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EXOTIC CONCHOLOGY;

OR

FIGURES AND DESCRIPTIONS

OF

RARE, BEAUTIFUL, OR UNDESCRIBED

SHELLS,

DRAWN ON STONE FROM THE MOST SELECT SPECIMENS;

THE DESCRIPTIONS SYSTEMATICALLY ARRANGED ON THE PRINCIPLES OF THE NATURAL SYSTEM.

BY

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SECOND EDITION,

EDITED BY

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IT is a remarkable fact, that, while the perfection to which the Fine Arts have attained in this country, is so great, as to be obvious in the embellishments of the minor pamphlets which daily issue from the press, the delineations of Zoological subjects in general remain uninfluenced by this universal improvement; and, with a few exceptions, present lamentable deficiencies in design, drawing, perspective, and the most common principles of light and shade; any one of which would not be tolerated, even in the frontispiece to the most humble of our periodical publications.

The causes of this may be two-fold. Natural History in this country, until very lately, has been little pursued, and still less estimated; and, the publication of works relating to it being attended with a great and inevitable expense, followed by a comparatively small sale, the burden, in most instances, of engaging artists to produce original designs has been avoided, by substituting those from books long ago published; and thus, we have reiterated copies of the mis-shapen figures given by the writers of the last century, perpetuated with all their glaring faults, in the hot-pressed volumes of the present day.

The other cause may, perhaps, be attributed to an idea which many people entertain, that only the slightest knowledge of drawing is necessary to represent a Bird or a Shell; and that, if the first is painfully copied in the exact position it stands in the Museum, and, if the latter has its due proportion of colour, every thing is done. But they forget, that, in Birds particularly, every family has a decided peculiarity of form and habit, and that all originally possessed the gracefulness of life and action, which does not remain with the preserved skin; and, that, to delineate a shell with a proper degree of accuracy, as complete a knowledge of design, colouring, and *chiaro-scuro*, is requisite, as in painting a cabinet picture of still life. To those who may doubt this assertion, a simple reference to the unrivalled plates of M. de Ferrusac's work on Land Shells, now publishing in Paris, will be sufficient; while the exquisite designs of Barraband, for Le Vaillant's "Parakeets," will evince a consummate knowledge of every principle necessary to constitute a painter of first-rate eminence.

It may be proper in this place to notice Martyn's Universal Conchologist, particularly as that costly book suggested the idea of the present work. The plates have an imposing effect, and many of them are not only beautiful but faithful representations; the majority, however, though laboriously finished, betray an in-

correctness of drawing and a gaudiness of colouring, that renders the eye often incapable of recognising a well-known shell. The plates, also, from being but slightly etched, and afterwards finished in body colours (which leaves so much to those who perform the mechanical process of colouring), are so unequal, that scarcely two copies will be found of the same subject that are alike ; an imperfection, which, although it may lessen the appearance of the present work in the eyes of many, has been carefully avoided, by finishing the plates in water-colours only, and engraving in a decided manner all such delicate characters as belong to the species, instead of leaving them to be put in by the uncertain ability of those who colour.

A few words may appear necessary on the general intention of this work, which is simply that of bringing together a selection of the most rare, undescribed, and beautiful Shells that can be procured ; and although, in pursuing this plan, figures of many will be given that are already scattered in the works of the last age, their representations in general are so imperfect, that few, it is hoped, will regret the repetition. All the drawings are original, and executed by the author on stone ; and the letter-press is so contrived, that at the termination of the work the whole will present a scientific arrangement.

With every endeavour to attain some degree of excellency, the author is fully aware that numerous defects may be discovered in his delineations. Nevertheless, the undertaking has been commenced under the primary wish of inducing others, more competent than himself, to rescue this branch of the Fine Arts from the neglect it has hitherto experienced, and at the same time to stimulate as much as possible the increasing taste now manifested (particularly among the gentler sex) for a pursuit, which, while it brings together some of the most lovely of Nature's productions, has furnished materials for deep and philosophic inquiry, not only into the nature and economy of organized beings, but also into the formation of the planet which we inhabit.

ADVERTISEMENT TO THE SECOND EDITION.

But few words are requisite to preface the second edition of the Exotic Conchology. Mr. Swainson on quitting England having left this beautiful work in an unfinished condition, to me has been committed the task of reducing the whole into systematic arrangement, of drawing up descriptions of species, and adding such synonyms as the advanced state of Conchological knowledge might require. This charge to the best of my power I have fulfilled, adopting that system of classification, to the establishment and elucidation of which so many years of the author's lifetime have been devoted.

S. H.

EXOTIC CONCHOLOGY.

MOLLUSCA.

ORDER—GASTEROPODA.

TRIBE—ZOOHAGA.

FAMILY—MURICIDÆ.

Pillar never plaited; shell spiral, the base narrowed, and either truncated or slightly produced.

Sub-Family—MURICINÆ. Spire as long as the aperture: exterior rough, the whorls marked with varices: aperture wide.

Genus—MUREX. Varices from three to five on each whorl; the inner lip smooth; the spire much shorter than the aperture: an external groove at the upper angle of the aperture.

Sub-Genus—PHYLLONOTUS. Canal moderate; varices foliated, lacinated, compressed or resembling leaves.

PHYLLONOTUS REGIUS. THE KINGLY ROCK SHELL.

Plate XV.

Testâ ovato-subglobosâ, transversim sulcatâ, sexfariam duplicato-spinosâ; spinis canaliculatis rubentibus: albo-lutescente posterius purpurascente: suturis fasciâ piceo-nigrâ zonatis: labio interiore supra piceo-nigro, subtus roseo; umbilico subtecto: cauda sub-ascendente.

M. Regius, Wood's Cat. sup. Murex, fig. 13.

Shell roundish ovate, transversely furrowed, and armed with six broad varices, each composed of two ranges of canaliculated pinkish spines; colour yellowish-white, becoming purplish towards the base, with a pitchy black enamel-like band winding down the sutures, and expanding over the upper part of the inner lip, the lower portion of which assumes the rich colour of the rose: umbilicus nearly if not quite concealed by the projection of the inner lip. Size four inches. Habitat South Seas. This lovely shell, although not rare, has been known to collectors but comparatively a few years. It is usually met with in a polished condition, in which state brown bands begird the body-whorl, and where they traverse the varices,

diversify them with masses of that same deep colour that characterises the inner lip. The aperture is of slightly empurpled and brilliant white, with the position of the varices distinguished by rosy horizontal markings. The *M. Regius* of Chemnitz, vol. 13, is not this shell, but the *M. Erythrostoma* of the Zoological Illustrations.

FAMILY—TURBINELLIDÆ.

Base of the shell produced into a long channel ; the spire generally short : the pillar often toothed, outer lip thin.

Sub-Family—FUSINÆ. Shells generally fusiform and slender : the base elongated ; the spire lengthened and acute : pillar smooth, outer lip thin.

Genus—FUSUS. Shell long, slender : both extremities much produced ; spire attenuated, turreted, and of nearly equal length with the aperture.

F. ARUANUS. THE ARU TRUMPET.

Plate XIX.

Testâ fusiformi, ventricosâ, transversim sulcatâ, fulvo-rufescente ; anfractibus angulatis, supra planulatis, angulo tuberculis nodiformibus coronato ; spirâ parte superiore proboscidiiformi : apice mammillari : labro intus lævigato.

Murex Aruanus, Lin. Gmel. 3546. Dilw. p. 723, no. 84.

Fusus Proboscidiiferus, Lam. Anx. sans V. 7. p. 126. no. 14. Mart. 4. vig. 39. p. 143. Rumph. 28. fig. 1. Bonan. Rec. & Kirch, 3. no. 101. Kiener's *Fusus*, pl. 17. & 17 bis. Wood's Cat. 26. fig. 87.

This Aru Trumpet at once attracts our attention by the extraordinary appearance of the upper portion of its spire, which scarcely seems belonging to the shell, and looks as though a *Pupa* had been inserted in the place of its natural apex. The specimen we have figured is in an exceedingly young state, and certainly differs much from the description we have given above ; its peculiar spire, however, at once betrays its parentage. It is of a much lighter colour, far less ventricose, and its tail much longer in proportion than the adult shell, of which we will now proceed to give a description.

Shell fusiform, ventricose, transversely grooved, tawny red, with the whorls angulated and flattened above : the angle crowned with nodulous tubercles : the upper part of the spire cylindrical and roughened with tubercular plaits, and proboscidiiform : apex mammillary : lip smooth within, Habitat New Guinea.

The specimens I have seen are usually about six inches in length, and not very massive ; but if we may believe the older authors, they attain a far greater size and thickness. From the description Linneus has left us of the S like form of its pillars, I am inclined to think he had not seen the original shell, but had

drawn his characters from some of the many distorted figures that had appeared. Martini's drawing approaches the nearest to our own, Rumphius and Kircher representing it in a more advanced state of growth.

FAMILY—STROMBIDÆ.

Outer lip dilated, thickened internally, or detached from the preceding whorl by a sinus : operculum small.

Sub-Family—STROMBINÆ. Outer lip considerably dilated, but never toothed ; spire rarely longer than the aperture, with a sinus near the base.

Genus—PTEROCERA. Spire short ; outer lip considerably dilated, ascending and attached to the spire, in general divided into linear processes ; basal lobe inflexed, toothed : channel long.

P. AURANTIA. ORANGE-MOUTHED SCORPION.

Plate IX.

Testâ ovatâ, tuberculato-gibbosâ, transversim rugosâ, albo et luteo nebulosâ ; labio exteriore 6 dactylis gracilibus, peracutis, inequalibus, (quorum tres vel quatuor laterales sunt falcati) armato : margine dentato ; labio interiore crasso ; caudâ prælongâ, curvâ, gracillimâ : fauce aurantiâ, lævissimâ.

Lamarc Anx. sans V. 7. p. 198. no. 6. Chemnitz, vol. 10. tab. 158. fig. 1508-9.
Knorr. Vergn. vol. 5. tab. 4. fig. 3. Dilwyn Strombus Lambis, var. B. p. 658.
Crouch's Lamarc, tab. 18. fig. 4.

Ovate, gibbous, and girded with wrinkled furrows and ranges of nodosities clouded with white and brownish clay-colour ; the outer lip armed with six unequal, very acute and slender digitations, of which three or four of the lateral ones are falcated ; margin toothed ; the interior lip thickened : tail smooth, very long, slender and curved : aperture smooth, orange red. Length four inches and a half. The form and direction of the claws, and the great thickness of the lower portion of the inner lip, strongly characterise the shell. The mouth is always smooth, and of a rich orange colour. It is not uncommon, and, according to Lamarc, comes to us from the East Indies.

P. LACINIATA. THE CRESTED STROMB.

Plate XLVI.

Testâ ovato-oblongâ, tuberculiferâ, albo et luteo variâ, ultimi anfractûs tuberculo, aliis multò majore : spirâ exsertâ, nodosâ, acutâ : labro dilatato, latere replicato, superne crenis profundis cristatim inciso ; fauce roseâ.

Strombus Laciniatus, Dilw. p. 663. no. 15.

Strombus Cristatus, Lam. Anx. sans V. 7. p. 202. no. 7. Seba, 3. tab. 62. fig. 3. Fav. 22. A 2. Chem. 10. tab. 158. f. 1506, 7. Wood's Strombus, no. 15.

The chief character of the genus *Pterocera*, which rests on the basal lobe of the outer lip being turned inwards and generally toothed, having been hitherto overlooked, has caused this shell to be included in the overburdened one of *STROMBUS*. We easily recognize the species by the peculiarity of its outer lip, which is very much dilated, sinuated near the base, curved inwards in the middle, and scalloped and lacinated towards its upper angle. For the rest, the shape is ovate-oblong, transversely ribbed and nodulous, the colours white and yellowish orange, the spire exerted and acute, the throat rosy and the mouth smooth. Length four inches and a half. According to Chemnitz it is found in the East Indies.

GENUS—*STROMBUS*.

Outer lip entire; the margin not inflected, with a deep sinus near the base, and the upper part not ascending to the top of the spire: basal lobe rarely inflexed and never toothed.

S. *TRICORNIS*. THE HORNED WING-SHELL.

Plate XXXI.

Testâ turbinato-trigonâ, ponderosa, vel pallidâ vel albo et rufo longitudinaliter pietâ, nodis tribus longitudinaliter compressis armato: labio exteriore inflexo, margine crasso, supra attenuato et ultra acutam subnodosamque spiram producto; caudâ truncate: aperturâ lævi, albâ.

Variety of S. Gallus, Dilw. p. 662. no. 14.

S. Tricornis, Lam. Anx. sans V. 7. p. 201. no. 4.

Var. A. Enc. Met. 408. fig. 1. & 409. fig. 2. Mart. 3. tab. 84. fig. 843. Lister, 873.

Sw. II. 1st series, part 3, pl. 135. Wood's Cat. Sup. Stromb. no. 16.

Var. B. Mart. 3. tab. 84. fig. 844, 5. Young Shells. Seba, 62. fig. 36, 10. Mart.

3. fig. 847, 890.

Martini was the first conchological writer who separated this species from *S. Gallus* of Linnæus, under which name were included three shells so different from each other, that they hardly possess one character in common. The one we are describing is ponderous, triangularly turbinate, and armed with three longitudinally compressed protuberances. Its outer lip is inflexed (the margin thickened) attenuated above, and produced beyond its spire, which is acute and subnodulous: channel truncated. Two varieties of this shell are met with; the one we have figured having the attenuated process of the lip much produced, the margin folded inwards and the lip somewhat spatulate or spoon-shaped, the colour generally white, slightly diversified with brown stripes or irregular spots, and the mouth pure white: the other (*var. B.*) with the process of the lip shorter and the margin not

folded, the colour usually brownish, richly clouded and variegated with chesnut, and the aperture tinged with pale red or rosy. I believe this species inhabits the coast of America. It is a heavy shell, and sometimes measures seven inches in extreme length.

S. GALLUS. THE ANGEL'S WING.

Plate XXXII.

Testâ turbinatâ, tuberculiferâ, transversim sulcatâ, albo et rufo variegatâ; ultimo anfractu superne tuberculis magnis transversim compressis coronato; tuberculis carinâ transversâ coadunatis: labro tenui, iutus (sit etiam columellâ) pallidè fulvo-aurantio, supernè in lobum sæpius prælongum producto.

S. Gallus, Lin. Gmel. 3511. no. 11. Dilwyn, p. 662. no. 14. Lam. Anx. sans V. 7. p. 201. no. 5. Lister, 874. Gault, 32 m. Seba, 3. tab. 62, fig. 1, 2. Mart. 3. fig. 841, 842, 846. Knorr, part 4. tab. 12. fig. 1. Fav. 21. A 1. Wood's *Strombus*, no. 12.

Shell turbinate, transversely ribbed, clouded with white and reddish-brown. The body-whorl, is angulated near the suture and armed on the ridge with a range of transversely compressed protuberances, which run up the short and acute spire, lessening in size as they proceed upwards. The pillar and outer lip are of a beautiful pale tawny orange, the former tapering downwards to an extremely fine point, the latter, which is smooth and effuse, elegantly produced upwards into a more or less linear lobe, which is frequently elevated far beyond the summit of the spire. Length, exclusive of the lobe, four inches. Habitat Asiatic and American seas.

S. ALATUS. THE DARK WING-SHELL.

Plate XI.

Testâ turbinatâ, dorso levigatâ, basi spirâque transversim striatâ; rufescente ultimo anfractu supernè obtuse angulato et tuberculis coronato: spira conico-acutâ, basi subtuberculiferâ: labro intus striato, antè lobo rotundato: columellâ fuscâ: fauce purpureâ.

Strombus Alatus, Gmel. 3513. no. 14.

Strombus Pyrulatus, Lam. Anx. sans V. 7. p. 204. no. 13.

Strombus Pugilis, var. Dilwyn, p. 664. no. 17.

Schroet, Ein. 1. pl. 2. fig. 14.

Shell turbinate and reddish brown, with the body-whorl, which is smooth except at the base where it is striated transversely, obtusely angulated above and crowned with tubercles. The spire is acute, conical and striated, with spinous nodules

roughening the lower portion of its volutions. The outer lip furnished above with a rounded lobe and striated within; the pillar rich brown and the throat brilliant purple. Length three inches. Locality?

S. PACIFICUS. THE WING-SHELL OF THE PACIFIC.

Plate XVII.

Testâ ovato-oblongâ, fulvâ, tuberculiferâ, transversim costatâ et nodulosâ; labro supernè lobo digitiformi terminato, infra dupliciter sinuato: labii interioris parte superiore, maculâ magnâ spadiceâ, notatâ: caudâ ascendente: fauce striis exaratâ . . .

S. Auris Dianæ, var. *C.*, Dilwyn, p. 664. no. 16.

S. Auris Dianæ, Shaw's Nat. Misc. 22. pl. 926. Martyn, fig. 1.

S. Novæ Zelandiæ, Chem. 10. fig. 1485, 6.

This elegant shell was long ago distinguished by Chemnitz from *S. Auris Dianæ*, with which it has doubtfully been associated by Dilwyn and other conchological writers. The smoothness of the inner lip of the latter species would, of itself alone, enable us to separate the two, but this indeed is far from being the sole distinctive difference.

The Pacific *Strombus* is of a pale satin-like fawn colour, mottled with white, the shape ovate oblong, slightly nodulous and ribbed towards the base, with a range of sharpish protuberances at the upper angle of the body-whorl, running up the exerted spire, which is somewhat longer in proportion than that of *Auris Dianæ*. The outer lip, as in that shell, has its summit produced into a digitiform lobe, but the throat is deeply furrowed. The pillar lip is pure white, with the higher portion of it stained not inelegantly by a large chesnut-coloured spot; and the beak at the base of the aperture is long, tapering and ascending. If we may believe Martyn it is brought to us from the Friendly Isles, and in length is about three inches.

S. MELANOSTOMUS. DARK-MOUTHED STROMB.

Plate XLVII.

Testâ ovato-oblongâ, transversim sulcatâ, tuberculato-nodosâ; grisea, lineis fuscis longitudinalibus sæpius undulatâ; labro crasso, supra digitato ut in præcedente: spirâ exserta, caudâ ascendente, recurvâ: fauce lævi, crocæ: ventre nigricante.

S. Auris Dianæ, var. *B.* Dilwyn, p. 664. no. 16. Lister, 872, fig. 27.

S. Adusta, Chemnitz, 10. tab. 184. fig. 1487, 8.

The general shape, the digitation of the lip, the exerted spire and ascending beak, might lead us to confound this with the preceding species; but the smooth and

brilliant orange mouth and the deep brown hue of the pillar lip quickly undeceive us. The colour is usually grey, with wavy brown longitudinal lineations, and broad transverse bands at the thickened edge of the outer lip, which become obsolete ere they meet the nodulous zones which gird its volutions. I know not its precise locality. It averages in length three inches.

FAMILY—VOLUTIDÆ.

Shell destitute of a channel; the base truncated and notched: the pillar marked with folds or plaits: no operculum.

Sub-Family—VOLUTINÆ. Spire shorter than the aperture, which is never striated; pillar with distinct plaits, the upper ones the shortest: tip of the spire papillary.

Genus—VOLUTA. Shell large and ventricose, the spire extremely short, very obtuse, and papillary, the terminal whorls, where they exist, being smooth and unsculptured.

TURBINELLIFORM TYPE.

V. DIADEMA. THE DIADEM.

Plate VI.

Testâ ventricosâ, fulvo-aurantiâ aut albo marmoratâ aut venis longitudinalibus spadiceis flexuosis subreticulata: spirâ spinis fornicatis reetiusculis coronatâ: columellâ 3-plicatâ.

V. Diadema, Lam. Anx. sans V. 7. p. 329. no. 2.

V. Ethiopica. var. E. Dilw. p. 574. no. 178. Gault. 29. H. Marti. vol. 3. tab. 74. fig. 780, 783. Enc. Met. 388. fig. 2. Kiener, Volutæ, pl. 7, 8.

Shell oval-ventricose, either marbled with white upon a ground of orange-brown, or pale fulvous subreticulated by wavy masses of a deep chesnut. The first few of the six or seven whorls which compose its short and mammillary spire are smooth, but the last two are crowned with a range of moderate sized, concave, and nearly erect spines, which however by age gradually disappear towards the outer lip (a character not peculiar indeed to this species, but participated in by most if not all the Crowned Melons.) The mouth is large, oval-oblong, pale yellow, and sometimes bright orange, and the pillar is sculptured with three oblique plaits, placed at equal distances from each other. In young individuals (in which state we have figured it) the colours are usually lighter, and the markings resolve themselves into two rows of irregular-shaped maroon-coloured spots; whilst specimens which have attained any considerable age, lose their mottled appearance and assume a uniform tint. Size seven inches. Habitat Asiatic ocean.

V. TESSELLATA. THE NAVAL CROWN.

Plate XII.

Testâ ventricosissimâ, pallidè fulvo-rufescente nonnunquam seriebus 2 macularum fuscarum ornatâ : spira brevissima, mammillari, spinis brevibus versus axem penitus inflexis, coronatâ : columella 4-plicata.

Voluta Nautica, Lam. Anx. sans V. vol. 7. p. 329, no. 1.

Toluta Tessellata, Lam. Anx. sans V. vol. 7. p. 330. no. 5.

Voluta Ethiopica, var. *A.* Dilwyn, p. 574. no. 178. Mart. 3. tab. 74. fig. 881. & tab. 75. fig. 685. Seba, 3. tab. 64. fig. 2. Enc. Met. 387. fig. 2. Lister, 797. Kiener, *Volutæ*, pl. 2, 3.

Shell roundish-oval, very ventricose, almost as broad as it is high, pale fulvous or yellow, with sometimes two rows of brown spots. Spire extremely short and mammillary, the first whorls smooth, the last and preceding one crowned with squamiform very flattened spines, which are bent down so as to conceal the apex. Aperture very ample, oval-oblong, and of a pale flesh colour : pillar with four very oblique plaits. Length eight inches, breadth five inches and a half. Habitat : the Atlantic ocean.

VOLUTA ETHIOPICA. ETHIOPIAN CROWN.

Plate XXXIX.

Testâ obovatâ, ventricosâ castaneâ : spinis brevibus, frequentibus, depressis, rectiusculis, et in anfractum spiræ primæ continuatis : columellâ 4, in junioribus 3 plicatâ.

V. Ethiopica, Lin. Gmel. 3465. no. 113. Lam. Anx. sans V. 7. p. 331. no. 6. Dilwyn, p. 574. no. 178.

Var. *A. entirely chesnut*, Lister, 801. 7. B. Gualt. 29. I. Mart. 3. tab. 75. fig. 784. Enc. Met. 387. fig. 1. Kiener, *Volutæ*, pl. 5. Wood, pl. 21. fig. 175.

Var. *B. with a pale obsolete band*, Gualt. 29. II. Seba, 65. fig. 4, 11. tab. 66. fig. 9. Mart. 3. tab. 73. fig. 778, 9.

Var. *C. with two brown bands*, Mart. 3. tab. 74. fig. 782.

The peculiarity of this common species, which is retained under the original name of Linnæus, consists in the spines being more numerous and slender, but not less crowded than in the preceding one ; like the spines of that shell, these also are flattened on the upper surface, but instead of being greatly depressed on the spire, are nearly straight and are often continued on the next and even succeeding volution. Its shape is more oval, and its colouring, though never marbled or spotted, varies considerably. The upper plait on the pillar in this shell, is very slender and indistinct, the spines are thick set and beautifully graduating to a very small size on

the first spiral whorl, and longitudinal lines of a paler colour than the general tint run the whole length of the shell. Size four inches but frequently more. Inhabits the Asiatic ocean.

VOLUTA MELO. INDIAN SPOTTED MELON.

Plate XXII.

Testâ ventricosâ nonnumquam ventricosissimâ, albido-lutescente, maculis fuscis subtriseriatâ : spirâ lævi obtectâ : columellâ 4 plicatâ.

Voluta Indica, Gmelin, 3467. no. 120.

Voluta Melo, Lam. Ann. du Mus. p. 59. no. 6. and Anx. sans V. 7, p. 331. no. 7.

Dilwyn, p. 580. no. 188. Mart. 3. tab. 72. fig. 772, 3. Enc. Met. 389. fig. 1.

Knorr, 5. tab. 8. fig. 1. Kiener, *Volutæ*, pl. 15. Wood's Cat. pl. 21. fig. 185.

Young. V. Præputium, Gmel. 3468. no. 124. Lister, 798, fig. 5. Chem. 10. tab. 148. fig. 1391, 2.

Of this beautiful though common shell, not a tolerable coloured figure has yet been published: its usual colour is a clear orange-tinted yellow, marked by rich chesnut spots disposed in two or three transverse bands: in form it is oval-ventricose, but subject to much variation; the spire is smooth and nearly concealed, and the pillar four plaited. A character sometimes exists in this shell which in others is not observable, of three or four remote slender indented striæ across the body-whorl. The young shells of this and all the Melons have the spire of the same size as in the full grown shell, when it becomes nearly covered by the body-whorl. Linnæus, not being aware of this, has in several instances described them as distinct species. No doubt can exist that his *V. Præputium* is no other than the young of this shell, which is a native of the Indian seas. Size six inches.

* V. CYMBIUM. NEPTUNE'S CAR.

Plate XXXIV.

Testâ subovatâ albo rufoque marmoratâ; spirâ carinatâ, canaliculatâ, apice subglandiformi conspicuo: columella triplicata.

V. Cymbium, Lin. Gmel. 3466. no. 114. Lam. Anx. sans V. p. 332. no. 9. Dilwyn,

p. 576. no. 181. Lister, 796. f. 3. Gualt, 29 B. Seba, 3. tab. 65. fig. 8, 9. Mart.

3. tab. 70. fig. 763. Enc. Met. 386. fig. 3. Wood, *Volutæ*, 178. Brod. Mon.

Cymba, no. 9. Kiener, *Volutæ*, pl. 13. Blain, Mal. pl. 29. fig. 2. Sow. Gen.

* This excellent description I have extracted (together with those of *Porcina*, *Olla* and *Rubiginosa*) from Broderip's Monograph of the genus *CYMBA*, a work far beyond the meed of praise of mine.

Shell angularly ovate, marbled with white and brownish red, covered with a thin brown epidermis, which is coated for about one-third of the shell with an enamel-like glaze, which takes its commencement near the pillar. The spire is deeply carinated and channelled, exposing the subglandiform apex, and forming, with the subreflected sharp upper border of the body-whorl, a wide spiral excavation. The upper edge of the outer lip recedes from the spire. The pillar, which is very much curved, has three plaits, and is bordered on the basal half with a rich chesnut longitudinal band. Length five inches. Inhabits the African ocean.

V. OLLA. THE MELON.

Plate XXVI.

Testâ ovatâ, ventricosâ, pallidè luteo-fulvâ ; spirâ brevi, canaliculatâ, apice subconico exserto : columellâ buplicatâ . . .

V. Olla, Gmel. 3466. no. 115. Lam. Ann. du Mus. pl. 60. no. 9. and Anx. sans V. 7. p. 353. no. 10. Dilwyn, pl. 578. no. 183. Gualt. 29. A. Mart. 3. tab. 72. fig. 772, 3. Lister, 794. fig. 1. Enc. Met. 385. fig. 2. Wood's Cat. Volutæ, no. 180. BROD. CYMBA, fig. 1. Fav. 28. c. 2. Keiner, Volutæ, pl. 14. Crouch's Lamarc, 19. fig. 9.

This species which though common is rarely met with in perfection, is ovate-ventricose, pale fulvous, covered with a thin pale brown epidermis, which is coated with an enamel-like glaze, from near the pillar to about two-thirds of the shell. The subconical apex is exposed, as well as the spire, which last, together with the upper part of the body-whorl, is rounded and deeply channelled. Size four inches. Habitat : the Mediteranean.

V. RUBIGINOSA. BURNT-MOUTHED MELON.

Plate XXVIII.

Testâ elongatâ, subcylindricâ, pallidâ ; anfractûs basalis limbo, apicem supereminente : columella triplicata, fauce rubiginosâ. In ætate propectis testâ tegmine vitreo penitus adoperatâ ; in junioribus apex subconicus, exsertus.

Brod. Mon. Cymba, fig. 7. Wood's Cat. Sup. Voluta, fig. 23.

Shell elongated, irregularly cylindrical, pale, (except on and near the pillar and in the aperture, where it is of a rich rusty brown,) covered with a pale brown epidermis, which is entirely coated in old individuals with a brown enamel-like glaze. The apex of the spire is almost obliterated, and the border of the spire

and the body-whorl, which is not very sharp, is produced somewhat beyond it, exposing a rounded excavated area, deeper but much more contracted than that of *Porcina*. Pillar with three plaits. Size four inches. Habitat ?

In younger individuals the subconical apex, together with the spire, is exposed; and the upper edge of the border of the body-whorl, which is sharper than it is in old specimens, does not project beyond them: neither does the enamel-like glaze, which in this stage of growth is thin and silvery, cover more than two-thirds of the shell.

V. PORCINA. KEEL-MARGINED MELON.

Plate XXV.

Testâ subcylindricâ, pallidè fuscâ : anfractûs basalis limbo apicem subobsoletum vix supereminente, patulo tantum non plano, subcarinato : columellâ buplicatâ. Apex in junioribus exsertus.

V. Porcina, Lam. Anx. sans V. 7. p. 334. no. 12. Dilwyn, p. 577. no. 182. Adanson, 3, fig. 2. Seba, 3. tab. 65, fig. 5, 6. tab. 66. fig. 5. Mart. 3. tab. 70. fig. 764. Enc. Met. 386. 2. Wood's Cat. Volutæ, no. 179. БРОД. СЪМНА, fig. 6. Kiener, Volutæ, pl. 12. Sow. Conc. Mau. fig. 434.

Shell subcylindrical, whiteish, covered with a thin ash-coloured epidermis, which is coated by a silvery enamel-like pellicle extending over about two-thirds of the shell. The apex is more visible than in *V. Proboscidalis*, but the spire is entirely concealed, the upper border of the body-whorl is less reflected than in that shell and the area though very open is less excavated; its size also is very inferior. In fine specimens the aperture is of a rich brown. Pillar with two plaits. Senegal. Length five inches and a half.

MURICIFORM TYPE.

V. MARMORATA. MARBLED VOLUTE.

Plate I.

Testâ ovato-oblongâ, subventricosâ, coronatâ : carneolâ, lineis fulvis longitudinalibus angulato-flexuosis ornatâ : spirâ brevi, spinis brevibus muricatâ, apice autem conico, lævi : columellâ 4 plicatâ.

Kiener, Volutæ, pl. 26. Wood's Cat. Sup. Volutæ, fig. 20.

Shell ovate-oblong, subventricose with a short and conical spire, composed of eight subcarinated whorls roughened near their base by a range of short but sharp-pointed tubercles. The body-whorl which is attenuated towards its lower extremity

is crowned with a series of nine or ten muricated tubercles, becoming obsolete towards the thin and acute outer lip which is detached from the spire, (whose apex is smooth and unarmed,) by a deep sinus. The mouth is elongated and tolerably large, the pillar rounded, oblique, and furnished with four large and equidistant plaits. The colour of this excessively rare species, which appears to have been unknown even to the indefatigable Lamarck, is pale pinkish fulvous, and graceful lines of a rich brown traverse it lengthways in angular and distant waves. The length is four inches and a half, the breadth two inches and a quarter. From whence it came is unknown to me, but a fine specimen is preserved in the valuable collection of Mr. Lincoln.

V. CHRYSOSTOMA. GOLDEN-MOUTHED VOLUTE.

Plate XLV.

Testâ turbinatâ, tubereulis brevibus fornicatis acutis coronatâ : albâ lineis angulato-flexuosis, maculisque angularibus continuis rufo-fuscis longitudinaliter fasciata : spirâ muricatâ : labro intus aureo : columellâ 4 plicatâ.

Voluta Luteostoma, Chem. 11. tab. 177. fig. 1707, 8.

Shell turbinate, oval, white, with angularly flexuous reticulated lines, and rich red brown wavy and angular masses longitudinally arranged upon the body-whorl, whose summit is crowned with short, vaulted and acute tubercles, which extend up the first few succeeding whorls of the spire; the apex however is smooth and mammillary; the pillar is pale yellow, and furnished with four strong but not oblique plaits, and the aperture is brilliant gold colour. At first sight this species might be taken for a variety of *Vespertilio*, from which it may be distinguished by difference of colouring and marking, the smallness and nearness of its vaulted spines, the comparative shortness of its body-whorl, and the lovely hue of the aperture. Two inches.

STROMBIFORM TYPE.

V. SCAPHA. THE HEAVY BOAT MELON.

Plates XIII. and XLVIII.

Testâ crassâ ponderosâ, turbinato-ventricosâ ; albidâ, lineis longitudinalibus angulato-flexuosis rufis vel spadiceis undatâ : ultimo anfractu antè obtusè angulato : labio exteriore subalato : spirâ brevi crassâ : aperturâ albâ : columellâ 4 plicatâ.

Voluta Scapha, Gmel. Lin. 3468. Lam. Anx. sans V. 7. p. 334. no. 13. Dilwyn, p. 573. no. 175. Lister, 799. fig. 6. Mart. 3. tab. 72. fig. 774. and tab. 73. fig. 775, 6. Enc. Met. 391. Seba, 64, fig. 5, 6. Gualt, 28. s. (bad). Wood, *Volutæ*, fig. 172. Kiener, *Volutæ*, pl. 16, 17, 18. Chem. 13. fig. 3030.

Shell ponderous, unarmed, smooth and ventricose; the spire short, thick, conical, mammillary and composed of five or six whorls, of which the last is very large, subcarinated above and conoidiform. The mouth is elongated oblong, tolerably large, and of a milky white but sometimes tinged with brown. Where the outer lip, which is slightly reflected, prominent and angulated above, is attached to the body-whorl, a sinus presents itself, under which we see a canal corresponding to the subcarinated ridge of the exterior, which in full grown individuals is slightly dilated. The pillar is rounded, almost straight, usually covered with an enamel-like glaze, and furnished with four plaits. The colouring is variable, but in the majority of specimens, numerous wavy angulated reddish brown lines, crossed on the body-whorl by two or three bands of large irregularly shaped spots of ferruginous brown, relieve the darker or lighter fulvous which forms the ground of the shell. The apex is of a pale maroon, the length three inches and a half and the habitat, the Cape of Good Hope and the shores of India and Java.

ANCILLIFORM TYPE.

V. ANGULATA. ANGULATED MUSIC.

Plate XXXIV. 3 & 4

Testâ elongatâ, inermi, epidermide vitrea tectâ: pallidè fulvâ, lineis, irregularibus, spadicis, longitudinaliter undatâ: anfractu basali supernè angulato, supra plano: spira brevi attenuatâ, lævi, apice acuto: aperturâ effusâ, aurantii colore tinctâ: columellâ triplicatâ.

V. Nasica, Chem. 13. tab. 217. fig. 3031, 2. Kiener's *Volutæ*, pl. 38. Wood's *Cat. sup. Volutæ*, fig. 21.

Fusiform oval, unarmed, covered with a glazed epidermis, smooth and polished, pale fulvous adorned with longitudinal linear markings of a pale violet brown. The spire which is composed of six or seven volutions is conical and very acute; the body-whorl, attenuated towards the base, strongly angulated (except when immature) and flattened above. The aperture is effuse, of an orange yellow and elongated oval, and the outer lip acute and separated from the pillar by a wide and deep sinus, whose lower part is furnished with three plaits. Length six inches, breadth two inches and a half. The Southern Pacific ocean.*

* An absurd notion is entertained by the French naturalists respecting the locality of this shell; several of them assigning it to the more northerly part of the Atlantic ocean.

GENUS—CYMBIOLA.

Spire more produced, but not more than half as long as the aperture ; the terminal whorls regular and sculptured ; plaits on the pillar, four.

C. NIVOSA. SNOW-SPOTTED VOLUTE.

Plate V.

Testâ ovatâ, aut muticâ aut brevibus et acutis tuberculis armatâ ; lividè helvinâ, maculis niveis aspersâ ; fasciis duabus fusco-lineatis, lineolis interruptis, longitudinalibus, serieque tertia linearum continuarum a suturis radiantium : columellâ quadriplicatâ.

Voluta Nivosa, Lam. Anx. sans V. 7. p. 337. no. 19. Ann. du Mus. 5. p. 58. tab. 13. fig. 2. A. B. et 17. p. 64. no. 18. et 5. pl. 12. fig. 3. Wood's Cat. Volutæ, no. 177. (not good). Dilwyn, p. 573. no. 174. Chemnitz, 13. tab. 216. fig. 3025, 6. Shaw, Nat. Misc. 21. tab. 912. Kiener's Volutæ, pl. 34. Blain Mal. pl. 29. fig. 1.

Shell ovate, either nearly devoid of tubercles or crowned with short spinous tuberculations and angulated : livid flesh-colour, speckled with snowy spots, and adorned by two bands of interrupted longitudinal brown lines, and a series of unbroken ones radiating from the sutures ; mouth of a deep yellowish buff colour ; pillar with four plaits. Length two inches and three-quarters. Habitat : New Holland.

Lamarc appears the first writer who has described this once rare and elegant shell, whose general form approaches very near to the Bat Volute, particularly in the tuberculated termination, and in being either nearly smooth, or armed with short angular and obtuse spines. The mouth however is more effuse, and the peculiarity of colouring is constant.

C. PACIFICA. MUSIC SHELL OF THE PACIFIC.

Plates XIV. and XLIII.

Testâ ovato-fusiforimi, anfractibus antierius tuberculatis vel nodosis ; pallidè fulva vel carneâ ; venulis spadiceis, angulatis, fasciisque tribus fusco-maculatis ornatâ : columellâ quinqueplicatâ.

F. Pacifica, Chemnitz, 11. tab. 178. fig. 1713, 4. Lam. Ann. du Mus. 70. no. 33.
F. Arabica, Gmelin, 3461. no. 144. Martyn, 2. pl. 52. Kiener, Volutæ, pl. 37.
 Wood's Cat. Voluta, no. 153. Lam. Anx. sans V. 7. Voluta, no. 35. p. 544.
 Dilwyn, p. 565. Voluta, no. 156.

Shell ovately fusiform, volutions nodulous or tuberculated above ; pale fulvous or flesh-coloured, with deep chesnut angular veins, and three bands of irregular

markings; pillar with five plaits. Length three inches and a quarter. Habitat: New Zealand.

Until lately this shell has been considered one of the most rare and valuable shells of the genus. A few specimens have however been recently brought to England by the South Sea vessels, principally, as I learn, from the Bay of Islands, and have found their way into the London Collections; it is, nevertheless, a shell very rarely seen. Two striking varieties appear to exist; one of which is nearly smooth, or with only small tubercles; the other has large three-sided nodules on the two lower volutions, and the terminal ones plaited. This variety is figured from Mr. Dubois's cabinet; it has the apex imperfect, but the aperture filled up by the animal—a circumstance that occurs in two others in that gentleman's collection, one of which is near half as large again. The smooth variety is in the possession of C. Maud, Esq. and is remarkable for its perfection. It is often tinged with a bright reddish colour, similar to *V. Olla*, but which is external, and not the real colouring matter of the shell. Gmelin erroneously describes the number of plaits as four instead of five. The mouth at the base is effuse, and the margin slightly reflected.

C. TUBERCULATA. TUBERCULATED MUSIC.

Plate XXIX.

Testâ ventricosâ, anfractibus transversim sublevatis, tuberculatis: pallidè fulvâ, venulis remotis, angulatis, spadiceis, undulatâ: spirâ brevi, attenuatâ; apertura effusâ: columellâ quinqueplicatâ.

Voluta Subnodosa, ? Leach, Zool. Misc. 1. tab. 8. fig. 24. Wood's Cat. Sup. *Voluta*, no. 22. Kiener, *Volutæ*, pl. 31.

Shell ventricose, whorls with an elevated transverse row of tubercles; pale fulvous, undulated by distant lines of an orange chesnut colour. Length three inches and a half.

This is a new and undescribed Music; unless indeed the *V. Subnodosa* of Dr. Leach is intended for this species, which it is impossible to ascertain, from the brevity of the description, and insufficiency of the figure, neither of which expresses the number of plaits, or the form of the mouth, &c. The only specimen of the shell I have seen was purchased in Paris, and is now in my possession. Towards the top of the body-whorl there is a slightly carinated elevation, broken into small nodulous tubercles, which are continued on the three following volutions of the spire; the two next whorls, which form the tip, are smooth, polished, and white. The suture is prominent, the aperture effuse, and the pillar has five thick obtuse

plaits, of which the three middle are the largest. The angulated markings on the back are orange brown, and not disposed in bands. I am unacquainted with its locality, which may probably be the Pacific ocean.

C. LUGUBRIS. MOURNING CYMBIOLA.

Plate XL.

Testâ ovato-oblongâ, abbreviato pyriformi, lævi, albido flavescente, strigis, angustis, interruptis, ferrugineis, longitudinaliter undatâ, nonnunquam cinereo-violascente fasciata : spirâ brevi : columellâ quadriplicatâ.

Voluta Flavicans, Gmel. p. 3464. no. 105. Dilwyn, p. 570. no. 168.

Voluta Volvacea, Lam. Ann. du Mus. 17. p. 72. Lam. Anx. sans V. 7. p. 346. no. 41.

Mart. 3. tab. 95. fig. 922, 3. Seba, 3. tab. 67. fig. A. B. Wood's Cat. 21. fig. 165.

This species, less remarkable for its beauty than its rarity and singularity, is smooth, solid and ovate-oblong, very ventricose and turgid at the upper part of the body-whorl, but with a spire so short, and a base so attenuated, as to become almost pear-shaped. The outer lip is arcuated, the mouth white and the pillar furnished with four strong and slightly oblique plaits. The colour is yellowish white, adorned with flexuous and narrow streaks of a rust colour which are longitudinal and interrupted, and sometimes marked with pale ashy-violet zones. Length two inches and a half. Locality?

Obs. In the figures we have quoted the shell appears not lineated but spotted. The series of specimens in the British Museum, however, establishes their identity.

C. GRACILIS. SLENDER CYMBIOLA.

Plate XLII.

Testâ fusiformi, lævi, pallidè fulvâ, lineis spadiceis, angulato-flexuosis tantum non reticulatâ ; ultimo anfructu mutico, spirâ tuberculato-plicatâ : columellâ quadriplicatâ.

This graceful shell is but a variety of *Pacifica* and not a distinct species. It is fusiform, smooth with the spire roughened by blunt tubercular plaits, from which the body-whorl is free. The colour is that of pale burnt Sienna (a hue peculiarly common to the *Volutidæ*) prettily variegated by numerous longitudinally waved chesnut lines, so close as almost to form a network over the entire surface : the outer lip is acute, the aperture whiteish and slightly empurpled, and the pillar furnished

with four plaits. Habitat, the Pacific. Length two inches. Kiener considers it a variety of Magellanica.

GENUS—HARPULA.

Spire developed as in the last, but the tip is generally more slender, and the plaits are numerous.

H. HARPA. THE HARP VOLUTE.

Plate XLI.

Testâ ovato-oblongâ, basi transversim sulcatâ, albo-luteolâ, lineis et maculis interruptis aurantiacis transversim fasciata; anfractibus subplanis angustis; costis longitudinalibus, distantibus, superne mucronatis; columellâ plicis tribus majoribus, cæteris minimis distinctâ.

Voluta Mitræformis, Lam. Anx. sans V. 7. p. 347. no. 43.

Voluta Anna, Lesson, Ill. de Zool. pl. 44. Kiener's *Volutæ*, p. 34. pl. 40. fig. 1.

Shell oval, with the spire tolerably long, pointed and terminated at the summit by a small smooth and mammillary apex. The volutions which are in number seven, and but slightly rounded, abruptly terminate and form an angle with the suture, and are traversed longitudinally by ten or twelve mucronated ribs. The outer lip is smooth and simple and the body-whorl but slightly longer than the spire, and attenuated and furrowed at the base, and the pillar is arcuated and furnished with three distinct plaits, above which are numerous grooves, but so indistinct that in some specimens they are almost obsolete. The colour of this rare and beautiful shell is whiteish, with the ribs elegantly marked, so as to form interrupted zones of horizontal lines and square spots of orange, pink, or fulvous. It comes to us from Japan, and is in length two inches.

GENUS—SCAPHELLA.

Shell smooth, almost polished; outer lip thickened internally: suture enamelled; lower plaits the smallest: apex of the spire various.

S. UNDULATA. WAVE-MARKED VOLUTE.

Plate XXVII.

Testâ ovato-fusiforimi, lævigatâ, albido-flavescente, maculis fulvis aut violaceis nonnumquam nebulatâ: lineis spadiceis, longitudinalibus, crebris, undatim flexuosis: columellæ plicis præcipuis quaternis, interdum duabus minoribus adjunctis.

Voluta Undulata, Ann. du Mus. 5. p. 157. pl. 12. fig. 1. et 17. p. 71. no. 36. Lam. Anx. sans V. 7. p. 345. no. 38. Chemnitz, 13. tab. 216. fig. 3027, 8. Shaw's Nat. Misc. 17. tab. 702. Crouch's Lamarc, 19. fig. 22. Wood's Cat. *Voluta*, no. 166. Kiener, *Volutæ*, pl. 44. fig. 1. Dilwyn, *Voluta*, no. 169. p. 571.

Shell ovate fusiform, smooth, yellowish white, not unfrequently clouded with fulvous or violet-coloured spots; and adorned with numerous waved chesnut longitudinal linear markings: mouth salmon-coloured: pillar with four principal plaits, and at times with one or two smaller ones. Size three inches, though some specimens, which become paler by age, attain the larger proportions of four inches. Habitat: New Holland.

S. JUNONIA. PEACOCK'S TAIL.

Plate XXXIII.

Testâ ovato-fusiforimi, lævi, albo-flavescente sub epidermidè olivaceâ, maculis rubris subquadratis seriatim tessellatâ: spirâ brevi, conicâ, mammillari sub apice cancellatâ; columellâ quadriplicatâ.

Voluta Junonia, Lam. Anx. sans V. 7. p. 345. no. 37. Dilwyn, p. 572. no. 173.
Chem. 11. pl. 177. fig. 1703, 4. Fav. 97. A. Kiener's *Volutæ*, 45. fig. 1.
Wood's Cat. pl. 21. fig. 170.

The ground colour of this most rare and beautiful shell is yellowish-white, diversified by numerous rows of somewhat square-shaped spots of a reddish brown, and covered, when fresh, by an olive epidermis. It is smooth and polished, in shape elongated oval, with the body-whorl more than twice the length of its short conical and mammillary spire, and striated transversely at its attenuated base. The pillar is furnished with four plaits which are nearly equal in size, the length is four inches and a half, and the habitat the Gulf of Mexico.

S. ZEBRA. ZEBRA VOLUTA.

Plate XLIV.

Testâ ovato-oblongâ, crassâ, lævi, albidâ, strigis luteo-rufis, longitudinalibus, angustis, crebris, radiatim pictâ; spirâ brevi, conicâ, obtusâ; columellâ quadriplicatâ.

Marginella Radiata, Lam. Anx. sans V. 7. pl. 356. no. 2.

Voluta Zebra, Dilwyn, p. 571. no. 167. Leach, Misc. 1. tab. 12. fig. 1. Kiener, *Volutæ*, pl. 42. fig. 2. Wood's Cat. *Voluta*, no. 164.

Shell ovate oblong, thick, smooth, and polished, with a very short and obtuse spire, greyish or pale reddish white, with numerous narrow and slightly undulated stripes of a lighter or darker brown, running from the suture to the base. The last whorl comprises two-thirds of the shell, and the outer lip is so strongly margined, that Lamare has included it amongst the *Marginellæ* or Date Shells, from which it chiefly differs (according to Kiener) by the disposition of its plaits (which are four

in number) upon the columella. New South Wales is the quarter from whence we receive it ; it averages in length an inch and a half.

S. MACULATA. THE SPOTTED SCAPHELLA.

Plate XXXVIII.

Testâ oblongâ, lævi, nitidâ, oliviformi : luteo-fulvâ, ultimo anfractu tribus fasciis macularum fusco-purpurascens, ornato : apertura rectâ, elongatâ, pallide fuscescente : spirâ brevi, conicâ : columellâ quadriplicatâ, haud gibbâ.

Variety V. Pallida? Kiener's *Volutæ*, pl. 30. Grif. Cuv. *Mollusca*, pl. 30.

Shell small, oblong, subcylindrical, attenuated at its extremities, smooth, and polished ; of a yellowish grey or pale fulvous passing into yellow, with the body-whorl adorned with three bands of purplish brown spots of far greater length than breadth, arranged one below the suture, the second half-way down and the third close to the base. The mouth which is of a paleish brown is straight and elongated, the pillar furnished with four plaits and never gibbous, whilst the spire is short and conical, and composed of six or seven indistinctly separated volutions. The length of this rare Australian Shell is two inches and a quarter.

S. ELONGATA. ELONGATED MUSIC.

Plates XX. and XXI.

Testâ oblongâ pallidè fulvâ, lineis fuscis, undatis, longitudinaliter pictâ ; spirâ mediocri, attenuatâ, tantum non lævi, anfractibus supernè depressis ; columellâ medio leviter crassescente, sexplicatâ.

Voluta Fusus, Quoy's *Astrolabe*, pl. 44, fig. 7, 8. Kiener's *Volutæ*, pl. 39. & 45. fig. 2.

A single shell of this elegantly formed and unknown species, was brought by a South Sea trader from the Bay of Islands. Its characters are strikingly dissimilar from all the described species, though in general form it approaches *Voluta Magnifica*, and in markings *Pacifica*. With the exception of a few faintly marked and nearly obsolete plaits on the under side of the body-whorl, and the following volution the shell is quite smooth. The shape is oblong, with its spire attenuated and of a moderate size, the colour pale fulvous, with longitudinal brown wavy or angulated markings, and the outer lip is thickened and reflected. The pillar is nearly straight, thickened in the middle, provided with four plaits, and accompanied in old individuals by a callosity which expands towards the base of the shell, and projects considerably. The suture is compressed on the succeeding volution, and slightly wrinkled. Though not very perfect our specimen is nearly unique, and the most

rare of this beautiful and noble family. Length five inches, breadth two inches. Aberrant.

Obs. An eminent Conchologist has informed me that this shell is but a variety of *Pacifica*.

SUB-FAMILY—MITRANÆ.

Spire produced, acute, generally as long or longer than the aperture, plaits 4—5, the lower the smallest.

Genus—MITRA. No internal channel or groove at the upper extremity of the aperture; outer lip curved from its two extremities; the base of the aperture not contracted, the interior always smooth: spire lengthened and acute: shell without coronating tubercles, but not polished; (representing the *Volutæ* and *Turbinellidæ*).

Sub-genus—MITRA. Shell entirely smooth, or with the sutures very slightly crenated: aperture very effuse at the base.

M. PERTUSA. PUNCTURED MITRE.

Plate XXX.

Testâ ovato-acutâ, lineis transversis impresso-punctatâ, albidâ, maculis, spadiceis, interruptis, fasciata: ultimo anfractu macularum majorum ejusdem coloris seriebus 2 ornato: aperturâ albâ, labio exteriore denticulato: columellâ 5 plicatâ.

Mitra Cardinalis, Lam. Anx. sans V. 7. p. 301. no. 6.

Mitra Archiepiscopalis, Lam. Anx. sans V. 7. p. 302. no. 7.

Mitra Pertusa, Sow. Gen.

Voluta Pertusa, Dilwyn, 558. no. 144. Lister, 838. fig. 65. Gault. 53. fig. G. ad dexteram & L. and tab. 54. fig. H. Enc. Met. 369. 1. A. B. & 3. A. B. Mart. 4. pl. 147. fig. 1358, 9. Knorr, Vergn. 4. pl. 28. fig. 3. Wood's Cat. *Volutæ*, fig. 141. Kiener's *Mitræ*, pl. 3. fig. 6, 6. A.

Shell oval-acute with the body-whorl longer than the spire: whorls rounded, marked horizontally with minute punctures, white with numerous spiral rows of small spots of chesnut brown and a band of irregular splotches of the same colour just below the suture; the body-whorl furnished with a second one in the centre. The mouth white, the outer lip denticulated and the pillar with five plaits. Indian ocean. Two inches and a half.

MITRA GLABRA. SMOOTH MITRE.

Plate XVIII.

Testâ turrato-subulatâ lævi, nitidâ, aurantio-fulvâ: anfractibus convexis, transversim obsolete striatis: aperturâ abbreviatâ; spiræ apice crassâ: columellâ quadriplicatâ.

Mitra Buccinata, Quoy's *Astrolabe*, pl. 45 bis. fig. 14, 15. Kiener's *Mitræ*, pl. 11. Wood's Cat. *Volutæ*, fig. .

This smooth and elegant shell might at first sight be almost taken for an old specimen of *Mitra Striatula*. The colour is a beautiful tawny orange diversified by lighter and darker longitudinal shades. The volutions, of which there are eight or nine, are slightly rounded, separated by an indistinct suture and obsoletely striated transversely. The outer lip is smooth and thin, and the whole shell when perfect, covered with an olive brown epidermis. Pillar with four plaits, the last however scarcely apparent. New Holland. Length three inches.

FAMILY—CYPREADÆ.

Oval; polished; spire entirely concealed: aperture as long as the shell, narrow, and open at each end: outer lip generally thickened and inflected.

Sub-Family—CYPREINÆ. Inner lip striated, or toothed.

Genus—CYPREA. Shell always entirely smooth: the extremities of the aperture obtuse: the teeth marginal, and not extending over the circumference of the lips.

C. PULCHELLA.* PRETTY COWRY.

Plate XXXV.

Testâ, ovatâ, albidâ, obscure fasciatâ, fulvo punctata, maculis dorsalibus, duobus, fulvis, irregularibus signatâ; lateribus albo-flavescentibus, nigro-fusco-guttatis: basi convexâ, striatâ; striis elevatis spadiceis.

Gray, Mon. Cyp. Zool. J. 1. p. 379. no. 42. Swainson, Phil. Mag. lxi. 376. Sow. Conc. II. Cyprææ, fig. 40.

Shell ovate or suboblong-ovate, white, with very obscure broad purplish bands: the back irregularly clouded with minute yellowish-fulvous dots, and ornamented with two irregular squareish fuscous dorsal spots: sides yellowish white, with a few largeish round blackish brown spots, and dark brown at the ends. The spire concave, covered; the base convex: the teeth narrow, small, distinct, brown, extending like ribs nearly to the margin half-way over the inner lip: front part of the columella rather concave, plaited. Axis fifteen-sixteenths of an inch, diameter five-sixteenths of an inch.

* This excellent description is extracted from the monograph of the family by Mr. Gray, from whose talents and kindness I have derived much assistance in this work.

ORDER—PHYTOPHAGA.

Family—HELICIDÆ. Shell light turbinated or spiral, the aperture always entire, rarely closed by an operculum, and sometimes only rudimentary.

Sub-Family—ACHATINÆ. Shell spiral: aperture oblong or oval, always equal, and generally shorter than the spire.

Genus—ACHATINA. Outer lip always thin; base of the pillar truncated, or sinuated, before it joins the outer lip.

Sub-Genus—ACHATINA PROPER. Oblong, body whorl ventricose: surface smooth, spire variable, outer lip without any lobe.

A. SULTANA. THE SULTANA SHELL.

Plate X.

Testâ ventricoso-conicâ, tenuissimâ, fragili, diaphanâ, longitudinaliter et tenuissimè striatâ, olivaceo-fuscescente, lineis rufis, longitudinalibus, flexuosis, confertis, pictâ: ultimo anfractu, fasciis tribus fusco alboque articulatis, cincto: aperturâ patulâ, labro, acuto: spirâ depressâ.

Helix Gallina Sultana, Chem. 11. tab. 210. fig. 2070, 1. Dilwyn, p. 920.

Bubinus, Lamare, 6. p. 117. no. 3. Wood's Cat. Helix, fig. 75. Fav. 1. fig. 47. Spix, Test. Braz. p. 9. pl. 9. fig. 11. Ferus. no. 338. pl. 117. fig. 2.

Shell conic and ventricose, very thin, fragile and transparent, finely striated perpendicularly, of a light olive brown, painted with longitudinally flexuous crowded brown lines, and the last whorl girt with three articulated bands (one of which winds up the spire) of white and brown somewhat crescent shaped markings: aperture patulous and ovate: lip acute, spire depressed: length two inches and a quarter. Habitat Guiana and Brazils.

A. MARGINATA, (VARIETY). MARGINED ACHATINA.

Plate II.

Testâ ovato-oblongâ, strigis inæqualibus ferrugineis: spirâ ad apicem obtusâ, quinquevoluta: suturâ depressâ, lineâ sulcatâ marginali.

Zool. Illust. 1st series, pl. 30. Swainson's Malacology, p. 170. List. 579. fig. 34.

Gualt. 45. B. Knorr, 4. tab. 24. fig. 1. (badly coloured). Sow. Gen.

Not having seen any shells exactly corresponding with Mr. Swainson's figures, I have extracted his own description from the first series of the Zoological Illustrations, premising however that a most distinguished naturalist has assured me that it is by no means a new species, but the *Bulla Purpurea* of the older writers. This statement Knorr's figure (referred to by Mr. S.) tends greatly to confirm.

“This rare shell has hitherto been overlooked as a variety of the Linnean

Bulla Achatina ; the colour of both is subject to much variation. The spire of five whorls, the last or terminal one very small and flattened, the apex obtuse, the suture depressed as if flattened on the shell, and margined by one or sometimes two indented lines, parallel, and at the top of each whorl. In the colour of its mouth it varies, in sometimes having a tinge of rose colour at the base and top of the spire, but the mouth is usually white. The body-whorl is more or less ventricose, the outer lip is a little reflected, and the whole shell when full grown much thicker and heavier than any of the other species. The epidermis is yellowish brown, beneath which the shell is nearly white, beautifully marked with broad remote stripes of chesnut. Size three inches and a half. Habitat Guinea.”

Our present variety is smaller and more polished, of a pinkish hue, and the stripes darker and more defined.

SUB-GENUS—COCHLYCOPA.

Oblong, body-whorl slender : surface striated : spire variable : outer lip with a prominent lobe near the base.

C. MACULATA. SPOTTED COCHLYCOPA.

Platc XXIII.

Testâ ovatâ, ventricoso-conicâ, tenui, lævi, diaphana, fulvo-rosea, punctis quadratis, rubro-castaneis, remotis, per lineas transversas dispositis : spirâ brevi ; columellâ sinuatâ : aperturâ patulâ : labro acuto.

Buccinum Stercus Pulicum, Chem. 9. pl. 120. fig. 1026, 7.

Bulla Stercus Pulicum, Gmel. p. 3654. no. 198.

Bulinus Priamus, Brug. Dic. no. 104.

Helix Priamus, Ferus. no. 356. pl. 135. fig. 5.

Bulla Priamus, Dilwyn, p. 493. no. 51.

Achatina Priamus, Lam. Anx. saus V. 6. p. 131. no. 12.

Helix Priapus, Gmel. p. 3654. no. 198. Gronov. Zoop. pl. 19. fig. 10, 11. Favanne, pl. 2. fig. 129. Wood's Cat. *Bulla*, fig. 51.

This fragile and semi-transparent shell is smooth, ventricose, and conically ovate, with a short spire, an acute lip and a sinuated pillar. The colour is that of Cinnamon, ornamented with several horizontal rows of squareish spots of a darker hue. The body-whorl constitutes three-fifths of the whole. Length two inches and a half. Locality (so says Chemnitz) Guinea and the West Indies.

According to Mr. Beck,* a Danish Naturalist who has bestowed much attention on the study of Conchology, this species, however much in appearance it may re-

* Substance of a note by Destrayes in his recent edition of Lamare.

semble a land shell, is an operculated marine mollusc and found alive in the seas of Spain and Portugal. Should this statement prove correct, the *Cochlycopa maculata* must form a genus of which it is the sole species, akin on the one hand to *STRUTHIOLARIA*, on the other to certain *BUCCINUMS*.

ORDER—DITHYRA. BIVALVE SHELLS.

TRIBE—ATRACHIA.

FAMILY—UNIONIDÆ.

Animal fluviatile: shell solid, perlaceous; generally with cardinal and lateral teeth.

Sub-Family -UNIONINÆ. One valve with two cardinal and two lateral teeth: cardinal teeth short: the umbones or bosses smooth, or longitudinally undulated.

Genus—MYSCA. Shell elongated oblong ovate; cardinal teeth compressed and crenated; the outer sharp, and almost parallel with the anterior margin.

Sub-Genus—LYMNADÆA. Posterior hinge margin elevated and winged; the valves connate, the surface smooth.

L. ALATA. THE WINGED LYMNADIA.

Plate VII.

Testâ magnâ, ovato-trigonâ, transversim striatâ; pube in alam maximam elevatâ; valvis margine connatis: ligamento occultato.

Unio Alatus, Say Eneye. Amer. Conch. pl. 4. fig. 2. Barnes' Sillim. Journal, 6. p. 260. no. 12. Deshayes, Enc. Met. vers. t. 2. p. 583. no. 14. Lam. Aux. sans V. 6. p. 76. no. 28.

Symphonota Alata, Lea on Unio, p. 62. no. 3.

Unio Alatus, Sowerby's Gen. fig. 5. Wood's Cat. Sup. Mya, fig. 3.

The subgenus *Lymnadaea* is so natural a one, and so deservedly separated from the more typical *Uniones* that M. Le Seur (as quoted by Lamarck) nearly twenty years ago, proposed its being severed from them. The *ALATA* is one of the most remarkable shells of the sub-family, not so much on account of its beauty, but as holding a more isolated position than any yet noticed. That it has a strong resemblance to *ANODON* is indisputable, but that it has a much stronger one to the *Uniones*, cannot be questioned. Now every one who draws the distinction between analogy and affinity immediately perceives, that the first of these resemblances is purely analogical, while the other as Lamarck, Say, and Barnes have correctly judged, is one of absolute affinity. At present, the species stands almost alone as the representative of that sub-genus which typifies the *Anodons*. In conformity with this analogy, we find the posterior dorsal margin, remarkably elevated, dilated, and winged, (so that a careless observer might place it amongst the *Hyria*'s, from which however, the difference of teeth, and the latter being auriculated both posteriorly and anteriorly,

clearly distinguish it.) The ligament also is connate and entirely covered by a prolongation of the testaceous matter of the valves, the bosses small, and the shell itself ovate-trigonal and depressed. The cardinal teeth are very peculiar; they are compressed and crenated like those of *MYSCA*, but the inner one is generally the largest, and the direction of the groove which separates them is either perpendicular, or diverges from the anterior margin of the shell. The colour is dark olive, and the inside pearly. Inhabits Lake Champlain, St. George, &c. in North America. Extreme breadth three inches and a half.

SUB-FAMILY—HYRIANÆ.

Bosses longitudinally furrowed: cardinal teeth long, compressed, placed on one side of the bosses; hinge margin winged.

Genus—HYRIA. Hinge margin straight; both extremities elevated and winged: cardinal teeth very long, and resembling lateral teeth.

HYRIA ELONGATA.

Plate XXIV.

Testâ elongatâ, oblongo-trigonâ, fuscâ, margine superiore propè recto, umbonibus depressis; auriculis magnis caudatim productis, latere posterioris valdè incurvo.

The peculiar separating character of the Hyrianæ as distinct from the Unioninæ, is, that the umbones or bosses are sulcated, not longitudinally but, if at all, transversely. The present decidedly new species reminds us of the common *Mytilus Hirundo* of Linneus, both in shape and colouring. It is triangularly oblong, striated by the lines of growth, and of a deep rich brown, with the interior pearly. It differs from the *H. Avicularis* in its more lengthened shape, the comparative smallness and deeper incurvation of the side of its posterior wing, the greater straightness of the hinge margin and consequent less projection of the wide umbones. Size three inches. Locality?

SUB-FAMILY—ANODONTINÆ.

Cardinal teeth none; lateral teeth extending along the hinge, or entirely wanting: hinge margin generally winged.

Genus—ANODON. Doubly winged: no lamellar or other teeth.

ANODON SINUOSIS. CURVED ANODON.

Plate XVI.

Testâ ovali, olivaceâ, inæquilaterali, transversim striatâ; antèrius, supernè incurvâ, coarcolatâ, propè truncatâ; marginis inferioris medio, incurvo; lineâ cardinali undato-sinuosâ: natibus prominulis, lævigatis, erosis: interiore facie margaritaceâ.

Anodon Sinuosa, Lam. Anx. sans V. 6. p. 87. no. 14. Enc. Met. 203. fig. 2. A. B.

Were this species, but slightly more truncated anteriorly, found lying upon a beach, and the closed valves not examined for their hinge, few would hesitate to term it *Mya Truncata* so nearly does its outline (though rather too long horizontally) resemble that shell. But to speak more technically. Its shape is oval, with the anterior extremity of the upper margin deeply incurved and contracted, and the hinge margin of course corresponding in its sinuosity. It is inequilateral, the posterior end running almost parallel with the base or lower margin, which is incurved beneath the hinge, whilst the anterior extremity which is far shorter, ends abruptly and forms an obtuse angle. The umbones or bosses are smooth, eroded so as to show the naere and far from prominent. The interior is brilliant mother of pearl, slightly tinged with pink, and the outer coating is uniform olive green. Length three inches. Locality?

GENUS—PATULARIA.

Shell nearly equilateral round or cordate ; no teeth.

PATULARIA OVATA. TRAPEZIFORM PATULARIA.

Plate XXXVI.

Testâ transversim ovata, fragili, tumidâ, pallidè olivaceo-lutescente, posticè subradiatâ :
 lineâ cardinali recta : pube elevatâ, compresso alatâ ; natibus prominulis lævigatis ;
 facie interiore margaritaceâ, purpureo sub umbonibus pictâ.

Anodonta Trapezialis, Lam. Anx. sans V. 6. p. 87. no. 11. Crouch's Lam. 9. fig. 7.

Enc. Met. 205. fig. 1. A. B. Chem. 8. pl. 86. fig 762.

This genus, the prototype of *Anodoninæ* in the circle of the *Unionidæ*, is characterised by the umbones being remarkably swollen or ventricose, and the shell almost round. The present species however, does not participate in the latter character so much as its congeners, its general shape being ovate, with the hinge margin straight, somewhat ascending towards the posterior end, and forming obtuse angles at both extremities, (which owing to the great convexity of the valves are depressed) so as to give the fragile shell an almost winged appearance. The bosses are very broad, smooth and prominent, and of a pale blue, whilst the rest of the surface is covered by a light yellowish olive epidermis, semi-radiated towards the posterior end by lines of a darker hue. The interior is pearly, with purple blotches beneath the umbones. Size three inches and a quarter. Locality?

The specific name *TRAPEZIALIS* given to it by Lamare some time previously to Mr. Swainson's appellation, must of course replace the latter.

PATULARIA ROTUNDATA. ROUND PATULARIA.

Plate XXXVII.

Testâ ovato-rotundatâ, inæquilaterali, magnâ, tumidâ, transversim striatâ, olivaceo-nigrescente; lineâ cardinali haud rectâ: anticè rotundatâ; postico latere longiore, superne subalato subtùs subangulato, margine sinuoso: natibus prominulis, transversè sulcatis: intus margaritaceâ.

This species far inferior in elegance to the last, cannot even claim to be considered good looking, so sombre an appearance does the dark and unrelieved olive of its epidermis give the shell. It is decidedly larger and coarser than *Ovata* and far rounder, with the striæ more apparent, the hinge margin curved and the umbones sulcated transversely. The sudden depression of the posterior slope raises an angle running down from the bosses to the lowest extremity of the margin on that side, which latter, after forming a slight beak, meets the hinge margin with much sinuation. The slope is obliquely grooved, the anterior end rounded, the valves convex, and the inside pearly. Breadth four inches. Locality?

FAMILY—AVICULIDÆ.

Animal attached, byssiferous: shells lamellar, internally perlaceous: the valves generally gaping.

Genus—*MUTILUS*. Oblong, transverse, the bosses small, close to the anterior margin: both extremities rounded; hinge margin straight, and generally forming an angle: valves not always gaping, teeth (except in *BRACHIDONTES*) none.

Sub-Genus—*MODIOLA*. Umbones prominent, not terminal, hinge margin considerably angulated: the shell smooth and toothless: valves slightly gaping.

MODIOLA ELONGATA. LENGTHENED MODIOLA.

Plate VIII.

Testâ elongato-angustâ, depresso-cylindraceâ lævigatâ; spadiceâ; margine superiore recto, subalæformi, depresso, inferiore vix arcuato: interiore facie margaritaceâ.

This far from inelegant shell might possibly be confounded with the descriptions of certain species by Lamarck, but careful comparison will prove its distinctness. Its peculiar elongated appearance (from which character it derives its name) gives it the semblance of a winged *Lithodomus*, none however could fall into the error of including it amongst them. The hinge margin is notable for its straightness, and the almost entire freedom from arcuation of its lower margin, would of itself alone separate it from most of the *Modiolæ*. For the rest, the colour is chesnut, the interior nacre brilliant, the surface merely striated by the lines of growth, the shape depressed-cylindrical, transversely elongated, and all but winged. Three inches. Locality?

APPENDIX.

Containing Mr. Swainson's Descriptions of the unfigured Shells of the First Edition,
together with those described by him in Bligh's Catalogue.

PTEROCERA NODOSA. PURPLE-MOUTHED SCORPION.

P. Testæ labio exteriore processibus 6 tuberculatis compressis armato ; margine dentato ;
aperturâ intus purpureâ, costis albis striatâ, ad marginem aurantiacâ.

Outer lip with six tuberculated compressed processes ; the margin toothed ; aperture
within, purple striated with white ribs, and margined with orange.

Strombus Scorpius, Gmelin, 3508. 4. Seba, tab. 82. 11. 15.

P. Nodosa, Brug. Ency. Meth. pl 410. 2. Rumph. tab. 36. κ.

The name of Bruguiere is so very characteristic of this species, that I think it will justify its adoption in preference to the original but unmeaning one given by Linnæus. It is the most beautiful of the genus. The throat is of the darkest purple, vivid at its edges, and crossed by white elevated striæ ; the ground colour of the inner lip being brownish. The tubercles are always opposite each other. When young, the inside border of the inner lip is flesh colour. It is not common, and fine specimens come from the Isle of France.

PTEROCERA ROBUSTA. THICK-CLAWED SCORPION.

P. Testæ labio exteriore processibus 6 vel 7 crassis, subcylindraccis, tantùm non rectis
armato ; aperturâ fuscâ, costis albis densis inæqualibus ; canali subrectâ.

Outer lip with six or seven thick, rounded, nearly straight processes ; aperture brown,
with thick, unequal, white ribs, channel nearly straight.

Very distinct, but nearest allied to *P. Nodosa* ; the claws, instead of being as in that slender, compressed, and knobbed, are thick, round, and smooth ; it is a stout heavy shell. The throat dark brown, with thick irregular ribs. It is very rare, and neither figured nor described.

PTEROCERA ELONGATA. SHORT-CLAWED SCORPION.

P. Testæ labio exteriore processibus 8 brevibus, latis, compressis armato ; spirâ productâ ;
aperturâ striatâ.

Outer lip with eight short, broad, and compressed processes ; aperture striated ; spire
lengthened.

Lister, 868. 23. Martini, 10. tab. 155. f. 1479 & 1480.

P. Millepeda, Brug. Ency. Meth. 410. fig. 1. a. b.

This is so very distinct a shell from the true *Millepeda*, that it is surprising Bruguiere should have continued the error of placing it as the same species: his figure, however, is very good. The claws are very short and dilated, and the spire always lengthened. Mr. Dubois has the finest example of this rare shell I have ever seen.

PTEROCERA MILLEPEDA. MANY-CLAWED SCORPION.

P. Testæ labio exteriore processibus 9 falcatis, leviter compressis, armato; spirâ brevi; aperturâ striatâ.

Outer lip with nine curved, slightly compressed processes; spire short, aperture striated.

Lister, 869. 23. Martini, 3. tab. 88 f. 861 & 2. Seba, 3. tab. 82.

Young, Martini, 3. tab. 93. 906 & 7.

Although not uncommon in a young state, this shell is rarely seen well grown, nor have I ever heard of a specimen in full perfection. The figures and specific characters will so easily point out the dissimilarity between this and the last, that no further reasons for separating them appear necessary. It may however be observed, that the lip in this is always reflected, and in *P. Elongata* inflected.

PTEROCERA VIOLACEA. WHITE PURPLE MOUTHED SCORPION.

P. Testæ labio exteriore processibus 10 brevibus, compressis, (2 superioribus divaricatis) armato; canali brevi; aperturâ labiisque albis, costatis, intus purpureis.

Outer lip with ten short compressed processes; the two upper divaricated; channel short; aperture and lips white, ribbed, and within purple.

Martini, vol. 10. tab. 157, pl. 1494 & 5.

The most delicate, and one of the rarest species. Excepting the throat, which is of a beautiful purple violet, the mouth is pure white, marked by regular and delicate ribs, larger and more distant on the inner lip, which is faintly tinged with purple; the margin is a little reflected; the claws flattened, and the two upper ones much divaricated; the back is white. Beautiful specimens were collected by Lord Valentia (now Earl of Mountnorris) in the Red Sea; and to this nobleman we are indebted for the knowledge of a vast number of new shells collected during his Oriental travels.

APPENDIX OF THE BLIGH CATALOGUE.

Reprint of original of 1822
by W. S. Swainson
See 5 herborn

 HALIOTIS GLABRA, (OF SWAINSON).

Testâ obtusè ovatâ, depressa, latâ, obsoletè striata, intus lævi; spirâ ampla; labio exteriore rotundato: margine antico gibbo: foraminibus minimis, numerosis, ovatis, sublævibus.

Shell obtusely oval, depressed, broad, obsoletely striated, within smooth: spire ample; exterior lip rounded, the top gibbous: perforations minute, numerous, oval and nearly smooth. It is a native of the coast of New Holland, and is sometimes beautifully marked with large angular veins of chesnut brown on a pale ground of greenish.

 H. CARINATA.

Testâ rufo alboque varia, costâ centrali, transversâ, intus concava, insigni; spirâ amplâ: foraminibus lineam convexam perforantibus.

Mart. 1. tab. 14. fig. 140.

This and the shell improperly placed under a distinct genus by the name of *Padollus Scartaris* are the two species confounded under the Linnean synonym of *Hal. Parva*. I am not certain as to its locality. The interior surface is faintly marked with fine lines, parallel with the transverse rib and the whole shell is generally thin.

 H. RUFESCENS.

Testâ ponderosâ, leviter striatâ, aliquando nodis sparsis deformati, rufescente: spirâ brevi; labii exterioris extremitate anticâ gibbâ: labio interiore angusto; foraminibus levatis, remotis (3 aut 4 apertis).

Shell ponderous, obsoletely striated, sometimes deformed by scattered nodules, reddish; spire small; outer lip at the top gibbous: inner lip narrow: perforations elevated, remote, only three or four open. In proportion, as the back of the shell is worn down, the colour becomes a brighter red. It attains to a very large size, and when in perfection is a beautiful species. Inhabits the Gallipagos and California.

 H. COSTATA.

Testâ convexâ pallida, costis numerosis, integris, obtusis, longitudinalibus a spira divergentibus in superficiem internam conspicuis: foraminibus numerosis, rotundis, vix levatis.

Mart. 10. pl. 165. fig. 1604. Wood's Cat. 36. fig. 5. (reversed).

Shell convex, pale, with numerous obtuse entire longitudinal ribs, diverging from the elevated and conspicuous spire on the under surface : perforations numerous, roundish and slightly elevated. The interior side of this species is very elegant, being sometimes marked by fine lines crossing the sulcations of the ribs, owing to some specimens having additional striæ, which in others are obsolete or wanting. Inhabits New Zealand.

H. CRENATA.

Testâ parvâ, ovatâ, striis transversis, rugisque nodosis sparsis, scabra ; spirâ mediocri : foraminibus remotis, levatis, vix rotundis : labio exteriori intus crenato.

Shell small, oval, with transverse sulcated striæ, and scattered nodulous wrinkles ; spire moderate ; perforations remote, elevated nearly round : interior margin of the outer lip crenated. Some specimens are quite devoid of the nodules, in others the striæ are very strong, while in some they assume the appearance of distant unequal wrinkles diverging from the spire. The perforations, however, are always destitute of the broad parallel groove (usual in this genus) which is generally between the perforations and the outer lip.

CASSIS RINGENS, (CASSIDEA).

Testâ pallidâ, transversè costatâ, costis sulco lineatis ; labio exteriori dentibus transversis, interiore, dentibus erga basin validis, armato ; dentium serie profundè divisâ, margine simplici.

Wood's Cat. Sup. Bucc. no. 1.

Shell pale, transversely ribbed, the rib with an impressed line ; outer lip with transverse teeth, inner lip with two sets of strong teeth near the base, divided by a deep notch : the margin simple. Large. The connecting link between *Dolium* and *Cassis* uniting the form and ribbed exterior of the former to the strongly toothed aperture of the latter.

C. CORRUGATA.

Testâ pallidâ, lineis transversis, fuscis, interruptis, rugis longitudinalibus, brevibus, numerosis, fasciisque 2 nodulosis armata ; labio interiore dentibus obsoletis, internis armato et ad basim plicato.

Shell pale, with transverse interrupted brown lines and two bands of small nodules : inner lip obsoletely toothed within and plaited at the base. From the Gallipagos.

HARPA CRENATA.

Testâ longitudinaliter plerumque 12 costatâ ; labii exterioris margine denticulis crenatis armato.

Shell with about twelve longitudinal ribs : margin of the outer lip with crenated teeth. The mouth is never tinged with the deep blackish chesnut of the common Harp, and the colours

are redder. It is likewise a smaller shell, but the true distinction rests on the one having the lip always smooth and the other having it broken into little teeth.

EBURNA PACIFICA.

Testâ ventricosâ, maculis fulvis, fasciisque albis ornatâ ; spiræ angustæ, acutæ, suturis integris.

Shell ventricose with fulvous spots and white bands : spire narrow, acute, suture entire. From the South Seas.

E. VALENTIANA.

Testâ ventricosâ, maculatâ ; aperturæ longitudine spiræ longitudinem superante ; spirâ anfractibus 5 convexis, suturis alveatis : basi balteo concavo cinctâ.

Shell ventricose, spotted : spire shorter than the aperture, of five convex volutions : suture channelled : base with a concave belt. Distinct from *E. Spirata* by its shorter and less acute spire which has not six whorls as the latter, the channel or groove also which separates them is less broad and the basal belt not convex but concave.

STROMBUS INERMIS.

Testâ nodulosâ, transversè sulcatâ : labio exteriore dilatato rotundato, anticè integro : lobo basali tantum non obsoleto : aperturâ lævi albâ.

Lister, 8561. (good).

Shell unarmed or slightly nodulous, transversely grooved ; outer lip dilated, rounded, and above entire ; basal lobe nearly obsolete : aperture smooth, white. Nearest allied to *S. Fasciatus*. In some specimens, the small nodules on the body-whorl are prominent, but in most instances they are wanting. Not uncommon.

S. GRANULATUS.

Testâ nodosâ ; spirâ producta : labii exterioris supra contracti margine inflexo, intus granulato ; aperturâ niveâ.

Wood's Cat. Sup. fig. 21.

Shell nodulous ; spire produced, outer lip above contracted, margin inflexed, within granulated ; aperture snowy white.

MITRA DIADEMA, (THIARELLA).

Testâ laud costatâ, sulcis remotis, transversis, intus punctatis ornatâ ; anfractibus coronatis ; spiræ incrassatæ, aperturæque longitudine eâdem : apice acuto : labio exteriore denticulato : columella 4 plicatâ.

Shell not ribbed, with transverse remote grooves, punctured within ; volutions coronated : spire thickened of equal length with the aperture : outer lip toothed : pillar four plaited.

MITRA CARBONARIA.

Testâ lævi, nigricante, striis transversis, minimis, punctatis ornata spirâ productâ attenuatâ; columella 5 plicatâ.

Shell smooth, blackish, with very minute, punctured, transverse striæ: spire produced, attenuated: pillar with five plaits. From New Holland.

VOLUTA PAPILLOSA, (SCAPHELLA).

Testâ ponderosâ, lævi, lineis fuscis subtilissimè reticulatis, fasciisque fuscis, transversis, interruptis, ornatâ; spiræ apice crassissimo valdè papilloso: labii interioris medio, gibbo; columellâ 4 plicatâ.

Grif. Cuv. 40.

Shell ponderous, smooth, with fine reticulated lines and transverse interrupted bands of brown: spire with the apex very thick and papillary: middle of the inner lip gibbous: pillar four plaited. From the Feejee Isles.

VOLUTA FUSIFORMIS, (SCAPHELLA).

Testâ productâ, fusiformi, pallidè aurantiacâ, lineis angulatis fuscis ornatâ, spirâ attenuatâ: basi contracta: columellâ 3 plicatâ.

Shell produced, fusiform, pale orange with angulated brown lines, spire attenuated, base contracted, pillar with three plaits. Probably from the Pacific. In general appearance it approaches near to *V. Ancilla* and *V. Magellanica*, from both of which it is principally distinguished by the lower part of the body-whorl being contracted, and the spire lengthened.

AMPULLARIA FASCIATA, (VAR. CANALICULATA).

Testâ magna ventricosâ, ovatâ, olivaceâ, lineis transversis, obsoletis, subcarinatis cinctâ; spirâ brevi, suturâ, anfractu marginis antico, convexo, obtectâ: labio interiore antico obsoleto; operculo corneo? umbilico aperto.

Shell large ventricose, oval, olive, with obsolete, transverse, slightly carinated lines: spire short, suture hid by the great convexity of the upper part of the whorls: inner lip above obsolete: operculum horny? umbilicus open.

BULIMUS VIRESCENS. (B. CITRINUS, VAR.?)

Testâ obovatâ, viridi-flavescente; spiræ conicæ, vix incrassatæ, obtusæ, anfractibus in suturas depressis, plerumque perversis: labio interiore anticè obsoleto: umbilico aperto.

Shell obovate, green, variegated with yellow; spire conic, slightly thickened, obtuse; the volutions depressed on the suture, and generally reversed; inner lip obsolete: umbilicus open.

I have seen many specimens, but not one where the inner lip was developed on the upper part, that is between the umbilicus and the top of the outer lip. In the varieties of *B. Citrinus* I have seen, the inner lip is entire, much thickened and dilated over the umbilicus, which is thus hid in mature age.

ACHATINA MONILE.

Testâ subtilissimè reticulatâ, albente, strigis undulatis, fasciisque transversis, castaneo-maculatis, ornatâ : anfractu basali subventricosâ ; spiræ productæ anfractibus 2 ultimis approximatis : apice papilloso ; basi vix integrâ.

Shell very finely reticulated, with waved stripes and transverse bands of chesnut spots ; basal volution subventricose : spire produced, the last whorls close and the tip papillary : base nearly entire. Distinct from, though approximating to, *Bulinus Zebra* and *Undatus*.

PHASIANELLA VENTRICOSA.

Testâ ventricosâ ; spiræ anfractibus convexis, apice acuto ; aperturæ vix effusæ, spiræque longitudine eâdem.

Shell ventricose, spiral whorls convex, the tip acute ; aperture nearly effuse, as long as the spire. Colour variable.

P. INFLATA.

Testâ ventricosâ, purpureo-fuscâ, strigis angulatis ornatâ, spiræ anfractibus brevissimæ tribus modo manifestis.

Shell ventricose, brownish purple with angular stripes, spire very short, of only three obvious whorls. Near to but distinct from the last. Exclusive of the minute terminal whorl at the tip, this species has but three, the preceding four, distinct volutions.

MITRA NIVOSA.

Testâ ovato-acutâ, striis transversis, punctulatis, excavatis, nebulosa, punctis albis fuscisque sparsis variâ, maculis imparibus, fuscis bifasciatâ : labio crenulato.

Mitra Versicolor, Martyn, pl. 23.

Shell ovate acute, with transverse striæ and excavated punctures, eluded and variegated with scattered dots of white and brown, and two bands of transverse unequal spots : outer lip crenated. From New Holland and the Isles of the Pacific.

MUREX PINNATUS. (PTERONOTUS).

Testâ candidâ, varicibus tribus, longitudinalibus, tortis ; fimbriâ tenui dilatâ, radiatâ, margine undulato ornatis, armatâ : spirâ productâ, canale elongato, arcuato ; labio exteriore denticulato.

Mart. 3. pl. 3. fig. 1036, 7. Wood's Cat. sup. Murex, fig 20.

Shell snowy white, with three twisted longitudinal varices, which are surmounted by a thin, dilated, radiated fringe, having the margin undulated: spire produced, channel lengthened, curved; outer lip crenately toothed, akin but distinct from Born's Triqueter.

CYPREA APERTA. (TRIVEA).

Testâ roseâ, labiis albis striis levatis vix ad testæ dorsam extensis, insignibus; aperturâ valde effusâ.

Wood's Cat. sup. Cypræa, fig. 10.

Shell rose coloured, lips white, with elevated striæ extending near to the back of the shell: mouth very wide. Rare.

PUPA VIOLACEA.

Testâ purpurascens, nitidâ, anfractibus (in ætate proVectis) plerumque 7, obliquè subtilissimè striatis: apice truncato: aperturâ integrâ, edentulâ.

Shell shining, livid purple, when in an adult state having about seven whorls finely striated obliquely: the basal whorl carinated; tip of the spire truncated: aperture entire without teeth. From Jamaica.

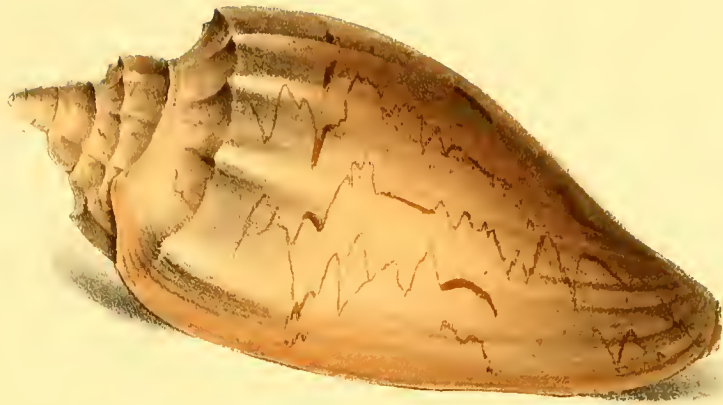
ANODON PICTUS.

Testâ ovatâ compressâ, radiata, umbonibus retusis; margine ligamentali levato angulato: laminâ cardinali brevi, lata, vix concavâ, sinu producto leviter curvato terminatâ.

Shell oval, compressed, radiated, umbones retuse, ligamental margin elevated and angulated: hinge margin short, broad, slightly concave, terminating in a lengthened slightly curved sinus; umbones retuse; inside yellowish white.

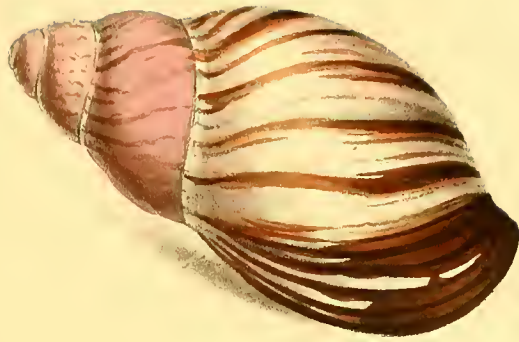
Note.—I have omitted the descriptions of *Strombus Melastomus*, *P. Truncata*, and *V. Maculata*, as they are described in the body of the work; also of *Eburna Spirata*, *Marg. Bullata*, *Ach. Erythrostoma*, *Conus Nocturnus*, and *Monoceros Imbricatum*, from their being old and already described species

FINIS.



Voluta marmorata. Sw^{ns}.

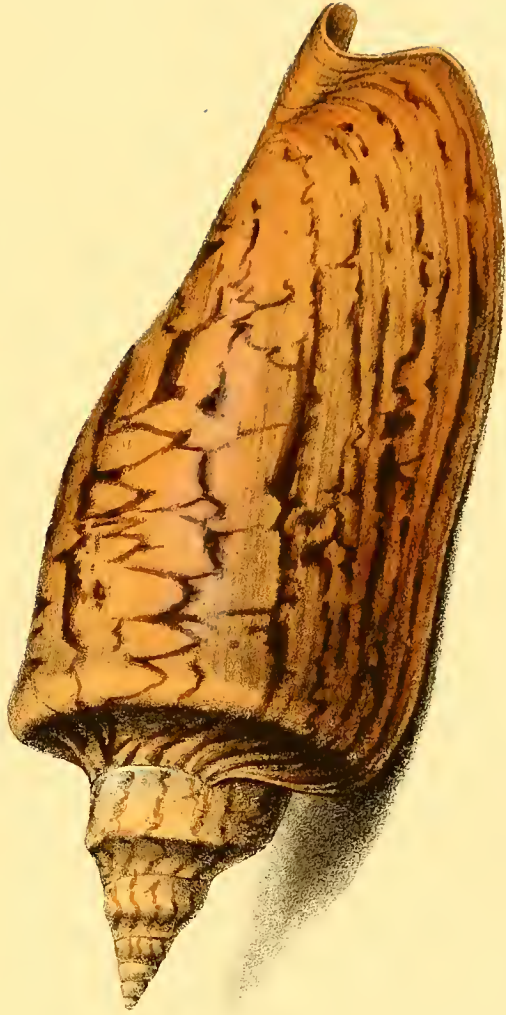
Mus. D'Angus.



Achatina marginata var^y Sw.

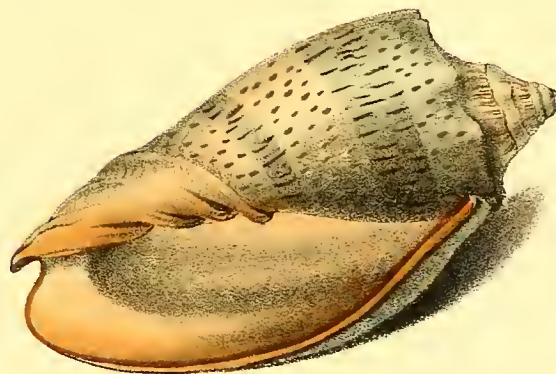
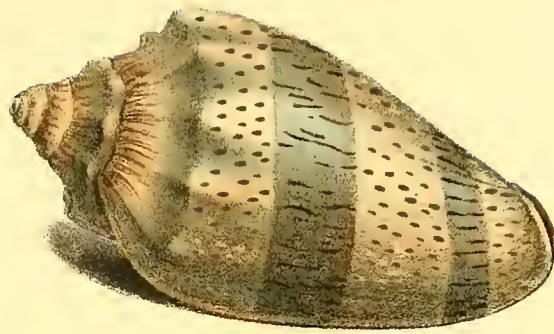
Mus. I. T. Swainson

Toluta angulata. Sw^{ns}
Atlas Desm. & Morel.

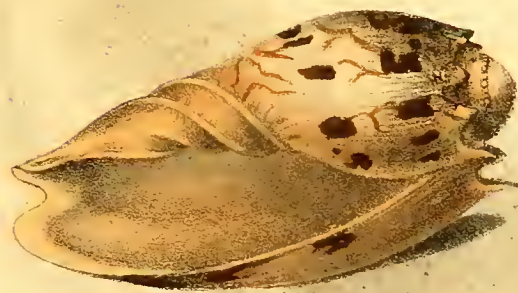


Iolita angulata Sw.
Mus. Dom. Broderip.

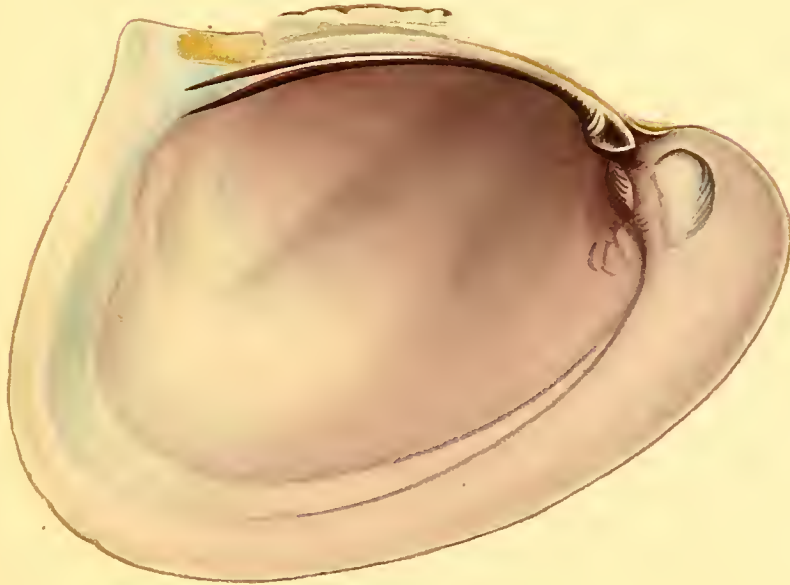
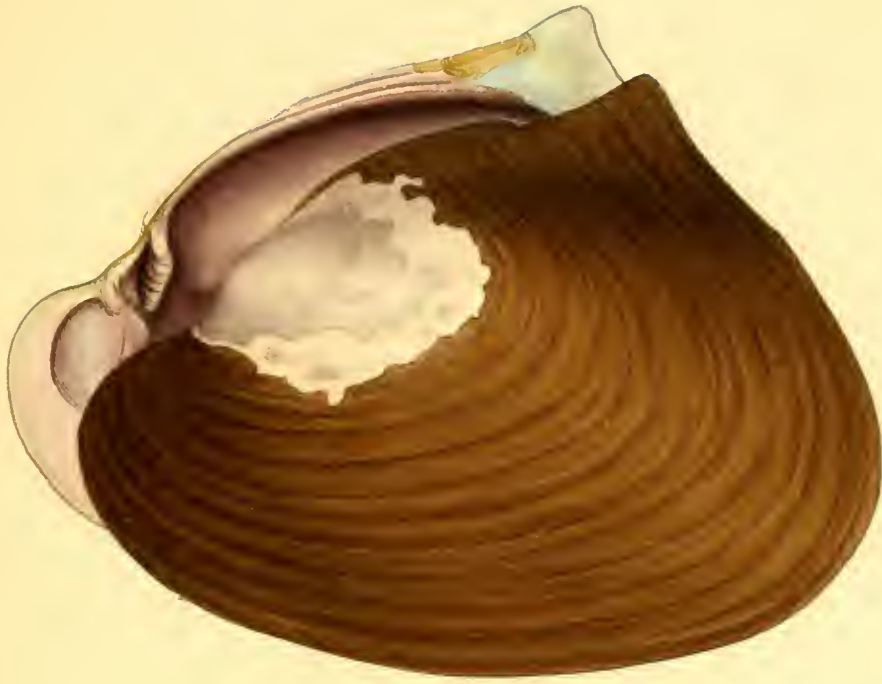




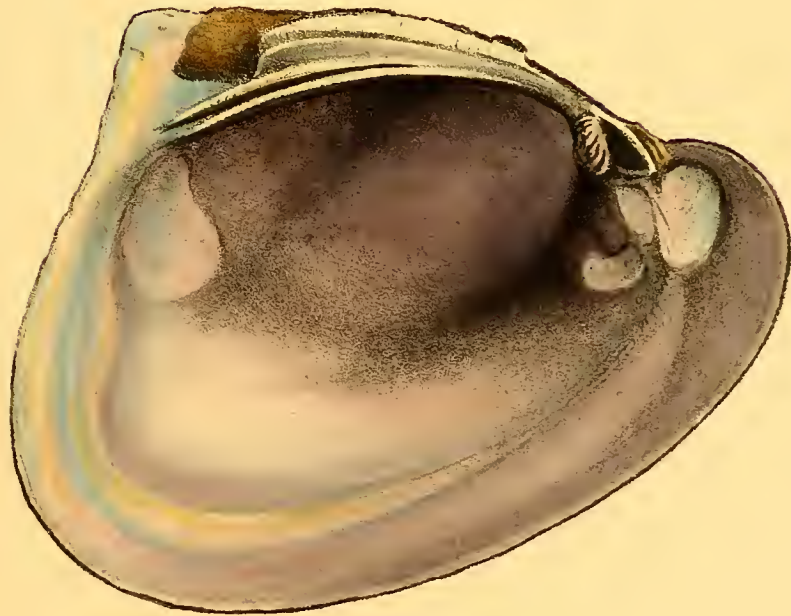
Voluta nivosus. Lam^k
Mus. Broderip.



Voluta diadema Lam
Mus. Dem. Blag.

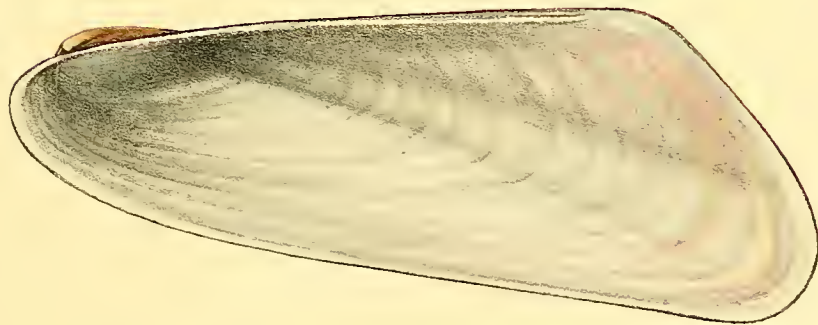


Unio alata. Lamour. Sic
Mus. Dem. Gul? Swainson. FIRST EDITION

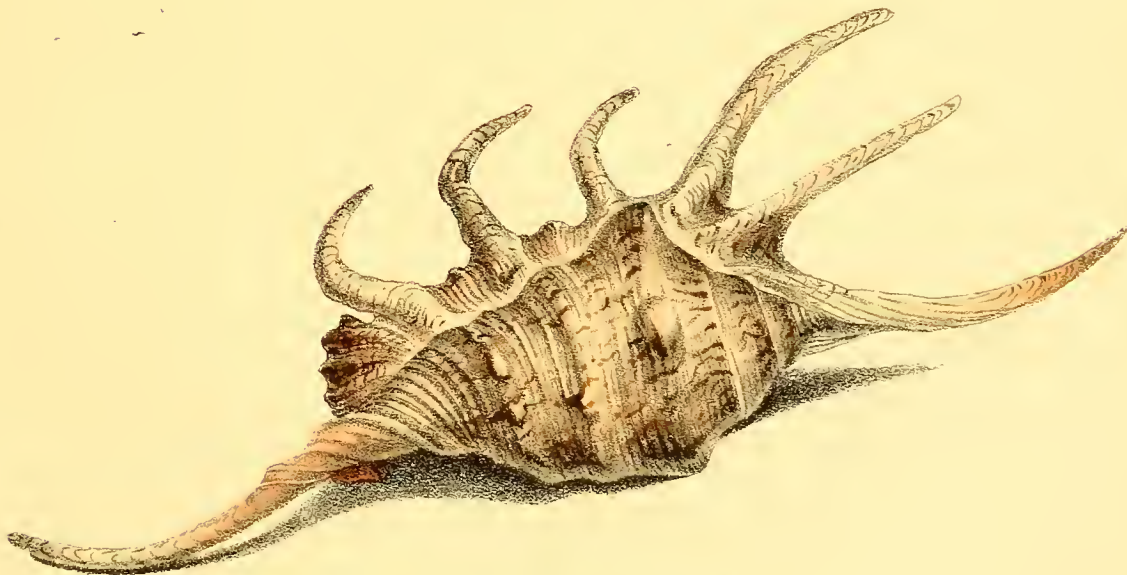
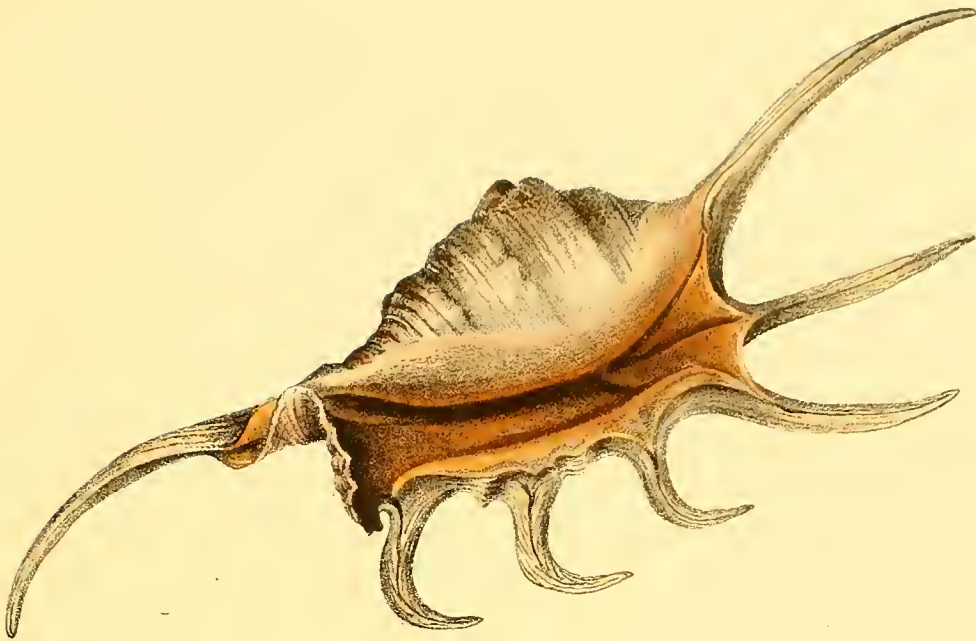


UNIO ALATUS
Mus D. Gul? Swainson.

PL 8



Modiola elongata Sw.
Mus. Dem^o Bligh.



Pterocera aurantia Sw.

Mus. Dem. C. Dubois.

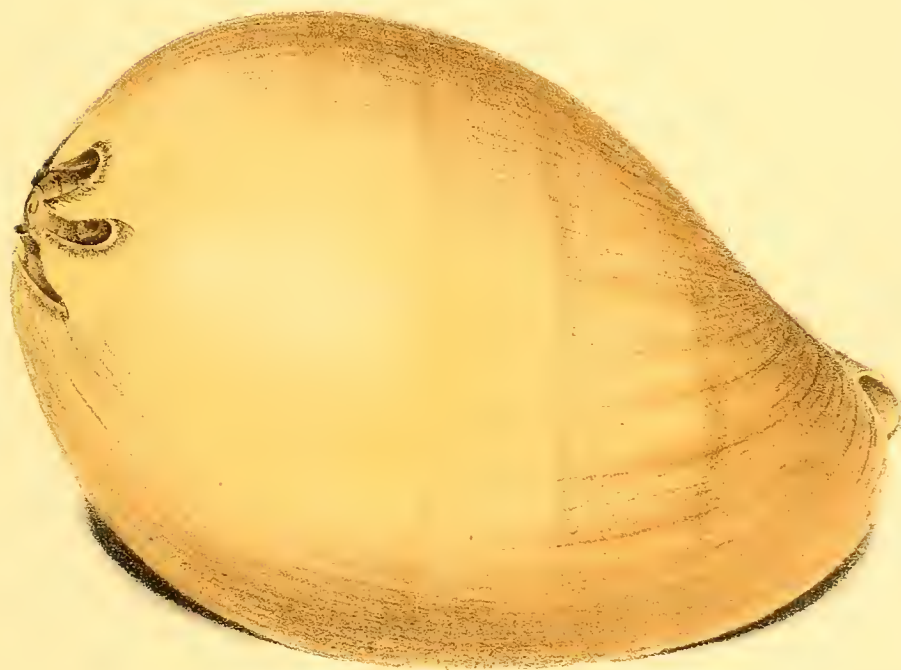


Achatina Sultana F.
Mus. D. Dubois.



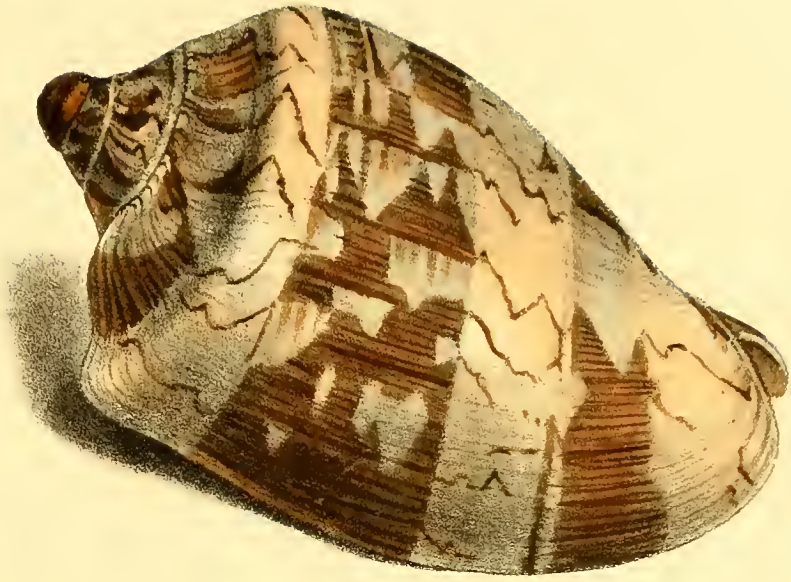
Strombus alatus. Gmel.

Wat. Don & Bligh

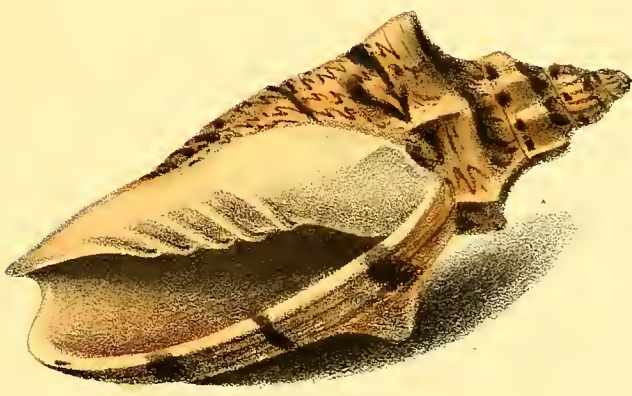
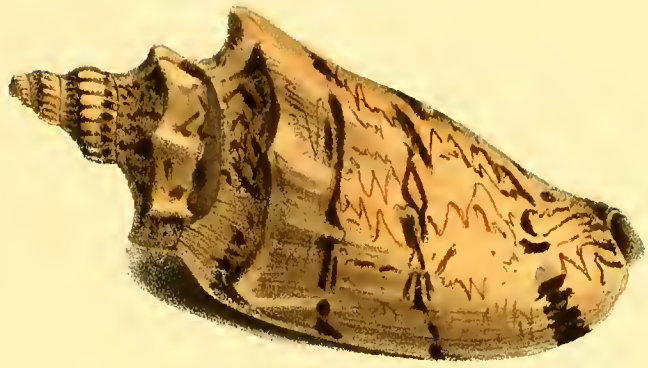


Voluta testicelata, Lam.

Mus. Dom. C. Dubois.

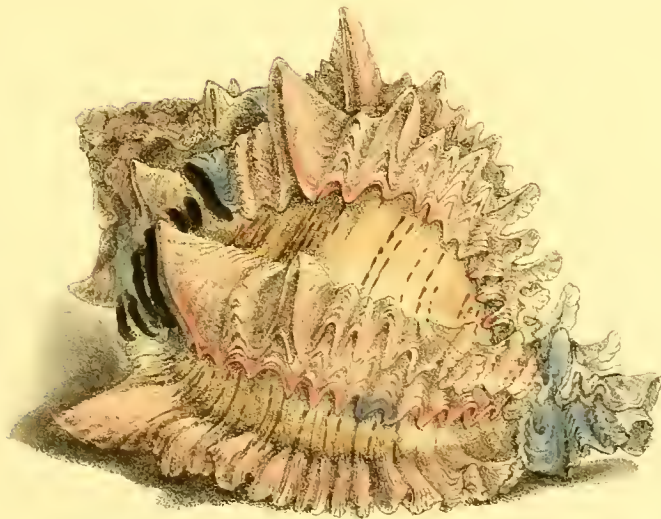


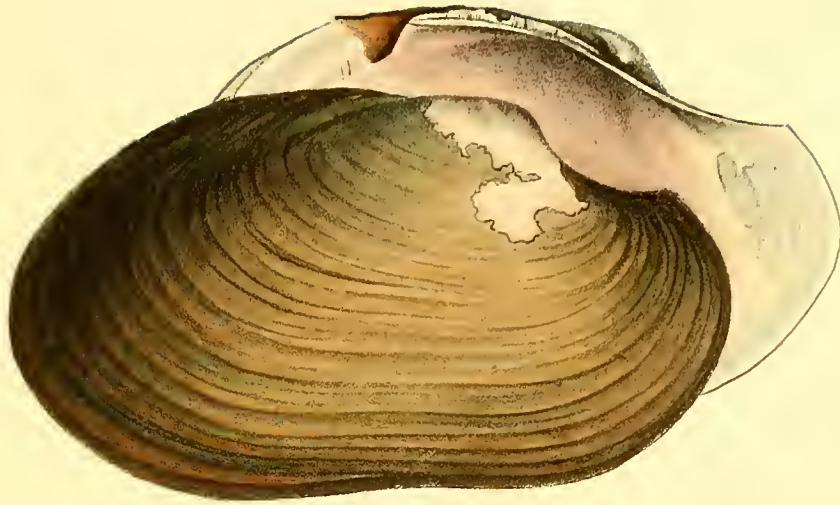
Velula scapula Sol.
Mus. D. Broderick.



Voluta Pacifica Sol.

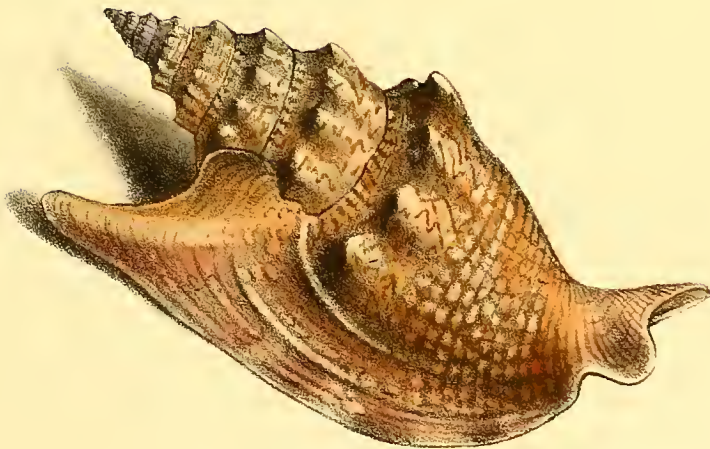
Mus. Dom. C. Dubois



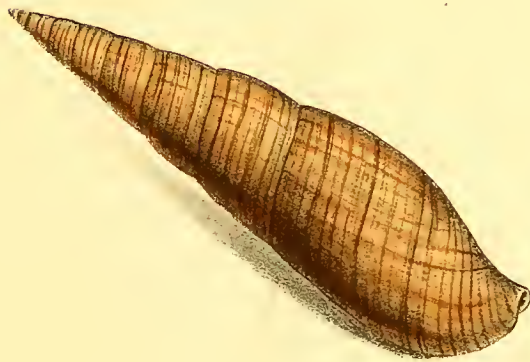


Anodonta sinuosa Lam.²

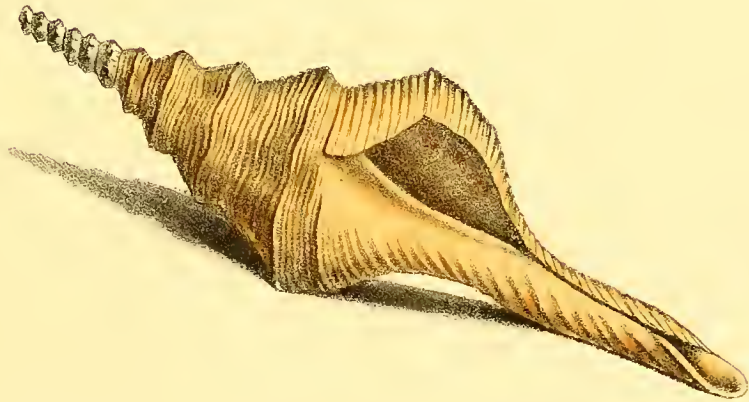
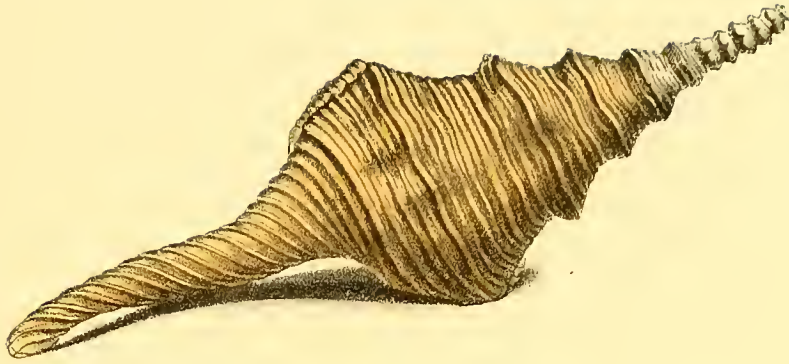
Mus. Dem.^a Boston



Strombus pacificus Sw.
Mus. Dor. Bkgn.

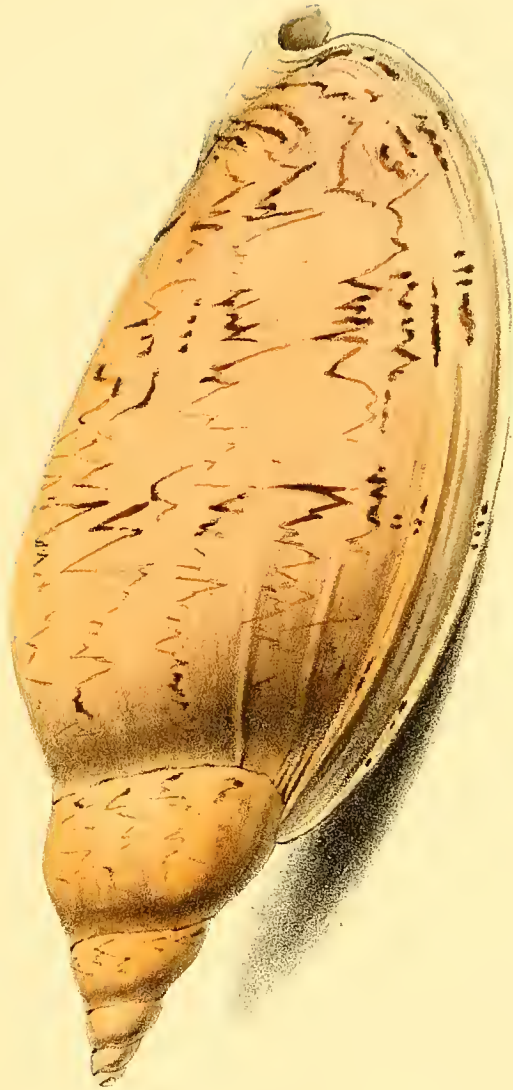


Mitra glabra Sw
Mus. D. Bugh.

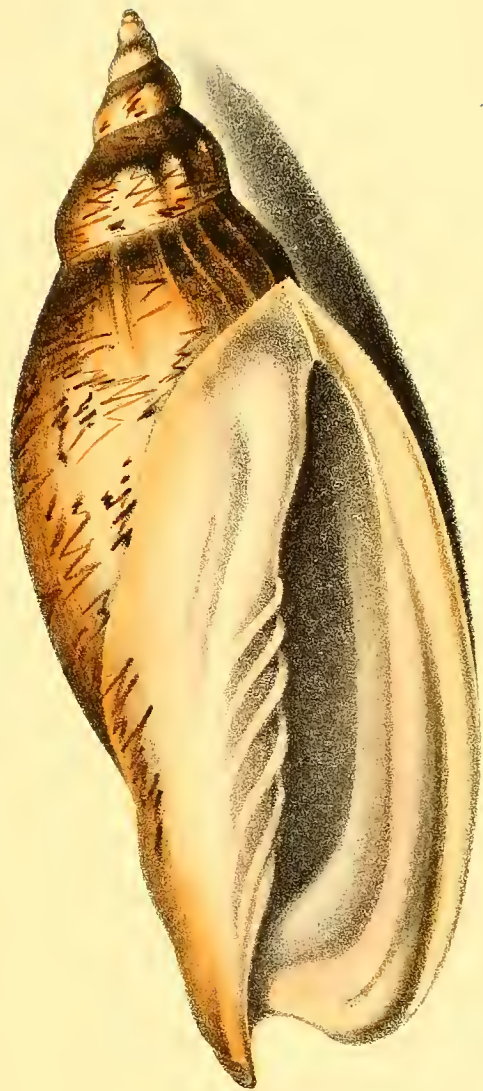


Fusus Aruamus. Sw

Mus D. Broderip.



Cymbiola elongata, Sw
Mus. D. Pebois



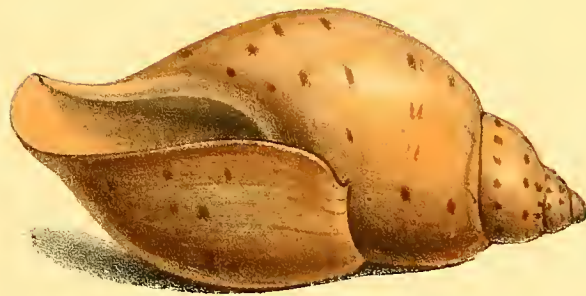
Falata elongata Sw.

Mus. Dem. Göttingen.



Voluta Melo Sol.

Mus. Dom. Belg.

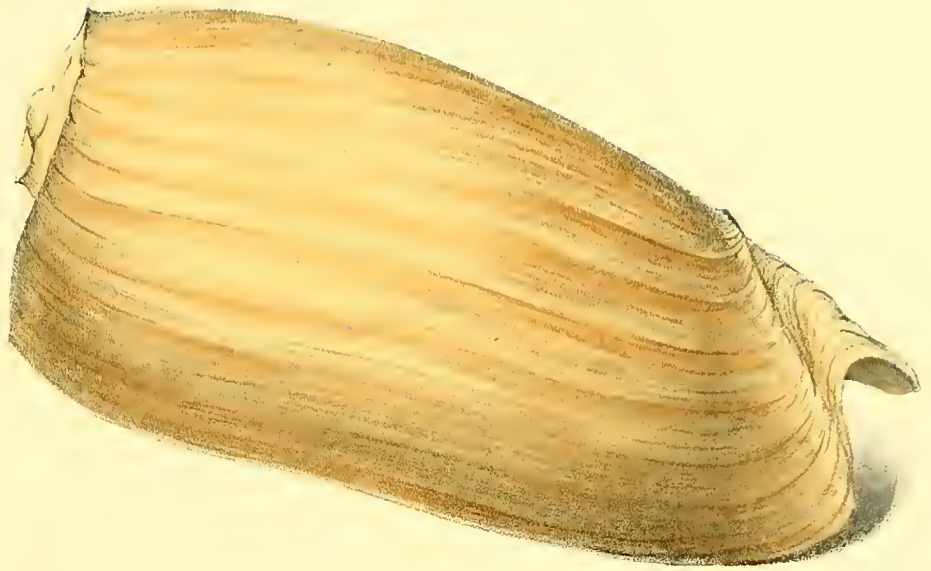


Achatina maculata Sw.

Mus. Dom. F. T. Swarzen.



Hyria elongata Sw.
Miss Den. & Bligh

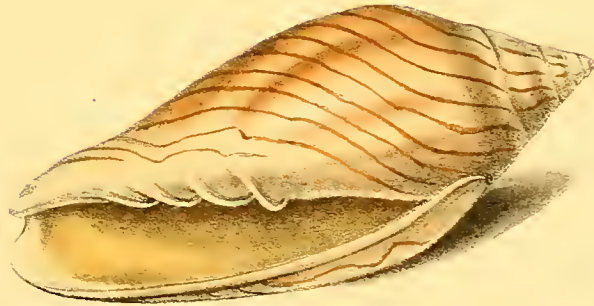


Voluta Porcina. L.

Mus. Dom. Swanson.



Veluta ota Lin.
Mus. Dom. Gul. Swanson



Voluta undulata. Lam.^t

Mus. Dem.^o Anger.

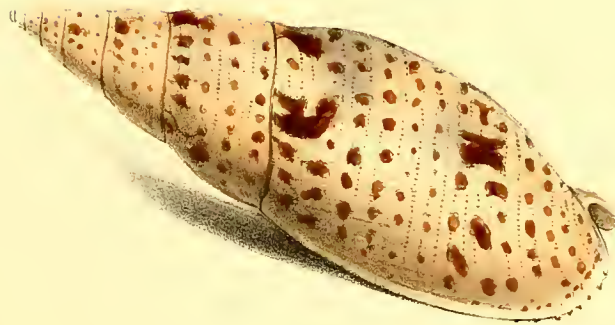


Voluta rubiginosa Sw.

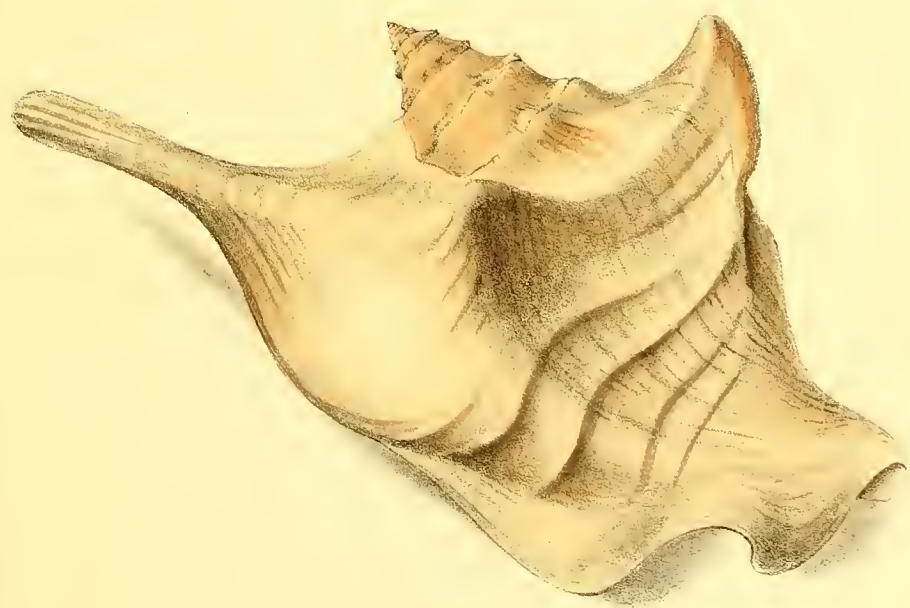
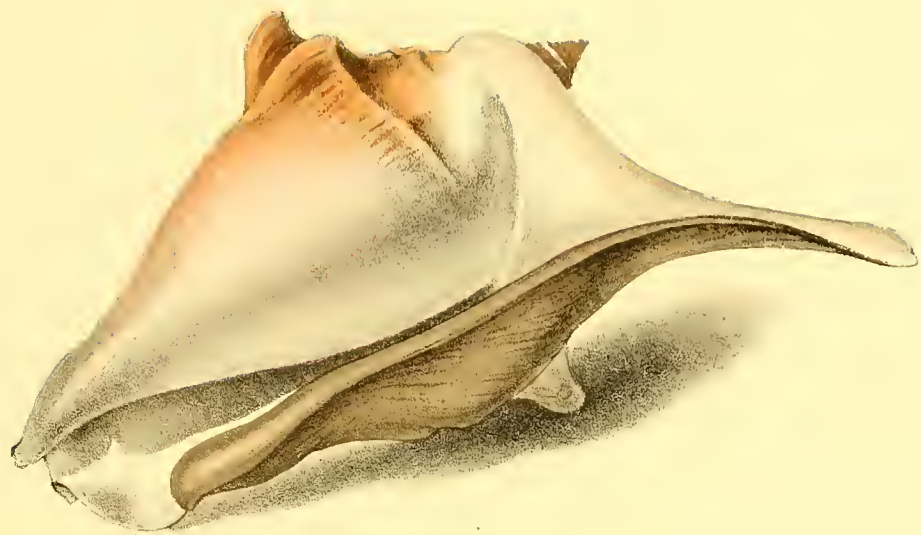
Mus. Don. Brøderip.



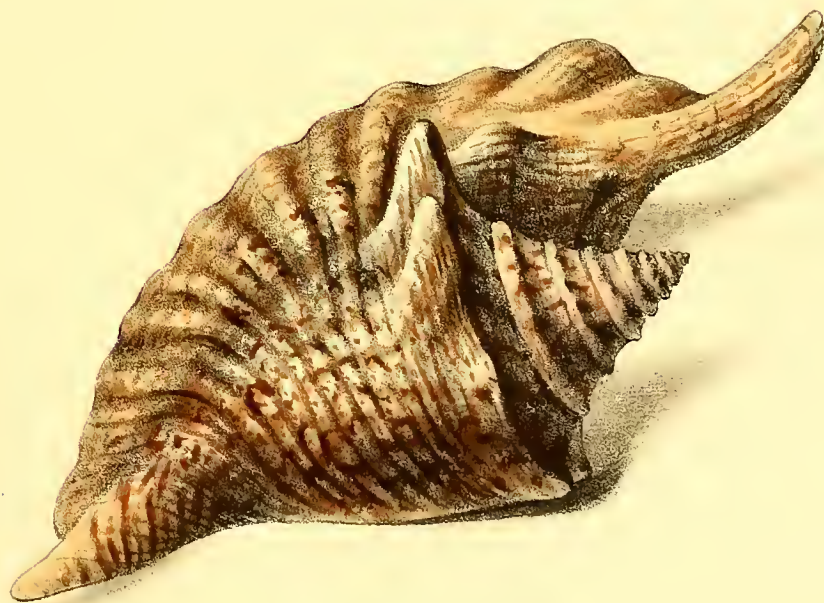
Cymbiola tuberculata Sw
Mus. Dem. Broderip.



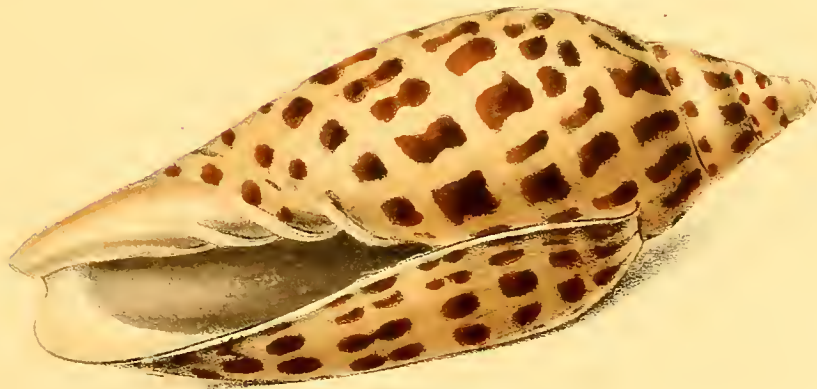
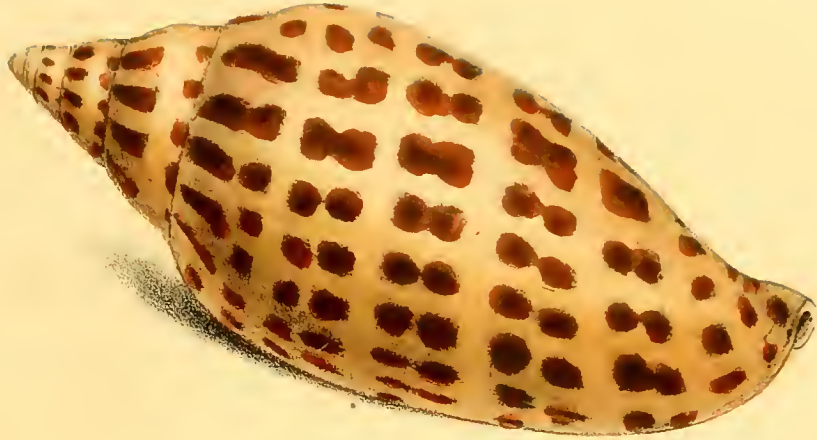
Mitra pertusa Sw
Mus. Dom. Broderip



Strombus tricornis. Hum.²²
Mus. Don. Gulielm. Swainson.



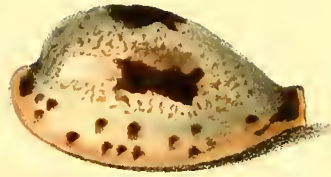
Strombus Cañus. Linn.
Des. Dou. Broisep.



Voluta Junonia Lam.
Mus. Braderup et. Haud



Voluta Cambium. Len.
Mus. P. Banbridge



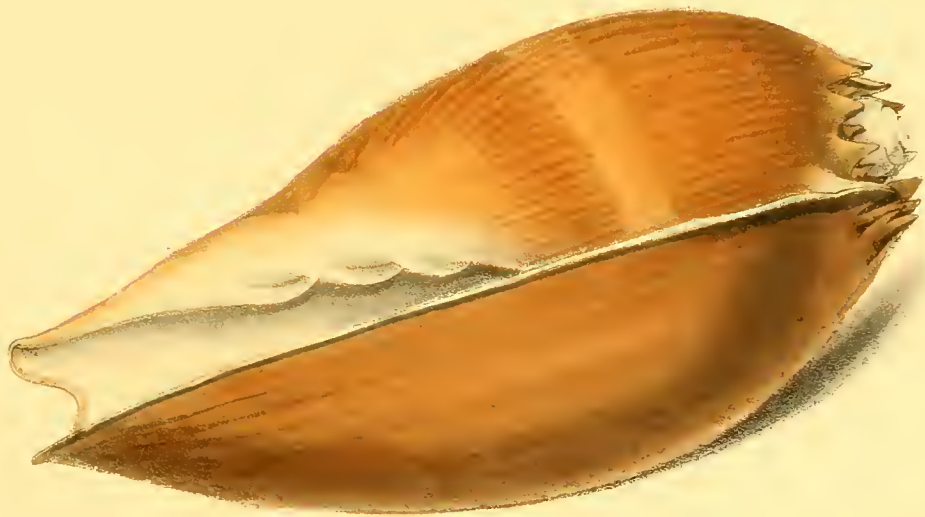
Cyproea pulchella. Sw
Mus. C. DeBors.



Anodon ovatus. var.



ANODON rotundatus. Sw
Mus D Swainson.



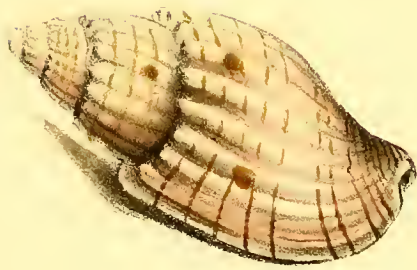
Voluta Aethiopica Lin

Mus. Dom. Broderip



Volula lugubris. Sw. -

The Broderip at Meud



Voluta naupa Sw.
Mus. C. Dubois



Voluta gracilis. Sw.
Mus. Dom. Dubois



Voluta Pacifica.
Mus. Dom. Broderop



Voluta zebra.
Mus. Dom. Bröderip.



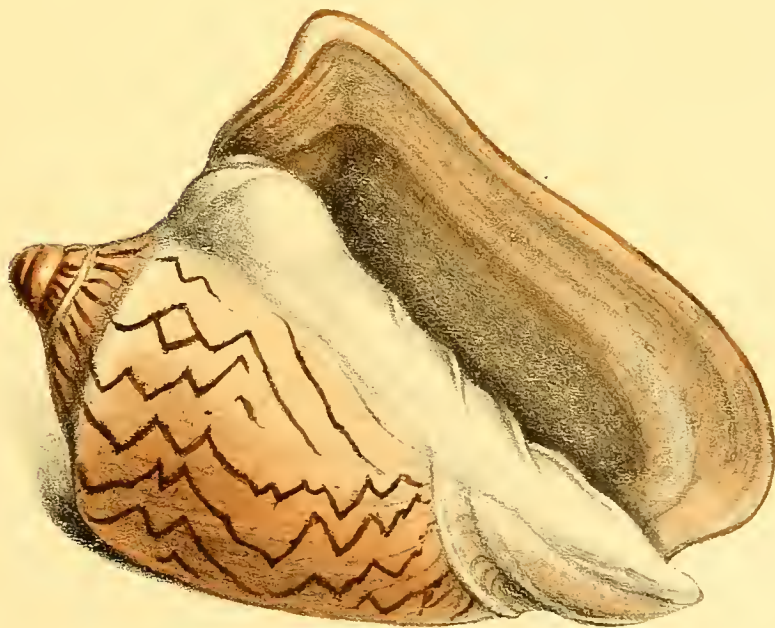
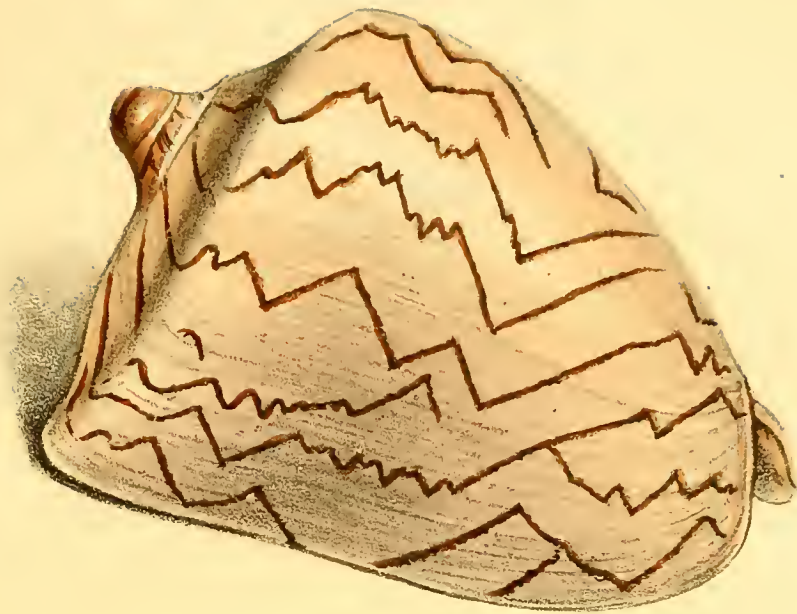
Voluta Chrysostroma s.
Mus. Dom. Dubois



Strombels laciniatus
Mus. Dum. Boederp.



Strombus melanastomus, Sw.
Mus. Nost.



Voluta Scapha
Mus. Vost.

Malacological Society of London.

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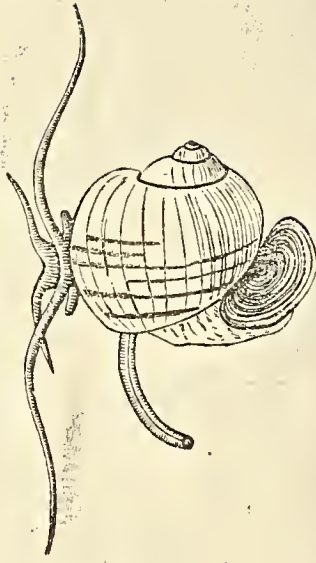
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CONTENTS.

PROCEEDINGS :—	PAGE	PAPERS continued :—	PAGE
Annual Meeting :		On the Mounting of Radulae for	
February 12th, 1915	244	Microscopic Examination.	
Ordinary Meetings :		By the Rev. E. W. BOWELL,	
February 12th, 1915	245	M.A. (Plate VII.)	272
March 12th	245	Note on <i>Hygromia hispida</i> ,	
April 9th	245	var. <i>nana</i> , Jeff. By the	
Obituary Notice	247	Rev. E. W. BOWELL, M.A.	
		(Fig.)	275
PAPERS :—		Notes on Swainson's <i>Exotic</i>	
Presidential Address: The		<i>Conchology</i> . By C. DAVIES	
genus <i>Clausilia</i> : a study of		SHERBORN and ALEXANDER	
its geographical distribution,		REYNELL	276
with a few notes on the		On <i>Ranella leucostoma</i> ,	
habits and general economy		Lamarck. By E. A. SMITH,	
of certain species and groups.		I.S.O.	283
By the Rev. A. H. COOKE,		Note on <i>Nautilus molitum-</i>	
M.A., Sc.D., F.Z.S.	249	<i>ensis</i> , A. H. Foord, from the	
On <i>Helicella (Candidula) cry-</i>		Eocene of Egypt. By G. C.	
<i>fordensis</i> , n.sp., from the		CRICK, F.G.S. (Plate VIII	
Pleistocene Deposits of South-		and Figs.)	286
Eastern England. By A. S.		Some more Misused Molluscan	
KENNARD, F.G.S., and B. B.		Generic Names. By TOM	
WOODWARD, F.L.S., etc.		IREDALE	291
(Figs.)	270	On Humphrey's <i>Conchology</i> .	
		By TOM IREDALE	307

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NOTES ON SWAINSON'S *EXOTIC CONCHIOLOGY*.
By C. DAVIES SHERRICKS¹ and ALEXANDER REYNELL.²

Read 12th March, 1915.

For many years Swainson's *Exotic Conchology* has been a bibliographical puzzle. No one seemed to have seen what he could feel sure was a complete copy of the first edition, or knew what the first edition really contained. Three copies have come under our notice, those belonging to the Radcliffe Library, Oxford, Mr. Reynell, and Mr. E. R. Sykes; the first and second in four original parts as published. We have been waiting patiently for years for two more parts believed to be required to complete the work. All the evidence, however, now points to the fact that Edition I was published and completed (as far as it got) in four parts, each part containing 8 lithographed plates, coloured or uncoloured according to the price the subscriber could pay. The colouring is particularly good in most cases. With Part I were issued sixteen³ pages of letterpress, consisting of a Title Page with the back as usual blank, except that the Printer's name is inscribed thereon, two pages of advertisement, and the succeeding pages occupied with descriptions of the species illustrated. No further text appears to have been issued.

Besides the Reynell copy, a second, with the front covers preserved, exists in the Radcliffe Library, Oxford, and we are very indebted to Sir Henry Miers for an exhaustive examination and very complete notes made for Mr. Sherborn in 1906. This copy appears to have two pages of the letterpress in duplicate, while four pages which should be there are missing. It also wants two plates from Part II, namely, *Murex regius*, Sw., and *Amidon minutus* (or *sinuata*), Lamk. A third copy, of which Mr. E. R. Sykes kindly sent particulars, is without covers, and complete with the exception that the four pages of text missing in the Radcliffe Library copy are here also missing. Our notes are based on the Reynell copy.

During 1834 and 1835 the book was reissued with an Engraved Title Page, and two other parts, each containing eight plates, were added. Of this reissue the British Museum, Bloomsbury, possesses 5 Parts in the original covers, once belonging to Major-General Thomas Hardwicke, who died on the 3rd of March, 1835, and therefore could not have received the sixth part. On the covers he fortunately noted the dates on which he received each part. Mr. Reynell has a complete copy in six parts with covers, but there are no manuscript dates on them. Apparently this set originally belonged to W. J. Broderick, as his name is written on one of the covers.

¹ By permission of the Trustees of the British Museum.

² Mr. E. R. Sykes, who contemplated a paper on this book, kindly withdrew in our favour, and handed over his copy for examination. Mr. Reynell has, very generously, allowed the British Museum (Nat. Hist.) to acquire his splendid copies of the first and second issues.—C. D. S.

³ We do not know with which parts the text really appeared: in all probability pp. 1-16, 1-8 with part I, and 9-16 with text part 3 or part 4.

In 1841 SYLVIUS HANLEY published a second edition of the forty-eight plates, with descriptions of the species illustrated (Title-page, Advertisement, and pp. 5-39). Many of the plates were redrawn, and the following note on p. 4 sufficiently explains the reason of the republication: "But few words are requisite to preface the second edition of the *Exotic Conchology*. Mr. Swainson on quitting England having left this beautiful work in an unfinished condition, to me has been committed the task of reducing the whole into systematic arrangement, of drawing up descriptions of species, and adding such synonyms as the advanced state of Conchological knowledge might require. This charge to the best of my power I have fulfilled, adopting that system of classification, to the establishment and elucidation of which so many years of the author's lifetime have been devoted. S. H." We will now proceed to the detailed description of the two issues of the First Edition.

First Edition,
1821-1822.

As far as can be ascertained the first edition reached no further than Parts 1-4, which were published between August, 1821, and March, 1822. William Wood in his "Catalogue of an Extensive and Valuable Collection of the Best Works on Natural History, etc.," London, 1824, mentions parts 1-4 only, issued in three forms, i.e. (a) with plates uncoloured, (b) coloured, and (c) both coloured and uncoloured, and priced at 10s. 6d., 16s. 0d., and £1 1s. 0d., each part respectively.

The Title on each cover reads as follows:—
Exotic Conchology: | or | Figures and Descriptions | of | Rare,
Beautiful, or Undescribed | Shells. | By | William Swainson, F.R.S.,
F.L.S. | Member of the Wernerian Society of Edinburgh, | Historic
Society of New York, &c. |

[Part] containing]
London: | Printed for William Wood, Strand; and J. and A. Arch,
Cornhill. | Price [filled in in ink].

The Contents of each Part and Date of issue are as follows:—

Part 1, August, 1821.

[Text; Title] Exotic Conchology: | or | Figures and Descriptions |
of | Rare, Beautiful, or Undescribed | Shells. |
Drawn on Stone from the Most Select Specimens; | The descriptions
systematically arranged | on the principles of M. M. Cuvier and
de Lamarck. | with references to the *Linnæan Classification*. | By
William Swainson, F.R.S., F.L.S. | Member of the Wernerian Society
of Edinburgh, | the Historic Society of New York, &c. | Vol. 1. |
London: | Printed for William Wood, Strand; and J. and A. Arch,
Cornhill. | 1821. |
[Back of Title] Printed by Richard and Arthur Taylor, Shoe Lane.

Two pages of Advertisement [iii] and iv followed by twelve, unnumbered pages of text.

The first page deals with the "Family, Volutæ. Genus *Voluta*". The latter is divided into three "Sections", Cymbeolæ, Musicales and Fusoidæ, whose characters are diagnosed.

The second page deals with *Voluta*, Sect. 1; *V. diadema*, Lam. and *V. tessellata*, Lam. are described.

The third page deals with *Voluta*, Sect. 2; and *V. nivosa*, Lam. is described.

The fourth page deals with *Voluta*, Sect. 2; *V. marmorata*, is described by W. Swainson as a sp. nov.

The fifth page deals with *Voluta*, Sect. 3; and *V. pacifica*, Chemn. and *V. tuberculata*, are described; the latter as a sp. nov. by Swainson, who mentions that there is a possibility of its being the

V. subnodosa, of Dr. Leach.

The sixth page continues *Voluta*, Sect. 3; and *V. elongata*, and *V. angulata*, are described as *spp. nov.* by Swainson.

The seventh page goes back to *Voluta*, Sect. 1; and *V. æthiopica*, L. and *V. melo*, Lam. are described.

The eighth page continues with *Voluta*, Sect. 1; and *V. cymbium*, Lam. and *V. rubiginosa*, are described, the latter by Swainson as a *sp. nov.*

The ninth page continues with *Voluta*, Sect. 1; and *V. olla*, Gmel. and *V. porcina*, Lam. are described.

The tenth page continues with *Voluta*, Sect. 1; and *V. proboscidealis*, Lam. and *V. scapha*, Gmel. are described.

The eleventh page deals with *Pterocera* as a division of the Strombi, and *P. aurantia*, *P. nodosa*, Brug. and *P. robusta*, are described. The first is presumably Lamarck's species, and *Strombus scorpion*, Martini, is given as a synonym, the third is described as a sp. nov. by Swainson, and its nearest ally given as *P. nodosa*, Brug.

The twelfth page continues *Pterocera*, and *P. elongata*, *P. millepeda*, L. and *P. violacea*, Martini, are described. The first is separated from the second, and described as a *sp. nov.* by Swainson.

The text ends here; no more text seems to have been published until the second edition by Sylvanus Hanley in 1841.

Eight Plates follow, illustrating

Voluta diadema, Lam. *Voluta angulata* (under side).

" *marmorata*, Sw.

" *nivosa*, Lam. *Modiola elongata*, Sw.

" *angulata*, Sol. *Uro alatus*, Lam.

[Latin names only given here.]

On the outside of the back cover is the following:—"This work is intended to contain accurate and faithfully coloured figures of some of the most beautiful and rare Shells that remain undescribed, or are imperfectly figured by former writers, and which, from their size, cannot conveniently be introduced in the 'Zoological Illustrations', now in a course of publication. The unreserved access to some of the principal cabinets in this Country, with which the author has been favoured, will enable him to select as subjects for the work,

many Shells of the greatest rarity and beauty; at the same time he will feel obliged by the intimation of any others, existing in cabinets he has not yet inspected, and which, if adapted to the work and intrusted to him, shall be most faithfully and expeditiously returned.

The Plates will be engraved on Stone by the Author, and afterwards carefully finished in colours under the superintendance of Mr. Graves. It is intended to be published (on a royal quarto size) in parts, to appear every two months, each containing eight plates, and the letterpress (which will be given in the course of publication) arranged systematically. The whole will be completed in two volumes; the price of each part, 10s. 6d. plain or 16s. coloured; or, with both plain and coloured impressions, One Guinea.

Printed by R. and A. Taylor, Shoe Lane, London."

Part II, October, 1821.

Contains eight plates.

Pterocera amantia, Sw.

Achatina sultana, Fér. Lin.

Strombus pugilus, var. Lin.

Voluta tessellata, Lam.

" *scapha*.

" *pacifica*, Sol.

Murex regius, Sw.

Anodon sinuatus, on cover; *sinuosa*, Lam. on plate.

On the outside of the back cover is the following "Advertisement":—"It will be perceived from our Prospectus, that we have not pledged ourselves to give a portion of the Letter-press in every Part; for as we intend the Descriptions should follow in systematic order, this, under the form we have printed it, would be impossible. Our Subscribers will not, however, suffer beyond a little delay; for after a few Parts are published, they will find that all the Plates will be described, though the Descriptions will not accompany the contents of each particular Part."

"N.B. The Author will feel much indebted to any Collector for the loan of a small and fine specimen of *Voluta Neptuni*, Dillwyn's Catalogue, vol. i, page 578, also of *V. Corona*, Dill. 576. Martini 10. tab. 148. 1387 & 8, and *Voluta Janonia*, Martini 11. 177. 1703 & 4, and pledges himself to return them within three weeks of the time he may be favoured with them, if left in the care of Mr. Wood, No. 428, Strand, who, if required, will give a receipt for the same."

Part III, December 1821.

(Contains eight plates.)

Strombus pacificus, Sw.

Mitra glabra, Sw.

Fusus aruanus, Sw.

Voluta elongata, Sw.

Do. (underside).

Voluta maclo, Sol.
Helatina maculata, Sw.
Hypria elongata, Sw.

Part IV. March 1832.

(Contains eight plates.)

Voluta porrina, Lam.
 " *olla*, Linn.
 " *undulata*, Lam.
 " *rubiginosa*, Sw.
 " *tuberculata*, Sw.
Mitra pertusa, Sw.
Strombus tricornis, Sw.
 " *gallus*, Linn.

[The Plates are not numbered; but the name of each species or variety illustrated is given at the bottom of each plate, printed, or written in ink, with the Author's name attached and the source of the specimen.]

Reissue of first edition, in part redrawn; with two additional parts.

1834—1835?

This consists of six parts, the first four being a reissue with minor differences of the first issue, to which were added two new parts.

The Titles on the front covers of Parts I-III are as follows:—

" Exotic Conchology; | or | Figures and Descriptions | of | Rare, Beautiful, or Undescribed | Shells. | By | William Swainson, F.R.S. & F.L.S. | Member of the Wernerian Society of Edinburgh, | Historic Society of New York, &c. | Part I [2, 3] | containing [no contents are given] | London; | Printed for William Wood, Strand; | and J. and A. Arch, Cornhill. | Price" [amount written in ink] |

There was a slip inserted in Part II referring to the first Series of the Ornithological Drawings, the 'Birds of Brazil', by W. Swainson. It also states "Exotic Conchology". After the Third Part, the Price of the succeeding will be raised to non-subscribers from 10s. 6d. to 14s."

The Titles on the Front Covers of Parts IV-VI are as follows:—

" Dedicated | to | The Rev. Joseph Goodall, D.D. F.L.S. &c. | Provost of Eton. | Exotic Conchology; | or | Figures and Descriptions of Rare, Beautiful, or Undescribed | Shells. | By | William Swainson, Esq. M.P.S. Camb. | and of several Foreign Academies. | Part 4 [5, 6] | London; | Published by Baldwin and Craddock, Paternoster Row; and J. and A. Arch, Cornhill. | Prices. Plain 7s. Coloured 10s. 6d. (Non-Subscribers 14s.) Double Plates (Subscribers) 15s. | Published every other Month, and to be completed in Six Parts." |

At the end of W. Swainson's 'Elements of Modern Conchology', etc., London, 1835, appears the following Advertisement:—

" Exotic Conchology, or highly finished Drawings of some of the most rare costly or interesting foreign Shells. Complete in seven parts. Royal Quarto each with 8 plates, price 10s. 6d. each part."

[This seventh part, if it ever appeared (? a printer's error), has not been seen.]

The Contents and Dates of Publication of the 1834-5 reissue and continuation are as follows, the dates being taken from the endorsements on the covers of Major-General Thomas Hardwicke's copy in the British Museum (730 1. 24).

Part I. Jany 15th, 1834.

Engraved Title Page as follows:—

Exotic | Conchology | or | Drawings and Descriptions | of Rare, Beautiful or Undescribed | Shells. | By | William Swainson, Esq. F.R.S. L.S. PS Camb. | and of several Foreign Academies [*etc.*]. | London | Baldwin & Craddock J. & A. Arch. Treuttel. Wirtz & Richter. W. Wood. | and by Robt. Havell, 77, Oxford St. | 1834 |

[No letterpress, though it is possible that some copies were provided with loose text remaining over from the first issue.]

Contains 8 Plates Coloured and 8 Plates Plain, illustrating the same species as in the original issue; but they are not in the same order of arrangement.

Part II. April 1st 1834.

Contains 8 Plates Coloured and 8 Plates Plain, illustrating the same species as in the original issue with the exception of Plate 5, which is devoted to *Strombus albus*, Gmel., instead of *Strombus pugilis*, var. Linn., as in the original issue.

On Plate 16 one reads *Anodonta sinuosa*, Swain., instead of *Anodonta sinuosa*, Lamk., as in the original issue, but the shell is the same in both.

Part III. June 2nd 1834.

Contains 8 Plates Coloured and 8 Plates Plain, illustrating the same species as in the original issue.

In Plate 20 the species illustrated is named *Gymbiata elongata*, Sw., and the other view *Voluta elongata*, Sw. In the original issue they both read *Voluta elongata*, Sw.

Part IV. Jany 12th 1835.

Contains 8 Plates Coloured and 8 Plates Plain, illustrating the same species as in the original issue.

Part V. Jany 12th 1835.

Contains 8 Plates Coloured and 8 Plates Plain.

Pl. 33. *Voluta Janonia*, Lam.

" 34. " *cymbium*, Linn., Mus. D. Bainbridge, on Plain Plate.

" *cymbium*, Mus. Domne Bambridge, on Coloured Plate.

" 35. *Cyprea pulchella*, Sw.

" 36. *Anodon oratus*, Sw.

- Pl. 37. *Anodon rotundatus*, Sw.
 " 38. *Foluta maculata*, Sw.
 " 39. " *athiopica*, Linn.
 " 40. " *lugubris*, Sw.

Part VI. [undated] but not earlier than March 1st 1835.
 Contains 8 Coloured and 8 Plain Plates.

- Pl. 41. *Foluta harpa*, Sw.
 " 42. " *gracilis*, Sw.
 " 43. " *pacifica*.
 " 44. " *zebra*.
 " 45. " *chrysostoma*, Sw.
 " 46. *Strombus laciniatus*.
 " 47. " *melanastomus*.
 " 48. *Foluta scapha*.

The Plates of the first four parts of the reissue were nearly all, if not every one, redrawn, and differ, some very much, from those in the original issue; and one remarks that their colouring is not quite so good. The Plain Plates of the reissue are in the Reynell copy on India paper of a pale grey-brown tint, mounted on white paper. The Plates have no printed numbers, but in the Reynell copy they have been added in ink.

The Second Edition 1841.

As this is quite a common book, such notes as are necessary have been given in the introductory remarks.

ON *RANELLA LEUCOSTOMA*, LAMARCK.

By EDGAR A. SMITH, I.S.O.

Read 9th April, 1915.

THE object of the present note is to find a permanent generic resting-place¹ for this well-known shell, which in the past has been shifted from one genus to another, and also to raise to specific rank a form from South Africa hitherto regarded as a variety of it.

In the year 1811 it was placed in the genus *Diplax* by Perry; in 1822 Lamarck, and Deshayes in 1830, called it a *Ranella*; in 1833 it was deemed a *Triton* by Quoy & Gaimard; in 1842, 1843, 1844, 1870, 1886, 1892, and 1903 it reverted to *Ranella* on the authority of Kiener, Deshayes, Reeve, Kobelt, Sowerby, and Martens; in 1857 Gray transferred it to *Apollon*; in 1853 and 1867 it reposed in *Bursa* (sub-genus *Apollon*) teste H. & A. Adams and Angas; in 1881 and 1885 Tryon and Watson regarded it as a *Ranella* of the sub-genus *Argobuccinum*; in 1888, on the authority of Pritchard & Gatliff, *Lotorium* (sub-genus *Argobuccinum*) claimed it; in 1901 and 1902 Hedley and Kesteven gave it a temporary resting-place in *Gyrineum*; in 1904 Hutton placed it in *Apolla*; in 1906 Smith referred it to *Septa*, and in 1912 and 1913 Verco and Suter located it in *Argobuccinum*.

In deciding the proper position of this species it all depends upon what characters should be regarded of generic importance. If it were merely a question of selecting the oldest name applied to the groups '*Triton*' and '*Ranella*', as understood by Lamarck, the matter would be comparatively simple, but in the present day the tendency is to multiply generic divisions, and consequently there is much more difficulty, in the present case at all events, of selecting the right genus.

Since *Ranella leucostoma* in shell characters has a greater general resemblance to the big '*Triton* shells' (e.g. *rubicunda*, Perry = *australis*, Lamarck) than to any other group, and the opercula are similar, I am inclined to place it along with them in the genus *Charonia* of Gistel. Dall² at one time considered this name synonymous with *Septa* of Perry, but it has since been pointed out by Matthews & Iredale³ that this was a false conclusion. Iredale⁴ subsequently clearly proved that the type of *Septa* of Perry is not the species selected by Dall, who at the time had not consulted Perry's earlier work, the *Arcana*, in which the first introduction of *Septa* appeared.

The external features of the animal of *Ranella leucostoma* have been described by Quoy & Gaimard,⁵ and they are similar in general

¹ This is almost a hopeless task until the animals of the various groups of Tritons have been investigated.

² Smithsonian Misc. Coll., vol. xlviii, p. 134, 1904.

³ *Victorian Naturalist*, vol. xxix, p. 9, 1912.

⁴ *Nautilus*, vol. xxvii, p. 55, 1913.

⁵ Voy. *Asirolabe*, Zool., vol. ii, p. 547.



