuis, unifasciata*.—Thin, with one band.

97. FUSCULA, *Gdl.*, (f. 465, 466.)—*Fusca, tæniata, semipellucida*.—Brown, ribanded, half transparent.



98. JUCUNDA, *Gdl.*, (f. 458-60.)—Conica, rubro-marginata.—Conical, red-margined.

99. CHRYSOCHASMA, *Py.*, (f. 160-162.)—Perelevatim conica.—Conical, elevated.

100. RUBRO-MARGINATA, *Gdl.*, (f. 166, 167.)—Quam sp. 96 magis angulata.—More angular than sp. 96.

101. EXACUTA, *Py.*, (f. 164, 165.)—Conica, subcarinata.—Conical, subcarinated.

102. CONOIDEA, *Pfr.*, (f. 168, 169.)—Conico-subdepressa, angulata.—Conical, subdepressed, angular.

103. SUBTURRITA, *Sy.*, (f. 185.)—Afrac-tibus gradatis.—Whorls in steps.

Sect. VII. *Rotundatim depressa.*

The following are of a more or less depressed form, with the last whorl not angular.

104. DECLIVIS, *Gdl.*, (f. 170.)—Subventricosa, aspersa.—Subventricose, sprinkled.

105. SANDVICHENSIS, *Souleyet*, (f. 173, 174.)—Subdepressa, flammeis variegata.—Subdepressed, variegated with flammules.

106. RUDIS, *Pfr.*, (f. 175, 176.)—Subglobosa.—Subglobose.

107. UNICARINATA, *Sby.*, (f. 177, 178.)—Flammata, obscura, medio carinata.—Flame-marked, obscure.

108. TURBINELLA, *Pfr.*, (f. 179, 180.)—Depressa, subcarinata.—Depressed, subcarinated.

109. ROTELLOIDEA, *Mig.*, (f. 171, 172.)—Flammata, anfrac-tibus supra subdepressis.—Flame-marked, whorls subdepressed above.

110. ANTONI, *Pfr.*, (t. 181-183.)—Tenuis, subviridis.—Thin, with a greenish epidermis.

111. INCONSPICUA, *Pfr.*, (f. 184.)—Quam sp. 110 magis acuminata.—More acuminate than sp. 110.

112. CORNEA, *Sby.*, (f. 186, 187.)—Infra rubricallosa.—With a red callus beneath.

113. MINUTA, *Sby.*, (f. 188.)—Depressa, obliquè lirata.—Depressed, obliquely ridged.

114. VESTITA, *Guild.*, (f. 189.)—Globosa, obliquè lirata.—Globose, obliquely ridged.
115. MULTICOLOR, *Gld.*, (f. 190, 191.)—Subdepressa, variegata.—Subdepressed, variegated.
116. OLEOSA, *Pfr.*, (f. 192, 193.)—Labro acuto.—Outer lip sharp.
117. FLAMMEA, *Quoy*, (f. 194.)—Labro reflexo.—Outer lip everted.
118. BORNEENSIS, *Mort.*, (f. 195, 196, 211, 212.)—Spiraliter fasciata.—Spirally banded.
119. PICTELLA, *Pfr.*, (f. 197, 198.)—Suprà flammeata.—Depressed, flame-marked above.
120. DRAYTONENSIS, *Pfr.*, (f. 199, 200.)—Tenuis, subconica.—Thin, slightly conical.
121. REEVIANA *Pfr.*, (f. 201, 202.)—Solida, striata, fasciâ interruptâ picta.—Solid, striated, painted with an interrupted band.
122. ARENICOLA, *Mort.*, (f. 203.)—Magis elevata, carinata.—More elevated, keeled.
123. PHASIANELLA, *Pfr.*, (f. 204, 205.)—Fasciata et maculata.—Banded and spotted.
124. CINGULATA, *Gray*, (f. 207–209.)—Striata, medio unifasciata.—Striated, with a single band in centre.
125. PARVA, *Sby.*, (f. 210.)—Subglobosa, translucida.—Subglobose, translucent.
126. GUNDLACHI, *Pfr.*, (f. 211, 212.)—Depressa, bifasciata.—Depressed, two-banded.
127. DYSONI, *Pfr.*, (f. 213, 214–217, 218.)—Rubro-fasciata.—Red-banded.
128. CONVEXA, *Pfr.*, (f. 215, 216, 315, 319–321, 473.)—Crassa, variegata.—Thick, variegated.
129. FASCIATA, *Lam.*, (f. 312, 313.)—Quam sp. 126 magis depressa.—More depressed than sp. 125.
130. KEATHI, *Pfr.*, (f. 316.)—Magna, subangulata.—Large, subangular.
131. POEYI, *Pfr.*, (f. 317, 318.)—Fasciata et maculata.—Banded and spotted.

132. TÆNIATA, *Quoy*, (f. 322, 323.)—Tenuis, margine reflexo.—Thin, margin reflected.

133. SUBSTRIATA, *Gray*, (f. 331, 332.)—Striata, crassi-marginata.—Striated, thick-lipped.

Sect. VIII. *Globosa, subglobosa*.—Of a more or less rounded form.

134. HANLEYANA, *Pfr.*, (f. 219, 220.)—Solida, spirâ acuminatâ.—Solid, spire acuminated.

135. ORBICULATA, *Pfr.*, (f. 225.)—Rotunda, labro crasso.—Rounded, thick-lipped.

136. JAPONICA, *A. Ad.*, (f. 227, 228.)—Spirâ pyramidalis.—Spire pyramidal.

137. OCCULTA, *Say*, (f. 223, 224.)—Tæniata, subdepressa.—Banded, subdepressed.

138. CONCINNA, *Gund.*, (f. 229, 230.)—Polita, solida.—Polished, solid.

139. MODESTA, *Pfr.*, (f. 221, 222.)—Succinea, pellucida.—Amber, pellucid.

140. SUBCONICA, *Sowb.*, (f. 226.)—Alba, tenuis.—White, thin.

141. RETICULATA, *Pfr.*, (f. 231, 232.)—Subconica, fusco reticulata.—Subconical, reticulated with brown.

142. FLAVIDA, *Menke*, (f. 233-236.)—Tenuis, elevata, conico-globosa, variè tæniata.—Thin, elevated, conically globose, variously banded.

143. PARAENSIS, *Pfr.*, (f. 237, 238.)—Anf. ult. subdepresso.—Last whorl slightly depressed.

144. NOTATA, *Sallé*, (f. 239, 240.)—Conico-globosa, anf. penult. uni.

145. OWENIANA, *Pfr.*, (f. 241, 242.)—Spirâ conicâ, labro aurantio.—Spire conical, outer lip orange.

146. MERDIGERA, *Pfr.*, (f. 243, 244.)—Sp. elevata, ap. parvâ.—Spire elevated, aperture short.

147. PELLUCIDA, *Sby.*, (f. 245.)—Pellucida, subviridis.—Pellucid, greenish.

148. SPECTABILIS, *Gdl.*, (f. 246, 247.)—Quam sp. 139 magis ventricosa.—More ventricose than sp. 139.

149. CONTINUA, *Gall.*, (f. 248.)—Parva, subconica.—Small, subconical.

150. POLYCHROA, —?, (f. 249, 250.)—Tenuis, labro declivi.—Thin, outer lip sloping.

151. ALTA, *Sowb.*, (f. 251, 252.)—Parva, pellucida.—Small, pellucid.

152. HELIOSÆ, *Sallé*, (f. 253, 254.)—Anfr. rotundis, ult. declivi.—Whorls round, the last sloping.

153. LINDENI, *Pfr.*, (f. 258, 259, 260, 270, 469.)—Solida, subconica, col. cum labro continuâ, crassa.—Solid, col. continuous with outer lip, thick.

154. CHIAPENSIS, *Pfr.*, (f. 255, 256, 257.)—Columellâ parvâ, trigonâ acuminatâ, spirâ elevatâ.—Columella small, trigonal, acuminate, spire elevated.

155. COLUMBIANA, *Phil.*, (f. 261, 262, 263.)—Quam sp. 250 magis ventricosa; columellâ brevissimâ, ad juncturam cum labro tenuissimâ.—In this species the columella is very short, and the edge of the shell becomes extremely thin at its base.

156. CORDILLERIE, *Sallé*, (f. 264, 265, 270.)—Subdepressa, tæniata.—Rather depressed, banded.

157. ZEPHYRINA, *Duel.*, (f. 266–269.)—Ventricosa, col. cum labro continuâ.—Ventricose, the col. continuous with outer lip.

158. FUNCKII, *Pfr.*, (f. 271.)—Subdepressa, supernè roseo-purpurea.—Subdepressed, rosy-purple above.

159. EGREGIA, *Pfr.*, (f. 272.)—Subangulatim depressa, tæniata.—Subangularly depressed, with a band below the centre.

160. VERNALIS, *Mort.*, (f. 273.)—Subglobosa, spirâ elevatâ, acuminatâ.—Subglobose, spire elevated, acuminate.

161. TAMSIANA, *Pfr.*, (f. 274, 467.)—Infra medium unistri-gata.—With a stripe below the middle.

162. TURBINATA, *Weig.*, (f. 276–278.)—Magna, solida, ventricosa.—Large, solid, ventricose.

163. ROSTRATA, *Mort.*, (f. 279, 280.)—Labro in rostrum producto.—Outer lip produced into a beak.

164. DENTICULATA, *Pfr.*, (f. 281.)—Saturâ denticulatâ.—Suture denticulated.

165. CUMINGII, *Pfr.*, (f. 282, 283.)—Rotunda, obliquè striata.—Round, obliquely striped.

166. KIENERI, *Pfr.*, (f. 284, 285.)—Subangulatim depressa, suprâ variegata.—Slightly angularly depressed, variegated above.

167. SUBGLOBULOSA, *Pfr.*, (f. 286, 287.)—Aperturâ declivi.—Aperture sloping.

168. NERITELLA, *Lamk.*, (f. 288-290.)—Æqualiter convexa, subdepressa, tæniata et variegata.—Equally convex, rather depressed, banded and variegated.

169. JAMAICENSIS, *Sby.*, (f. 291, 292.)—Obliqua, labio subcalloso.—Oblique, inner lip callous.

170. AURANTIA, *Gray*, (f. 293, 294.)—Labro crasso, sinuatim depresso, aurantia.—Outer lip thick, sinuously depressed, orange-coloured.

171. COCCINOSTOMA, *Mor.*, (f. 295, 296.)—Conico-globosa, aperturâ aurantiâ.—Conical-globose, aperture orange.

172. HEMASTOMA, *Mor.*, (f. 452.)—Subcarinata, labro suprâ depresso.—Subcarinate, outer lip depressed above.

173. ADSPERSA, *Pfr.*, (f. 297, 298, 299.)—Globosa, labro medio subcontracto.—Globose, outer lip somewhat contracted in the centre.

174. AMPLIATA, *C. B. Ad.*, (f. 300, 301.)—Labro validè contracto.—Outer lip much contracted.

175. SPHEROIDA, *Pfr.*, (f. 302, 303.)—Aperturâ parvâ, depressâ.—Ap. small, depressed.

176. LUTEA, *Sby.*, (f. 456.)—Quam sp. 170 magis æqualis, aperturâ majori.—More equal than sp. 170, the aperture larger.

177. PISUM, *Phil.*, (f. 304.)—Crassa, subdepressa.—Thick, subdepressed.

178. BELLULA, *Gund.*, (f. 305-308.)—Rotundo-elevata, labro supernè lobato.—Round, elevated, outer lip lobed above.

179. TILEI, *Pfr.*, (f. 309.)—Æqualiter convexa, subcarinata.—Equally convex, subcarinated.

180. PLATYCHEILA, *Muhl.*, (f. 310, 311.)—Ventricosa, aperturâ depressâ.—Ventricose, aperture depressed.

181. STRIATA, *Lamk.*, (f. 369, 370.)—Obliquè striata, aperturâ depressâ.—Obliquely striated, aperture depressed.

Sect. IX. *Angulatim depressa*.—Angularly depressed.

182. CRASSILABRIS, *Phil.*, (f. 324–326.)—Solida, valdè depressa.—Solid, much depressed.

183. REPANDA, *Pfr.*, (f. 327, 328.)—Quam sp. 177 magis elevata, labro producto.—More elevated than sp. 177; outer lip produced.

184. FULVA, *Orb.*, (f. 329, 330.)—Spiraliter substriatâ, suprâ et infrâ æqualiter depressa; columellâ crassâ, rectâ.—Spirally substriated, equally depressed above and below, columella thick, straight.

185. BRASILIENSIS, *Gray*, (f. 333, 334, 474, 475.)—Subtrochiformis, quam sp. 179 magis elevata; col. trigonâ, posticè excavatâ.—Rather trochiform, more elevated than sp. 179; col. trigonal, with a hollow behind.

185\*. SYLVATICA, *Orb.*, (f. 30, first monograph.)—Quam sp. 185 lævior.—Smoother than sp. 185.

186. UNIFASCIATA, *Gray*, (f. 405.)—Lenticularis, striata; columellâ brevissimâ, truncatâ.—Lenticular, striated; columella very short, truncated.

186\* (or 270). GRANUM, *Pfr.*, (f. 468.)—Minuta, subdepressa.—Minute, subdepressed.

187. IDÆ, *Pfr.*, (f. 335, 336.)—Columellâ acutâ.—Columella acute.

188. MACGILLIVRAYI, *Pfr.*, (f. 337, 338.)—Latè bifasciata.—With two broad bands.

189. SUBLEVIGATA, *Pfr.*, (f. 339, 340.)—Labro rotundo, medio subangulato.—Outer lip round, with a slight angle in the middle.

190. GLOBULOSA, *Orb.*, (f. 275, 454.)—Rotunda, tæniata.—Round, banded.

191. YORKENSIS, *Pfr.*, (f. 342, 343.)—Quam sp. 183 magis angulata.—More angular than sp. 183.

192. FORBESIANA, *Sby.*, (f. 344.)—Angulata, elevata, col. tenui.—Angular, raised, col. thin.

193. FUMIGATA, *Sby.*, (f. 345.)—Obscurè fusca, subangulata, spirâ conicâ, labro albo, col. rectâ acutâ.—Obscurely brown, rather angular, spire conical, outer lip white, acute.

194. ORBIGNYI, *Pfr.*, (f. 346, 347.)—Solida, depressa, labro crassiusculo.—Solid, depressed, outer lip rather thick.

195. Omitted.

196. DIAPHANA, *Pfr.*, (f. 341.)—Tenuis, elevata, col. trigonâ, labro supernè depresso.—Thin, raised, columella trigonal, outer lip depressed above.

197. LOUISADENSIS, *Fbes.*, (f. 349, 350.)—Minuta, translucida.—Minute, transparent.

198. SUBOVALIS, *Sby.*, (f. 376.)—Sublenticularis, lutea, labro rotundè reflexo, operculo castaneo.—Sublenticular, yellowish, outer lip roundish, reflected.

199. AURANTIO-VIRIDIS, *Sby.*, (f. 380.)—Rotundatim subdepressa, medio viridis, subtus et margine superiori ultimi anfractus pallidè aurantia; labio interno rotundatim calloso; columellâ ad terminum uncinatâ; labro castaneo, rotundo, infrâ subemarginato; spirâ parvâ.—Round, depressed, green in the middle, pale-orange beneath and at the upper edge of the last whorl; outer lip with a round callus; columella hook-shaped at the end; outer lip slightly emarginate beneath; spire small. Specimens of this exist in the Cumingian and other collections under the name of *H. viridis*. The true shell of that name is quite angular.

200. HJALMARSONI, *Pfr.*, (f. 476.)—Tenuis, cornea; col. trigonâ; labro tenui, supernè depresso.—Thin, horny; col. trigonal; outer lip thin, depressed above.

201. GRATIOSA, *Pfr.*, (f. 353.)—Quam sp. 197 crassior, magis conica.—More conical and thicker than sp. 197.

202. POLITA, *Sby.*, (f. 354-356.)—Tenuis, angulatim depressâ; labro laminato, subangulato.—Thin, angularly depressed; outer lip laminar, subangular.

203. CITRINA, *Gral.*, (f. 453.)—Quam sp. 202 anf. magis rotundis.—Whorls rounder than in *H. polita*.

204. CROSSEI, *Lemp.*, (f. 357.)—Quam sp. 202 crassior, labro semilunari.—Thicker than sp. 202, outer lip semilunar.

205. ROTELLA, *Sby.*, (f. 358.)—Conico-depressa.—Conically depressed.

205\* (or 271). MACULATA, *Sowb.*, (f. 472.)—Fasciata et arcuatim maculata.—Banded with arched markings in the centre.

206. NODÆ, *Gund.*, (f. 378.)—Solida, labro et col. crassis.—Solid, outer lip and col. thick.

207. *BULLA*, *Pfr.*, (f. 455.)—Subangulatim globosa.—Globose, with a slight angle.

208. *ANTILLARUM*, *Sby.*, (f. 359, 360, 361.)—Depressa, subinflata, labro laminato.—Depressed, subinflated, outer lip laminar.

209. *GUADALOUPENSIS*, *Sby.*, (f. 362, 366, 367.)—Quam sp. 203 magis depressa, labro angusto.—More depressed than sp. 203, the outer lip narrow.

210. *SIMILIS*, *Sby.*, (f. 363.)—Quam sp. 204 magis elevata, angulata.—More elevated and angular than sp. 204.

211. *SANGUINEA*, *Pfr.*, (f. 364, 365.)—Infrà callo rotundo.—With a rounded callus beneath.

212. *SALLEANA*, *Pfr.*, (f. 368.)—Obscurè castanea, infrà callosa, spirâ conicâ.—Dark-chestnut, callous beneath, spire conical.

213. *ZOÆ*, *Pfr.*, (f. 377.)—Angulata, suprâ fulva, infrâ lutea.—Angular, fawn-coloured above, yellow beneath.

214. *BERYLINA*, (f. 372.)—Latè callosa, labro producto.—With a wide callus, outer lip produced.

215. *NORFOLKENSIS*, (f. 373, 374.)—Labro infrâ sinuatim plicato.—Outer lip sinuously plaited beneath.

216. *TENUILABRIS*, (f. 375.)—Depressa, acuminata, supernè fulva, infrâ callosa, aurantia; labro tenui, supernè depresso.—Depressed, acuminated, fawn-coloured above with an orange callus below; outer lip thin, depressed above.—This might possibly be a young specimen of *H. berylina*.

217. *HUMILIS*, *Jaq.*, (f. 371.)—Lenticularis, angulata.—Lenticular, angular.

218. *CASTANEA*, *Guild.*, (f. 470, 471.)—Parva, angulata, col. acutâ.—Small, angular, columella acute.

219. *AMÆNA*, *Pfr.*, (f. 383.)—Elevata, angulata, supernè roseo reticulata.—Raised, angular, reticulated with rose-colour above.

220. *OCCIDENTALIS*, *Guild.*, (f. 384, 385.)—Lata, subdepressa, medio angulata.—Wide, rather depressed, angular in the middle.

221. *SOWERBYANA*, *Pfr.*, (f. 418.)—Magna, substriata, rotundatim angulata.—Large, substriated, roundly angulated.



Sect. X. *Medio carinata*.

In the remaining species the last whorl is keeled in the centre.

222. *VARIABILIS*, *Wayn.*, (f. 386-388.)—Suprà et infrà inflata.—Swelled above and beneath. A second keel appears in some specimens.

223. *GHIESBREGHTI*, *Pfr.*, (f. 432.)—Striata, depresso-angulata.—Striated depressed, angular.

224. *BESCKEL*, *Pfr.*, (f. 433.)—*Quam* sp. 318 magis inflata, spirâ tæniatâ.—More inflated than sp. 318, the spire banded.

225. *CINCFELLA*, *Sh.*, (f. 389, 390.)—*Tenuis*, subelevata, aperturâ declivi.—Thin, rather elevated, aperture sloping downwards.

226. *VIRENS*, *Pfr.*, (391, 392.)—Aperturâ ad carinam elevatâ.—Aperture raised to the keel.

227. *ROHRI*, *Pfr.*, (f. 393, 394.)—Trochiformis, rugosa, validè carinata.—Trochiform, rough, strongly keeled.

228. *UBERTA*, *Gould*, (f. 396, 397.)—Depressa, subtus callosa.—Depressed, callous beneath.

229. *SOLIDULA*, *Gray*, (f. 398, 399.)—Crassa, labro angulatum producto.—Thick, outer lip angularly produced.

230. *ALBOLABRIS*, *Jaq.*, (f. 400.)—Crassa, depressa, labro tenui.—Thick, depressed, lip thin.

231. *MAUGERIE*, *Gray*, (f. 395.)—Solida, depressa; labio et labro crassis, callosis, aurantiis.—Solid, depressed; inner and outer lips thick, callous, orange.

232. *LENS*, *Lea*, (f. 406.)—Parva, lenticularis.—Small, lenticular.

233. *NICOBARICA*, *Phil.*, (f. 381, 382.)—Depressa, tæniata.—Depressed, banded.

234. *PALLIDA*, *Gould*, (f. 404.)—Pallidè fulva.—Pale fawn.

235. *ALBOCINCTA*, *Jaq.*, (f. 403.)—Carinâ et labro albis.—Keel and lip white.

236. *CORRUGATA*, *Pze.*, (f. 401, 402.)—Suprà undulata.—Undulated on the upper surface.

237. *VILLOSA*, *Ant.*, (f. 407, 408.)—Ad carinam ciliata.—With hairs at the keel.

238. SUTURALIS, *Mart.*, (f. 404\*, 405\*.)—Acutè carinata, suprâ flammeata.—Sharply keeled, marked with flames above.

239. SHANGHAENSIS, *Sby.*, (f. 406\*.)—Elevata, obtusè carinata.—Raised, obtusely carinated.

240. ZEBRIOLATA, *Pfr.*, (f. 407\*, 408\*.)—Suprà et infrâ variegata.—Variegated above and beneath.

241. ARTICULATA, *Pfr.*, (f. 409, 410.)—Ad carinam angulatim maculata.—Angularly spotted at the keel.

242. VIRIDIS, *Lam.*, (f. 379.)—Viridis, carinâ albâ.—Green, keel white.

243. BICOLOR, *Pfr.*, (f. 411.)—Subtus fusca, col. acutâ.—Brown beneath, col. acute.

244. RHODOSTOMA, *Gray*, (f. 412, 413.)—Aperturâ subquadrata, labro medio acuminato, col. in spiram productâ.—Ap. subquadrate, outer lip pointed in the middle, col. produced into a spire.

245. ANGULATA, *Sby.*, (f. 414.)—Quam sp. 339 magis obtusa.—More obtuse than sp. 339.

246. GONOCHEILA, *Pfr.*, (f. 415.)—Labro medio subrotundo.—Outer lip roundish in middle.

247. SPINIFERA, *Pfr.*, (f. 416, 417.)—Marmorata, inflata, col. spinosâ.—Marbled, inflated, col. spinous.

248. MOQUINIANA, *Recl.*, (f. 419, 420.)—Striata, columellâ vix angulata.—Striated, columella scarcely angular.

249. TAYLORIANA, (f. 422.)—Obliquè subquadrata, acutè carinata, tenuis, pallidè aurantia, strigâ rubrâ tenuissimâ ad carinam cincta; labio interno infrâ calloso; columellâ ad terminum spiniferâ.—Obliquely subquadrate, sharply keeled, girt with a very narrow red stripe at the keel; inner lip with a callus at the lower part; columella forming a short spine beneath. A single specimen in the collection of Thomas Lombe Taylor, Esq.

250. SUAVIS, *Pfr.*, (f. 425, 426.)—Suprà tessellata, col. rotundâ.—Tessellated above, columella rounded.

251. CONCENTRICA, *Pfr.*, (f. 427, 428.)—Striata, anf. subinflatis.—Striated, whorls a little swelled.

252. RHYNCHESTOMA, *Sl.*, (f. 429, 430.)—Striata, angulatim depressa, suprâ sagrinata.—Striated, angularly depressed, shagreened above.

253. *CARINIFERA*, *Sowb.*, (f. 431.)—Striata, æqualiter depressa.—Striated, equally depressed.

254. *GRATULATA*, *Bl.*, (f. 457.)—Anf. suprâ subinflatis.—Whorls slightly inflated above.

255. *CARINATA*, *Orb.*, (f. 423, 424.)—Quam sp. 246 angustior, magis quadrata.—More square and narrower than sp. 247.

256. *TECTA*, *Sby.*, (f. 434.)—Subdepressa, angulata, straminea, rubro seriatim maculata, infrâ striata, suprâ distanter lirata, medio acutè carinata; col. subangulatâ; labro vix angulato.—Subdepressed, angular, straw-coloured with rows of red spots, striated beneath, distantly ridged above; outer lip scarcely angulated; columella slightly angular.

257. *ARUANA*, *Pfr.*, (f. 435.)—Supernè spiraliter sulcata, obliquè striata.—Spirally grooved and obliquely striated above.

258. *ROSALIE*, *Pfr.*, (f. 436.)—Carinâ supra suturam elevatâ.—Keel raised above the suture.

259. *OXYRHYNCHA*, *Pfr.*, (f. 421.)—Aurantia, spirâ conicâ, labro in rostrum producto.—Orange, spire conical, outer lip produced into a beak.

260. *ACUTISSIMA*, *Sby.*, (f. 437-439.)—Depressa, acutissimè carinata.—Depressed, very acutely carinated. This species is subject to great variation as to comparative elevation and depression.

261. *TROCHIFORMIS*, *Sby.*, (f. 440.)—Perelevata, labro supernè sinuatim depresso.—Much raised, outer lip sinuously depressed above.

262. *OXYTROPIS*, *Sby.*, (f. 443.)—Labro medio acuminato.—Outer lip acuminate in the centre.

263. *CAROCOLLA*, *Mor.*, (f. 441, 442.)—Valde depressa, lata; labro latè reflexo, acuminato.—Much depressed, wide; outer lip widely reflected, acuminate.

264. *AGGLUTINANS*, *Sby.*, (f. 446, 447.)—Molluscum rupium pulvere agglutinato carinam fimbriatam ad testam formans.—The mollusk forms a fringed keel to its shell with the agglutinated powder of rocks.

265. *LAZARUS*, *Sby.*, (f. 444, 445.)—Quam sp. 259 magis trochiformis.—More trochiform than sp. 259.

266. *MOUHOTI*, *Pfr.*, (f. 448.)—Carinâ laqueatâ.—Keel fluted.

267. JOSEPHINÆ, *A. Ad.* (f. 449.)—Trochiformis, carinâ serratâ.—Trochiform, keel serrated.

268. CONSTELLATA, *Mor.*, (f. 450.)—Cancellata, trochiformis, carinâ angulatim fimbriatâ, supra suturam elevatâ.—Cancellated, trochiform, keel angularly fringed, raised above the suture.

269. STELLATA, *Vel.*, (f. 451.)—Quam sp. 263 magis depressa, sculptura tenuior.—More depressed than sp. 263, the sculpture finer.

270. GRANUM, *Pfr.*, (f. 468.)—*Vide* sp. 158\*.

271. MACULATA, *Sowb.*, (f. 472.)—*Vide* sp. 205\*.

272. CANDEANA, *Orb.*, Thes. f. 97, 99, former Monograph.

273. SYLVATICA, *Orb.*, Thes. f. 33, former Monograph, *vide* sp. 185\*.

*Species not identified.*

Euginiana, *Weinl.*, *Pfr.*, iii. 1241. Haiti.

Methfesseli, *Pfr.*, iii. 1242. Cuba.

hians, *Poey*, Mem. 1, p. 113. t. 5. f. 1-3. Cuba.

nana (Lucid.), *Pfr.*, Z. P. 1857. Jamaica.

Mayarina, *Poey*, Mem. i. p. 417. t. 34. f. 68. Cuba.

sulcata (Lucid.), *Weinl.*, *Pfr.* Novil. 362. Bahamas.

pulla, *Martens*, Malak. Bl. x. 1863. Helix test. Juv. ?

Emmerlingi, *Pfr.*, Malak. Bl. ix. 1862.

candida, *Pfr.*, Malak. Bl. v. 1852. Turk's Island.

Mohriana, *Pfr.*, Malak. Bl. viii. 1861. Mexico.

umbonata, *Shuttlew.* Portorico.

glabra, *Gould.* Cuba.

montana, *Wright.* Cuba.

inconspicua, *Pfr.* Tahiti.

lenticularis, *Sowb.*, Tank. Cat. App. p. viii.

malleata, *Pfr.*, Malak. Bl. v. 1858. Haiti.

Faustini, *Weinl.* Haiti.

Macmurrayi, *Pfr.* Cuba.

Nebiana, *Pfr.*, Mal. Bl. ix. 1862. Cuba.

rarisulcata, *Pfr.*, Mal. Bl. viii. 1861.

riparea, *Pfr.* N. Granada.

Strebeli, *Pfr.*, Malak. Bl. viii. 1861. Mirador.

brevilabris, *Pfr.*, Z. P. 1856. Mexico.

granulum, *Gundl.*, *Pfr.* Malak. Bl. xi. 1864. Cuba.

Macgillivrayi, *Pfr.*, Z. P. 1855. Isle of Pines, Austr.

- Küsteriana, *Pfr.*, Zeitschr. f. Malak. 1848.  
 Wrightii, *Pfr.*, Malak. Bl. x. 1863.  
 sculpta, *Martens*, Monatschr. Berl. Ak. 1864.  
 Lembeyana, *Poey.*, Mem. i. t. 33. f. 20-24. Cuba.  
 Chryseis, *Tristram*, Z. P. 1861.  
 scrupulosum, *Benson*, Ann. and Mag. Nat. Hist. 1863. An-  
 daman Islands.  
 Lundi, *Beck.* Brazil.  
 Jagori, *Martens.* Java.  
 Barbadosensis, *Pfr.*, Z. P. 1853. Barbadoes.  
 Stanlyi, *Forbes*, Voy. Rattlesnake, App. p. 381.  
 minuscula (Schiasch), *Pfr.*, Z. P. 1859.  
 goniostoma, *Gundl.*, Poey, Mem. ii. p. 87. Cuba.  
 mammilla, *Weinl.*, Malak. Bl. ix. 1862. Haiti.  
 sericea, *Drouel.* Cayenne.  
 proxima, *Gundl.*, Poey, Mem. ii. p. 6. Cuba.  
 capax, *Gundl.*  
 Dominicensis, *Pfr.*, Z. P. 1850. Haiti.  
 modesta, *Pfr.*, Z. P. 1852. New Hebrides.  
 Browniana, *Phil.*, Zeitschr. f. Malak. 1847.  
 microdina, *Morelet*, Test. Nov. ii. p. 17.  
 musiva, *Gould*, Pro. Bost. Soc. 1847. Upolu.  
 fragilis, *Morelet*, Test. Noviss. ii. p. 17.  
 Laneriana, *Orb.*, Moll. Cuba.  
 pygmæa, *Pot. et Mich.* St. Domingo.  
 biangulata, *Pfr.*, Chemn. N. Ed. t. 10. f. 34, 35.  
 Mighælsi, *Adams*, Jay, Cat.  
 Pazi, *Hidalgo*, Journ. Conch. 1865, p. 221. Isl. Gambier.  
 plicatilis, *Mousson*, Journ. Conch. 1865. Pacific Islands.  
 Vitiensis, *Mousson*, Journ. Conch. 1865. Pacific Islands.

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 Oweniana, 145, f. 241, 242.  
 oxyrhyncha, 259, f. 421.  
*oxystoma*, oxytropis, 262.  
*Pagoda*, constellata, 268.  
 pallida, 234, f. 404.  
 palliata, 14, f. 23.  
 pannucea, 42, f. 68, 69.  
 Paraensis, 143, f. 237, 238.  
 parva, 125, f. 210.  
*Pazi*, not identified.  
 pellucida, 147, f. 245.  
*perisphærica*, Bellula, 178.  
 Petitiana, 79, f. 132, 133.  
 petrosa, 81, f. 136, 137.  
 Phasianella, 123, f. 204, 205.  
 pictella, 119, f. 197, 198.  
 pisum, 177, f. 304.  
 platycheila, 180, f. 310, 311.  
*plicatilis*, not identified.  
 plicatula, 49, f. 79, 80.  
 Poeyi, 131, f. 317, 318.  
 polita, 202, f. 354-356.  
 politula, 69, f. 115, 116.  
 polychroa, 150, f. 249, 250.  
*proxima*, not identified.  
*proxima*, gen. *Helix*?  
 pulchella, 76, f. 126, 127.  
 pulcherrima, 7, f. 9, 10.  
*pulla*, not identified.  
 purpurea-flava, amœna, 219? or  
 Funckii, 158?  
*pygmæa*, not identified.  
 pyramidalis, 92, f. 157.



- rarisulcata*, not identified.  
 Reeviana, 121, f. 201, 202.  
 repanda, 183, f. 327, 328.  
 Regina, 64, f. 100-105.  
 remota, 66, f. 108.  
 reticulata, 141, f. 231, 232.  
 retracta, 34, f. 54, 55.  
 rhamphostyla, 15, f. 24, 25.  
 rhodostoma, 244, f. 412, 413.  
 rhynchostoma, 252, f. 429, 430.  
*riparea*, not identified.  
 Rohri, 227, f. 393, 394.  
 Rosaliæ, 258, f. 436.  
*rostellina*, subfusca, 35.  
 rostrata, 163, f. 279, 280.  
 rotunda, 32, f. 51, 52.  
 rotella, 205, f. 353.  
 rotelloidea, 109, f. 171, 172.  
 rubella, 21, f. 35, 36.  
 rubicunda, 85, f. 141, 142.  
*rubra*, submarginata, 8.  
 rubromarginata, 100, f. 166, 167.  
 rudis, 106, f. 175, 176.  
*rufa*, Guadaloupensis, 209.  
 rugosa, 51, f. 83, 84.  
 rupestris, 84, f. 143, 144.  
*Sagra*, vide Sagraiana, 3.  
 Sagraiana, 3, f. 477.  
 Salleana, 212, f. 368.  
*Salvini*, rostrata, 163.  
 Sandwichensis, 105, f. 173, 174.  
 sanguinea, 211, f. 364, 365.  
*scitula*, pulchella, 76, f. 128.  
 scopulorum, 88, f. 147.  
*scrupulosum*, not identified.  
*sculpta*, not identified.  
 semilirata, 74, f. 124, 125.  
 semistriata, 54, f. 86.  
 similis, 210, f. 363.  
*sericea*, not identified.  
 Shanghaensis, 239, f. 406.  
 silacea, 10, f. 15, 16.  
 sinuosa, 60, f. 96.  
 Sloanii, 68, f. 111, 114.  
 solidula, 229, f. 398, 399.  
 solitaria, 24, f. 40, 41.  
*sordida*, substriata, 133.  
 Sowerbyana, 221, f. 418.  
 spectabilis, 148, f. 246, 247.  
 spheroida, 175, f. 302, 303.  
 spinifera, 247, f. 416, 417.  
 Sprucei, 27, f. 44.  
 straminea, exacuta, 101.  
*Stanlyi*, not identified.  
 stellata, 269, f. 451.  
*Strebeli*, not identified.  
 striata, 181, f. 369, 370.  
 striatula, 43, f. 70.  
 suavis, 250, f. 425, 426.  
 subconica, 140, f. 226.  
 subfusca, 35, f. 56, 57.  
 subglobulosa, 167, f. 286, 287.  
 sublævigata, 189, f. 339, 340.  
 submarginata, 8, f. 11, 12, 13.  
 subovalis, 198, f. 376.  
 substriata, 133, f. 331, 332.  
 subturrita, 103, f. 185.  
 succinea, 33, f. 53.  
*sulcata*, not identified.  
*suturalis*, Bellula, 178?  
 suturalis, 238, f. 404\*, 405\*.  
 sylvatica, 185\*.  
 Tamsiana, 161, f. 467, 274.  
 Tankervillei, 75, f. 129.  
 Tayloriana, 249, f. 422.  
 tecta, 256, f. 434.  
 tenuilabris, 216, f. 375.  
 Tilei, 179, f. 309.  
 Titanica, 2, f. 4.  
 tæniata, 132, f. 322, 323.  
 tricarinata, 73, f. 119, 120.  
 tridens, 59, f. 90, 91.  
 trochiformis, 261, f. 440.  
 Trochlea, 80, f. 134, 135.  
 trochulina, 94, f. 159.  
*tropica*, Zephyrina, 157.  
*trossula*, flavida, 142.  
 turbinata, 162, f. 276-278.  
 turbinella, 108, f. 179, 180.  
 Uberta, 228, f. 396, 397.  
*umbonata*, not identified.  
 undulata, 57, f. 92, 93.  
*unguiculata*, Regina, 64.  
 unicarinata, *Sby.*, 107, f. 177, 178.

- unicolor*, platycheila, 180.  
*unidentata*, 52, f. 87.  
*unifasciata*, 186, f. 405.  
*variabilis*, 222, f. 386, 387, 388,  
*variegata*, adspersa, 173.  
*velutina*, 19, f. 32.  
*verecundia*, Forbesiana, 192.  
*vernalis*, 160, f. 273.  
*vestita*, subturrita, 103.  
*vestita*, 114, f. 189, 206.  
*Vitiensis*, not identified.  
*villosa*, 237, f. 407, 408.  
*vinosa*, 50, f. 81, 82.  
*virens*, 226, f. 391, 392.  
*virginea*, 62, f. 98.  
*viridis*, 242, f. 379.  
*Wrightii*, not identified.  
*Yorkensis*, 191, f. 342, 343.  
*Youngensis*, bellula, 178 ?  
*zebriolata*, 240, f. 407,\* 408.\*  
*Zephyrina*, 157, f. 266-269.  
*Zoë*, 213, f. 377.  
*zonata*, variabilis, 222.

MONOGRAPH OF THE GENUS

CARINARIA, *Lamarck*.

Testa vitrea, pileiformis, concentricè rugata, dorso carinato, apice subplanulatim spirali.

Shell glassy, cap-shaped, concentrically wrinkled, with a dorsal keel and a nearly flat spiral apex.

The *Carinaria* is an oblong mollusk, provided with a broad fin, by means of which it moves very rapidly through the ocean. The beautiful glassy shell which it secretes forms a protection to the breathing apparatus.

SPECIES.

1. *C. VITRÆA*, (f. 4).—T. elevatâ, subtrigonâ, lateribus rectiusculis, apice parvo, uncinato.—Distinguished by its elevated, conical form, nearly straight sides, and small apex.

2. *C. CRISTATA* (f. 2, 3), *Linn.*—T. depressâ, oblongâ, dorso arcuato, latere postico declivi, apice lato, deflexo.—Of an oblong, depressed form, with the back arched, the posterior side sloping, and the apex broad and curved downwards.

3. *C. ATLANTICA* (f. 1), *Ad. & Rve.*—T. subelevatâ, curtâ, dorso validè arcuato, carinâ latâ, apicè arcuatim depresso, corneo.—This pretty little species is shorter, with the back more curved and elevated than *C. cristata*. It has a horny nucleus.

*Not identified.*

*C. Gaudichaudi*, —.

*C. punctata*, *Orb.*

*C. depressa*, *Rauv.*

FIGURES IN PLATE 279.

- Fig.  
1. *C. ATLANTICA*, sp. 3, *Ad. & Rec.*.—Hab. North Atlantic Ocean.  
2, 3. *C. CRISTATA*, sp. 2, *Linnaeus* (Patella) *C. fragilis*, Bory de St. Vincent. *C. Mediterranea*, Deshayes. *C. depressa*, Roux.—The law of priority ought to be applied to every well-ascertained Linnæan name, whatever difference of opinion may exist about going further back.—Hab. Mediterranean.  
4. *C. VITREA*, sp. 1, *Nautilus vitreus*, Argenv. *C. gracilis*, Reeve.—Hab. Indian Ocean.

## MONOGRAPH OF THE GENUS

### DONAX, *Linnaeus*.

*Char. Gen.* Testa æquivalvis, inæquilateralis, subtrigona, bimusculosa, posticè plus minusve truncata; palli impressione latè amentatâ; ligamento externo; dentibus cardinalibus in valvâ dextrâ duobus, in valvâ sinistrâ uno; dentibus lateralibus duobus, approximatis vel uno remoto.

A large sinus in the impression of the mantle, and the absence of a cartilaginous pit, will be sufficient to distinguish the shells of this genus from the few others with which they might otherwise possibly be confounded.

#### SPECIES.

1. SCORTUM (f. 1, 2, 3), *Linnaeus*.—Testâ tumidâ, subæquilaterali, striis radiatis et liris concentricis decussatâ, extus albâ seu pallidè fulvâ, violaceo concentricè fasciatâ, intus violacèâ, anticè subacuminatâ, laminis laqueatis subdistantibus fimbriatâ, posticè acutè arcuatim angulatâ, ad angulum spiniferâ, areâ postangulari concavâ, acuminatâ, decussatâ.—Specimens differ in the degree of development of the spines and fringes; and we have in our hands a specimen from Mr. Taylor's collection which is white, and has the posterior angle produced remarkably.

2. CARINATUS (f. 4, 5), *Hanley*.—Testâ tumidâ, latâ, politâ, castaneo-violacèâ, radiatim impresso-striatâ, striis anticè evanidis, umbonibus elevatis, angulo postico subcarinato, areâ postangulari arcuatim declivi, concavâ, striatâ, infrâ productâ, acuminatâ, latere antico declivi, ad terminum acuminato.—Nearest in form to *D. scortum*, but a polished shell.

3. ACUTICARINATUS (f. 6, 7), *Sowerby*.—Testâ *D. carinata* simili, haud tantum elevatâ, carinâ validiore, areæ posticæ striis radiantibus granulatis.—Besides the greater distinctness of the keel, the sculpture of the posterior area distinguishes this species from *D. carinata*, the radiating striae being close, and crossed by con-

centric waved threads. Two specimens of this beautiful species are in Mr. Taylor's collection.

4. SCALPELLUM (f. 9), *Gray*.—Testâ lanceolatâ, compressâ, obscurè radiatâ, posticè ad angulum subcarinatâ, post angulum angustâ, concentricè, lirâtâ, margine convexo, anticè producto, angustato, ad terminum elevato.—Very long and narrow, with a narrow and finely striated posterior area.

5. ACUTANGULUS (f. 10), *Desh.*—*D. scalpello* simili sed latiore, minutissimè sub lente striatâ, areâ posticâ concavâ, minutè lirâtâ.—Of a broader form than *D. scalpello*, very minutely decussated, the posterior angle concave and striated.

6. TRANSVERSUS (f. 11), *Sowb. T. C.*—Testâ *D. scalpello* simili, posticè magis obliquâ, areâ radiatim striatâ.—Like No. 4, with the posterior area more sloping and radiately striated.

7. OWENII (f. 8), *Gray*.—Testâ *D. scalpello* simili, sed areâ posticâ biangulatâ, concentricè lirâtâ, ad ligamentum elevatâ.—The area is more raised towards the ligament and is radiately double-angled.

8. SPINOSUS (f. 19), *Chemn.*—*D. testâ* elongatâ, cuneiformè lævigatâ, leviter prope marginem et posticè radiatim striatâ, fulvo-purpurascens, intus et ad umbonem lividâ, latere antico producto subacuminato, latere postico truncato, angulato, angulo acuto, subspiniifero, areâ postangulari tenuissimè decussatâ.—This little cuneiform shell is remarkable for the serrated or spiniferous keel which borders its postangular area.

9. CLATHRATUS (f. 13), *Desh.*—*D. testâ* breviusculâ, cuneiformi, violaceâ, minutè cancellatâ, latere antico subacuminato, latere postico truncato biangulato ad angulum magnum subspiniifero.—Resembling *D. spinosa* in the serrated or spiniferous character of the angle, but purple, and finely cancellated throughout.

10. SEMISULCATUS (f. 22), *Hanl.*—*D. testâ* breviter trigonâ, albâ, anticè acuminatâ, politâ, posticè prope angulum subconcentricè lirâtâ, striis granosis decussatâ, angulo acuto, serrato, subcarinato, umbonibus elevatis, areâ posticâ subplanulatâ, granoso-striatâ.—A short elevated shell, smooth in front and ornamented at the back with ridges decussated by radiating striæ. *D. sordida*, *Rve.*, appears to be a variety of this, partly denuded of the sulci and serrations.

11. MADAGASCARIENSIS (f. 16), *Wood.*—Testâ brevi, acutè triangulatâ, carneâ, nonnunquam partim lividâ, omnino diagona-

liter costatâ, costis ad angulum subundatis, interstitiis striatis, areâ postangulari complanatâ, margine ventrali intus denticulato.—A remarkable three-cornered species, sculptured with diagonal ribs.

12. GRANIFERUS (f. 18), *Desh.*—Testâ *D. semisulcata* simili sed tumidiore, ante angulum et ad aream postangularem minutè decussatim granosâ, carinâ magis obtusâ.—More inflated and more obtuse than *D. semisulcata*, very finely granosely decussated, the ridges being continued past the angle on the posterior area.

13. ACUMINATUS (f. 14), *Desh.*—Testâ *D. semisulcata* formâ simili, sed posticè minimè granoso-striatâ, angulo vix serrato.—The want of posterior sculpture alone distinguishes this from *D. semigranosa*.

14. META (f. 17), *Reeve.*—Testâ *D. semigranosa* simili, sed magis obtusâ, ad angulum semi-rotundâ, vix serratâ.—More obtuse at the apex and posterior angle than *D. semisulcata*, the angle not serrated nor keeled.

15. INTRO-RADIATUS (f. 25), *Reeve.*—Testâ brevi, elevatâ, cuneiformi, acutè angulatâ, carinatâ, pallidâ, extus obscurè, intus validè, prope umbones purpureo trifasciatâ, radiatim striatâ, postangulum densè rugoso-decussatâ.—This shell would resemble a small *D. Cayennensis*, but it is sharply keeled posteriorly and pointed in front. The purple rays are bright within, but dull without.

16. ASPER (f. 24), *Hanl.*—Testâ solidâ, albâ vel purpurascenti, subæqualiter trigonâ, anticè radiatim striatâ, posticè prope angulum granoso-sulcatâ, post angulum striatâ, margine postico ventrali denticulato, areâ postangulari infrâ convexâ, suprâ concavâ, umbonibus elevatis, latere antico valde declivo.—An elevated, solid species, nearly equally trigonal, grained near the angle.

17. DENTIFERUS (f. 23), *Hanl.*—Testâ elevatim trigonâ, roseâ seu purpurascenti, radiatim striatâ, prope marginem anticum lævigatâ, striis posticis magnis ad marginem dentatis, posticè biangulatâ, angulo primo elevato, angulo secundo duplicato margine dentato, areâ posticâ declivi, granosâ, angulatim convexâ.—A very broad shell, with sharp, elevated angle ending in denticulations, and a second posterior angle duplicate or ending in the same way. It occurs pure white, rose, and violet.

18. ASSIMILIS (f. 21), *Hanl.*—Testâ crassâ, oblongâ, ventricosâ, lævigatâ, obscurè purpureâ et pallidè subviridi, obscurè

radiatâ, posticè biangulatâ, anticè productâ, obtusâ, margine ventrali convexâ.—Of an oblong form and solid substance, with an obtuse second angle and produced margin.

19. *CAYENNENSIS* (f. 46, 47, 48), *Lamk.*—Testâ subventricosâ, tenuiusculâ, radiatim striatâ, posticè prope angulum undulatim decussatâ, colore luteo-purpurascete, seu roseâ, seu purpureâ, prope umbones albo-radiatâ; latere antico oblongo ad terminum rotundo, latere postico brevi, angulo obtuso, areâ postangulari latâ, granoso-striatâ, margine medio dentato, margine ventrali parum convexo, posticè validè dentato, valvâ dextrâ sinistram superante.—Of an oblong form, granulated and decussated near the obtuse posterior angle and on the area behind it. The ventral margin of the right valve appears a little beyond that of the left, showing the strong dentition at the posterior side.

20. *CURTUS* (f. 20), *Sowb.*—Testâ *D. Cayennensi* simili, sed longè magis abbreviatâ.—The abbreviated form of this shell is so constant through all the varieties of colouring that after examining a number of our own specimens with Mr. Taylor's we have no hesitation in distinguishing it.

21. *RUGOSUS* (f. 27, 28, 29), *Linn.*—Testâ elongatâ, tumidâ, crassâ, luteo-purpurascete, seu aurantio-roseâ, seu latè fasciatâ, latere antico subacuminato, prope marginem lævi, medio et posticè radiatim striatâ, latere postico brevissimo, undulatim rugato, striis radiantibus decussato, angulo subcarinato, areâ postangulari convexâ.—Of an elongated form and rugosely decussated behind the angle.

22. *ELONGATUS* (f. 12), *Lamk.*—Testâ *D. rugosæ* simili sed magis acutâ, angulo acutè carinato, striis radiantibus magis distantibus, margine validè denticulato, areâ postangulari fortissimè rugato et dentato.—The angle more keeled, all the sculpture more coarse than *D. rugosa*, the margin very strongly denticulated.

23. *OBESULUS* (f. 15), *Desh.*—Testâ brevi, solidâ, pallidâ, intùs purpureâ, anticè lævigatâ, acuminatâ, posticè tenuiter striatâ, carinato-angulatâ, brevissimâ, areâ postangulari latâ, subrectâ, concavâ, minutissimè granulâtâ.—Of the short wedge form, with the posterior area finely granulated.

24. *DENTICULATUS* (f. 33, 34, 35, 36), *Linn.*—Testâ brevi, triangonâ, solidâ, sulcato-striatâ, albâ, aurantiâ, purpurascete seu coloribus variis radiatim pictâ, anticè acuminatâ, posticè biangulatâ, areâ postangulari angustâ, concentricè rugatâ, areâ inter angulos radiatim sulcatâ, marginibus dentatis.—A short triangular species, variously painted, with a double angle. Between the



angles are radiating grooves, behind them both is a narrow area with undulating concentric ridges.

25. *STRIATUS* (f. 52), *Linn.*—Testâ oblongâ, carneâ, purpurascence densè striatâ, anticè acuminatâ, posticè acutè biangulatâ, declivi, areâ postangulari complanatâ, minutissimè striatâ, margine ventrali denticulato, medio convexo, anticè et posticè subincurvo.—Sharply angular, the angle being duplicate towards the ventral edge of the dorsal slope, the postangular area very flat. There is no reason to doubt the identity of Deshayes' *Lamareckii* with this.

26. *SAXULUM* (f. 110), *Reeve.*—Testâ *D. contusa* simili, sed striis elevatis radiantibus sculptâ, posticè valdè declivi, angulatâ.—Differing from *D. striata* in the ridge-like striæ with which it is rayed. It is also more angular and truncated posteriorly.

27. *VARIABILIS* (f. 37, 38, 39), *Say.*—Testâ parvâ, tumidâ, tenuistriatâ, variè pictâ, anticè oblongâ, prope marginem attenuatim acuminatâ, posticè leviter angulatâ, areâ postangulari convexâ, margine ventrali medio convexo.—A little, tumid, finely striated shell, variously coloured, distinguished by a peculiar pinched and pointed appearance towards the anterior extremity.

28. *BELLUS* (f. 40, 41), *Desh.*—Testâ oblongâ, tenuiter striatâ, albâ fulvâ seu purpureo radiatâ, posticè brevi, declivi, obtusè angulatâ, margine ventrali rectiusculo.—Resembling *D. variabilis*, but gradually sloping in front, with the ventral margin rather straight.

29. *ANGUSTATUS* (f. 44), *Sowb.*—Testâ albido-purpurascence, *D. variabili* simili sed magis compressâ et elongatâ.—Resembling *D. variabilis*, but much more elongated.

30. *LEVIGATUS* (f. 30, 31, 32), *Desh.*—Testâ solidâ, politâ, fulvâ, partim purpureo fasciatâ, tumidâ, leviter striatâ, anticè acuminatim rotundatâ, posticè brevi, obtusâ, medio inflatâ, umbonibus obtusis, margine ventrali convexo.—A smooth, polished, obese, obtuse shell, of a fawn-colour, banded and tipped with purple.

31. *SAIGONENSIS* (f. 45), *Crosse et Fisch.*—Testâ brevi, compressâ, obtusâ, anticè rotundatâ, posticè obtusè angulatâ, post angulum minutè cancellatâ, intùs purpureo et aurantio variegatâ; dentibus lateralibus magnis; latere postico rectiusculo, convexo. Resembling *D. levigata* in form, but finely cancellated on the area behind the angle.

32. OBESUS (f. 42, 43), *D' Orb.*—Testâ parvâ, abbreviatâ, crassâ, tumidâ, trigonâ, albâ, fulvo fasciatâ, seu purpureâ, lineis dorsalibus purpureis ornatâ, minutissimè punctato-striatâ; umbonibus elevatis, latere antico acuminato, latere postico angulato, areâ postangulari angulatim convexâ.—This remarkable little species is sculptured by punctured striæ, not concentric, crossing the radiating striæ.

33. PUNCTATO-STRIATUS (f. 49, 50), *Hanl.*—Solidâ, ventricosâ, trigonâ, striis punctatis radiatâ, albidâ carneâ lilacâ seu purpureo-radiatâ, umbonibus elevatis tumidis, angulo postico obtuso plus minusve declivi, areâ postangulari rectiusculâ, prope marginem ventralem rotundatim producto, prope umbones complanato; latere antico attenuatim acuminato, margine ventrali medio inflato, posticè ante angulum subcontracto.—An easily distinguished, stout shell, with characteristic strongly-punctured grooves or striæ.

34. CONRADI (f. 51), *Desh.*—Testâ *D. punctato-striata* simili sed magis depressâ, posticè magis angulatim productâ, anticè magis elongatâ.—It is not quite easy to distinguish this species from the last, on account of intermediate specimens. It is however flatter, not so pinched up in front, and more produced behind.

35. CONTUSUS (f. 53, 55), *Reeve.*—Testâ quam *D. Conradi* magis compressâ, haud tantum inæquilaterali.—The three last species, punctato-striated in the same way, exhibit a perplexing gradation in degree of flatness and production of the posterior side.

36. CALIFORNICUS (f. 54, and var. *D. culter*, *Reeve*, p. 56, 57), *Conrad.*—Testâ oblongâ, subæquilaterali, minutissimè punctato-striatâ, supernè sublævigatâ, albâ, pallidè purpureo radiatâ vel subviridi, ad umbones carneâ, purpureo nebulatâ, obscure biradiatâ, posticè productâ, obscure biangulatâ, areâ postangulari convexâ, elevatâ, anticè attenuatim subacuminatâ, margine ventrali prope angulum subcontracto, ante medium plus minusve convexo.—There is some difficulty in identifying this shell from the original description, but I have not much doubt about it; some specimens of the last species come very near to it, particularly about the umbones, which are very peculiarly coloured, but the shells of this species are narrower. The swelled and elevated character of the back area is easily observable. The gradation of specimens, however, prevents our separating the varieties named *D. culter*.

37. DELTOIDES (f. 100, 101), *Lamk.*—Testâ magnâ, solidâ,

brevi, altâ, obtusè angulatâ, purpureâ seu pallidè violaceâ, anticè lævigatâ, rotundatim acuminatâ, posticè latâ, tenuiter striatâ, margine ventrali medio subconvexo, angulo postico obtuso, areâ postangulari convexo, medio obscurè angulato, prope umbones complanato.—Although the variety of this well-known species, named *D. epidermia*, is generally rather longer and less elevated in form than the dark purple one, there can be no doubt that it is identical.

38. TICAEONICUS (f. 96), *Habl.*—Testâ trigono-elevatâ, tenuiusculâ, pallidè purpurascenti, posticè obtusè angulatâ, rugatâ, anticè attenuatâ, subacuminatâ, latere antico-dorsali incurvo, umbonibus acuminatim producto-subrotundatis.—Remarkable for the acuminately produced umbones, and the incurved character of the anterior dorsal slope.

39. CUNEATUS (f. 88, 89, 90), *Linn.*—Testâ obtusè trigonâ, compressâ, lævigatâ, altâ, albâ vel fusco-nigricanti vel carneo-fulvâ, posticè obtusè angulatâ, post angulum undulatim granosorugatâ, margine ventrali intùs lævigatâ.—A broad compressed shell, distinguished by undulating, granulated rugosities on the area behind the angle. *D. granosa* is most probably a variety of this.

40. COMPRESSUS (f. 97), *Lamk.*—Testâ *D. cuneata* simillimâ, sed magis elevatâ, umbonibus productis, margine antico-dorsali subincurvo.—The greater depth from apex to ventral margin and the concave outline of the antero-dorsal slope distinguish this from *D. cuneata*.

41. COLUMELLUS (f. 113, 114, 115).—Testâ quam *D. cuneata* magis ovali, angulo postico magis rotundato, rugis postangularibus tenuissimis.—More oval than *D. cuneata*, with the posterior side more rounded and much more finely ridge-striated.

42. BICOLOR (f. 102, 103), *Lamk.*—Testâ ovali-subcuneatâ, compressâ, anticè et medio lævi, posticè granulatim striatâ, albâ, latè fusco-grisescente fasciatâ, vel griseâ, obscurè fusco radiatâ, posticè obtusè biangulatâ, margine ventrali convexâ, intùs lævigatâ, areâ postangulari concavâ.—The posterior side of this shell has a very obtuse angle in the usual part, and a second angle in the middle of the area; the area is granosely striated.

43. INCARNATUS (f. 98, 99), *Chemn.*—Testâ brevi, compressâ, elevatâ, carneâ seu albâ, purpureo ad umbones radiatâ, anticè lævissimâ, subacuminatâ, posticè rectiusculâ, ante et post angulum striis radiantibus et rugis subconcentricis undulatis decussatâ;

umbonibus perelevatis, margine ventrali antice subcontracto, posticè convexo.—This curious species is distinguished by the sculpture of the posterior area and the short straightness of the posterior side, and other peculiarities of form. I see no distinction in this from *D. Dysoni*.

44. RADIANS (f. 91, 92, 93, 94, 95), *Lamk.*—Testâ ovato-subtrigonâ, brevi, coloribus variis fasciatâ et maculatâ, anticè et medio sublævigatâ vel leviter lirâtâ, posticè validè rugatâ, angulo postico obtusissimo, areâ postangulari convexâ, margine ventrali prope angulum subcontracto, medio convexo, intus lævigato.—This small, obtuse species is very variable in colouring and even in form. The ridges are irregular, strong at the back, and more or less obliterated in the middle. Fig. 95 probably represents *D. villatus*, *Lamk.*

45. FABA (f. 108, 109), *Chemn.*—Quam *D. radians* magis elongata.—*Lamarck* quotes the figures in *Chemnitz* and the *Encyclopædia* for his *D. radians*. Had this been correct, *Chemnitz's* name must have been adopted by the law of priority. But the figures thus referred to show a much more elongated shell, which agrees with the shells which we now figure. It is doubtful, however, whether the distinction can be well maintained.

46. ABBREVIATUS (f. 106, 107), *Lamk.*—Testâ suborbiculari, compressâ, altâ, lævigatâ, griseâ vel albâ, roseo trifasciatâ, posticè brevi, rugosâ, obtusissimè angulatâ, margine antico-dorsali declivi, margine ventrali convexo, intus lævigato.—Flat, almost rounded, with granulated, undulating ridges on the back area.

47. OVALINUS (f. 104), *Desh.*—Testâ compressâ, ovato-subrotundâ, lævigatâ, cinereâ vel radiatim maculatâ; latere antico brevi subrotundatim convexo, margine ventrali rotundato, intus lævi.—A rounded, flat, *Tellina*-looking shell.

48. NUCULOIDES (f. 105), *Reeve.*—Subovata, plano-convexa, albida, epidermide subviride nitente induta, latere antico subrotundo, margine antico-dorsali declivi, margine ventrali convexo, posticè prope angulum parum contracto, intus lævigato, latere postico obtusè angulato, margine convexo.—Another *Tellina*-like species, without markings and more oval than *D. ovalina*.

49. INCERATUS, (f. 112), *Reeve.*—Testâ subovatâ, tenuissimâ, lævigatâ, pallidè carneo-roseâ, latere postico brevi, subrotundato, subflexuoso, margine ventrali medio inflato, prope terminos subincurvo, intus lævi; latere antico declivi, acuminato.—I have not had the opportunity of examining this neat little shell, which was originally drawn from a single valve in Mr. Hanley's collection.

50. *OBSCURUS* (f. 111), *Reeve*.—Testâ *D. nuculoïdi* simili sed concentricè striata.—Without re-examination of the two shells, for the present locked up in the late Mr. Cuming's cabinet, I cannot decide whether this is not a variety of *D. nuculoïdes*. The question would depend upon the character of the described striation.

51. *SERRA* (f. 87), *Chemn.*—Testâ crassâ, ovato-subtrigonâ, latâ, carneâ purpurascenti, lævigatâ, anticè rotundatim oblongâ, margine ventrali concavo, intus crenato, posticè subcontracto, angulo postico obtusissimo, rugis denticulatis serrato, arcâ postangulari concavâ, umbonibus obtusis.—A thick, oval shell, very obtuse at the extremities and angles, and serrated at and behind the angle by denticulated ridges.

52. *TRUNCULUS* (f. 58, 59, 60), *Linn.*—Testâ elongato-subtrigonâ, compressâ, solidâ, lævigatâ, obscurè radiatim striatâ, albâ vel purpurascente, fulvo seu purpureo fasciatâ, anticè elongatâ, latâ, rotundatâ, concentricè leviter rugatâ, posticè brevi, convexâ; margine ventrali medio convexo, posticè subcontracto, intus denticulato, valvâ dextrâ alteram superante, margine dorsali declivi, recto, concavo, valvâ sinistrâ peculiariter elevatâ et compressâ.—The variation in form is considerable among the specimens of this species, some being flatter, broader, and more truncated than others. There is a peculiarity in this and the following species which has not been noticed. The right valve overlaps the other at the posterior part of the ventral margin, while the left valve is peculiarly flattened and elevated above the other at the dorsal line near the hinge. Several true British specimens exist: one well authenticated, in Mr. Jeffreys' collection.

53. *VELLICATUS* (f. 61, 62, 63), *Reeve*.—Testâ politâ, tumidâ, obscurissimè striatâ, truncatâ, liliaceo radiatâ, valvis suprâ et infrâ parum inæqualibus, latere antico producto, rotundo, latere postico truncato, margine ventrali posticè subcontracto, arcâ postangulari brevi, concavâ.—The contraction of the ventral margin near the posterior angle, whence this shell derives its name, is a variation common to many species. The curious inequality of the valves at the two margins observed in the last is shown in a less degree in this.

54. *VITTATUS* (f. 66, 67, var. *semistriata*, f. 70), *Da Costa*.—Testâ ovali, gibbosâ, solidâ, luteâ, fulvo latè radiatâ, purpureo fasciatâ, anticè politâ, medio et posticè minutè radiatim striatâ, ad angulum et ante usque ad medium lineis impressis punctatis subconcen-

tricus plus minusve decussatâ, areâ postangulari declivi convexâ, prope umbones nonnunquam liris concentricis rugatâ, margine ventrali subæqualiter convexo, margine dorsali antico declivi, subexcavato.—This shell is stouter and more regularly oval than its nearest allies. In most of the specimens can be traced a decussated sculpture in parts from the posterior angle to the middle. In *D. semistriata*, Poli, this character is strongly marked and covers two-thirds of the shell. In the young state the postangular area shows strong ridges, which disappears partially or wholly when adult.

55. In consequence of an alteration in the nomenclature and synonymy of *vittatus* (*Anatinum*), *trunculus*, etc., this number is omitted. Mr. Jeffreys having thoroughly investigated these species, I have adopted his views.

56. CUMINGII (f. 64, 65), *Dunker*.—Testâ oblongâ, complanatâ, glaberrimâ, albo roseo lividove radiatâ, posticè brevi subtruncatâ, antico rotundo, oblongo, margine ventrali arcuato, intus crenulato.—This much resembles a flattened form of *D. trunculus*.

57. NITIDUS (f. 75), *Reeve*.—Testâ elongatâ, compressâ, tenui, fulvo triradiatâ, anticè productâ, prope marginem lævigatâ, posticè et medio rugis concentricis prope marginem rectiusculis liratâ, margine ventrali rectiusculo, intus denticulato.—This little shell exhibits a sculpture at the back of the angle and along a portion of the posterior and middle of the surface similar to that in the young of the Mediterranean variety of *D. anatina*, but it seems too long and straight for that species.

58. POLITUS (f. 84, 85), *Da Costa*.—Testâ elongatâ, lævigatâ, compressâ, luteâ, spadiceo variegatâ, post medium fasciâ albâ radiatâ, anticè elongatâ, marginibus dorsali et ventrali paulo convexo, posticè subacuminatim producto, margine ventrali lævi.—The young shell figured by Reeve under the name *D. variegata* evidently belongs to this well-known species.

59. GRACILIS (f. 76, 77, 78, 79), *Hautl*.—Testâ angustâ, crassâ, elongatâ, tumidâ, albâ, lilaccâ, violaccâ, obscurè fasciatâ, radiatim tenuissimè leviter striatâ, margine dorsali purpureo lineatâ, anticè elongatâ, acuminatâ, margine ventrali medio convexo, intus crenato, post medium subcontracto, posticè producto, obscurè angulato subacuminato.—A beautifully-formed elongated shell.

60. NAVICULA (f. 80), *Hautl*.—Testâ quam *D. gracilis* magis inflatâ, latiore, epidermide viridi indutâ, margine ventrali magis convexâ.—A much broader shell than *D. gracilis*.

61. *PULCHELLA* (f. 81, 82), *Hantl.*—Testâ oblongâ, cuneiformi, tenui, semipellucidâ, cinereo-albâ seu carncâ, purpureo radiatâ et fasciatâ, tenuissimè radiatim striatâ, latere antico producto, acuminato, medio subcompresso, subcontracto, latere postico tumido, obtusè angulato, brevi, arcâ postangulari convexâ.—There is no danger of confounding this semitransparent little narrow species with any other.

62. *ENEUS* (f. 83), *Mörch.*—Testâ parvâ, angustè oblongâ, semipellucidâ, iridescenti, tenuissimè striatâ, pallidâ, purpureo bifasciatâ, anticè productâ, subacuminatâ, margine ventrali parum convexo, posticè vix contracto, latere postico acuminatim producto.—Looking at this shell under the lens, a peculiar iridescence may be seen and very minute striæ.

63. *PETALINUS* (f. 86), *Desh.*—Testâ tenui, trigono-oblongâ, lævigatâ, purpureo et fulvo radiatim fasciatâ, anticè angustâ, acuminatâ, medio subcontractâ, posticè tumidâ, latâ, elevatâ, subquadratâ, umbonibus ferè medianis, margine ventrali intus crenato.—A pretty little petal-like species.

64. *SPICULUM* (f. 116, Plate III.), *Hantl.*—Testâ quam *D. pulchella* solidiore, magis opacâ, intus purpureâ.—Resembling *D. pulchella* in form, but more solid and opaque. It is strongly purple within.

65. *INCONSPICUUS* (f. 117, Plate III.), *Sowb.*—Testâ oblongo-cuneatâ, complanatâ, lævigatâ, fuscâ, obscurè purpureo radiatâ, anticè productâ, subacuminatâ, posticè angulatâ, minutè radiatim striatâ, arcâ postangulari convexâ.—Several specimens of this, in Mr. Taylor's collection and our own, were at first taken for the young of some large flat species, such as *cuneata*, but on examination they were found to be not at all rugose posteriorly but only radiately striated.

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## MONOGRAPH OF THE GENUS

### TYPHIS, *Montfort.*

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*Gen. Char.* Testa spiralis, canalifera, muriciformis; anfractibus trivariosis, inter varices tubiferis, ultimo magno; tubis singulis rotundis apertis, intus penetrantibus, inter varices instructis; aperturâ ovali, subcontractâ, subintegrâ, canali clauso; operculo corneo, nonspirali, nucleo subterminali.

Between each varix on the upper part of each whorl is a round tube, the hollow of which penetrates into the interior of the shell. In every other respect the shells of this genus have the usual character of three-variced murices.

#### SPECIES.

1. SOWERBYI, *Brod.*, (f. 11, 12, 13).—Subturbinata, alba et fusca, canali supernè lato, termine angusto, retrorso, varicibus laminatis, laqueatis, medio contractis, supernè subexpansis, incurvis, acuminatis, tubis plus minusve elongatis.—Of a turbinate form, with long tubes and fluted varices contracted in the middle. *T. fistulosus*, Bronchi. The fossil type is a shell with rounder whorls.

2. QUADRATUS, *Hinds*, (f. 10).—Quam *T. Sowerbyi* magis quadratus, canali latiori, tubis brevioribus, anfractibus spiraliter strigatis, varicibus crassioribus, ad marginem fimbriatis.—Differing from *T. Sowerbyi* in being more square, the canal being broader above and the varices being thicker with a fringe on the margin.

3. NITENS, *Hinds*, (f. 1, 2).—Brevis, alba, varicibus simplicibus laminatis, termine rectiusculis, tubis breviusculis, canali brevi, truncato.—Short, white, with simple laminated varices, rather straight at the end; canal short, truncated.

4. YATESEI, *Crosse*, (f. 20, 21).—Subfusiformis, pallida, varicibus laminatis, subduplicatis, termine superiori acutis, incurvis, medio expansis, crenulatis, ad infra coarctatis, termine pinnatis;

canali brevi, truncato; tubis breviusculis.—Subfusiform, varices pointed and arched above, expanded and crenulated in the middle, suddenly narrowed below, and then expanded into a sort of wing.

5. BELCHERI, *Brod.*, (f. 8, 9).—Fusiformis, anfractibus rotundis, canali elongato, obliquè sursum acclivi; varicibus angustibus, laqueatis, infra pinnatis, supra uniplicatis, arcuatim expansis, termine valde incurvis, acuminatis; tubis recurvis; spirâ elevatâ.—The termination of the varices at the upper end forms a strongly curved hook which commences on the whorl by a reflected flattened fold; the canal is long and gently sloped backwards.

6. CLERYI, *Petit*, (f. 14).—Fusiformis, canali elongato, angulatim recurvo; anfractibus rotundis, spiraliter rubro fasciatis, varicibus digitatis, digitis quatuor, uncinatis.—Whorls rounded, banded, varices digitated; digitations hooked; canal long, angularly recurved.

7. MONTFORTII, *A. Ad.*, (f. 18, 19).—Subfuscus, fusiformis, canali obliquo, longiusculo; spirâ elevatâ, varicibus expansis, supra termine incurvis acuminatis, medio angulatim laqueatis, ad canalem semipinnatis; tubis elongatis.—Varices hooked at the end, angularly fluted in the middle, half-pinnated on the canal.

8. CORONATUS, *Brod.*, (f. 6, 7).—Oblongus, pallidus; canali latissimo cylindraceo, oblongo, truncato; varicibus crassis decumbentibus, spiraliter rugatis, termine uncinatis; tubis brevissimis.—Of a more oval form than most of the other species, with a very wide, cylindrical canal, thick varices, and short tubes. The unique specimen in the Cumingian collection being young, the canal is unclosed.

9. PINNATUS, *Brod.*, (f. 15, 16).—Ovalis, albidus, cancellatus; canali brevi; varicibus expansis, fimbriatis.—Oval, whitish, cancellated; canal short, varices expanded, fringed.

10. CUMINGII, *Brod.*, (f. 17).—Claviformis, griseus, castaneo maculatus, canali longissimo angusto, recto; varicibus noduliferis, termine unidigitatis, erectis; tubis brevibus; anfractibus inter varices unicostatis.—Shaped like *Murex haustellum*, with very long straight canal.

11. ARCUATUS, *Hinds*, (f. 3, 4, 5).—Brevis, ovalis, tubis recurvis, cum varicibus junctis, varices arcuatos duplicatos tubiferos formantibus.—Each tube is bent back into the preceding varix, so as to form with it a double arched varix ending in a tube.

*Note.*—The shell named *Typhis Angassii*, of Crosse, is not a Typhis, having no tube penetrating to the interior.

A MONOGRAPH OF THE GENUS

TRICHOTROPIS, *Brod. and Sowb.*

*Char. Gen.* Testa spiralis, carinata; aperturâ magnâ, angulatâ, infrâ subacuminatâ, integrâ; columellâ obliquè truncatâ, anfractibus paucis, ultimo magno; epidermide corneâ, super carinas frequenter ciliatâ; operculo corneo, non spirali, nucleo terminali.

A genus of carinated spiral shells, belonging to the *Buccinum* family, but differing from *Buccinum* in the want of a distinct canal. The thin epidermis with which the shell is covered is in many species ciliated at the keels. Operculum non-spiral, with a terminal nucleus.

SPECIES.

1. BOREALIS, *Brod. et Sowb.*, (f. 1, 2, 3).—Subfusiformis, umbilicatus, anfractibus angulatis, carinis tribus crassis superioribus, et duabus tenuioribus inferioribus cinctis, aperturâ plerumque pallidè roseâ, subtrigonâ, ad terminum inferiorem acuminatâ, labro ad costarum terminos angulato; epidermide super costas duplicatim ciliatâ.—Specimens from different localities differ much in relative proportions, some being much more acuminate than others. Fig. 1 may be taken to represent the typical British form; fig. 3 is drawn from a specimen in the British Museum, from Behring's Straits, and fig. 2 is the acuminate form which has been named *T. Atlantica*.

2. COSTELLATA, *Couth.*, (f. 6).—Quam *T. borealis* tenuior, costis tenuioribus, inferioribus magis numerosis.—Thinner than *T. borealis*, with thinner ribs; instead of two rather stout ones beneath the three upper ones, there are four or five very small.

3. INERMIS, *Hinds*, (f. 14).—Quam *T. borealis* crassior, carinis crassioribus rotundis, umbilico lato, aperturâ subpyriformi, labro integro, epidermide inermi.—A thicker shell than *T. borealis*, with thicker and closer ribs, which do not modify the form of the outer lip.

4. KUZERI, *Philippi*, (f. 13).—Ovali-ventricosa, tenuis, sublævigata, anfractu ultimo magno, costis quinque tenuibus distantibus cincto, aperturâ subovali, magnâ; umbilico lato.—Of an oval, ventricose form, with five thin distant ribs.

5. FLAVIDULA, *Hinds*, (f. 11).—Subconica, spirâ elevatâ, costis quatuor, moniliferis, interstitiis latis, concentricè regulariter sulcatis, aperturâ brevi, subtrigonâ, labro laqueato.—Almost conical, with elevated spine, four beaded ribs on the body whorl, the interstices concentrically sulcated.

6. CANCELLATA, *Hinds*, (f. 12).—Turrita, spirâ elatâ, anfractibus rotundis, ventricosis; sulcis concentricis et costis spiralibus, crassis moniliferis cancellatis, aperturâ subrotundâ ad terminum acuminatâ, columellâ arcuatâ, umbilico inconspicuo.—A turreted shell with produced spine, rounded whorls cancellated by the crossing of concentric grooves with thick, spiral, beaded ribs; aperture rounded, with acuminated lower extremity.

7. CEDO-NULLI, *A. Ad.*, (f. 4, 5).—Subgloboso-acuminata, sulcis concentricis et costis moniliformibus spiralibus cancellata, spirâ elevatâ; aperturâ subrotundâ; columellâ subtruncatâ, retrorsâ, labro medio sinuatim producto.—A beautifully cancellated little shell, with a slightly recurved columella and sinuously produced outer lip.

8. QUADRICARINATA, *A. Ad.*, (f. 15, 16).—Subconica, sublævigata, anfractibus subquadratis, carinis validis duabus medio cinctis; aperturâ subquadratâ, columellâ tortuâ, acuminatâ, labro angulato margine basali sursum acclivi, spirâ elevatâ, acuminatâ.—Subconical, rather smooth, with two strong keels in the middle of the whorls, the intermediate space being lightly striated and straight; aperture quadrangular, acuminated at the lower part, the columella slightly tortuous.

9. CONICA, *Müll.*, (f. 17).—Trochiformis, spirâ elevatâ; anfractibus angulatis, ultimo magno, biangulato, ad costis duabus validis ad angulos, unâ intermediâ et unâ inferiori cincto; aperturâ angulatâ, columellâ obliquè truncatâ acuminatâ, labro externo margine inferiori rectiusculo, vix acclivi.—This conical shell is figured from drawings, kindly sent to me by M. Mörch, of specimens taken in Greenland. Since figuring it I have examined a shell in the collection of A. Adams, Esq., which, although thicker in substance, I believe to belong to the same rare species.

10. INSIGNIS, *Midd.*, (f. 9).—Subglobosa, crassa, concentricè rugata, confertim undulatim carinata; anfractibus paucis, ultimo

magno, medio subangulato, supernè carinis tribus prominentioribus suberenulatis et intermediis minoribus, infrà plurimis æqualibus cincto; aperturâ expansâ, infrà subacuminata, labro crenato biangulato.—The most globose of all the species; thick, with close-set, thick, crenulated ribs, alternately more prominent. The aperture is wide, the outer lip expanded, angular, and crenated.

11. BICARINATA, *Brod. et Sowb.*, (f. 7, 8).—Angulato-subglobose; anfractibus angulatis, paucis, ultimo maximo, medio carinis duabus ciliatis, distantibus cincto, umbilico lato, margine ciliato; aperturâ maximâ, subquadratâ, columellâ latâ, subplanulatâ.—Angularly globose, last whorl large, with two distant ribs in the centre and a straight broad space between. The aperture is large, rather square; the columella broad and flat.

12. UNICARINATA, *Sowb.*, (f. 10).—Angulatum subovalis, lævigata; spirâ productâ, anfractibus suprâ angulatum carinatis, supra angulum complanatis, depressis; ultimo magno, carinâ minutè carinatâ, umbilico latissimo, margine carinato; aperturâ obliquè subquadratâ, termine oblique acuminato; labro externo medio rotundato, suprâ et infrâ contracto.—The finest specimen yet known of this remarkably-formed shell is that in the British Museum, from which the figure in Sowerby's 'Genera of Shells' was taken.





## APPENDIX TO MONOGRAPH OF THE GENUS

### CONUS.

(Sequel to p. 47, Pl. 18.)

404. COMPRESSUS, *Sowb.*, (f. 602, 603).—*C. angustus*, subcylindraceus, spiraliter tenuissimè striatus, infrà sulcatus, pallidè rubescens, maculis castaneis irregulariter pictus, spirâ gradatâ, castaneo maculatâ, anfractibus compressis.—This shell has some resemblance to *C. anemone*, but it is more solid in texture and the whorls are much more compressed, *i. e.* a greater number contained within a given circumference.

405. ROSEO-TINCTUS, *Sowb.*, (f. 604).—*C. subpyriformis*, pallidè roseus, ad spiram castaneo maculatus, suprâ usque ad medium rubro maculatus et nebulosus infra medium albido unifasciatus, infra fasciam rubro flammulatus, supernè prope angulum spiraliter striatus, versus basim subduplicatim sulcatus.—Slightly pyriform, narrow towards the base, beautifully tinged with rose and clouded with darker tints which culminate into reddish-brown spots near the centre.

406. ANAGLYPTUS, *Crosse*, (f. 605, 606).—A pretty little rose-tinted shell, described in the 'Journal de Conchyliologie,' nearly resembling *C. verrucosus* in form and sculpture.

407. MOUSSONI, *Crosse*, (f. 607, 608).—*C. solidus*, flavidus, maculis aurantiis magnis pictus, medio subinflatus, infrà contractus, granulatus, anfractibus coronatis rotundato-angulatis.—A solid, yellowish shell, with large patches of orange. It has a coronated and roundly angulated spine.

408. STRATURATUS, *Sowb.*, (f. 609, 610).—*C. oblongus*, subpyriformis, suprâ subinflatus, infrâ angustatus subtortuus, albus pallidissimè cæruleo tinctus, maculis subquadratis pallidè fuscis, in fascias duas latas dispositis, et aliis irregularibus ornatus, sulcis distantibus albolineatis supra medium subevanidis, infrâ profundis; angulo subrotundo; spirâ parum elevatâ, spiraliter striatâ, maculis fuscis linearibus radiatâ; apice acuminato; aper-

turâ latâ ; columellâ distinctâ.—Resembling *C. collisus*, Rve., but distinguished by the style of marking, the vertical flame-marks being cut across by the white-edged grooves.

409. LIENARDI, *Bern. et Crosse*, (f. 611-614).—A species belonging to the same group as *C. Bernardi*, etc., but differing in the form of the spire, the whorls of which are carinated. The four beautiful specimens figured are in the collection of Mr. G. F. Angas.

410. SUBCARINATUS, *Sowb.*, (f. 615).—*C. turbinatus*, sublævigatus, infra rudè sulcatus, albus, pallidissimè purpureo tinctus, flammulis fuscis irregulariter angulatis longitudinalibus, medio interruptis pictus ; lateribus rectis ; angulo subcarinato ; spirâ prope angulum convexâ, apice acuminato. Variat fasciis duabus latis, lineis interruptis cinctis ornata.—A more solid and much broader shell than *C. voluminalis*, which it somewhat resembles.

411. EXCAVATUS, *Sowb.*, (f. 616).—*C. C. coffea* simili sed maculis magis regularibus, anfractibus supra angulum excavatis, cancellatis, infra angulum rotundatis.—This shell has a more compact, neat, and regular appearance in texture, colour, and markings than *C. coffea*, besides which it has a round excavation on the top of the whorls, and a rounded shoulder beneath the angle.

412. MACARÆ, *Bernardi*, (f. 617).—A shell of remarkable form and colouring, described and figured in the *Journ. de Conch.*

413. NIGRESCENS, *Sowb.*, (f. 618).—This shell is more pyriform than others of the same group, its coronation consists of few large and sharp-edged nodules, the colouring is deep and has a peculiar half-transparent, tortoiseshell richness, the heart-shaped white spaces are small and comparatively distant.

414. PROXIMUS, *Sowb.*, (f. 619).—This exquisite shell, described in the Proceedings of the Zoological Society, has a general resemblance to *C. Molluccanus*, but its characters, which can be seen in the figure, distinguish it perfectly.

415. MACEI, *Crosse*, (f. 621).—A thin shell, resembling *C. Jamaicensis*, but of a more inflated, although still cylindrical form.

416. CÆLINÆ, *Bernard*, (f. 623).—A much stouter shell, and of finer texture than *C. emaciatus*. The columellar fold is very strong.

417. CONDENSUS, *Sowb.*, (f. 622).—*C. cylindræus*, crassus, roseus, fusco rubescente tenuiter reticulatus, spiraliter striatus, infra contractus, spirâ conicâ, obtusâ.—A connecting link be-

tween the groups to which *C. auratus* and *C. textile* respectively belong.

418. CHENUI, *Bern.*, (f. 624).—Resembling *C. lineatus*, but smoother and more straight-sided.

419. PLANAXIS, *Desh.*, (f. 625).—This appears to have been described in the Book on the Isl. Bourbon, from a very young specimen. It is remarkable for the flatness of its spire.

420. SPIROGLOSSUS, *Desh.*, (f. 626).—This, like the preceding, seems to have been figured and described from a specimen too immature to be very characteristic.

421. CONDERTI, *Bern.*, (f. 627).—A rather short, thick shell, of angular form, with patches and zigzag markings of chestnut colour. From the figure it would appear that there are several distant, strong spiral ridges near the base.

422. CROSSEANUS, *Bern.*, (f. 628, 629).—In the typical variety of this species the white heart-shaped spots have a tendency to be irregularly elongated vertically.—There is a slight shoulder near the angle of the whorls, and the crowning tubercles are small, obtuse, and have a peculiarly pinched-up appearance when not obsolete.

423. MISER, *Boivin*, (f. 630).—This species, from Cape Verd, has been frequently named in collections, by error, *C. sindon*, Rve. The latter is, however, a much more cylindrical shell.

424. VILLEPINI, *Bern.*, (f. 629\*).—Belonging to the same group as *C. undatus*, *C. emarginatus*, etc., but differently marked, it is contracted at the sides and strongly grooved near the base.

425. DAPHNE, *Boivin*, (f. 630\*).—Judging from the figure, this species must in some degree resemble *C. conspersus* or *C. Broderipii*.

426. CECILLÆ, *Bern.*, (f. 631\*).—Sculptured with lines of granulation, otherwise resembling *C. capitaneus*.

427. CABRITHI, *Bern.*, (f. 632).—Distinguished by spiral punctured striæ, the whorls rounded at the margin and crowned with rather indistinct rounded nodules.

428. MULTICATENATUS, *Sowb.*, (f. 633, 634).—*Conus brevis, solidus, acutangulatus, lævis, albus, prope angulum distanter nigro maculatus, fasciis latis duabus interruptis et lineâ textili interruptâ medianâ cinctus, super fascias lineis fuscis maculis rotundis albis catenatis ornatus; lateribus rectiusculis; spirâ brevi, distanter et latè maculatâ, anfractibus suprâ concavis.*—

The spire is rather flat, and the tops of the whorls hollow. The peculiarity of the colouring consists in the chain-like bands of black spots and white intervals appearing across the large chestnut patches.

429. *NODULOSUS*, *Sowb.*, (f. 635).—*C. turbinatus*, acutangulatus, flavidus, lineis angulatis, rubris reticulatus, intùs pallidè roseus, infrà acuminatus, striatus, labro supernè emarginato, spirâ elevatâ lateraliter convexâ, anfractibus gradatis superioribus noduliferis.—Differing from *C. acuminatus*, not only in general aspect, but as a lighter and less solid shell, the lateral outline of the spire being convex and the upper whorls coronated.

430. *TASMANIÆ*, *Sowb.*, (f. 636).—*C. elongato-cylindricus*, luteus, strigis irregularibus longitudinalibus rubescentibus pictus, spiraliter leviter liratus, suprâ acutangulatus, apicè depresso, infra angulum subinflatus, versus basim attenuatus.—Differing from *C. Magus* chiefly in the narrow, attenuated form.

431. *QUADRATOMACULATUS*, *Sowb.*, (f. 637, 638).—*C. acutangulatus*, solidus, lævis, maculis quadratis seriatim pictus, in fasciis duabus nebulosus, lateribus rectis, apice depresso acuto, aperturâ angustatâ, margine maculato.—Somewhat resembling *C. Keati* in markings and form, but is a more solid and smaller shell, narrower, and with straight sides and more depressed apex.

432. *ACUTIMARGINATUS*, *Sowb.*, (f. 640, 641).—*C. acuminatus*, brevisculus, pallidus, distanter biseriatim maculatus, distanter spiraliter sulcatus, apice acuminato, gradato, anfractibus acutè carinatis, labro eleganter sinuato.—In some respects resembling *C. voluminalis*, but smaller and shorter, with the spire more elevated and the whorls sharply carinate.

433. *CIRCUMSIGNATUS*, *Crosse*, (f. 620).—*C. subcylindræus*, oblongus, obtusè angulatus, lineis punctatis et granulatis cinctus, nebulis aurantiis ad angulum et infra medium interruptis pictâ, apice subrotundatim convexo.—Judging from the figure in the French journal, this must be a very interesting species.

434. *ANABATHRUM*, *Crosse*, (f. 639).—*C. acutangulatus*, lævis, flavidus, infrà acuminatus, ad angulum et infra medium albo interruptim fasciatus, anfractuum angulo acuto; apice gradato, elevato, acuminato.—Of the sharply angular, acuminate form which characterizes the group to which *C. undatus*, etc., belong.

435. *TURRICULATUS*, *Sowb.*, (f. 643, 644).—*C. subfusiformis*, curtus, medio subinflatus, suprâ et infrâ attenuatus, acuminatus, spiraliter sulcatus, sulcis numerosis, puncturatis, interstitiis ro-

tundis, spirâ elevatâ, acutangulatâ, ad angulum anfractuum moniliferâ, anfractibus supra angulum lævigatis.—More fusiform and more finely sculptured than *C. acutangulatus*, the margin of all the whorls coronated, in the latter respect differing from *C. præcellens*, in which they are quite smooth.

436. ARCHETYPUS, *Crosse*, (f. 645, and as *C. daucus*, var. f. 330).—There can be no doubt that the shell figured in plate 14, as a variety of *C. daucus*, is identical in character with the one figured in the French journal. The oblong-square markings and the more rounded angle of the upper edge of the whorls sufficiently distinguish both specimens from *C. daucus*.

437. CORDIGERA, *Sowb.*, (as *C. nobilis*, pl. 21, f. 498).—C. quam *C. nobilis* supra et infra medium magis inflatus, infra angulum subrotundus, maculis cordiformibus albis approximatis, sublongitudinalibus, non lineâ rubrâ marginatis; spiræ anfractibus magis planulatis, apice albo.—The two shells which, in all the great collections and all the books, have been placed side by side as varieties of *C. nobilis*, appear to me to be exceedingly distinct. The four or five points of difference are quite constant, and I have never seen a shell intermediate in respect to any one of them.—The apex is always pink in *C. nobilis*, and white in *C. cordigera*. The former has its heart-shaped white spots bordered with a line of strong colour on the front side, the intervening spaces are wide, and crossed by articulated lines, the outlines of the shell are straight, and in each of these particulars *C. cordigera* differs from it.

438. CONCINNUS, *Sowb.*—C. subpyriformis, lævis, infrâ sulcatus, solidus, purpurascens, spiraliter lineis interruptis cincta, anfractuum margine acuto distanter nigro-punctato.—A smoother and neater shell than *C. punctatus*.

439. BORNEENSIS, *Sowb.*, (f. 648).—C. subcylindrica, oblongo infrâ attenuatus, sulcatus, suprâ subinflatu, lævis, obscurè fulvus, rubro obscurè flammatus, aperturâ intus purpureâ, margine maculato.—The only specimen of this shell we have seen is in the collection of T. L. Taylor, Esq.

440. PAZII, *Bern.*, (f. 649).—C. crassus, turbinatus, obtusè angulatus, albidus, fasciis quater latis castaneis cinctus, medio et ad marginem superiorem maculis quadratis tessellatus.—At first sight this would appear to be one of the numerous varieties of *C. venulatus*, but the tessellated character caused by the white lines cutting off and defining the square spots, is perhaps sufficient to distinguish it.

441. *COMPLANATUS*, *Sowb.*, (f. 650, 651, and as *C. Victoriae*, var. pl. 23, f. 576).—*C. quam C. Victoriae magis inflatus, latior, lineis reticulatis tenuioribus, apice magis complanatus.*—The true *C. Victoriae*, which is a thick, rather narrow shell, with large open, principally vertical pattern and much elevated spire, may properly be kept distinct from the broader, flat-topped, more inflated, more finely reticulated, and banded shells here named. The variety fig. 650 is very peculiar in its chain-like reticulation, but in other characters it bears the stamp of the new species.

442. *ROLLANDI*, *Bern.*, (f. 652).—*C. subcylindricus, longitudinaliter striatus, spiraliter distanter sulcatus, anfractibus supernè rotundis, suturâ crenulatâ.*—Our figure is copied from Bernardi's work, in which the "festooned" suture and the longitudinal fine ribs are not visible. It must, however, be an interesting shell.

443. *CONSUL*, *Boivin*, (pl. 21, f. 509).—When the varieties now grouped under the name *C. magus* come to be properly compared it may be found necessary to separate the elongated variety with articulated lines. In that case, the name given by Boivin will be applied to it.

444. *FRAUENFELDI*, *Crosse.*—Of the two figures representing this species in the 'Journal de Conchyliologie,' one is that of a zebra-striped variety of the solid, thick-shouldered shell which is identified in my work as *C. circe* of Chemnitz. See pl. 21, f. 514, and pl. 22, f. 525. The other is that of a shorter shell than *C. magus*, and wider at the base. It agrees well with some specimens received from Borneo, which are now in Mr. Taylor's collection. This may be received as a species not difficult to distinguish.

445. *ALABASTER*, *Reeve*, (f. 631).—Since the publication of our monograph specimens have come to hand from the collection of Mr. Taylor. It is a beautifully sculptured white shell.

446. *LIZARDENSIS*, *Crosse.*—A straight-sided small cone, with reddish flame-like markings in two rows.

447. *STRIOLATUS*, *Reeve*, (f. 327, 328).—United, by error, to *C. ustulatus*, *Reeve.*

*Species not identified or not adopted.*

*BARTHELEMYI*, *Petit*, *Journ. Conch.* From the specimen sold recently in the Robilliard sale, I had no hesitation in saying that

it was a remarkable variety of *C. aurisiacus*, having a broad belt of orange on the upper part, and a white band below the centre with dark spots. Mr. Crosse, however, kindly pointed out some distinctions which make it necessary to see the shell originally described before finally deciding.

LUBECKIANUS, *Bern.*, Journ. Conch., p. 169, t. 1, f. 9. Probably a pale specimen of *C. speciosissimus*, Rve., Thes. f. 123, 124.

ROBILLIARDI, *Bern.*, Journ. Conch. p. 182.

TRIBUNUS, *Crosse*, Journ. Conch. 1865. Probably *C. Hyæna*, young.

SIGNIFER, *Crosse*, Journ. Conch. 1865. *C. Jamaicensis*, var.?

SECUTOR, *Crosse*, Journ. Conch. 1865. Probably *C. Guiniacus*?

LICTOR, *Boivin*, Journ. Conch. 1864. Probably *C. lineatus*, var.

CARPENTIERI, *Crosse*, Journ. Conch. 1865. Probably *C. lignarius*, var.

DAULLEI, *Bern.*, Monog. p. 15, pl. 2, f. 16. Probably *C. anceps*.

GUESTRIERI, *Bern.*, Mon. p. 15, pl. 1, f. 10.

HENOQUEI, *Bern.*, Mon. p. 9, pl. 2, f. 13. Probably *C. vittatus*.

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