

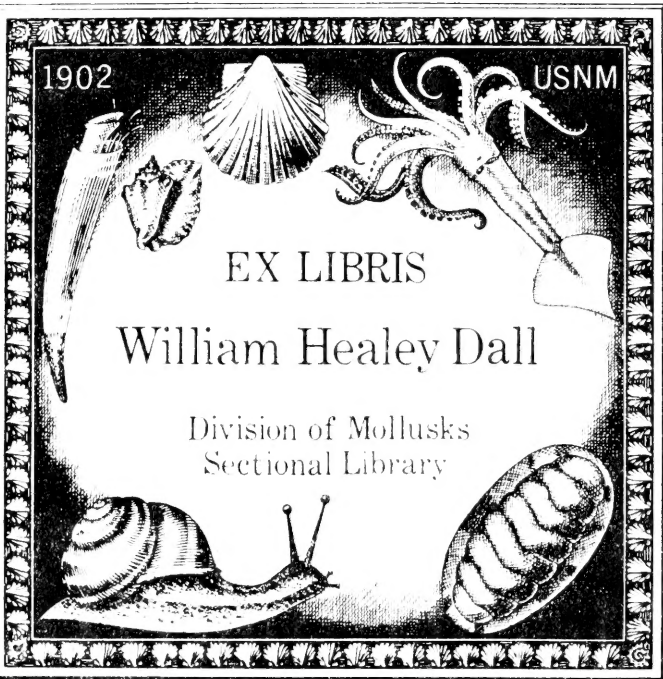
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THE
NATURAL HISTORY
OF
BRITISH SHELLS,

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INCLUDING
FIGURES AND DESCRIPTIONS
OF ALL THE
SPECIES HITHERTO DISCOVERED IN GREAT BRITAIN,

SYSTEMATICALLY ARRANGED
IN THE LINNEAN MANNER,

WITH
SCIENTIFIC AND GENERAL OBSERVATIONS ON EACH.



VOL. IV.



By ^{Author} E. DONOVAN, F.L.S.

AUTHOR OF THE NATURAL HISTORIES OF
BRITISH BIRDS, INSECTS, &c. &c.



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THE
NATURAL HISTORY
OF
BRITISH SHELLS.



PLATE CIX.

MUREX CARINATUS.

CARINATED MUREX.

GENERIC CHARACTER.

Spiral, rough. The aperture ending in a strait, and somewhat produced gutter or canaliculation.

SPECIFIC CHARACTER

AND

SYNONYMS.

Tail patulous : Shell oblong, of six spires, with two smooth spiral ridges; first spire ventricose. Aperture semi-circular.

MUREX CARINATUS : testa patulo-subcaudata oblonga : anfractibus sex lævibus bicarinatis; primo ventricoso, apertura semicirculari.

PLATE CIX.

Murex carinatus, angulated. With five or six spires, the body ventricose: the spires rising into angulated ridges. The aperture semicircular. Length near four inches. From the Portland Cabinet. *Penn. Br. Zool. T. 4. p. 123. sp. 96.*

The shell figured in the annexed Plate is unique; it formerly belonged to the late Duchess of Portland, by whose permission Mr. Pennant described it in the *British Zoology*. This author has given two figures of it, one in Plate 77, and the other in the Frontispiece of the fourth volume.

The existence of this species being only proved by a solitary specimen, various conjectures have arisen amongst Conchologists respecting it. Some have been inclined to admit it as an undoubted species, and others as a mere accidental variety of growth of the Linnæan *Murex Antiquus*. How far we may be authorized to abide by the former opinion must rest with the critical Naturalist.

To argue that it cannot be a distinct species, because only one shell of the kind has been hitherto found, is absurd; since the existence of many other species has been asserted upon the evidence of a single specimen only, and its relation to *Murex antiquus* is not so obvious as might be at first imagined. It certainly approaches it in the general outline, but the ridges of *Murex Antiquus* is most completely raised into tubercles, whereas those of *Carinatus* are perfectly smooth and even, nor is there that strict correspondence in the angulations of the contour in general that should induce us to consider it a variety of *Murex Carinatus*.

PLATE CIX.

In deciding a question of some moment to the English Conchologist, it has been thought advisable to give an additional Plate of *Murex Antiquus*, by which the difference between the two shells may be more easily discriminated. We must however observe, that the latter is not absolutely known as a British shell; it is a native of the North Seas, and has been supposed to inhabit some of the remote northern islands of the British dominions. The *Murex Antiquus* of Pennant is a very different shell, and by no means allied to that of Linnæus, whose name it bears.

It is now uncertain from what part of our coast the Duchess of Portland received this shell; Pennant is silent in this respect, but we cannot dispute that her Grace received it as a British shell, since it was inserted upon her authority in the *British Zoology*.



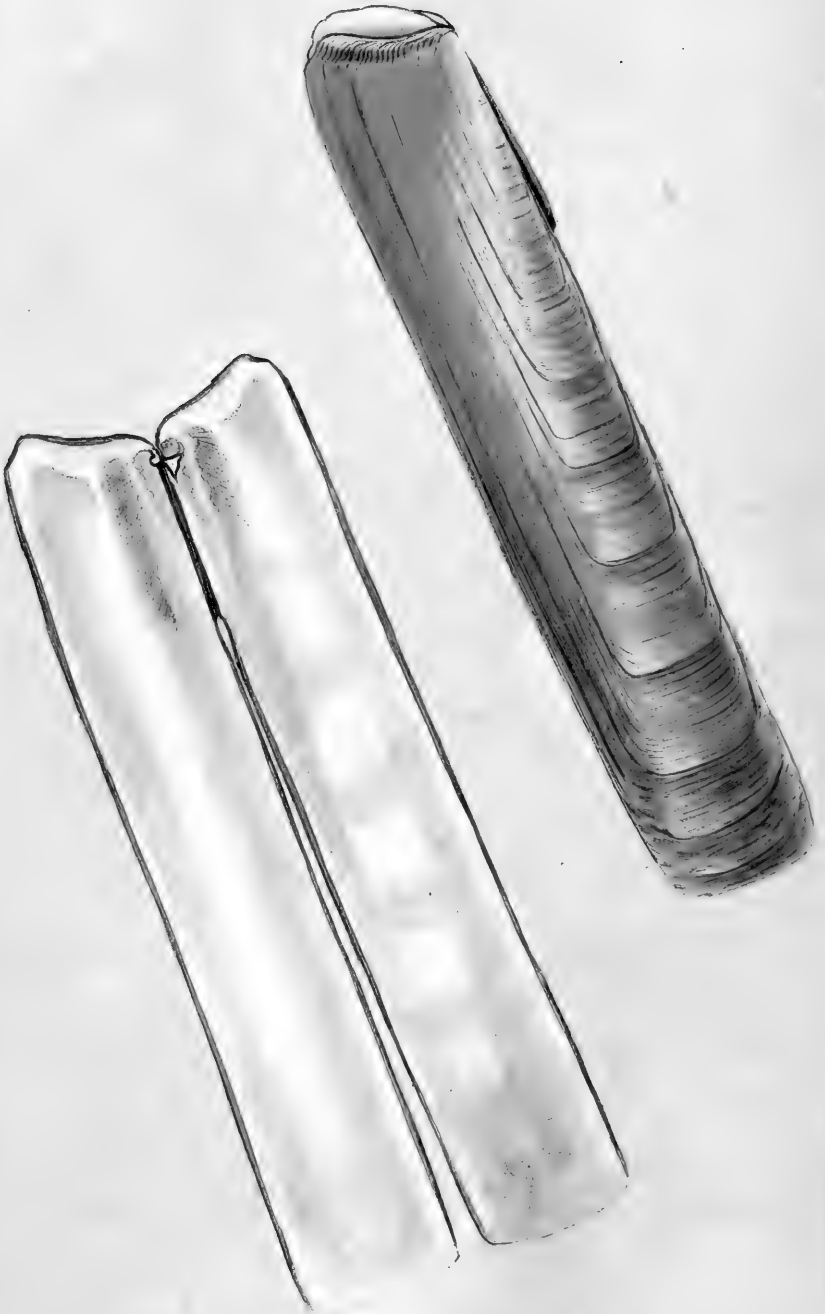


PLATE CX.

SOLENI MARGINATUS.

MARGINATED RAZOR SHELL.

GENERIC CHARACTER.

Bivalve, with equal valves, oblong, open at both ends. At the hinge a subulated tooth turned back, often double; not inserted in the opposite shell. Animal an ascidia.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell straight, of equal depth, a single tooth in each valve.

SOLENI MARGINATUS: testa lineari recta marginata, valvulis undentatis.

Solen Vagina, Sheath, *Penn. Br. Zool. p. 83. No. 21.*

Some Conchologists imagine that Da Costa has confounded this species with his *Solen Siliqua*, but it is more probable that he had never met with it, or the character of the teeth at the hinge could not have escaped his notice. In its general appearance it is not unlike *Solen Siliqua*, but has one end marginated, and only a single

PLATE CX.

tooth in each valve ; on the contrary *Solen Siliqua* has two teeth in one valve, and one in the other ; the single one being inserted between the two others when the shell is shut.

This is very scarce. Pennant says it inhabits Red Wharf, Anglesea,
—This is not *Solen Vagina* of Linnæus, as Pennant describes it.





PLATE CXI.

TROCHUS TERRESTRIS.

LAND TOP SHELL.

GENERIC CHARACTER.

Animal a slug. Shell conic, aperture nearly triangular.

SPECIFIC CHARACTER.

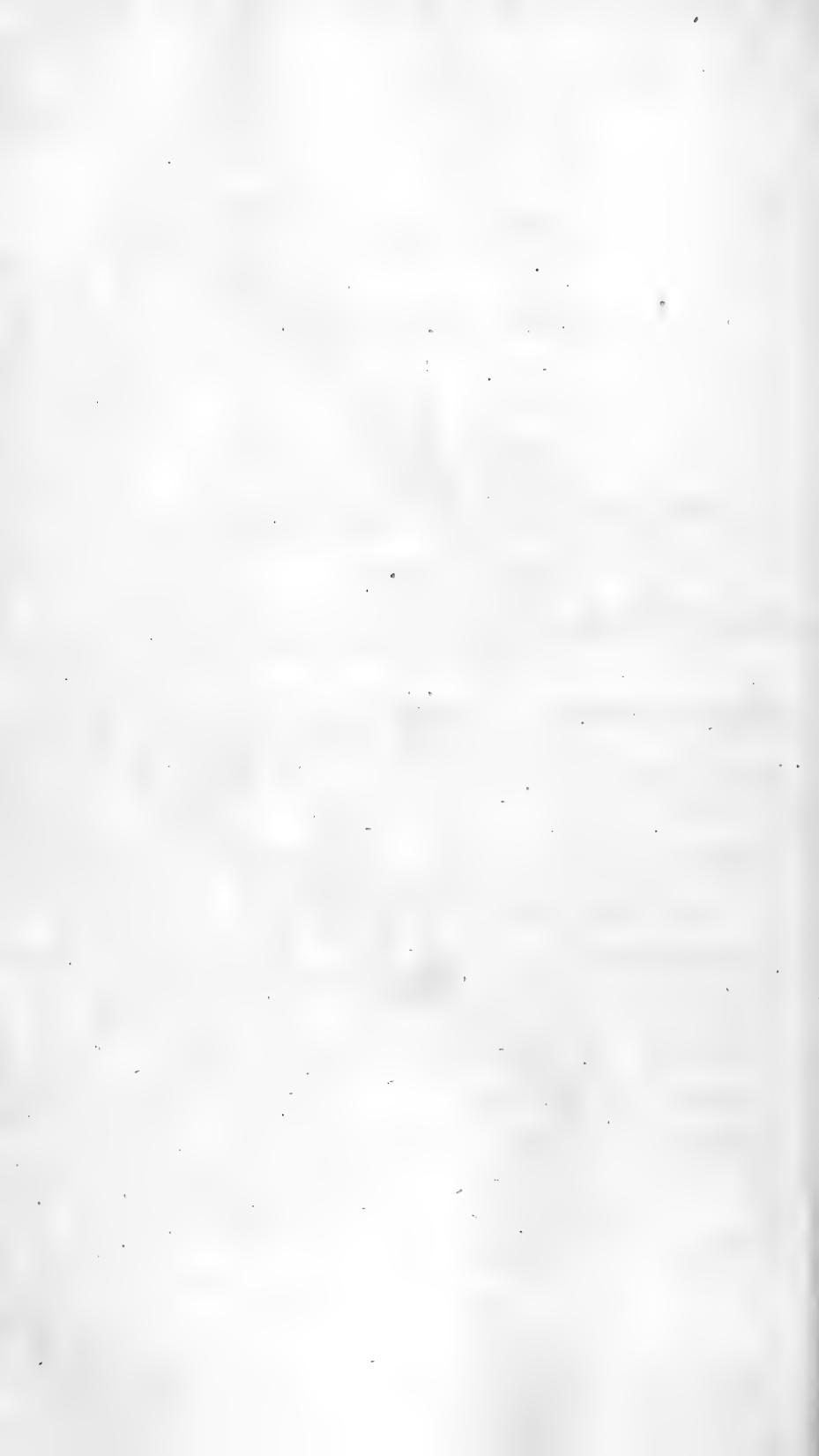
Rather conic, whitish, with a spiral brown streak along the middle of the wreaths.

TROCHUS TERRESTRIS: testa subconica albida anfractibus linea media fusca.

Trochus Terrestris, Land. *Penn. Brit. Zool. No. 108. tab. 80. fig. 108.*

Trochus Terrestris tertius. *Da Costa Br. Conch. p. 36. C.*

Pennant describes this new British species of Land Trochus upon the authority of Mr. Hudson, who discovered it upon the Mountains of Cumberland. Da Costa therefore places it as a distinct species, but expresses some doubt whether it may not be the same Land Trochus as Dr. Lister found in the moss at the roots of the large trees in Burwell woods, in Lincolnshire, and to which the shell found by Mr. Morton, in Morsley wood, Northamptonshire, bears great affinity. Dr. Lister's shell had six or seven wreaths, and Mr. Morton's only five. *Mort. Northampt. ch. 7. p. 415.*





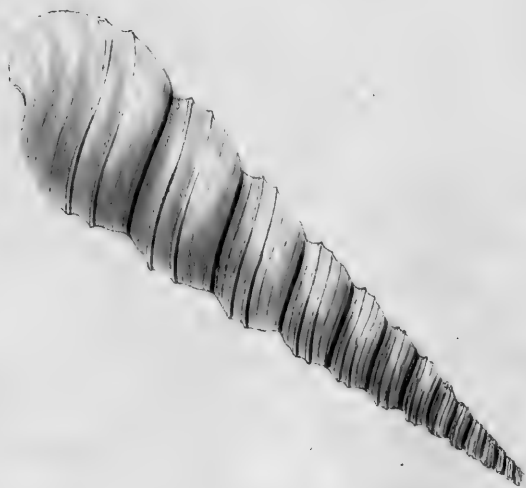
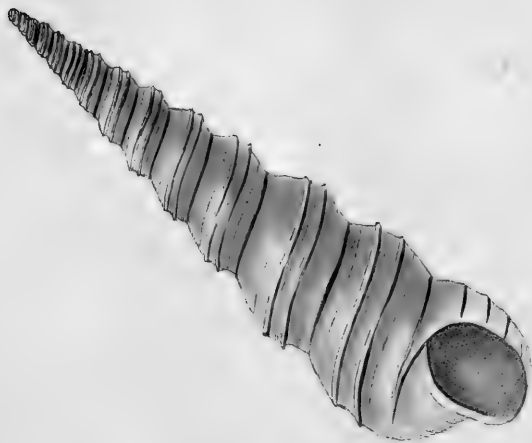


PLATE CXII.

TURBO DUPLICATUS.

TWO RIDGED SCREW SHELL.

GENERIC CHARACTER.

Animal Limax. Univalve, spiral, or of a taper form. Aperture somewhat compressed, orbicular, entire.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell slender, with two sharp prominent spiral ridges.

TURBO DUPLICATUS: spiræ anfractibus carinis duabus acutis.

Gmel. Linn. Syst. p. 3607. sp. 79.

Buccinum crassum, duobus acutis, & inæqualiter altis striis in singulis

duodecim minimum spiris donatum. An. Buc-

cinum striatum σαλπινξ Fab. Columnæ? *List*

H. An. Angl. p. 160. tit. 7. tab. 3. fig. 7.

Turbo duplicatus, doubled. *Penn. Br. Zool. No. 112. tab. 81.*

fig. 112.

Strombiformis major rubro lutescens aut pullus: anfractibus duabus

carinis sive striis acutis insignitis. Bicarinatus. s.

Torcular. *Da Costa. Br. Conch. p. 110. 44.—*

Tab. 6. fig. 3.

PLATE CXII.

This species is admitted as a British shell upon the authority of Dr. Lister, who says he had purchased them of the Scarborough fishermen. Dr. Lister had not seen any of them alive, and concludes it must be a pelagian shell, or one of those which live far from the shores.

As Pennant had inserted this species in his *British Zoology*, upon this authority, Da Costa was unwilling to omit it in his *British Conchology*, yet he observes, that it is not improbable Dr. Lister was imposed upon by the fishermen, for the shell is generally believed to be a native of the East Indies; some consider it as a West-Indian, and others as an European species.



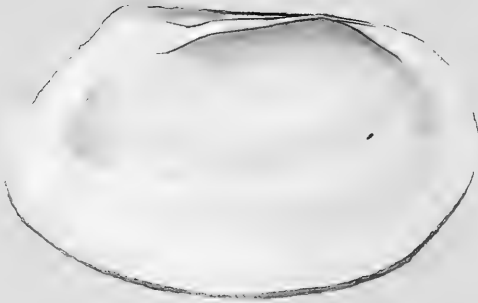
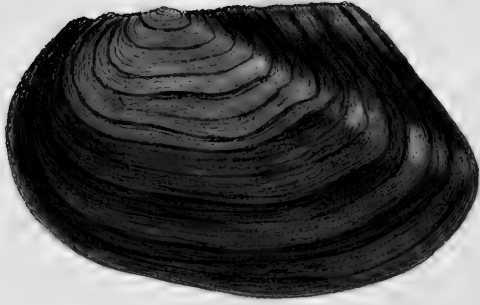


PLATE CXIII.

MYTILUS ANATINUS.

SMALL HORSE MUSCLE.

GENERIC CHARACTER.

The hinge toothless, and consists of a longitudinal furrow.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell oval, rather compressed, brittle, margin membranaceous, beaks decorticated.

MYTILUS ANATINUS: testa ovali compressiuscula fragilissima margine membranaceo, natibus decorticatis. *Gmel. Linn. Syst. Nat. p. 3355. sp. 16.*

Musculus latus, testa admodum tenui, ex fusco viridescens, interdum rufescens, &c. *List. H. An. Angl. p. 146. tit. 29. tab. 2. fig. 29.*

Musculus tenuis minor latiusculus. *App. H. An. Angl. p. 10. tit. 30. tab. 1. fig. 2.—App. H. An. Angl. in Goed. p. 13. tit. 30. tab. 1. fig. 2.*

Mytuli majores à nostratibus. Horse muscles. *Merret. Pin. p. 193.*

Mytilus anatinus Duck. *Penn. Br. Zool. No. 79. tab. 68. fig. 79.*

Mytilus fluviatilis minor. Anatinus, *Da Costa Br. Conch. p. 215. sp. 47. tab. 15. fig. 2.*

PLATE CXIII.

This species bears much resemblance to *Mytilus Cygneus*, but differs in being only about half the size, is more compressed and oblong, of a clearer green colour, and the cartilage side extending in a straight line to an acute angle, like a fin, and thence continuing in an oblique line towards the bottom, where it is rounded.—Extremely common in rivers and stagnant waters.

Pennant's shell is much broader in proportion than our specimens.



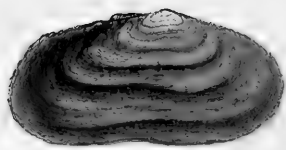


PLATE CXIV.

SOLENI ANTIQUATUS.

ANTIQUATED SOLEN, OR RAZOR SHELL.

GENERIC CHARACTER.

Bivalve, with equal valves, oblong; open at both ends. At the hinge a subulated tooth turned back, often double; not inserted in the opposite shell. Animal an Ascidia.

SPECIFIC CHARACTER

AND

SYNONYMS.

Oval oblong, semipellucid, lower margin sinuous in the middle.

SOLENI CHAMA-SOLENI: testa ovali-oblonga subpellucida, sinuosa.

Da Costa. Br. Conch. p. 238. sp. 62.

Chama angustior, ex altera parte sinuosa. *List. H. Conch. tab. 421. fig. 265.*

Solen Cultellus, Kidney. *Penn. Brit. Zool. No. 25. tab. 46. fig. 25.*

This is perhaps the rarest species of the Solen genus found upon the British coasts, and as Pennant observes, seems to connect the Solen with the Mya genera. It borders on the Chama of Da Costa,

PLATE CXIV.

who therefore calls it *Solen Chama-Solen*. Pennant notes it from Weymouth, and Da Costa received it from the shores of Dorsetshire and Hampshire.

Pennant has mistaken this for a very distinct shell, described by Linnæus, under the name of *Solen Cultellus*.



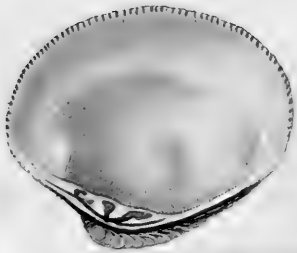


PLATE CXV.

VENUS CANCELLATA.

MEMBRANACEOUS VENUS.

GENERIC CHARACTER.

Bivalve. Hinge furnished with three teeth ; two near each other, the third divergent from the beaks.

SPECIFIC CHARACTER

AND

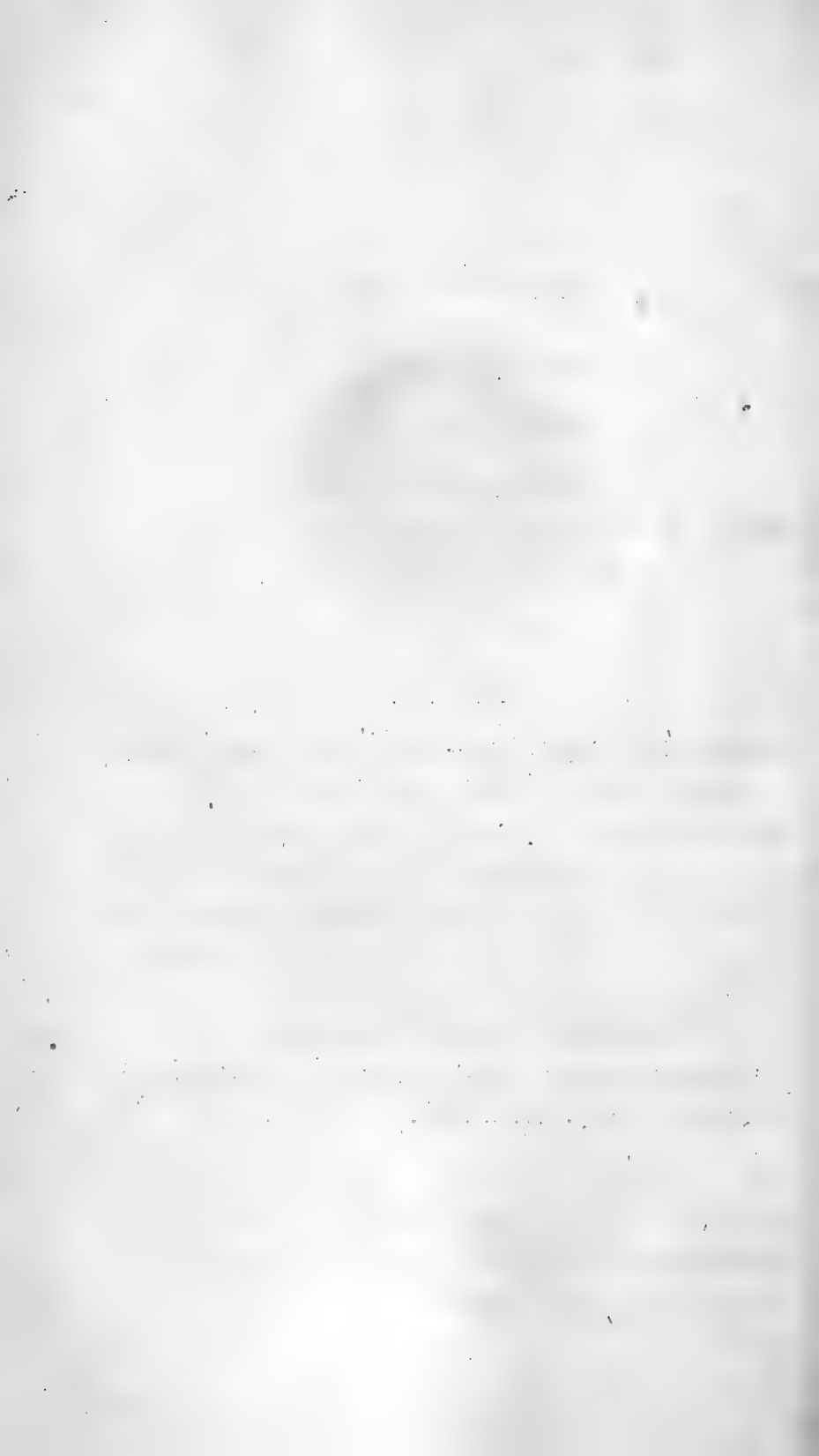
SYNONYMS.

Somewhat heart shaped with remote transverse membranaceous ridges ; a cordiform depression on the slope under the beaks.

VENUS CANCELLATA : testæ striis transversis membranaceis remotis, Ano cordato. *Gmel. Linn. Syst. p. 3270. sp. 8.*
Pectunculus strigis transversis remotis, acutis, membranaceis, donatus Membranaceous. *Da Costa Br. Conch. p. 193. sp. 29. tab. 13. fig. 4. right hand.*

Da Costa described this shell from a specimen in the collection of the late Dr. Fothergill. It is from the Western coast.

The shell figured by Pennant, No. 48. A. Pl. 48, as a Worn shell of *Venus Erycina*, is probably of this species ; for it seems entirely destitute of the longitudinal undulations that decussate the transverse ridges in *Venus Erycina*.





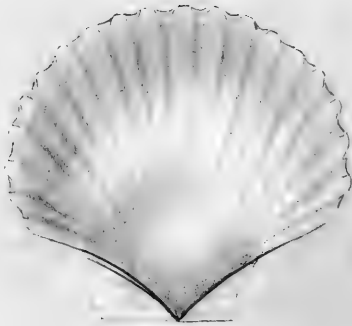
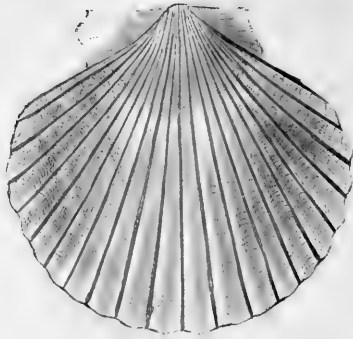


PLATE CXVI.

OSTREA LINEATA.

LINEATED SCALLOP.

GENERIC CHARACTER.

Animal a Tethys. Shell bivalve, unequal. The hinge without a tooth, having a small oval cavity.

SPECIFIC CHARACTER

AND

SYNONYMS.

Valves nearly equal, thin: one white, the other marked with a single purple line down each rib.

OSTREA LINEATA: testa subæquivalvi tenui, valva una alba, alterius singulis costis linea purpurascenti.

Pectunculus, mediocris, fere æquivalvis, tenuis, valva una alba, altera vero cum linea purpurascente in summitate unaquæque costæ. *Lineatus*. *Da Costa Br. Conch.* p. 147. sp. 4. *Tab.* 10. *fig.* 8.

This elegant shell seems to be described only by Da Costa; he says he was informed it had been fished up about Weymouth, in Dorsetshire, but had only seen it from Cornwall. We have it from the coast of Devonshire also, from which it appears an inhabitant of the western coast in general, though it is very rarely met with.

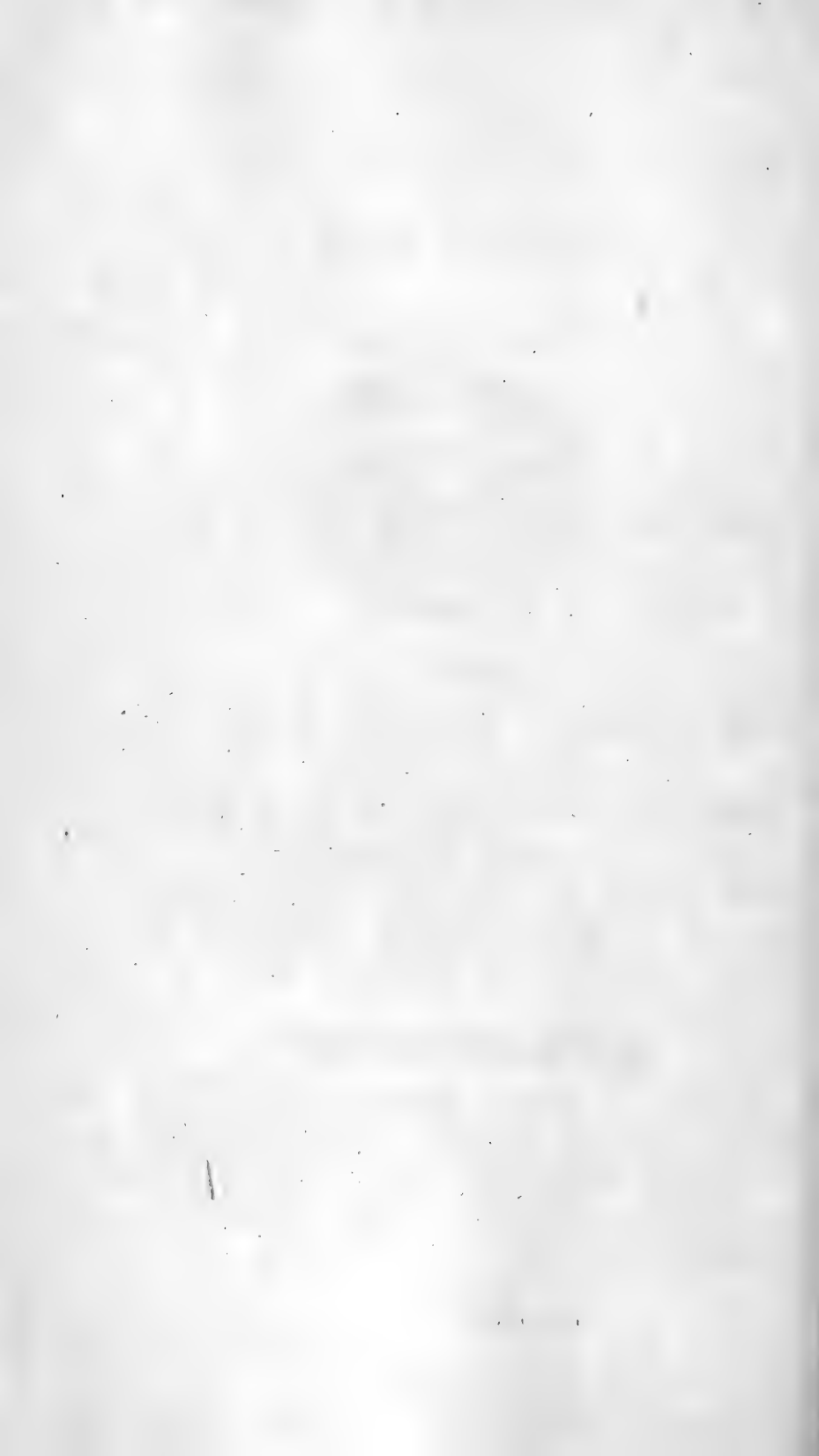






PLATE CXVII.

PHOLAS STRIATA.

STRIATED PIDDOCK.

GENERIC CHARACTER.

Animal ascidia. Shell bivalve, opening wide at each end, with several lesser valves at the hinge. The hinges folded back and connected by a cartilage.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell ovate, with numerous striæ.

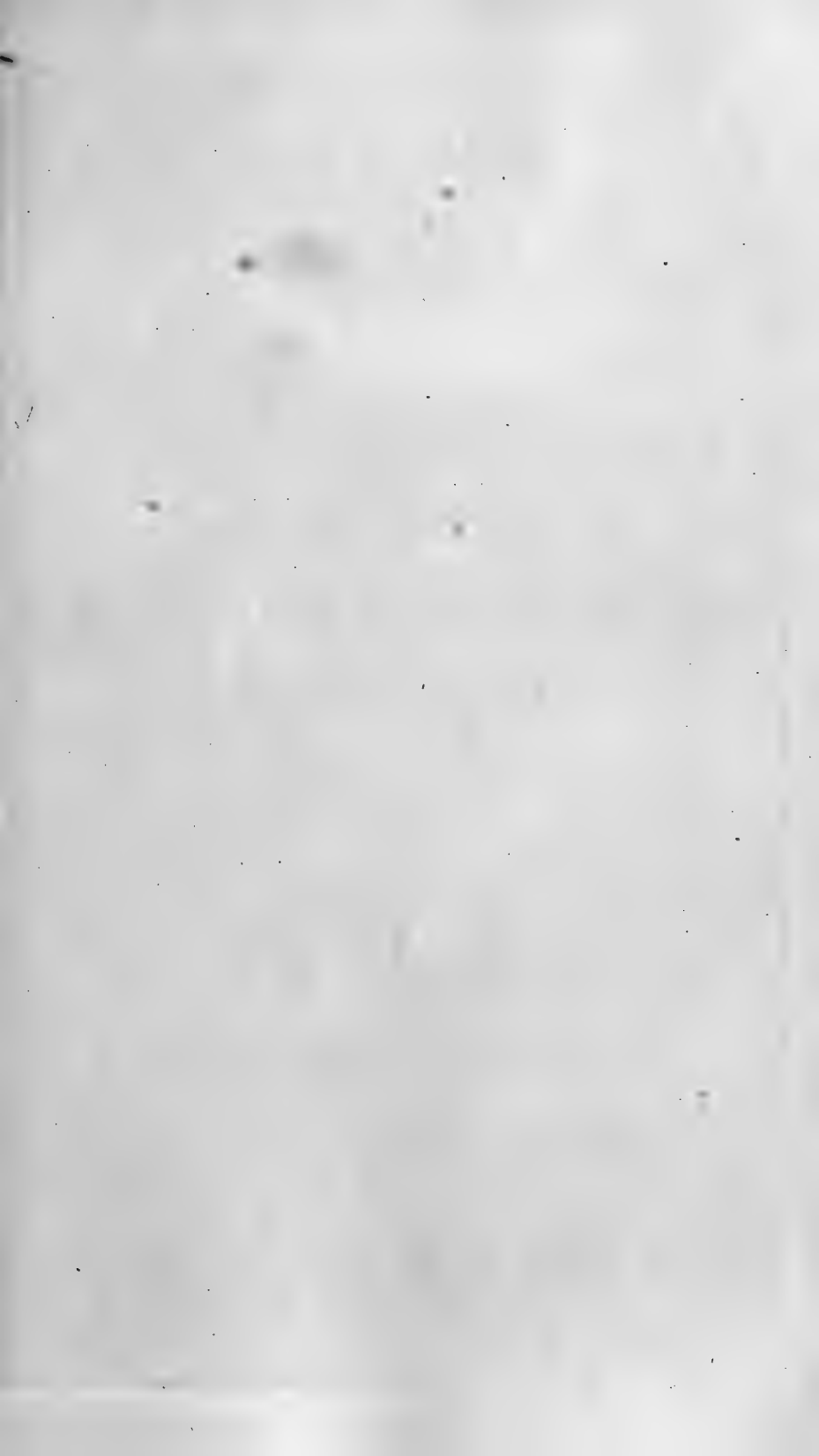
PHOLAS STRIATA: testa ovata multifarium striata. *Gmel. Linn.*

Syst. p. 3215. sp. 3.

Act. Angl. 55. t. 1. f. 1, 2, 3, 4.

Gualt. Test. t. 105. F.

Extremely rare as a British species, and not noticed by either Pennant or Da Costa. In the collection of the Rev. T. Rackett.



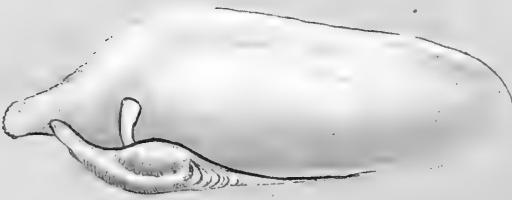
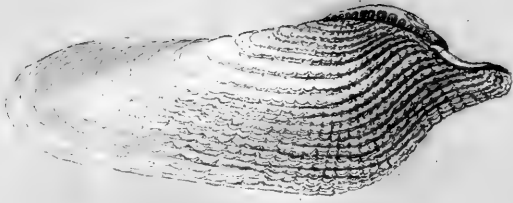


PLATE CXVIII.

PHOLAS DACTYLUS.

PRICKLY PADDOCK.

GENERIC CHARACTER.

Animal ascidia. Shell bivalve, opening wide at each end, with several lesser valves at the hinge. The hinges folded back and connected by a cartilage.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell oblong, striated transversely, and reticulated on the upper part with little spines.

PHOLAS DACTYLUS: testa oblonga hinc reticulato-striata. *Gmel. Linn. Syst. p. 3214.*

Pholas rostratus major diepensis vulgò Gallice Piteau dictus. App. H. An. Angl. in Goed. p. 37. tab. 2. fig. 3.—
Pholas striatus, sinuatus ex altera parte. Hist. Conch. tab. 433. fig. 276.—Pholas alte striatus, ex altera parte sinuatus, eadem mucronatus, Hist. nost. Conch. Anglice Piddocks, Gallicæ Pitau ; earumque piscatories pitau quieres. Exercit. Anat. 3. p. 88. tab. 7. fig. 1, 2. Pholas angustius ; oblong Pierce stone or Pholade. Petiv.

PLATE CXVIII.

Gaz. tab. 79. fig. 10.—Piddocks. *Dale Harw.*
p. 389. *Pholas Dactylus, Dactyle. Penn. Br.*
Zool. p. 76. sp. 10.

Pholas angustius striatus & veluti aculeatus. Muricatus. Da Costa
Br. Conch. p. 244. sp. 65. tab. 16. fig. 2. 2.

This species burrows or pierces into rocks, where it forms large cylindrical cavities. It is not uncommon on many of our coasts, and is sometimes eaten ; it is in season in the Spring.



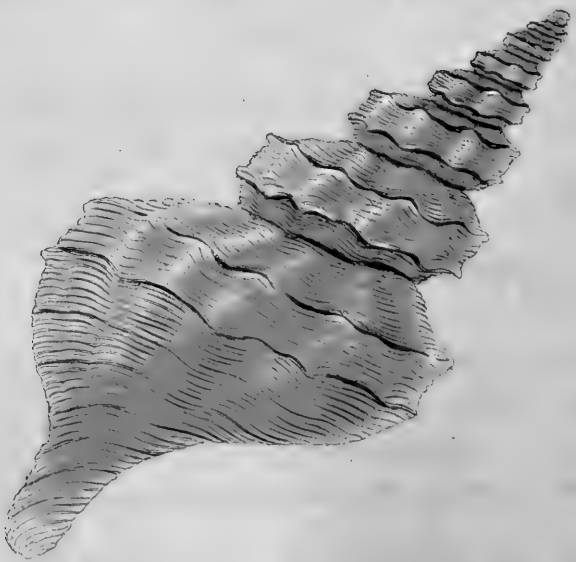
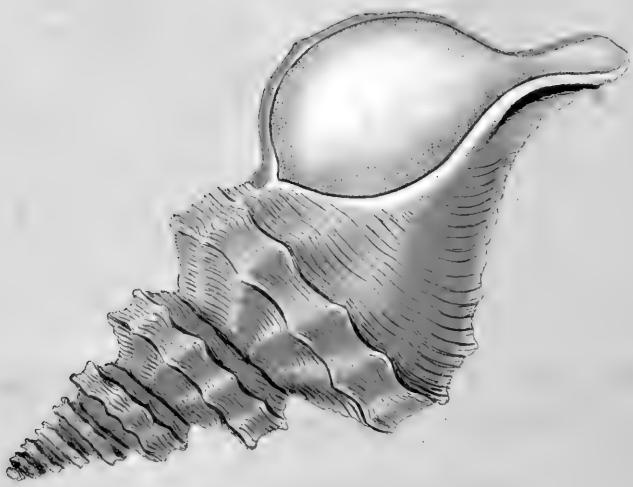


PLATE CXIX.

MUREX ANTIQUUS.

ANTIQUATED MUREX.

GENERIC CHARACTER.

Spiral, rough. The aperture ending in a strait, and somewhat produced gutter or canaliculation.

SPECIFIC CHARACTER.

Tail patulous: Shell oblong, of eight spires: spiral ridges tuberculated.

MUREX ANTIQUUS: testa patulo-caudata oblonga: anfractibus octo teretibus. *Faun. Suec.* 2165.—*Gmel. T.* 1, fig. 6. p. 3546.

In the description of Plate CIX. our reason for considering this and Murex Carinatus as two distinct species, are briefly stated; and the difference, it is presumed, will be farther apparent on comparing the two shells figured in that, and the annexed Plate.

Reversed shells of this species have been sometimes found. It is an inhabitant of the northern parts of Europe.



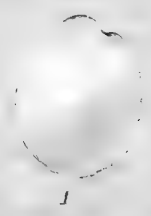


PLATE CXX.

FIG. I.

BULLA APERTA.

OPEN BULLA OR BUBBLE.

GENERIC CHARACTER.

Shell suboval, Aperture oblong, very patulous, and smooth or even.
One end convoluted.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell almost entirely open, subrotund, pellucid, and faintly striated transversely.

BULLA APERTA: testa subrotunda pellucida transversim substriata tota hiante. *Gmel. Linn. Syst. Nat. T. 1. p. 6. sp. 3424. sp. 8.*

Bulla pellucida, fragilissima, tota hians, s. apertura amplissima. Da Costa. Brit. Conch. p. 30. sp. 16.

Da Costa says, all the shells of this species he knew, were fished up near Weymouth in Dorsetshire, and not any where else on the British coast; they are even not frequent there; so that it seems a rare as well as curious shell.—To this we may add, that they are

PLATE CXX.

rare only because they are local: in one part of the sandy bay of Caermarthen, below Tenby, we found them in abundance.

It is called "the Bubble" by this writer; who observes that it exactly resembles a bubble or bladder of water. The aperture is so extremely large that the whole shell lies open to view. The contour is somewhat oval, and slightly involuted; and the shell is not umbilicated.

This is certainly not *Bulla patula* of Pennant (Brit. Zool. No. 85. A.) as Da Costa and Gmelin imagine. The figures in that work are sometimes calculated to mislead the most attentive; but as we are in possession of the shell Pennant describes, we can venture to say the two former writers are mistaken. The species *Aperta* was unknown to Pennant, and the shell he figured from the Portland Cabinet, under the specific name of *Patula*, is extremely rare.

FIG. II.

BULLA CYLINDRICA.

NARROW BULLA.

SPECIFIC CHARACTER.

Shell cylindric, smooth, white, and thin.

BULLA CYLINDRICA: testa cylindrica lævi alba tenuissima. *Gmel.*

T. 1. p. 6. p. 3433. sp. 38.

PLATE CXX.

This is a very scarce species on our coasts, and approaches so nearly to *Bulla pallida* of Da Costa (*Voluta pallida*. *Linn.*) described and figured in Plate LXVI. of this Work, that it may easily be confounded with it, unless the two shells be compared. *Bulla Cylindrica* differs in being rather more compressed, and has the pillar-lip perfectly smooth; while on the contrary the other has plaits or wrinkles upon this part as before observed: a circumstance that constitutes one character of the *Voluta* genus in the system of Linnæus.

In the description of the *Voluta pallida* we were led to think with Da Costa, that the shell figured by Pennant in the *British Zoology*, No. 85. A. might be of the same species. Since that time we have been favoured with the specimen figured in the annexed Plate; and as it seems to correspond more clearly with Pennant's shell than the other, there can be no impropriety in removing the reference from the former to the present species. Gmelin takes not the slightest notice of this figure of Pennant; so that we must remain ignorant of his opinion respecting it. And it is certain the shell before us was altogether unknown to Da Costa.



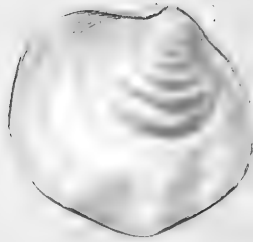


PLATE CXXI.

VENUS UNDATA.

WAVED VENUS.

GENERIC CHARACTER.

Bivalve. Hinge furnished with three teeth; two near each other, the third divergent from the beaks.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell orbiculated, convex, thin, transversely marked with very fine striæ, and waved at the margin.

VENUS UNDATA: testa orbiculata convexa tenui transversim sublissime striata margine undata.

VENUS UNDATA, *waved*.—With thin, convex, orbiculated shells, of a white colour, tinged with yellow, and marked with thin concentric *striæ*; waved at the edges. *Penn. Brit. Zool.* 4. *sp.* 51.

There can be no doubt that the shell figured and described by Pennant in the fourth volume of his *British Zoology*, No. 51, is of

PLATE CXXI.

the same species as our shell. That author says it is the size of a hazel nut, from which it appears the specimen he saw was a young Shell; the largest of our specimens being of the size represented in the annexed Plate.

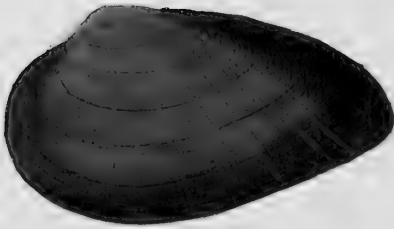
This is *Venus lactea* of some cabinets, a name sufficiently expressive of its colour, but having been before called *Undata* by Pennant, we thought it best to retain the name he had given it.



1



2



3



PLATE CXXII.

MYA OVATA.

OVATE MYA.

GENERIC CHARACTER.

Animal an ascidia. Shell bivalve, gaping at one end. The hinge for the most part furnished with a thick, strong, and broad tooth, not inserted in the opposite valve.

SPECIFIC CHARACTER.

Shell oblong-ovate; posterior part roundish, and very slightly gaping; first tooth at the hinge crenulated.

MYA OVATA: testa oblonge-ovata, postice rotundata vix hiante, cardinis dente primario crenulato.

This is the Shell alluded to in the description of Plate 101, under the name of *Mya ovata*. The difference between it and *Mya depressa*, as before observed, seems to consist in the present being more ovate, and not depressed across the middle: nor is the gaping at the broadest end so considerable as in the other.

These, we have already remarked, inhabit the same waters as *Mya depressa*, viz. in the New River, near London, and the Froome in

PLATE CXXII.

Somerfetshire. It is a thick, strong and heavy Shell, of a greenish colour, and radiated.—The smallest figure in the annexed plate is a brown coloured specimen of *Mya depressa*.



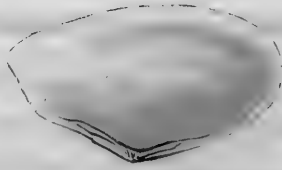
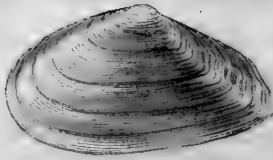


PLATE CXXIII.

TELLINA INÆQUISTRIATA.

UNEQUALLY-STRIATED TELLEN.

GENERIC CHARACTER.

The hinge usually furnished with three teeth. Shell generally sloping on one side.

SPECIFIC CHARACTER.

Shell ovate, compressed and rather flattish, rosy, very finely striated transversely: the striæ fewer and larger at the anterior end.

TELLINA INÆQUISTRIATA: testa ovata compresso-planiuscula rosea subtilissime transversim striata: striis anterioribus paucioribus majoribusque.

A very rare species of *Tellina* communicated to Da Costa after his *Conchology* was published, and therefore not noticed in that work. It has been found by the late Dr. Pulteney we believe on the coast of Dorsetshire.



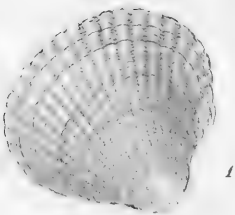
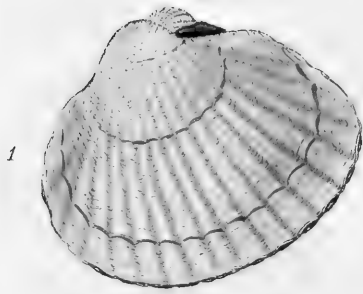
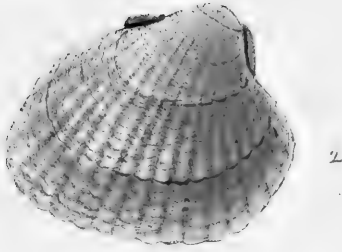


PLATE CXXIV.

FIG. I.

CARDIUM EDULE.

COMMON COCKLE.

GENERIC CHARACTER.

Two teeth near the beak ; and another remote one, on each side of the shell.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell antiquated : about twenty-six grooves, with obsolete recurved scales.

CARDIUM EDULE : testa antiquata ; sulcis viginti sex obsolete recurvato imbricatis. *Linn.*—*Gmel. T. 1. p. 6. p. 3252. sp. 20.*

PECTUNCULUS VULGARIS, albidus, subrotundus, circiter viginti-sex striis majusculis at planioribus donatus. *Da Costa, Brit. Conch. p. 180. sp. 19.*

Cardium Edule, Edible Cockle. *Penn. Brit. Zool. No. 41. tab. 50. fig. 41.*

PLATE CXXIV.

The Common Cockle is abundant on all sandy shores: they lurk in the sand, and their hiding-place is known by a little round depressed spot upon the surface. Cockles are in season from autumn till spring: they are a wholesome and palatable food; and those from Selsea, near Chichester, are esteemed the most delicious in England.

These Shells vary a little both in shape and colour: the two specimens figured on the annexed Plate differ, one being more orbicular than the other. They are generally whitish, sometimes they have a blueish, and sometimes a yellowish tint.

FIG. II.

CARDIUM RUSTICUM?

SPECIFIC CHARACTER.

Shell antiquated, with about twenty remote grooves: the interstices rugged.

CARDIUM RUSTICUM: testa antiquata: sulcis viginti remotis; interstitiis rugosis. *Gmelin, T. 1. p. 6. p. 3252. sp. 23?*

Notwithstanding the endless variations to which the shells of the common Cockle are liable, this appears too remote to be admitted as one of them. It passes for *Cardium rusticum* with some conchologists, and though it may not strictly agree with that specific description of Gmelin, it approaches nearer to it than to *edule*. That author

PLATE CXXIV.

notices the affinity *rusticum* bears to the other species ; but observes that the grooves are deeper and the ribs fewer, and more convex in *rusticum* : he remarks also that the latter has a ridge on the anterior margin when the valves are closed, and a narrow depression behind the beaks, “*ano evidente, sed angusto,*” which is not in the other. The grooves in our Shell are not so deep as “*sulcis profundioribus*” implies, but they are both deeper and wider than in the common sort ; the ribs are rather more convex also, fewer in number, and rugged, as Gmelin describes it.—The colour exactly corresponds : he says it is sometimes ferruginous, with livid bands and sometimes white, with the anterior part fuscous : another variety of it is white, fasciated with a ferruginous yellowish or blueish colour.

1911

The first of the year was a quiet one, with only a few business transactions. The weather was generally good, though there were some days of rain. The crops were planted in the usual manner, and the season was generally successful. The harvest was good, and the people were satisfied with the result. The year was a successful one for all concerned.

The second half of the year was also a successful one. The weather was generally good, and the crops were planted in the usual manner. The harvest was good, and the people were satisfied with the result. The year was a successful one for all concerned.



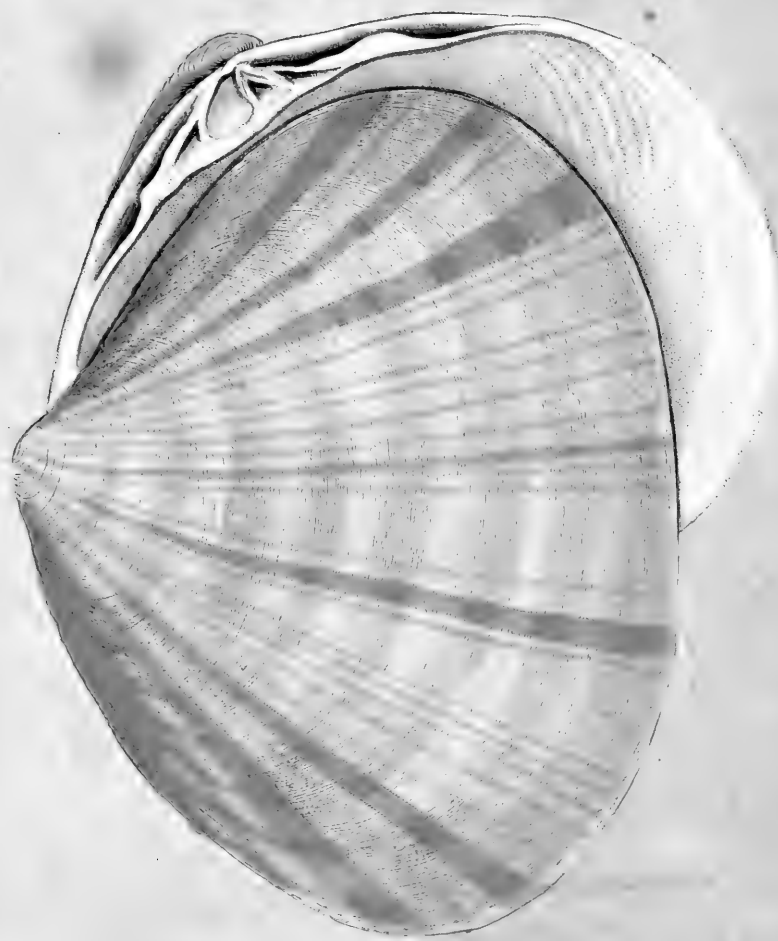


PLATE CXXV.

MACTRA GLAUCA.

GLAUCOUS MACTRA.

GENERIC CHARACTER.

Animal a Tethys, Bivalve, sides unequal. Middle tooth complicated, with a little groove on each side; lateral teeth remote.

SPECIFIC CHARACTER

AND

SYNONYMS,

Shell ovate, sordid white with brown (or glaucous) rays: very finely striated transversely, and wrinkled on the anterior end.

MACTRA GLAUCA: testa ovata sordide alba glauco radiata subtilissime transversim striata anterieus rugosa. *Gmel.*

T. 1. p. 6. p. 3260. sp. 20.

Chemn. Conch. 6. t. 23. f. 232, 233.

This is a new species as a British shell; and the conchologist is indebted to Miss Pocock for the discovery of it on our coast. The attention with which this lady has honoured the science has not been rewarded by this new species only: we have been favoured with several others, besides many rare kinds that have been found by

PLATE CXXV.

her on different parts of the sea-coast, and especially on that of Cornwall, as will appear hereafter. A few shells of the species before us were met with by her in the summer of 1801, on Hale sands under Lelant in that county, and it is said by the country people they are at times found on that coast in some plenty.

Though hitherto unknown as a British shell, it has been before discovered in the Mediterranean sea; for there can be no hesitation in admitting it to be the shell figured by Chemnitz, as above quoted. Gmelin refers to the two figures in that Work, No. 232, and 233, for his species *glauca*; and the description corresponds in general with them, though not exactly in the colour of the rays.—Gmelin has another species of *Mactra*, *grandis*, which we at first suspected to be the same as our shell. It agrees precisely in the colour of the rays, but from the figure in Chemnitz's work, quoted by Gmelin for that species, these rays, it appears, are far more minute, than in our shell, and are also decussated by others in a concentric direction; —the outline of the latter is also different.



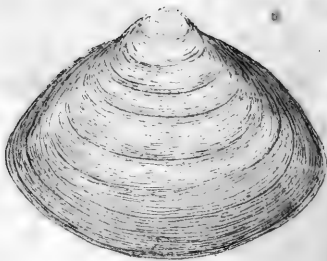
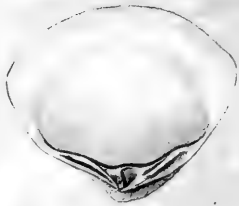
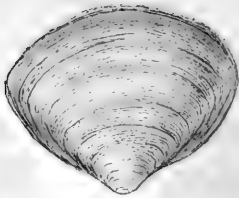


PLATE CXXVI.

MACTRA SUBTRUNCATA.

SUBTRUNCATED MACTRA.

GENERIC CHARACTER.

Animal a Tethys. Bivalve, sides unequal. Middle tooth complicated, with a little groove on each side: lateral teeth remote.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell somewhat triangular, whitish, smooth, subtruncated on each side.

MACTRA SUBTRUNCATA: testa subtriangularis, albescens, lævis lateribus subtruncatis.

Trigonella albescens lævis, lateribus subtruncatis. Subtruncata. *Da Costa. Brit. Conch. p. 198. No. 34.*

A thick, strong, and heavy shell, of a somewhat triangular shape, and much flattened on each side, obliquely from the beaks: the valves rather convex, the beaks pointed strong, and turned inwards.

PLATE CXXVI.

The colour is pale or whitish, and it is externally marked with numerous fine concentric striæ.

Received from Hampshire and Devonshire; but not common. Found in a fossil state in the sand pits at Woolwich.



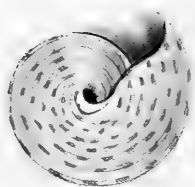
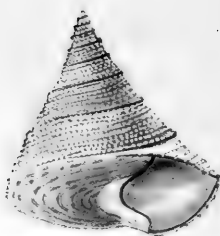


PLATE CXXVII.

TROCHUS PAPILLOSUS.

SHAGREENED TOP SHELL.

GENERIC CHARACTER.

Animal a slug. Shell conic. Aperture nearly triangular.

SPECIFIC CHARACTER.

Pyramidal, umbilicated, red; whorls with several rows of minute granulations.

TROCHUS PAPILLOSUS: pyramidalis umbilicatus ruber, series papillarum donatus. *Da Costa. Brit. Conch. p. 38. No. 20.*

Cul de lampe à flammes longitudinales, alternatives blanches et rouges, à stries granuleuses et umbilique: et cul de lampe marbré de blanc et de rouge, à stries circulaires granuleuses et tuberculeuses. *D'Avila, cab. 1. p. 127, 128.*

Da Costa acquaints us that he received "some few of these shells from Cornwall (in a great quantity of others, natives of that coast) by an intelligent gentleman of veracity and curiosity; but" adds that

PLATE CXXVII.

writer, “ must own I have never met with this species since on any other British coasts.” We have since seen it among parcels of shells from the Mediterranean, and also find that it has been discovered by the late Dr. Pultney, on the North shore, Poole ; and at Weymouth.

The specific character of the Gmelinian *Trochus Granatum*, seems to accord very nearly with our shell *, but it is about twice the size, and inhabits the Southern Ocean ; and it is certainly more probable, as some conchologists have suggested, that it is the *variety* of *Trochus Zizyphinus*, described by Linnæus in the *Mus. Reginae*, as being “ tota pallida, anfractibus basi gibbis, striatis, subtitissime punctis papilloris.” It differs from *Zizyphinus* in having the anfractus a little rounded, and the wreaths being encircled with granulated spiral ridges. The name Da Costa has already given it, is very applicable ; and as it has undoubtedly escaped the notice of Gmelin, there can be no impropriety in retaining it.—It is evidently one of the rarest British species of the *Trochus* genus.

* Testa pyramidalis alba coccineo varia basi subconvexa ; spiræ anfractibus convexis ; singulis granorum moniformibus, primis duobus maximis. *Gmel.* 5584. *sp.* 108.





PLATE CXXVIII.

FIG. I. I.

MYTILUS EDULIS.

COMMON MUSCLE.

GENERIC CHARACTER.

The hinge toothless, and consists of a longitudinal furrow.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell smoothish, violet: valves slightly carinated in front, retuse behind: beaks pointed.

MYTILUS EDULIS: testa læviuscula violacea: valvis anterioribus subcarinatis posterioribus retusis, natibus acuminatis. *Fn. Seuc.* 2156. *Gmel. Linn. Syst. Nat. T. I.* p. 6. p. 3353. *Sp.* 11.

Mytilus vulgaris. Musculus vulgaris sublævis ex cæruleo niger. COMMON MUSCLE. *Da Costa Brit. Conch.* p. 216. *sp.* 48.

MYTILUS EDULIS, Edible. *Penn. Brit. Zool. T. 4.* p. 110. *sp.* 73.

PLATE CXXVIII.

Few species of the shell tribe are more generally diffused throughout the European and Indian seas than the *Mytilus edulis*; and few indeed exhibit such an infinite number of varieties, differing in size, in form, and colour; but which the critical Conchologist will yet perceive cannot with propriety be assigned to any other species.

On the Plate annexed to this description, one shell of the shape more uniformly prevalent is figured in its natural state, and another, which, having been divested of the epidermis, displays a beautiful variety of irregular purple stripes: an appearance very common in the uncoated shells, and in some sorts observable even when the epidermis is upon them. The upper and lower figures are of two shells, which, we are inclined to think, differ too widely from the common kind to be considered as a variety: the outline appears at the first sight obviously dissimilar; and the characters in general seem to mark most decidedly another species. They are both worn shells, but which we have compared with perfect specimens of *Mytilus unguatus*, and apprehend there can be no doubt that they belong to that species.

Within the tropics, the common Muscle is known to attain a much larger size than in northern climates. They are found in immense beds, and adhere to other substances, or to one another, by means of a beard of a strong and silky texture, which the fish throws out. The Muscle affords a rich and palatable food; though they are not deemed wholesome by many people, who after eating them are sometimes afflicted with great swellings and convulsive motions, with eruptive blotches, shortness of breath, and even with delirium. These dreadful effects are usually attributed to some malignant poison in the little pea crab which is occasionally found in the Muscle, and

PLATE CXXVIII.

may be accidentally eaten with it: others think it is in consequence of swallowing the silky byssus, or beard; and again many deem the Muscle itself poisonous. It is, however, pretty generally agreed, that they affect some constitutions more than others, and that much depends on the state of the body at the time of eating them. The disorder may be cured, or at least its malignity mitigated, by administering to the affected person a spoonful of vinegar: some recommend sweet oil, or salt and water. Da Costa observes that sudorifics, vomits, oils, &c. are the usual remedies; and the Dutch give two spoon's-full of oil, and one of lemon-juice; or, in defect of that, a little more vinegar, well shaken together, and swallowed immediately.

The Muscle is the prey of many kinds of fishes, and other creatures that inhabit the sea. On the coast of Greenland, Fabricius tells us, they are so abundant, that the dogs and ravens commonly feed on them; as do also the white game, (Ptarmigan) Eider Duck, and many others.

The seed-pearls found in the shell of the Muscle was formerly in some esteem, for medicinal purposes: these, it is well known, are the effects of a disease in the fish, analogous to the stone in the human body.

Mr. Pennant informs us, that the finest Muscles on the English coasts (where they are found in great abundance) are those called Hambleton Hookers, from a village in the county of Lancashire. They are taken out of the sea, and placed in the river Wier, within reach of the tide, where they grow very fat and delicious.

PLATE CXXVIII.

FIG. II. II.

MYTILUS UNGULATUS.

CLAWED MUSCLE.

SPECIFIC CHARACTER

AND

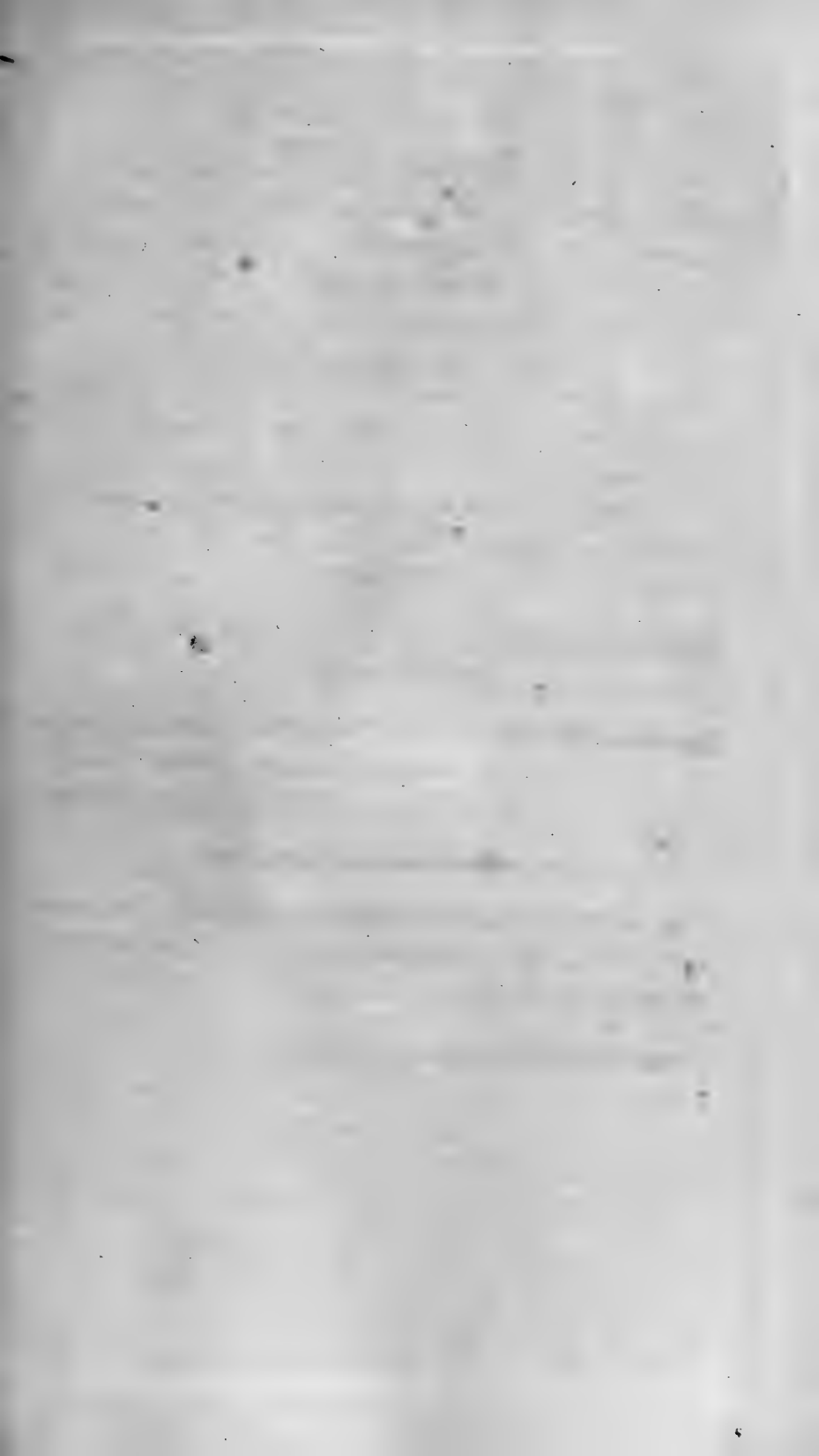
SYNONYMS.

Shell smooth, somewhat curved : posterior margin inflected : hinge terminal, bidentated.

MYTILUS UNGULATUS : testa lævi subcurvata : margine posteriori inflexo, cardine terminali bidentato. *Linn.*—*Gmel. Syst. Nat. T. I. p. 6. p. 3354. Sp. 12.*

Several shells of this kind were picked up by Miss Pocock, on the coast of Cornwall. It was before known as an inhabitant of the Mediterranean, but not as a British species.

FIG. II. II.—Upper and lower Figures.



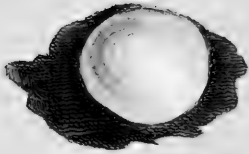


PLATE CXXIX.

PATELLA ALBIDA.

WHITISH CHAMBERED PAP-SHELL.

GENERIC CHARACTER.

Animal a Limax: shell univalve, sub-conic without spire.

SPECIFIC CHARACTER.

Shell fragile, entire, subrotund, whitish; vertex somewhat central, and slightly pointed; lip within lateral.

PATELLA ALBIDA: testa fragilis integerrima subrotunda albida vertice subcentrali submucronato, labio interio laterali.

This rare and nondescript species of Patella was found on the coast of Cornwall, and communicated by the lady who favoured us with *Mactra glauca*, and *Mytilus unguatus*. It differs from any of the described British shells of this genus, in having an inner lip or chamber, such as is observed in several of the exotic kinds, belonging to the first section of the genus in Gmelin's arrangement; "*Labiatae s. labio interno instructae, testa integra.*"

It is an exquisitely delicate shell, and remarkably brittle: there is a specimen of this shell in the collection of William Pilkington, Esq; Whitehall.





1



2



PLATE CXXX.

VENUS BOREALIS.

NORTHERN VENUS.

GENERIC CHARACTER:

Hinge furnished with three teeth; two near each other, the third divergent from the beaks.

SPECIFIC CHARACTER,

AND

SYNONYMS.

Shell lentiform, with very remote transverse, erect, membranaceous striæ.

VENUS BOREALIS: testâ lentiformi: striis transversis membranaceis erectis remotissimis. *Gmel. Linn. Syst. Nat. T. 1. p. 6. p. 3285. sp. 77.*

This is a scarce, or very local shell on the British coasts, and seems to agree with the description of the Linnæan *Venus borealis*. The species was unknown to Da Costa, and is different from that which Mr. Penant describes under the same name.

PLATE CXXX.

We first discovered it on the coast of South Wales ; and since that time have received it from Miss Pocock, by whom it was found on the coasts of Cornwall in some plenty.



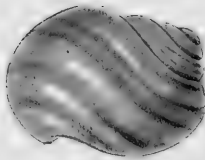
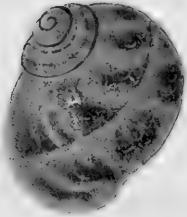
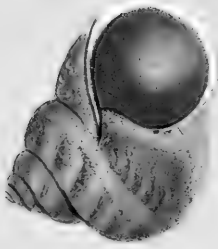


PLATE CXXXI.

HELIX HORTENSIS.

GARDEN SNAIL.

GENERIC CHARACTER.

Aperture of the mouth contracted and lunulated.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell imperforate, globose; spotted and fasciated with brown: lip white.

HELIX HORTENSIS: testa imperforata globosa: labro albo. *Müll.*
Zool. Dan.—*Gmel. Linn. Syst. Nat. T. I. p. 6.*
p. 3649. sp. 109.

Cochlea vulgaris fusca, maculata & fasciata. VULGARIS. Da Costa,
Brit. Conch. p. 72. sp. 39.

Helix Hortensis. Garden Snail. Penn. Brit. Zool. No. 129.
tab. 84. fig. 129.

HELIX LUCORUM. *Linn.*

The Common Garden Snail is, we think, without doubt, the *Helix lucorum* of Linnæus, and most other writers. Gmelin calls it hor-

PLATE CXXXI.

tensis, and defines the specific character of *lucorum* to be “*testa imperforata subrotunda lævi fasciata : apertura oblongo fusca.*” It more generally inhabits the southern parts of Europe; is larger, and whiter than *hortensis*; and the lip is brown.

This is a most variable species in its colours and markings, and it may still be doubted whether *hortensis* and *lucorum* be perfectly distinct. They have certainly been confounded by almost every Conchologist.

On the manners of a creature which is so generally known, as the Common Garden Snail, it is surely needless to enlarge: its mode of courtship is, however, so curiously related, that it should not entirely escape remark; and were it not attested by writers of the first authority, with the reader, we might be guilty of no small degree of scepticism, as to believing it. Each of these animals, it seems, are furnished, at a certain season, with a number of little pointed darts, which are contained within a cavity on the right side of the neck. When the Snails approach within two or three inches of each other, a scene of hostility is observed to commence: each discharging at its antagonist these darts, with considerable force, at the other; this battle continues till the reservoir be exhausted of these offensive weapons, and then a perfect reconciliation takes place between them. The eggs are about the size of peas, and perfectly round.

Snails are used with success in some consumptive cases, and an excellent cement, to fasten china, may be made of the saliva, or humours, mixed with quick lime and white of eggs, according to

PLATE CXXXI.

Lister, &c. It feeds on all kinds of vegetables and fruits, and is consequently very destructive in orchards and gardens. Snails couple about May or June.







PLATE CXXXII.

PHOLAS CANDIDA.

WHITE PIDDOCK.

GENERIC CHARACTER.

Animal Ascidia. Shell bivalve, opening wide at each end, with several lesser valves at the hinge. The hinges folded back and connected by a cartilage.

SPECIFIC CHARACTER,

AND

SYNONYMS.

Shell oblong, muricated with striæ crossing each other.

PHOLAS CANDIDA: testa oblonga undique striis decussatis muricata.

Mus. Lud. Ulr. 469. n. 7.—*Gmel. Linn. Syst.*

Nat. T. 1. p. 6. p. 3215. sp. 4.

Pholas tenuis candidus ovatus decussatim striatus. Candidus. *Da*

Costa. Brit. Conch. p. 246. sp. 66.

Concha candida, dupliciter striata et veluti aculeata. *List. H. An.*

Angl. p. 193. tit. 39. tab. 5. fig. 39.—Pholas

alter. *App. H. An. Angl. in Goed.* p. 37.

tab. 2. fig. 4 and 6.—Pholas parvus asper. *H.*

Conch. tab. 435. fig. 278.

Pholas latus; short Pierce-stone or Pholade. *Petiv. Gaz.* tab. 79.

fig. 11.

Pholas candidus. *Penn. Brit. Zool. T.* 4. No. 11. tab. 39. fig. 11.

PLATE CXXXII.

The *Pholas candida* is rather a scarce species, and differs from *P. Dactylus* (hians of Dr. Solander) in not being above one fourth of its size: of a more oval shape, and having both ends equally rounded; in other respects it resembles it. Da Costa seems to entertain some doubt whether it may not be really a variety in growth, than a distinct species from *Dactylus*. It is found on the same coasts as the latter.

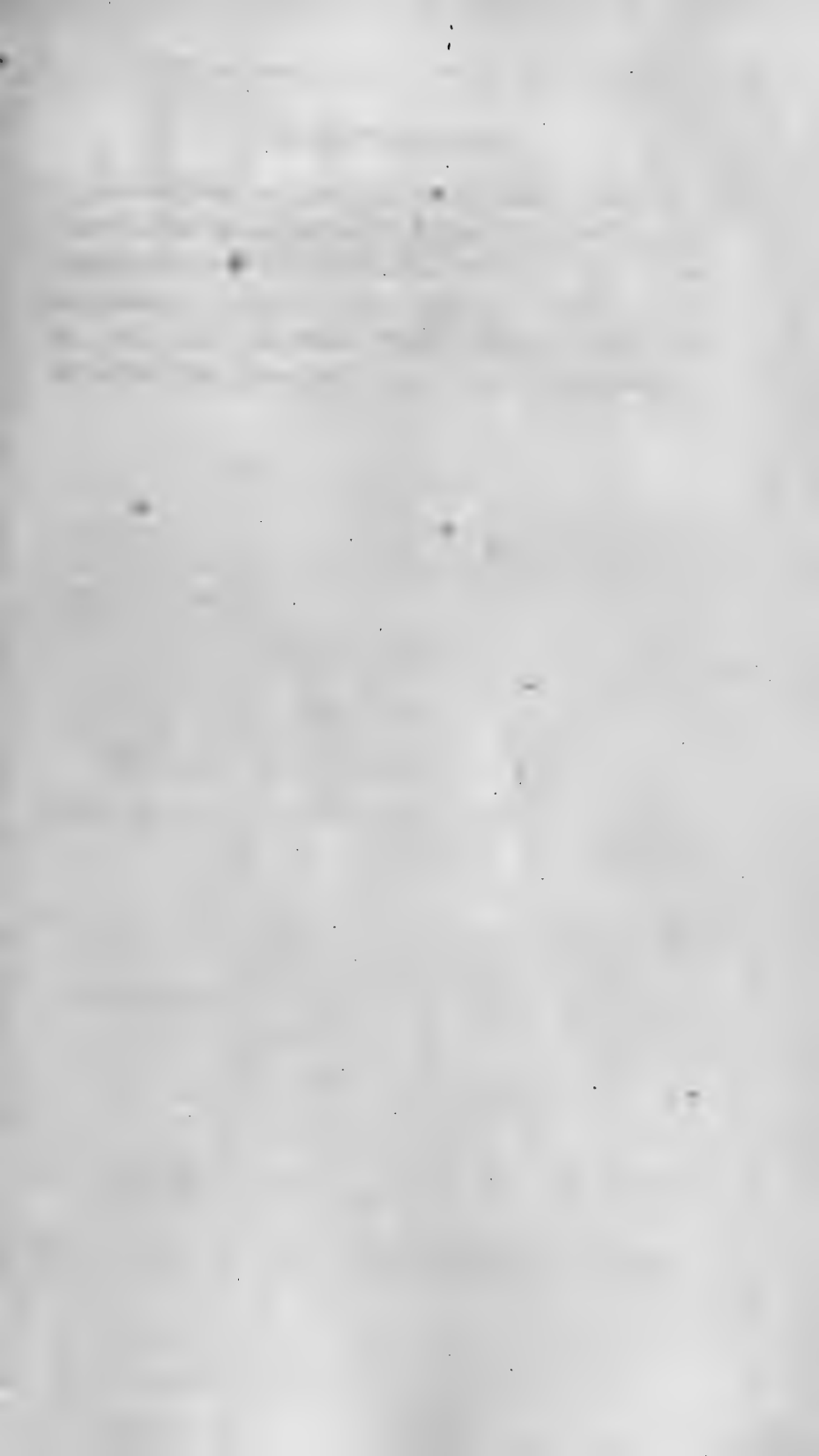




PLATE CXXXIII.

SABELLA TUBIFORMIS.

STRAIGHT TUBE SABELLA, OR SAND SHELL.

GENERIC CHARACTER.

Animal a Nereis, with a ringent mouth, and two thicker tentacula behind the head. Shell tubular, and composed chiefly of sand, agglutinated to a membranaceous tube,

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell solitary, simple, tube-shaped, straight; gradually tapering; and composed of brownish sand.

SABELLA TUBIFORMIS: testa solitaria simplici tubiformi recta sensim attenuata: granis arenaceis fuscis.

SABELLA GRANULATA. Linn. 1268?—Martini, 4. t. 4. 28?

SABELLA TUBIFORMIS. TUBE *SABELLA*. Penn. Brit. Zool. 4. sp. 163.

STRAIGHT SABELLA. Pult. Hist. Dorset.

The *Sabella tubiformis* of Pennant is believed by some conchologists to be the same species as Linnæus names *granulata*, but this must certainly admit of doubt: the latter, from the description, ap-

PLATE CXXXIII.

pears to be slightly incurvated, whilst Pennant's shell is perfectly straight; a difference, perhaps, sufficient to constitute two distinct species. *Martini* figures a kind of Sabella, which he considers as the *S. granulata* of Linnæus, and in that figure the curvature at the narrowest end is very apparent: with Martini we consider that as the true *Sabella granulata* of Linnæus, and not having observed the same character in any of those shells that have occurred to notice on our own coasts, have thought it most adviseable to retain the name Mr. Pennant had previously given it.

Gmelin seems to be under some doubts respecting this shell, for he entirely omits the Linnæan *granulata* among the species of this genus.—*Sabella Belgica* of Gmelin, which some have conjectured to be the *S. tubiformis* of Pennant, is undoubtedly different, according to *Klein* and *Martini*.

Our shell is of an elegant form and remarkably delicate: it consists of two coatings, the inner one of which is composed entirely of grains of sand, and the outer one of sand intermixed with little fragments of shells. This kind is local: it is supposed to inhabit deep waters only, and is sometimes found upon the shore after a high sea.



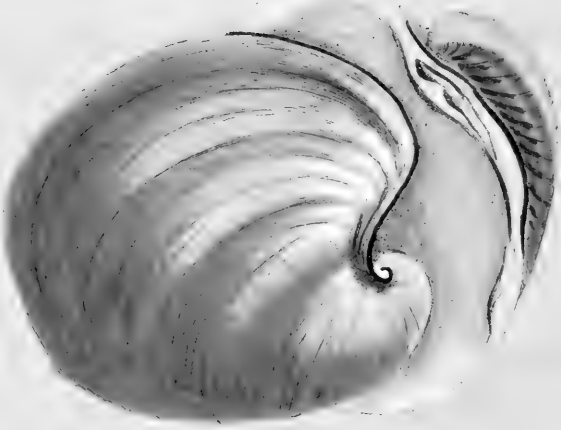


PLATE CXXXIV.

CHAMA COR.

HEART-SHAPED CHAMA.

GENERIC CHARACTER.

Animal a Tethys. Shell bivalve, and rather coarse. Hinge with a callous gibbosity, obliquely inserted into an oblique hollow : anterior slope closed.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell subrotund, and smooth : beaks recurved : anterior slope gaping.

CHAMA COR : testa subrotunda lævi : natibus recurvatis rima hiante.

Mus. Lud. Ulr. 516. n. 88.—*Gmel. Syst. Nat.*

T. 1. p. 6. p. 3299. sp. 1.

As an inhabitant of the Mediterranean, the Adriatic, and Caspian sea, this curious shell has been long since known ; but as a British species has not been before described. It was discovered several years ago in the seas about the islands in the North of Scotland, by Mr. Agneu, Gardener to the late Duchess of Portland ; and since that

PLATE CXXXIV.

time, a specimen of it was dredged up, by T. Swainson, Esq. of the Custom-house, London.

It is a delicate shell, and represented in the annexed plate of the natural size. By some it is called the Bull's-heart Cockle, but very improperly, because it cannot be considered in any manner of the *Cardium* genus.



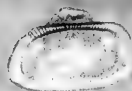


PLATE CXXXV.

ARCA LACTEA.

MILKY-WHITE ARK.

GENERIC CHARACTER.

Bivalve, valves equal. Teeth of the hinge numerous, and inserted between each other.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell somewhat rhombic, with obsolete, decussated striæ, and diaphanous.

ARCA LACTEA: testa subrhomboidea obsolete decussatim striata diaphana. *Gmel. Linn. Syst. Nat. T. 1. p. 6. p. 3309. sp. 15.*

ARCA LACTEA: testa subrhomboidea obsolete decussatim striata diaphana, natibus recurvis, margine crenulato. *Linn. Syst. Nat. p. 1141. No. 173.*

Pectunculus exiguus albus, admodum tenuiter striatas. *List. H. Conch. tab. 235. fig. 69.*

Mytulus Garnseiæ albus, parvus tenuiter cancellatus. *Petiv. Gaz. tab. 73. fig. 1.*

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Arca. Parva alba cancellata. Lactea. *Da Costa Brit. Conch.*
p. 171. sp. 14.

ARCA CRINITA. *Soland. Mus. Portland.*
Pultney. Nat. Hist. Dorsets.

There does certainly exist among conchologists a strange discordance of opinion, respecting the species of Arca before us: some believing it to be the very shell which Linnæus described under the name of *lactea*, and others maintaining the contrary. Dr. Solander, and Dr. Pultney, were persuaded that Linnæus intended a shell in some particulars not unlike this, but specifically different: the same shell in fact which Lister figures No. 67, in his Conchology. The opinions of two such respectable naturalists deserve every consideration, but however we may be disposed to abide by their authority in some instances, we cannot, for the following reasons, assent to it in the present.

Dr. Pultney premises his description by naming this species Arca crinita, a name which it appears Dr. Solander had previously given to it, in his catalogue of the Portland Museum: he observes very justly, that it is the *A. barbata* of Pennant, but not the barbata of Linnæus: refers to Da Costa's figure, Plate 11, fig. 5; and calls it in English the HAIRY ARK-SHELL. His description is in these words, "A small oblong subrhomboidal shell: in its recent state covered with a brown epidermis. Underneath the shell is minutely striated in the longitudinal direction; commonly not much larger than a horse-bean. I found one on the North shore at Poole, more than half an inch long, and seven-eighths wide. It is said to be more frequent on the shores of Guernsey island; but is very rare on

PLATE CXXXV.

our coasts. This shell has commonly been described as the *A. lactea* of Linnæus; but that shell is much larger, and is strongly striated in a reticulated manner."

In the first place, this does not so clearly agree with the Linnæan description as might be expected. In the early editions of the *Systema Naturæ*, Linnæus expressly describes his shell as being of a sub-rhombic form, with obsolete decussating striæ, diaphanous, with recurved beaks, and crenulated margin; and the only alteration in the specific character to the last edition of that work, by *Gmelin*, is, that the beaks and margins are not mentioned. It hence is evident that Dr. Pultney is mistaken in the Linnæan *lactea*, when he says it is *strongly striated* in a reticulated manner; for Linnæus exactly describes it as having the reticulating striæ *obsolete*; and notwithstanding that the longitudinal striæ in the shell found on our coast are rather prominent in some specimens, they far more frequently appear altogether obsolete, and are decussated by fine transverse striæ, precisely as Linnæus mentions. There is another circumstance equally remarkable, Linnæus exactly tells us his *lactea* is the size of a horse-bean, and Dr. Pultney, after observing that his British shell *crinita* "are commonly not much larger than a horse-bean," adds, that the *lactea* of Linnæus is "much larger."

That there may have been some erroneous references among authors to the two shells figured by Lister, No. 67 and 69, of which we are not aware, is not impossible, but *Gmelin* refers to *List. Conch.* 69. *A. T. Guernsey*, for the Linnæan *lactea*, and that shell clearly corresponds both with our specimen, and the shell described by Linnæus, *pectunculus exiguus albus admodum tenuiter striatis*. *List.*—*Petiver* is equally satisfactory, *Mytilus Garnseia*

PLATE CXXXV.

albus, parvus tenuiter cancellata. Da Costa is not so very clear, nor is his figure expressive, because it represents the transverse ridges too prominent. Chemnitz gives a larger specimen of it than any we have seen; and notwithstanding his references to Da Costa and others, may not be of the same species.—The shell figured by Lister, No. 67, which seems to have occasioned the confusion before alluded to, it should be observed, is described by Gmelin, in these words: testa subrhomboidea decussatim striata alba: natibus approximatis, vulva cordata, *Arca reticulata*.

Hence it is presumed the shell found on our coast ought still to be considered as the *Arca lactea* of Linnæus, and that the shell which is strongly striated in a reticulated manner, and so much larger; and has been hitherto regarded by some as that species, was never described, or even noticed by Linnæus. Nothing can be more evident than that this is the opinion of his editor Gmelin, both from his references to the figures of *lactea*, and by his giving a new name and character to that very shell in Lister which has been mistaken for it, and which he conceived Linnæus had omitted.

This kind is generally considered as an inhabitant of Dorsetshire, Devonshire, and Cornwall.

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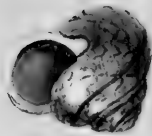


PLATE CXXXVI.

HELIX ARBUSTORUM.

SINGLE-STREAK SNAIL.

GENERIC CHARACTER.

Aperture of the mouth contracted and lunulated.

SPECIFIC CHARACTER.

Shell umbilicated, convex, aperture somewhat orbicular, lip reflected, with a single dark spiral band.

HELIX ARBUSTORUM: testa umbilicata convexa acuminata, apertura suborbiculari bimarginata: antice elongata.
Linn. Syst. Nat. p. 1245. No. 680.

Cochlea testa utrinque convexa subcinerea: fascia solitaria grisea, labro reflexo. *Linn. Fn. Suec. 1. p. 370, No. 1295. II No. 2184.*

Cochlea maculata, unica fascia pulla, angustioreque, per medium anfractus, insignita. *List. H. An. Angl. p. 119. tit. 4. tab. 2. fig. 4.*

Cochlea subflava maculata atque unica fascia castanei coloris per medium anfractus, insignita. *Phil. Trans. No. 105. fig. 4.*

PLATE CXXXVI.

Cochlea subumbilicata, maculata, unica fascia angusta, per medium anfractus insignita. UNIFASCIATA, single streak, *Da Costa. Brit. Conch. p. 75. sp. 40.*

Helix arbustorum. *Shrub. Penn. Brit. Zool. No. 130. tab. 85. fig. 130.*

Like the two species of *Helices*, *nemoralis* and *hortensis*, this shell varies exceedingly in its colours and markings in different shells; but the single narrow spiral band very uniformly distinguishes it from any other. According to Lister and Petiver, it is found in shady hedges, and is frequent in rushy, moist, or marshy meadows. *Da Costa* says, it is also found in coppices and shrubberies; but, from his own observations, it is not a common kind: we have seen it in woods, though not often.

It may deserve remark, that this shell is generally found empty. *Muller* accounts for this, by acquainting us, that the animal is the prey of young Newts. Sometimes when the animal is living, the shell is of a light chesnut colour, finely marbled, mottled, or otherwise variegated, with a deep chocolate coloured brown.



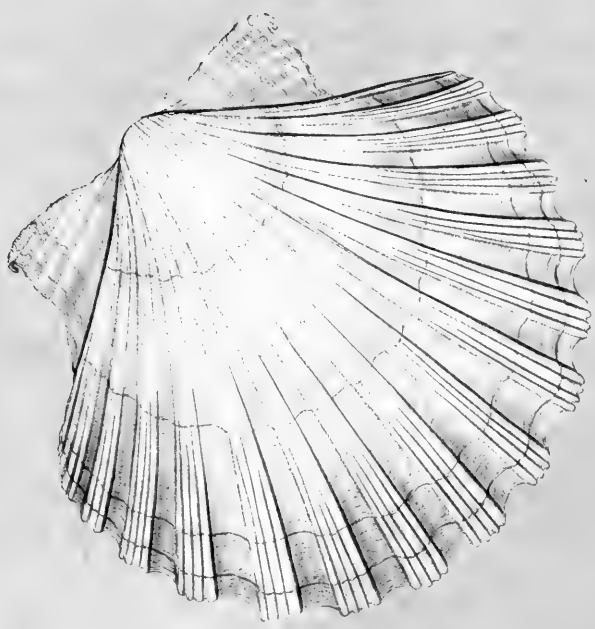
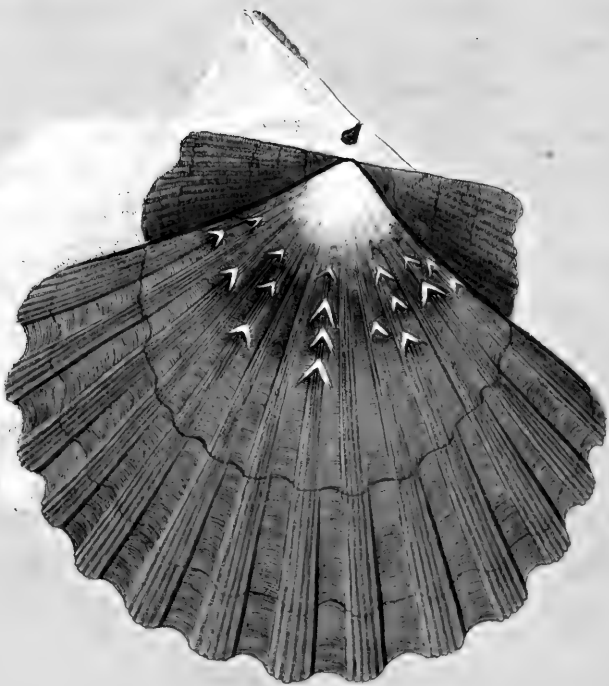


PLATE CXXXVII.

OSTREA JACOBÆA.

PILGRIM OYSTER, OR SCALLOP.

GENERIC CHARACTER.

Animal a Tethys. Shell bivalve, with the valves mostly unequal and slightly eared. Hinge without teeth, but furnished with an ovate hollow, and in general lateral transverse furrows.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shells with fourteen angular and longitudinally striated rays.

OSTREA JACOBÆA: testæ radiis quatuordecim angulatis longitudinaliter striatis. *Linn.—Gmel. Syst. Nat. p. 3316. sp. 2.*

Pecten magnus inæqualvis operculo subrufo, fornix vero albus costis angulatis et canaliculatis. *Jacobæus. Da Costa Brit. Conch. p. 143. sp. 2.*

P. JACOBÆUS Lesser. *Penn. Brit. Zool. No. 62. tab. 60. fig. 62.*

This large and handsome kind of Scallop is rare on the English coasts: in the Mediterranean it is more frequent, and from that

PLATE CXXXVII.

that circumstance, is supposed to be the same species as was formerly worn by pilgrims, who visited the holy-land. Da Costa received it from Scarborough in Yorkshire, and also from the coasts of Cornwall and Dorsetshire. Dr. Pultney remarks, that it is rare on the Dorsetshire coast, but has been fished up at Weymouth and at Poole.

The upper valve is of a reddish brown, flat, and rather depressed at the beak : the depression is generally white, and mottled, or otherwise marked with brown, or dusky red ; and often with prettily disposed marks, resembling the heads of arrows. The under valve is usually white, or faintly tinged with brown, and has the rays remarkably prominent and angular ; a character by which it may be easily distinguished from the Common Scallop, *Ostrea maxima*, which greatly resembles it, but in which the rays are rounded.





PLATE CXXXVIII.

VOLUTA TRIPLICATA.

THREE PLAITED VOLUTE.

GENERIC CHARACTER.

Animal Limax. Shell spiral, narrow, without a beak: columella or pillar, twisted or plaited.

SPECIFIC CHARACTER.

Shell ovate, smooth and brown: spire rather pointed: whorls six: pillar with three plaits.

VOLUTA TRIPLICATA: testa ovata lævi brunnea, spira acutiuscula: anfractibus sex, columella triplicata.

Turbo sex anfractibus apertura ovali bidentata. *Walker. Test. min. rar. fig. 50?*

This curious little Volute has not we believe been either figured or described by any Author. In its general appearance it approaches pretty nearly to the shell figured by Walker, as above quoted; but if the same, that writer has certainly described it with no very great degree of accuracy; for he speaks only of two plaits, or teeth in the

PLATE CXXXVIII.

aperture, and calls it the double-toothed Turbo ; although from its plaited pillar, it is evidently a Volute : and the third plait, which with the two others, characterize the species, is obviously too large to have been overlooked. Da Costa, we are persuaded, thought they were both the same, for in a *MS. note* attached to this shell in his collection, he says, “ This shell is figured by Walker,” and certainly no figure in the volume of that Author corresponds with it, except that to which we refer above.

Walker speaks of his shell as being very common on the roots of rushes, in marshes, near Faversham : The *habitat* of our shell we have not been able to ascertain, having never found it in a living state.



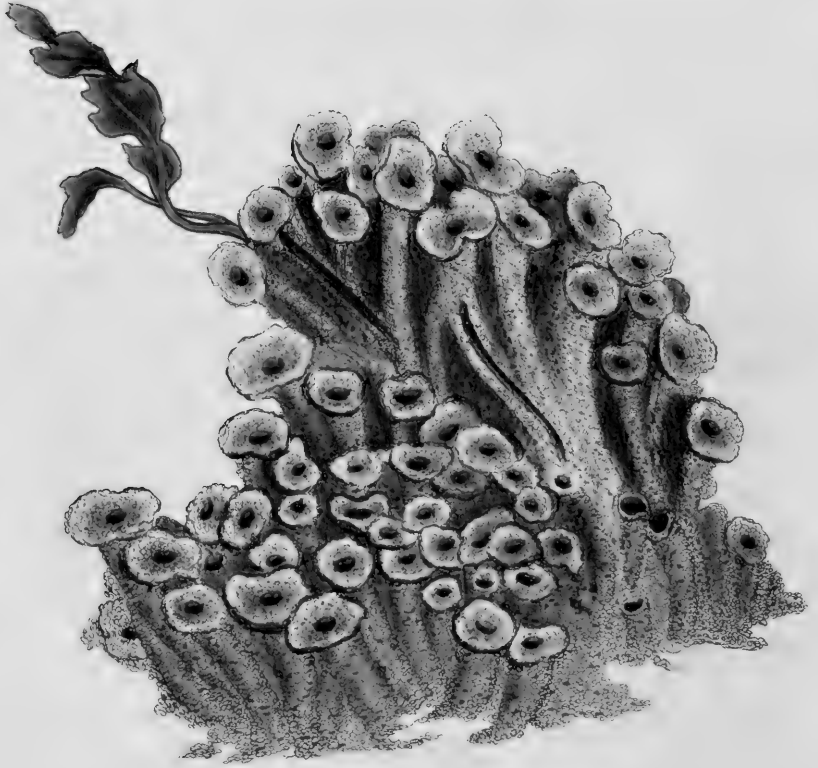


PLATE CXXXIX.

SABELLA ALVEOLATA.

HONEY-COMB SABELLA, OR SAND SHELL.

GENERIC CHARACTER.

Animal a Nereis, with a ringent mouth, and two thicker tentaculæ behind the head. Shell tubular, and composed chiefly of sand, agglutinated to a membranaceous tube.

SPECIFIC CHARACTER

AND

SYNONYMS.

Composite, consisting of numerous parallel tubes, with somewhat funnel-shaped aperture.

SABELLA ALVEOLATA: testa composita concamerationibus numerosis: aperturis sub-infundibuliformibus.

SABELLA ALVEOLATA: testa composita concamerationibus numerosis poro communicantibus. *Gmel. Linn. Syst. Nat. T. 1. p. 6. p. 3749. Sp. 3.*

SABELLA ALVEOLATA, HONEY-COMB. *Penn. Brit. Zool. Vol. 4. p. 147. sp. 162.—Ellis Coral. p. 90. t. 36.*

PLATE CXXXIX.

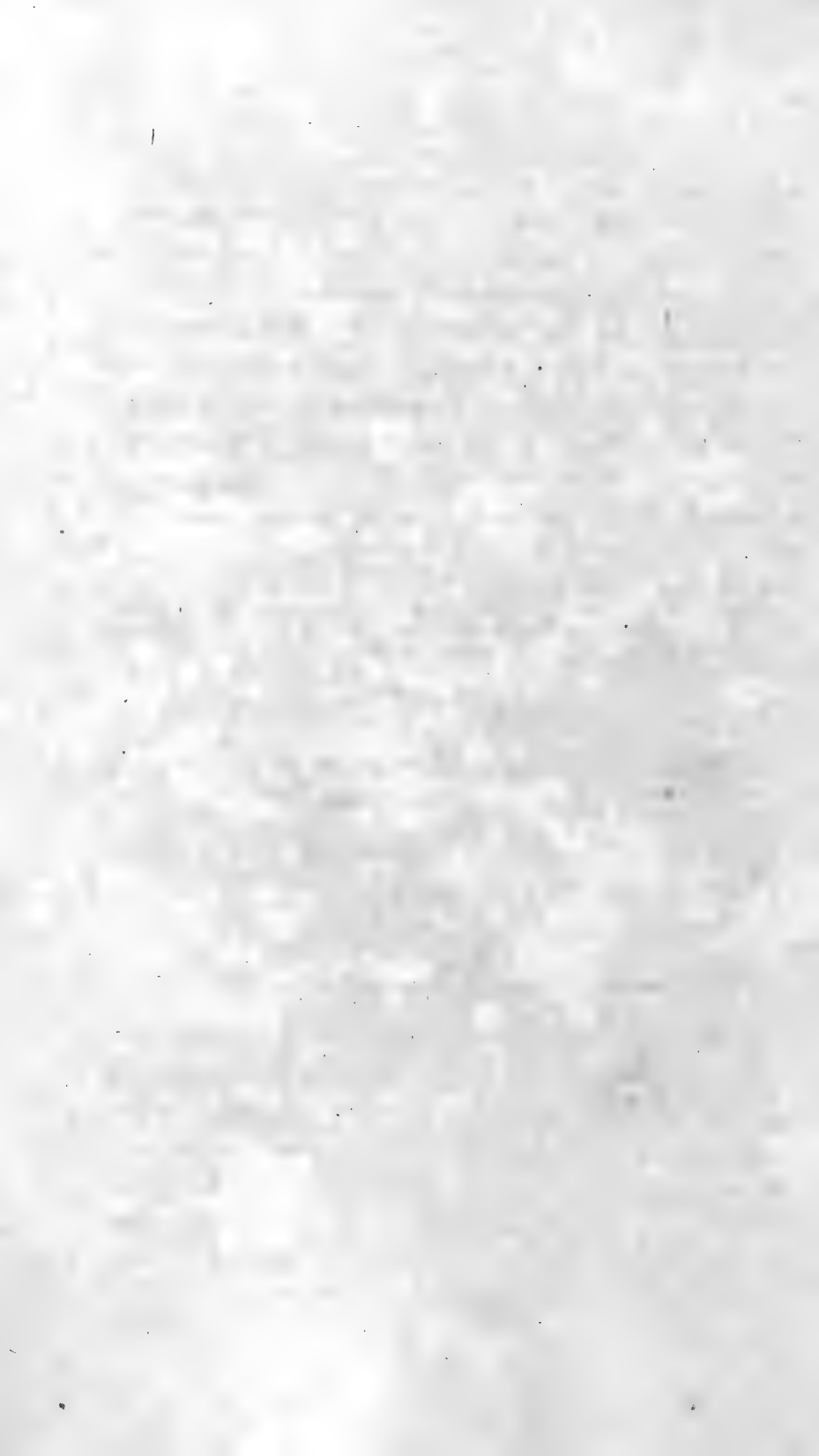
We have constantly observed this kind of *Sabella* to be an inhabitant only of low rocky shores, that lie within reach of the tide at high water ; and although it is composed entirely of broken shells and sea sand ; and those apparently very slightly agglutinated by the animals that form and inhabit it, in its native element it acquires a considerable comparative degree of tenacity from the saline particles with which it is impregnated, and is capable of resisting the reiterated dashing of the waves without material injury.

In the more sheltered crevices of the rocks, where the animal has ample scope to expand its sandy dwelling secure from mutilation, the upper surface of a mass of these shells has a very elegant appearance ; the whole being beautifully foliated with the single or bipartite funnel-shaped lip, which each animal forms at the opening of his cell. This appearance is represented in the plate subjoined, and is a circumstance the more deserving attention, because it has entirely escaped the notice of Mr. Pennant, and perhaps of every other Naturalist, except Mr. Ellis ; who in his *History of Corals*, figures it with a foliated surface, under the title of *Tubularia arenosa anglica*, from a specimen brought from Dieppe. The latter does not however agree precisely in figure with any that have occurred to our notice. Mr. Pennant evidently represents a poor mutilated fragment, in which the openings of the cells are shewn like so many rounded perforations, in a somewhat uneven surface, and is just as it appears in masses on the sea-beach, that have been trodden under-foot ; or pieces that have been much worn, and thrown loose upon the shore.

These shells are three or four inches in length, and where they are found are generally abundant, but they seem to be very local. Mr. Pennant says it is found on the Western coasts of Anglesea, near Cric-

PLATE CXXXIX.

ceth in Caernarvonshire, and near Yarmouth. We have seen it on other parts of the sea coast of North Wales, and in equal plenty on those of South Wales likewise. On the coast of Dorsetshire, according to Dr. Pultney, fragments are found very frequently, but none very perfect. In the History of that County the following account is given of it.—“GREGARIOUS SABELLA. This is composed of a mass of fine sand, and particles of broken and finely comminuted shells, aggregated by vermiform animals of the Nereis genus, each lodged in its separate tube close to, but not interfering with each other. All the tubes end in orifices on the upper or the same surface. I but once saw a mass of this kind, about the size of a large apple, on the beach, a mile east of Weymouth; but I suspect it is not very uncommon, as fragments are very frequent.”





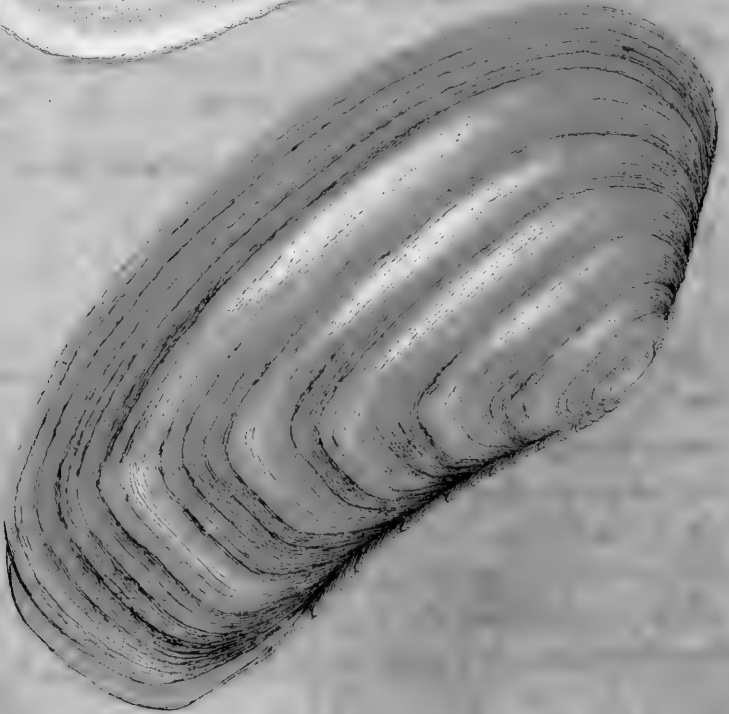


PLATE CXL.

MACTRA HIANS.

GAPING, OR OBLONG MACTRA.

GENERIC CHARACTER.

Animal a Tethys. Shell bivalve: valves equal; sides unequal: middle tooth of the hinge complicated, with a small hollow: lateral teeth remote and inserted into each other.

SPECIFIC CHARACTER.

Shell oblong, rather arcuated, coarse, gaping anteriorly, and the hinge placed very far back.

MACTRA HIANS: testa oblonga sub-arcuata rudi anticè hiante, cardine subterminali.

MACTRA HIANS. *Soland. Mus. Port.*

Da Costa and some other Conchologists have very erroneously been led to conclude, that this, and *Maetra lutraria*, are the same species, although they differ in almost every particular. The present shell is much wider in proportion to the length than *M. lutraria*; and of a more incurvated shape: it is also a thicker and coarser shell; and has the hinge placed much further back than in the other species. Dr. Solander, who described it in the catalogue of the Portland Museum, gave it the specific name of *hians*, from its re-

PLATE CXL.

markable gaping at the anterior end, and a name so applicable we thought it best to retain.

The cicatrix of the animal, in this kind, is different from that of *M. lutraria*, a circumstance that has not escaped the observation of Dr. Pultney. This author tells us, the *Mactra hians* is thrown up in considerable quantities on all the smooth beaches he has seen on the coast of Dorsetshire, particularly on the North shore at Poole, opposite Branksea isle; and that he has also seen it on the beaches at Studland, Swanage, and Weymouth. We have observed it, but not in abundance, on other sea-coasts.



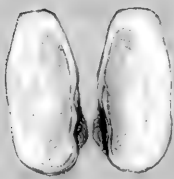


PLATE CXLI.

MYTILUS RUGOSUS.

RUGGED MUSCLE.

GENERIC CHARACTER.

The hinge toothless, and consists of a longitudinal furrow.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell rhombic oval, rugged, obtuse at the ends and antiquated.

MYTILUS RUGOSUS : testa rhomboideo-ovali rugosa obtusa antiquata.

Linn. Syst. Nat. p. 1156. No. 249.

Pholas noster, sive concha intra lapidem quendam cretaceum degens.

List. H. An. Angl. p. 1722. tit. 21. tab. 4.
fig. 21.

Mytilus parvus rhomboidea-ovalis, subalbescens, rugosus. *Rugosus*,
Rugged, *Da Costa Brit. Conch.* p. 223. *sp.* 52.

The *Mytilus rugosus* is rather a rare species on our coasts. Lister notes it from Hartlepool in Durham, and Da Costa says on the coast of Yorkshire, about Scarborough, Whitby, &c. It is found in incredible abundance, niched or burrowed, in the rocks of lime-stone, &c.

PLATE CXLI.

In habit and manners of life this species greatly resembles the *Pholades*, each forming for itself a separate apartment within the hard clay, or solid stone: this it pierces when young, and afterwards continues to enlarge the cell as it increases in bulk, without widening the aperture; so that when full grown, the shell cannot easily be taken whole out of the cell, without breaking the stone in which it is contained.

This shell may perhaps be arranged with equal propriety with the *Myæ* as the *Mytili*, notwithstanding that it is admitted among the latter by most collectors.





PLATE CXLII.

MYA GLYCYMERIS.

LARGE MYA.

GENERIC CHARACTER.

Animal Ascidia. Shell bivalve, gaping in general at one extremity : hinge with a thick patulous tooth ; seldom more than one, and that not inserted into the opposite valve.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell gaping at both ends : very thick, lamellous oblong-oval, with transverse rugose striæ : first tooth of the hinge very thick.

MYA GLYCYMERIS : testa utrinque hiante crassissima lamellata oblongo ovata transverse striato rugosa, cardinis dente primario crassissimo. *Gmel. Syst. Nat. p. 3222. sp. 17.*

MYA GLYCYMERIS : testa sub-ovata oblonga, ponderosa, ventricosa, utrinque hians, antice et postice quasi oblique truncata, dente cardinali crassissimo. *Chemn. T. 6. p. 33.*

Telline beante, *Favart D'Herbigny. Dict. T. 3. p. 358.*

List. n. Conch. 6. t. 3. f. 25. Born. t. 1. f. 8.

PLATE CXLII.

A species of *Mya* admitted with some doubt as a British shell : it is a kind acknowledged however as such, by collectors of English Natural History in general ; and is said to have been undoubtedly fished up in the deep waters between the Dogger-Bank and the eastern coast of England.

The *Mya Glycymeris* is the largest of its genus, and is an inhabitant of most parts of the European sea. In the Mediterranean, and on the northern coasts of Spain, it is not uncommon ; on the coast of France it is also found sometimes.



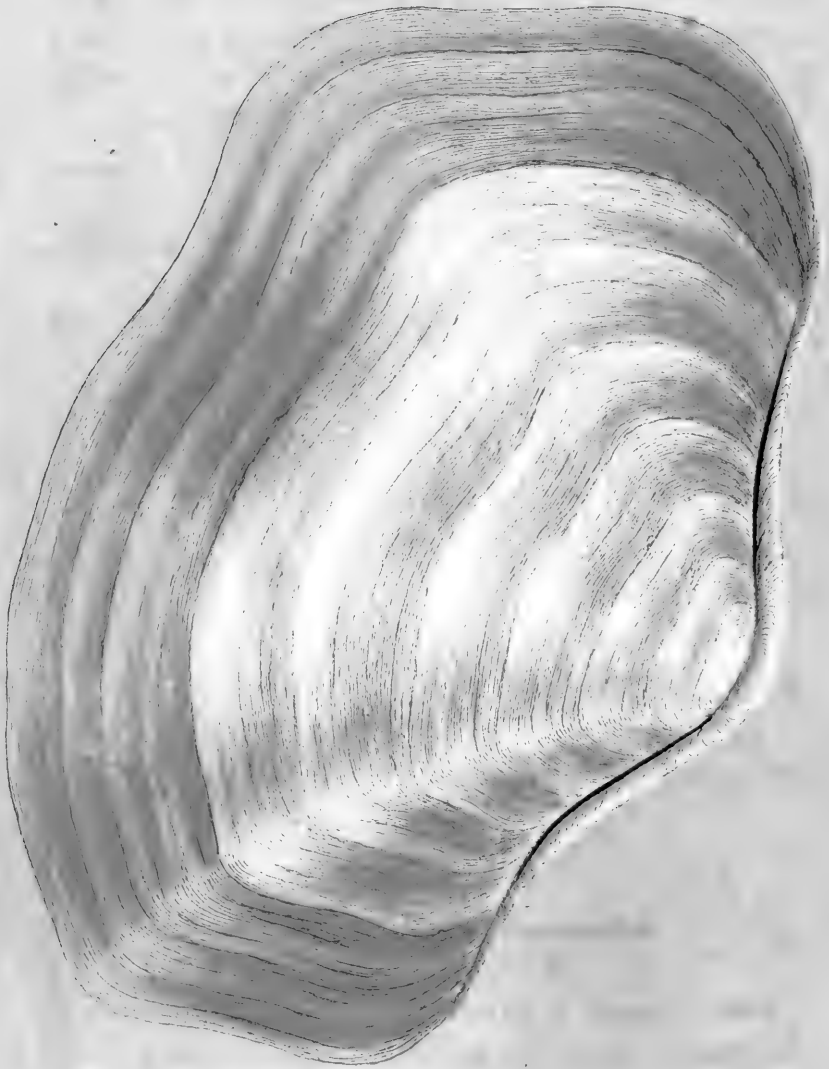


PLATE CXLIII.

BULLA PATULA.

PATULOUS BULLA.

GENERIC CHARACTER.

Animal Limax. Shell rather convoluted at one end, suboval: aperture oblong.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell ovate, smooth, and somewhat beaked at both ends; that at the base produced and sub-umbilicated: lip entire.

BULLA PATULA: testa ovata lævi sub-birostri: basi productiori sub-umbilicata, labro integro.

BULLA PATULA. Open. B. with one end much produced and fuciform. The aperture very patulous. *Penn. Brit. Zool. V. 4. p. 117. sp. 85.*

Pennant seems to be the only author who has noticed this species. Da Costa imagined, from the description given by that author, that it was of the same kind as that which he inserted in his British

PLATE CXLIII.

Conchology, under the name of *Bulla*, the Bubble (*Aperta*, Linn.) and refers to the figure in the work of Pennant accordingly; but in this instance he was much mistaken, for the two shells are perfectly distinct; and it appears certain, that the shell described by Da Costa was as much unknown to Pennant, as that of Pennant was to Da Costa. The shell of the latter is figured in Plate 120 of this work, and the true *Bulla patula* of the other is figured in the Plate annexed.

This we apprehend to be one of the rarest of the British shells hitherto discovered; Pennant notes it from Weymouth, and refers for his specimen to the Portland Cabinet: our shell is from Weymouth likewise.





PLATE CXLIV.

NERITA NITIDA.

GLOSSY NERIT.

GENERIC CHARACTER.

Animal Limax. Shell univalve, spiral, gibbous, and rather flat beneath : aperture semi-orbicular, or semi-lunar : pillar lip transverse truncated and flattish.

SPECIFIC CHARACTER.

Shell smooth, white, and glossy : spire rather pointed : umbilicus half closed.

NERITA NITIDA testa lævi nivea nitida : spira sub-mucronata umbilico semi-clauso.

Among the reserved shells intended by Da Costa for a second edition of his Conchology, we find two specimens of this species of Nerita, with a *MS.* memorandum, importing that he had received one of them from Mr. Church, and that the other was in his possession before. On this vague authority, we did not think it incumbent to insert the shell in the present Work, especially since its habitat was

PLATE CXLIV.

not mentioned ; but the same kind was discovered, in the course of last summer, upon the coast of Scotland, near Caithness, by A. Macleay, Esq. and we can no longer hesitate to insert it as an undoubted British species.

In the annexed plate it is represented of the natural size. It is a remarkable little shell, and is not to the best of our knowledge, mentioned in the work of any author.

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cylindrica, Bulla - - - - -	120	2
dactylus, Pholas - - - - -	118	
duplicatus, Turbo - - - - -	112	
edule, Cardium - - - - -	124	1
edulis, Mytilus - - - - -	128	1
glauca, Mactra - - - - -	125	
glycymeris, Mya - - - - -	142	
hians, Mactra - - - - -	140	
hortensis, Helix - - - - -	131	
inæquistriata, Tellina - - - - -	123	
Jacobæa, Ostrea - - - - -	137	
lactea, Arca - - - - -	135	
lineata, Ostrea - - - - -	116	
marginatus, Solen - - - - -	110	
nitida, Nerita - - - - -	144	
ovata, Mya - - - - -	122	
papillosus, Trochus - - - - -	127	
patula, Bulla - - - - -	143	

I N D E X.

	Plate.	Fig.
rugosus, Mytilus	141	
rusticum, Cardium	124	2
striata, Pholas	117	
subtruncata, Mactra	126	
terrestris, Trochus	111	
triplicata, Voluta	138	
tubiformis, Sabella	133	
undata, Venus	121	
ungulatus, Mytilus	128	1

END OF VOL. IV.

THE
NATURAL HISTORY
OF
BRITISH SHELLS,

INCLUDING

FIGURES AND DESCRIPTIONS

OF ALL THE

SPECIES HITHERTO DISCOVERED IN GREAT BRITAIN,

SYSTEMATICALLY ARRANGED

IN THE LINNEAN MANNER,

WITH

SCIENTIFIC AND GENERAL OBSERVATIONS ON EACH,

VOL. V.

By E. DONOVAN, F.L.S.

AUTHOR OF THE NATURAL HISTORIES OF
BRITISH BIRDS, INSECTS, &c. &c.

LONDON:

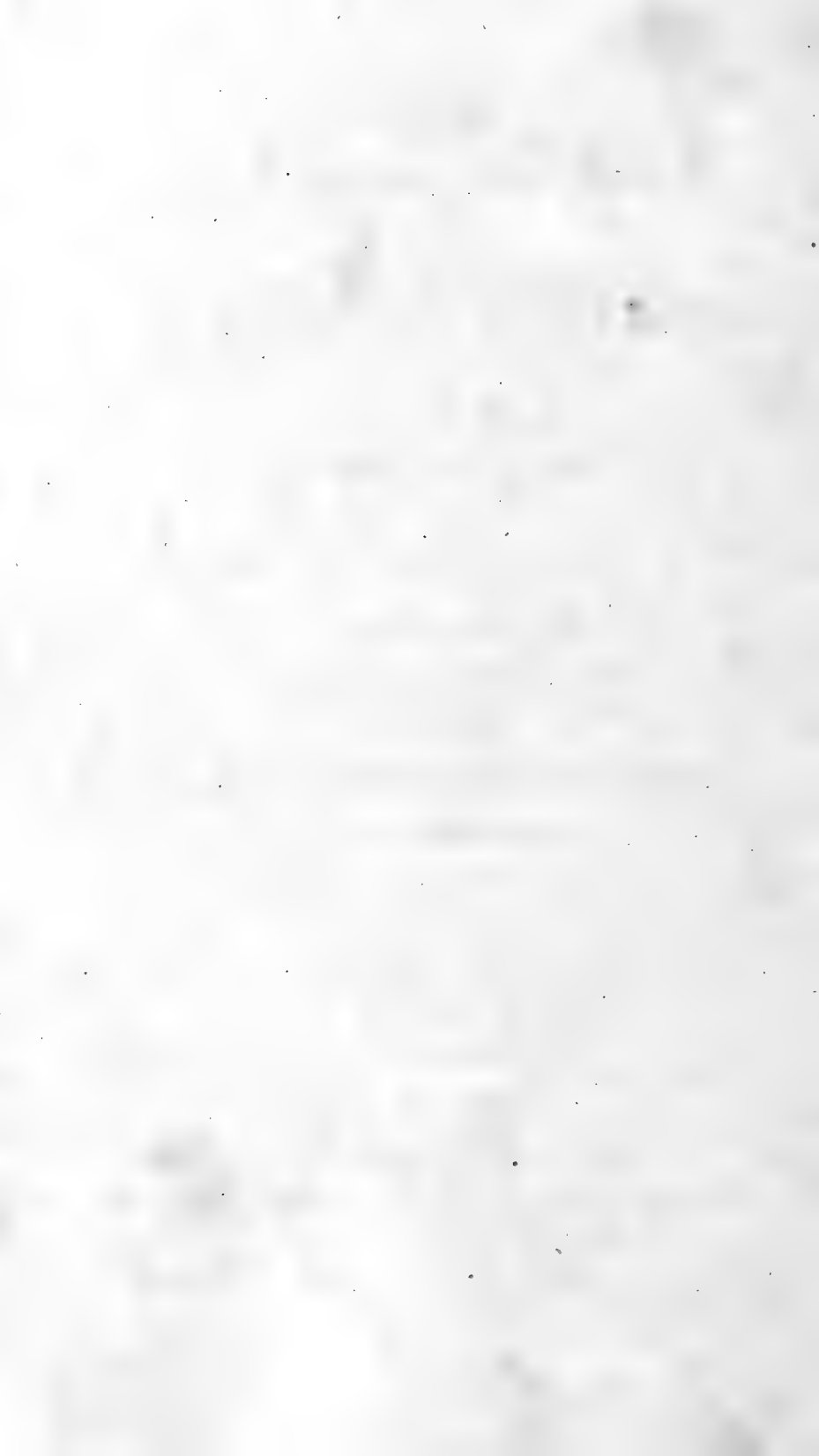
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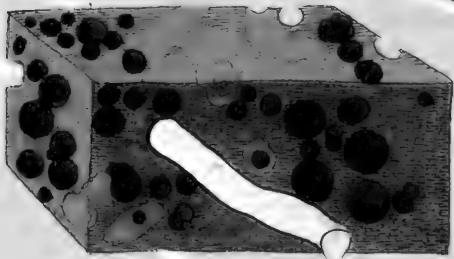
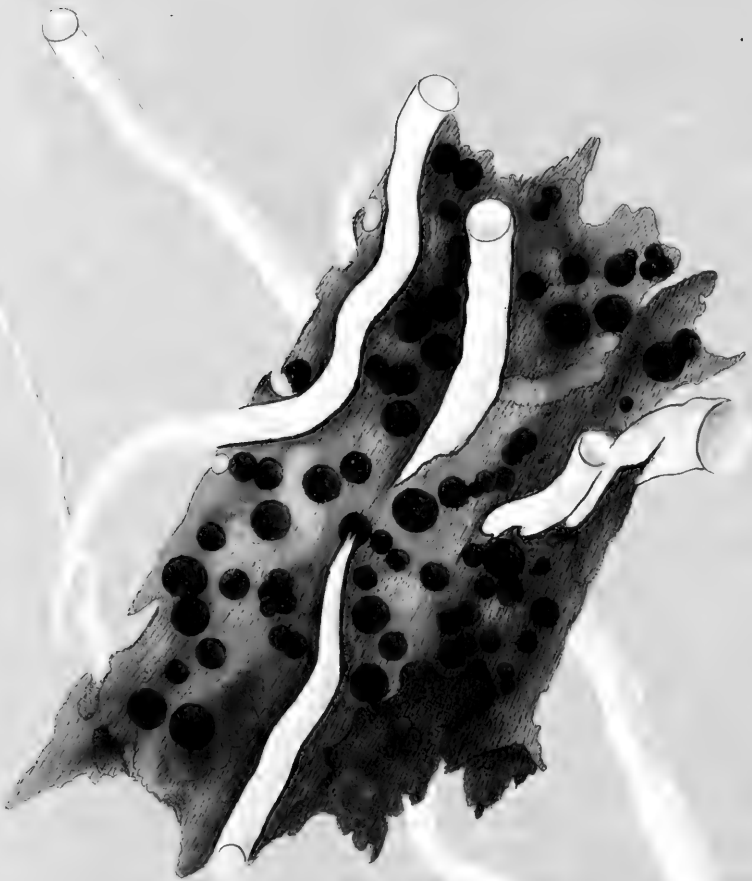
F. AND C. RIVINGTON, N^o 62, ST. PAUL'S CHURCH-YARD;

BY BYE AND LAW, ST. JOHN'S SQUARE, CLERKENWELL.

1803,







THE
NATURAL HISTORY
OF
BRITISH SHELLS.



PLATE CXLV.
TEREDO NAVALIS.

SHIP WORM.

GENERIC CHARACTER.

Animal Terebella, with two calcareous hemispherical valves cut off before, and two lanceolate ones. Shell roundish, flexuous, and capable of penetrating into wood.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell very thin, cylindrical and smooth.

TEREDO NAVALIS: testa tenuissima cylindrica lævi. *Gmel.* p. 3747.

334. *sp.* 1.

TEREDO, *Linn. Syst. Nat.* 12. 2. p. 1267. n. 1.

PLATE CXLV.

Dentalium testa membranacea cylindracea, ligno inserta. *Linn. Fn.*

Suec. 1. p. 380. No. 1329.

Serpula testa cylindracea flexuosa, lignum perforans. *Teredo. Da.*

Costa. Brit. Conch. p. 21. sp. 11.

Sellius Hist. Nat. Tered. Baster, Phil. trans. 61.

TEREDO NAVALIS. SHIP-WORM. *Penn. Brit. Zool. 4. No. 160.*

This destructive creature is supposed to have been originally a native of the East-Indies, and from thence introduced into the European seas: at present it may be considered with propriety as a naturalized British species; and it is a fortunate circumstance that it does not thrive so well with us as in warmer climates.

The animal, a soft and almost shapeless gelatinous body, is furnished with a calcareous process, or augur, at the head, with which it bores with the utmost facility into the stoutest oaken plank, as it lies in the water; and where a number of them attack the same piece of wood, will in a few days entirely destroy it: hence the ravages of these animals in the bottoms of ships are fraught with the greatest danger; and notwithstanding all the precaution of sheathing the bottoms of ships with copper, they insinuate themselves through the smallest cavities, and lodge themselves securely in the timbers. Where the work of the animal first commences, the shell is obtusely rounded and closed, and as it proceeds it continues to lengthen its shell till, as Gmelin says, it becomes from four to six inches in length;—we have seen one of them whose progress through the solid plank had not been interrupted, that had grown nearly to the length of eighteen inches. It is said that sheets of paper dipped in tar, and applied to the ship's bottom, will prove a more effectual preservative

PLATE CXLV.

of the timber than the usual sheathing of copper, and an extensive manufactory has been of late established for the preparation of this article: how far it may prove ultimately successful we cannot presume to imagine, but perhaps both the paper and the copper might be employed together with greater advantage than either of those articles separately.

For a more complete history of the *Teredo* than we might have otherwise possessed, we are indebted to a remarkable circumstance that occurred about sixty years since: the piles on the coast of Holland were found to be injured to a very alarming degree, by the ravages of this creature; and beside several other ingenious tracts upon their history and the calamity they had occasioned, *Sellius* published an account of it, under the title of *Historia Naturalis Teredines, seu, Xylophagi Marini*, in 1733; in this book the anatomy of the animal is illustrated with Plates, and upon the whole his observations deserve the attention of the curious reader. Another account was also written by *Baster*, and published in the *Transactions of the Royal Society of London*, in vol. 61, as quoted above.

In our specimens, the apertures, or mouths of the shells, are very perfect, and exhibit the same appearance as *Kæmmer* and *Gmelin* seem to think peculiar to the species *Utriculus*; namely, an oval aperture divided by a partition in the middle. The shell is extremely delicate, or thin, and very brittle.





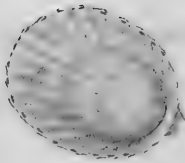
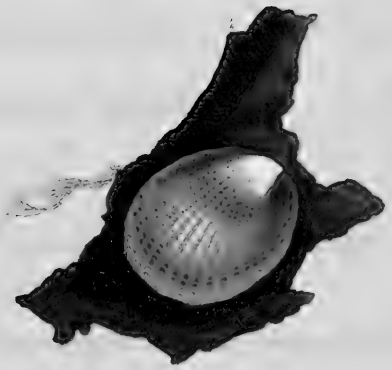
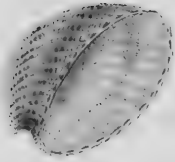


PLATE CXLVI.

PATELLA INTORTA.

INCLINING PATELLA, OR LIMPET.

GENERIC CHARACTER.

Animal Limax. Shell univalve subconic and without spire.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell entire, ovate, furrowed: ribs slightly imbricated, vertex somewhat reflexed and obtuse.

PATELLA INTORTA: testa integris ovata, sulcata: costis sub-imbricatis, vertice sub-reflexo obtuso.

PATELLA INTORTA, *inclining*: with an elevated shell, slightly striated; the vertex bending, but not hooked.
Penn. Brit. Zool.

This shell is described by Pennant, who acquaints us it “inhabits Anglesea, found on the shores.” It is a very rare shell, but has been taken also on the western coast, and communicated by J. Laskey, Esq. of Crediton, Devonshire.

The figure of *Patella intorta*, in the British Zoology, is certainly very indifferent: but having examined the shell Mr. Pennant de-

PLATE CXLVI.

scribes, we have no hesitation in saying that it is not the *Patella mammillaris* of Gmelin, as some conchologists imagine. Specimens of the latter we are likewise in possession of, but they are not certainly known to be natives of this country.—In *Lister Conch. t. 537. fig. 17*; and in *Martini. Conch. 1. t. 7. f. 58, 59*. *P. mammillaris* is very accurately figured; and a slight comparison of either of them, with the shell figured in the annexed plate, will prove very clearly that they cannot be of the same species.

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A section of faint, illegible text, possibly a sub-section or a specific note.

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P L A T E C X L V I I .

P A T E L L A L A C U S T R I S .

L A K E L I M P E T .

G E N E R I C C H A R A C T E R .

Animal Limax. Shell univalve, subconic, without spire.

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S .

Shell very entire, oval, membranaceous : crown pointed and reflected.

P A T E L L A L A C U S T R I S : testa integerrima ovali membranacea : vertice mucronato reflexo. *Fn. suec.* 2200.—*Gmel. Syst. Nat. T.* 1. p. 6.

Patella fluviatilis, fusca, vertice mucronato, incurvo, inflexoque. *Gualt. Ind. Conch. tab.* 4. fig. B.

Patella fluviatilis, exigua, subflava, vertice mucronato, inflexoque. *List. Hist. Conch. tab.* 141. fig. 39. *Morton Northamp. p.* 417.

P A T E L L A L A C U S T R I S , *Penn. Brit. Zool.* 4. No. 149.

P A T E L L A integra, exigua, fusca, fragilis, vertice inflexo. *Da Costa. Brit. Conch.* 1. tab. 2. fig. 8. 8.

This is a thin and brittle shell, of a pale brown, or whitish colour, that is found on aquatic plants, in most ponds and rivers in

PLATE CXLVII.

Europe : in England it is very common in some places. The animal, as Gmelin describes it, has two truncated and concealed tentacula, each of which is furnished with an eye at the inner angle.

Dr. Lister informs us, that they couple in September, and fix their spawn plentifully on stones and other bodies in the water : this spawn consists of little gelatinous globules, in each of which it is said many small shells may be distinguished.—The shell is shewn of the natural size in the annexed plate.

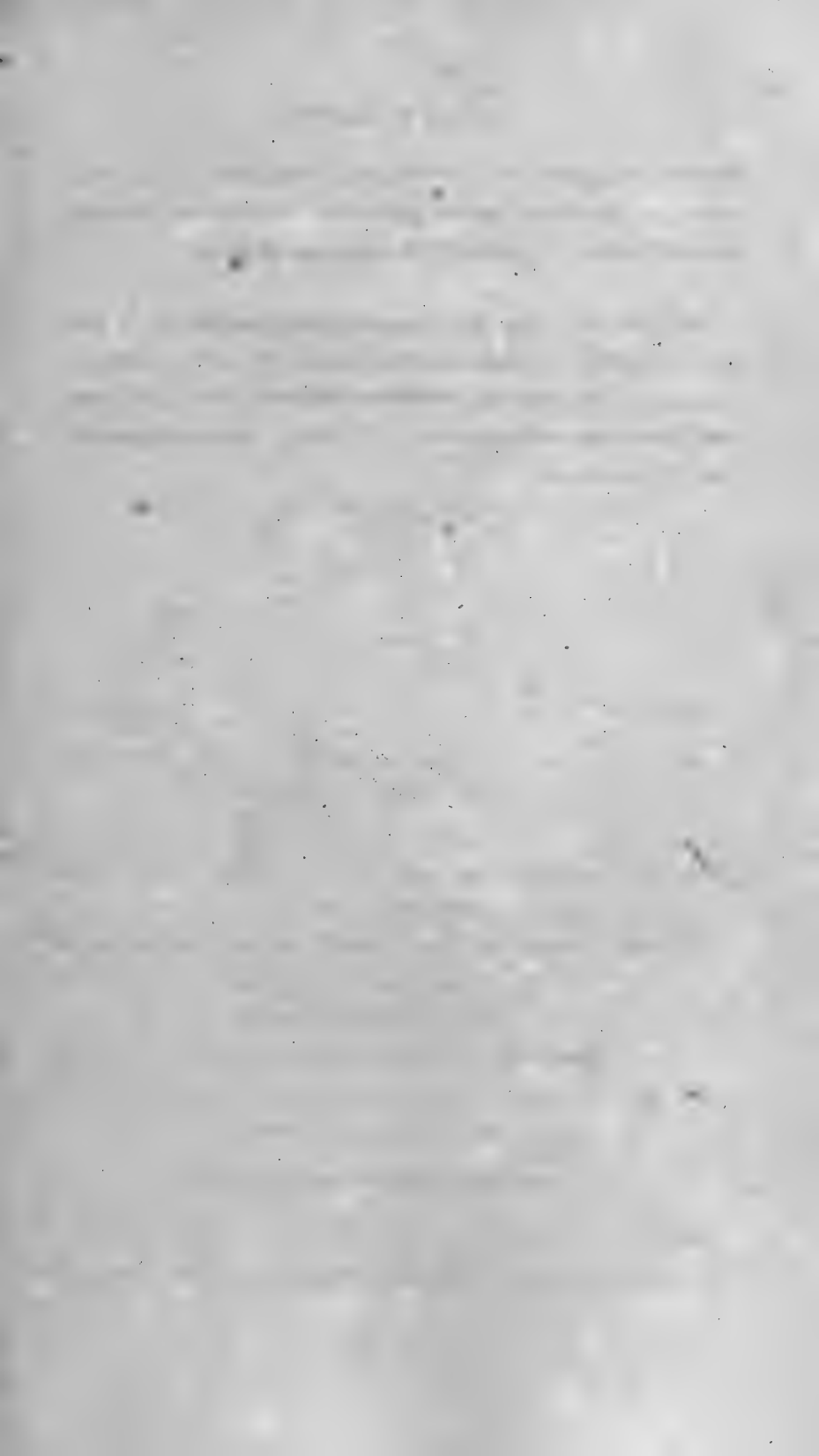




PLATE CXLVIII.

LEPAS TINTINNABULUM.

BELL ACORN SHELL.

GENERIC CHARACTER.

Animal Triton. Shell of many valves, affixed by a stem or broad base.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell conic, obtuse, rugged and fixed.

LEPAS TINTINNABULUM: testa, conica, obtusa, rugosa fixa. *Mus.*

Lud. Ulr. 466. n. 3.

Balanus major angustus purpurascens, capitis apertura valde patente.

List. H. Conch. tab. 433. *fig.* 285.

Balanus major. The conic centre shell. *Grew. Mus.* p. 148.

Balanus maximus ore patulo. *Mus. Petiv.* p. 82. No. 803.

B. tintinnabuliformis et B. calyciformis orientalis. *Phil. Trans.*
1758. p. 11. *tab.* 34. *fig.* 8, 9.

B. ore hiante magnus. *Borlase. Corn.* p. 27.

Gland de Mer clochette, *D'Avila Cab.* p. 404. No. 922.

BALANUS TINTINNABULUM BELL. B. major purpurascens, conicus, angustus tintinnabuliformis, apertura valde patente. *Da Costa Brit. Conch.* p. 250. sp. 70.

BALANUS TINTINNABULUM BELL. *Penn. Brit. Zool. T.* 4. No. 8.

PLATE CXLVIII.

This kind of *Balanus* is found affixed in large clusters to the bottoms of ships in our seas, but the general opinion is that it originates in warmer climates, and should not be considered an indigenous British species. A supposed variety of it of a dirty whitish colour, is said to be found in the North seas, by Chemnitz.

Balanus Tintinnabulum is admitted among the testaceous productions of our seas by Borlase, Pennant and Da Costa, and this we must confess is the best apology we have to offer for inserting it in the present Work.



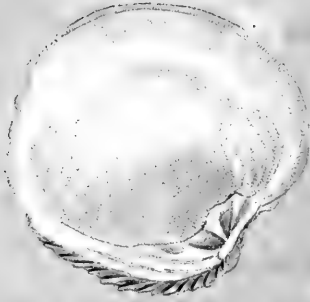


PLATE CXLIX.

VENUS LACTEA.

MILKY VENUS SHELL.

GENERIC CHARACTER.

Bivalve. Hinge furnished with three teeth ; two near each other, the third divergent from the beaks.

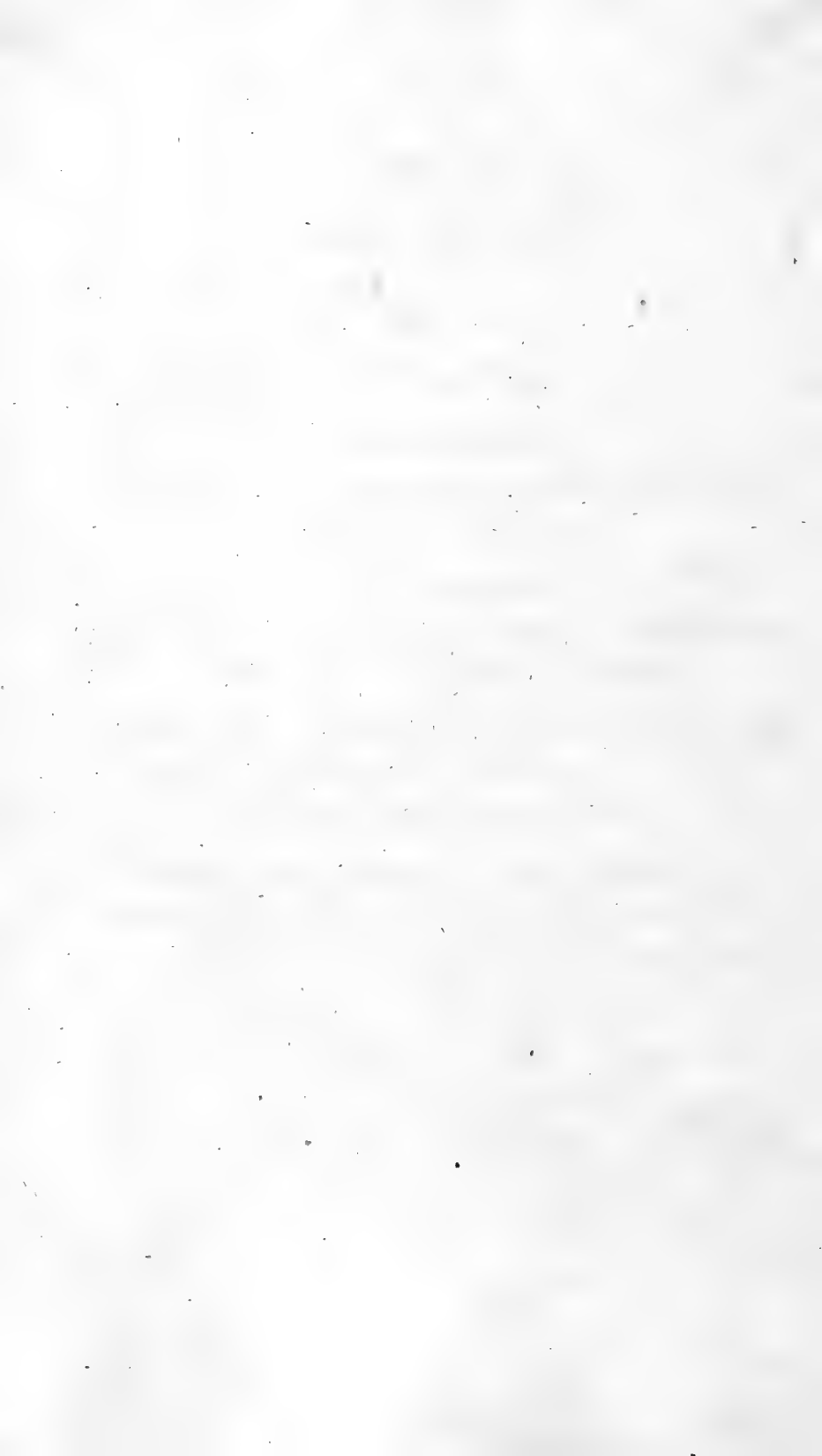
SPECIFIC CHARACTER.

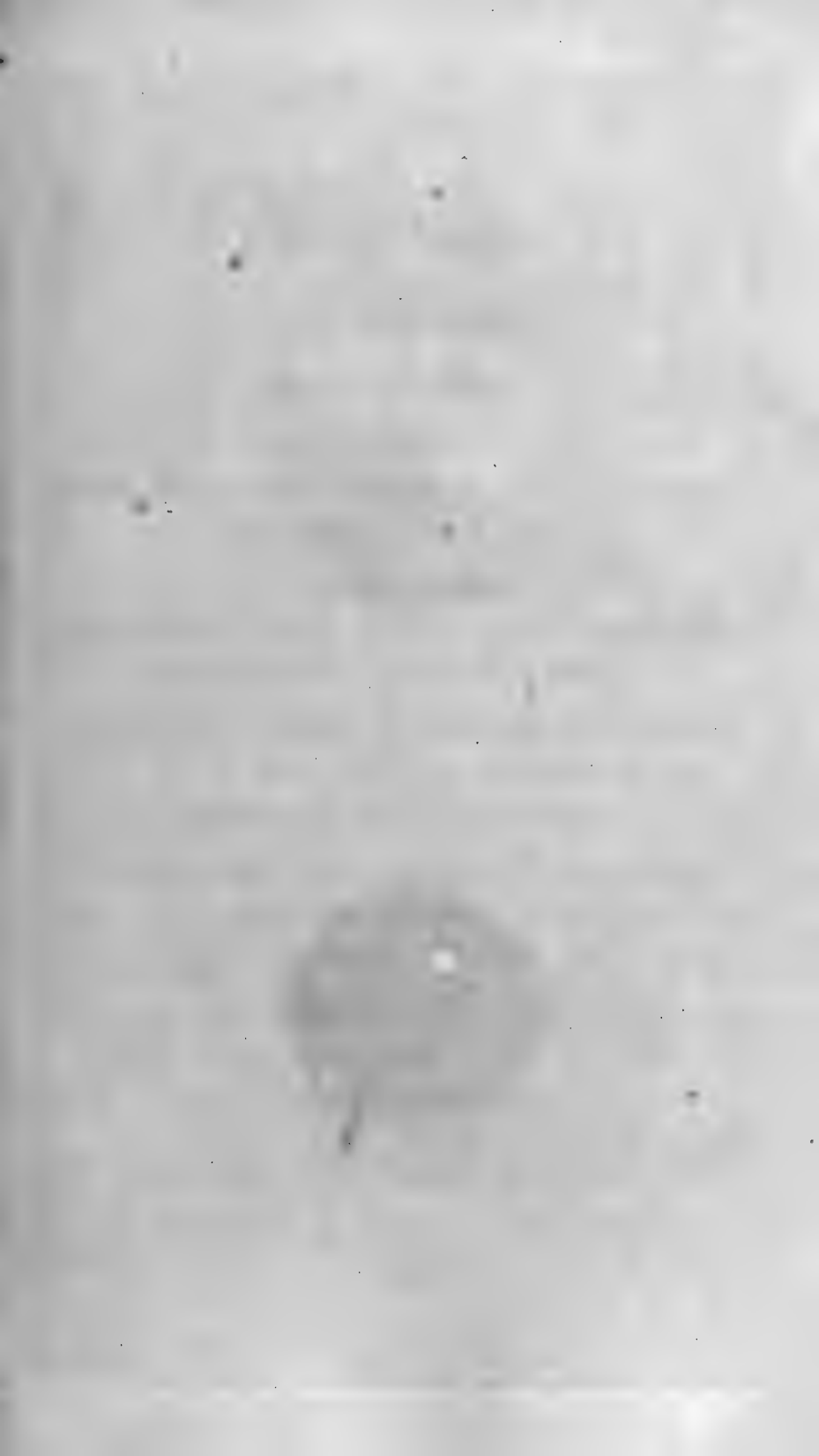
Shell lentiform, somewhat compressed, with thick, elevated, obtuse concentric striæ, and slightly truncated anteriorly.

VENUS LACTEA : testa lentiformi sub-compressa : striis concentricis crassis elevatis obtusis, antrorsum subtruncata.

This appears to be a new and undescribed British species of *Venus*, approaching, in some particulars, to others of the same genus found on our coast, although differing in having the concentric striæ or ridges large, elevated, and obtusely rounded. The striæ, for example, in *V. borealis*, and *V. cancellata* rise in a thin membranaceous ridge to an acute edge ; and the former of these seems at first sight to bear a strong analogy to our shell : *Venus lactea* is also a much thicker and heavier shell than any other resembling it, with which we are acquainted. *V. Exoleta* has thick, but minute striæ.

Our present species, we are informed, is found on the western coast.





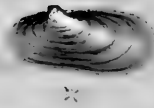
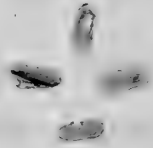
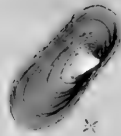


PLATE CL.

PATELLA OBLONGA.

OBLONG FRESH WATER PATELLA, OR LIMPET.

GENERIC CHARACTER.

Animal Limax. Shell univalve, sub-conic, and without spire.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell very entire, oblong, compressed, membranaceous: vertex pointed and reflected obliquely, or to one side.

PATELLA OBLONGA: testa ingerrima oblonga compressa membranacea, vertice mucronato reflexo oblique. *Lightfoot. Phil. Trans. V. 76. p. 167.*

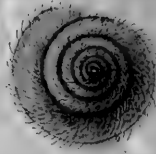
This species was first described in the transactions of the Royal Society of London, by the Rev. Mr. Lightfoot, chaplain to the late Duchess of Portland. He says it was found adhering to the leaves of the *Iris Pseudacorus*, in waters near Beaconsfield in Buckinghamshire, by Mr. Agneu, the Duchess of Portland's Gardener. It has been since found on plants in the river Stour, by the Rev. Thomas Rackett.

PLATE CL.

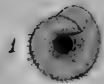
It is evidently distinct from the *Patella lacustris* of Linnæus, in being of an oblong instead of ovate form ; and in having the pointed vertex bending obliquely or to one side, instead of being central and reflected back. The colour is variable, in some it is greenish, and in others of a pale brown. It is represented on our plate both of the natural size and magnified.



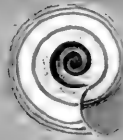
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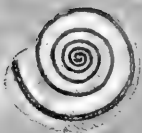
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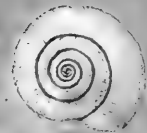
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2

PLATE CLI.

FIG. I.

HELIX HISPIDA.

BRISTLY SNAIL.

GENERIC CHARACTER.

Animal Limax. Shell univalve, spiral, diaphanous, fragile. Aperture contracted semilunar, or roundish.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell umbilicated, convex, hairy, diaphanous; whorls five: aperture roundish-lunated.

HELIX HISPIDA: testa umbilicata convexa hispida diaphana: anfractibus quinis, apertura subrotundo-lunata. *Linn. Fn. Suec.* 2182.—*Gmel. Syst. Nat.* 3625.

Helix sub-globosa umbilicata, cornea, diaphana, hispida. Hispida, Helix. Da Costa. Brit. Conch. p. 58.

This shell is not unfrequently found at the bottoms of trees among the moss, in woods and wet shady places. It is glossy, very thin,

PLATE CLI.

brittle, and of a brown horny colour. When the animal is alive in the shell it is of a dark red colour approaching to black, and is very elegantly set all over with minute, short, white bristles, or hairs, which easily rub or fall off when the animal dies.

In the plate the upper and underside are represented, together with a magnified figure, which is distinguished by a star, and is intended to shew the hispid appearance of the shell while the animal is alive.

FIG. II.

HELIX ERICETORUM.

HEATH SNAIL.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell umbilicated, depressed and yellowish, with one or more fuscous bands.

HELIX ERICETORUM: testa umbilicata depressa lutescente: fascia una vel pluribus fuscis. *Müll. Hist. Verm.* 2. p. 33. n. 236.—*Gmel. Linn. Syst. Nat.* p. 3632.

Cochlea cinerea albidave, fasciata, ericetorum. *List. H. An. Angl.* p. 126. tit. 13. tab. 2. f. 13.—Cochlea compressa, umbilicata fasciata campestris. *List. H. Conch. tab.* 78. fig. 78.

PLATE CLI.

HELIX ALBELLA, *Penn. Brit. Zool. Vol. 4. tab. 85. fig. 122.*

HELIX cinerea albidave, fasciata, ericetorum Erica. *Da Costa. Brit. Conch. p. 53. Sp. 30.*

This species of Helix, as its name implies, is found on heaths and sandy soils, and is very common both in this country and other parts of Europe. When full grown, this shell is three quarters of an inch in breadth, and one-third of its breadth in height: the spires flat: the outermost wreath very convex beneath, with a large and deep central umbilicus; and circular mouth or aperture.

The young shells are quite plain, and of a horny colour, or whitish and semitransparent. When full grown they are opaque, dull, white or yellowish, and usually fasciated with one or more brown circular bands, according to the involutions of the wreaths. The order, size, and number of these brown bands, as Da Costa says, vary extremely, though commonly there is one band in the middle or near the bottom of each wreath, and often other fainter and narrower bands accompany it. Gmelin speaks of five distinct varieties, which differ in size, in colour, and number of the bands. Sometimes they are quite white, or marked with a single spiral band; and sometimes these bands amount to eight or nine on each shell.

Dead shells of this kind are found in vast numbers intermixed with the sand on heaths, and are always observed in great plenty with the others.

CHAPTER I

The first part of the book is devoted to a general introduction to the subject. It discusses the scope and objectives of the study, and outlines the main areas of investigation. The author also provides a brief history of the field, and discusses the current state of research. The second part of the book is devoted to a detailed examination of the various aspects of the subject. It begins with a discussion of the basic principles, and then proceeds to a more in-depth analysis of the different components. The author also discusses the various methods used in the study, and provides a detailed account of the results. The final part of the book is devoted to a summary of the findings, and a discussion of their implications. The author also provides some suggestions for further research, and concludes with a final statement on the importance of the subject.





PLATE CLII.

PINNA LÆVIS.

SMOOTH PINNA, OR HAM SHELL.

GENERIC CHARACTER.

Animal Limax. Shell sub-bivalve, fragile, erect, gaping at one end, and furnished with a byssus or beard: hinge toothless, and uniting the valves into one.

SPECIFIC CHARACTER.

Shell nearly triangular, horn-colour, smooth: valves rugose on the posterior part.

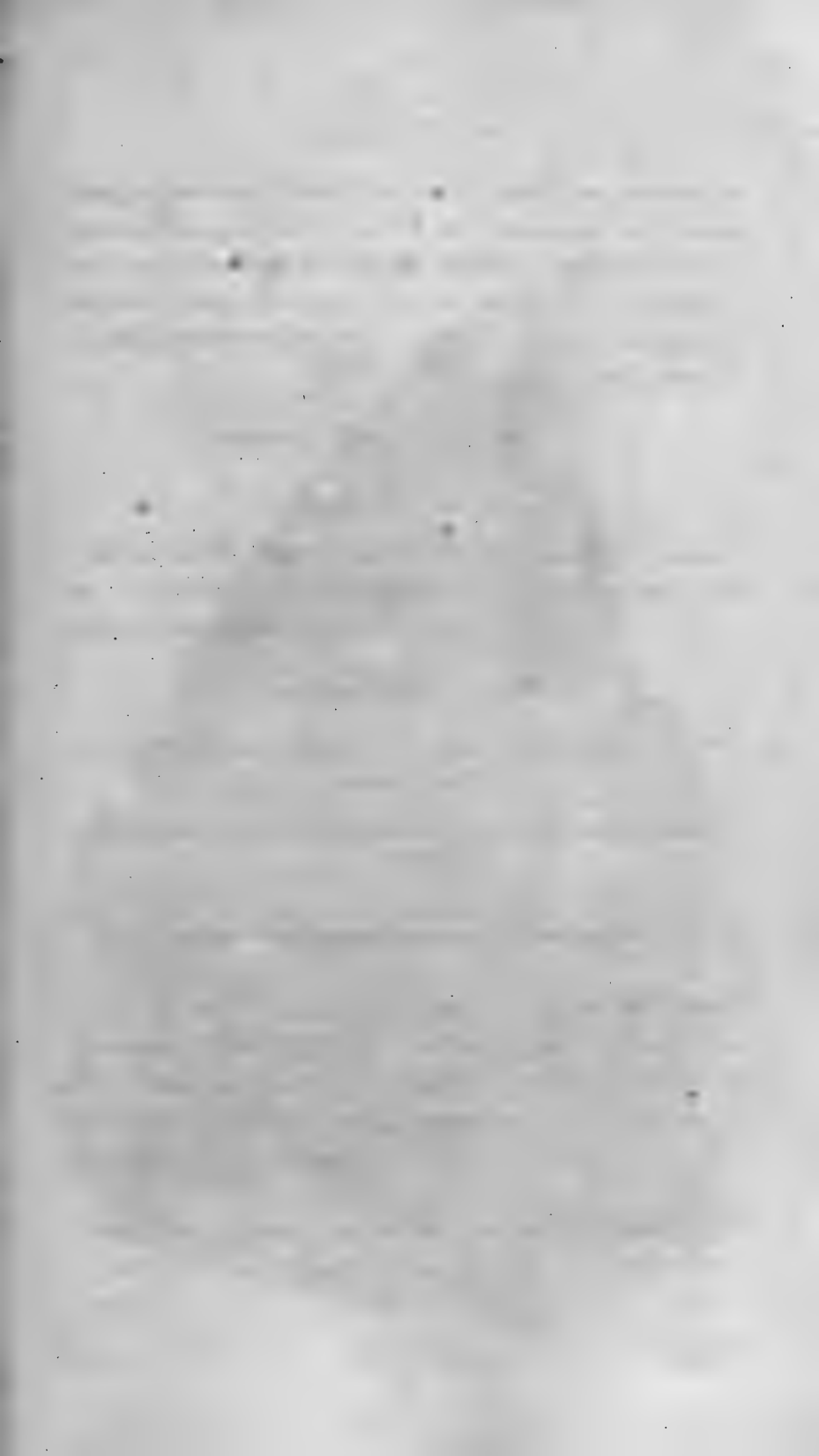
PINNA LÆVIS: testa sub-triangulari cornea lævi: valvis posterius rugosis.

This species of Pinna which differs from any that has been before described as a British shell; and if we are not mistaken, from either of the Linnæan or Gmelinian species of the genus also; was received by A. M'Leay, Esq. among other curious shells that were dredged up on the coast of Shetland.

The difference between this and the other analogous kinds, seems to consist in its being of a more triangular form, and in not having

PLATE CLII.

the least trace of spines or murication : from the beak descend some very obsolete longitudinal striæ, but the surface is in general perfectly smooth and glossy, notwithstanding the specimen before us has at first sight a rugged aspect ; the shell having been greatly bruised or mutilated in its growth, and afterwards uncouthly repaired by the animal inhabitant.



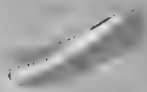
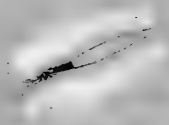


PLATE CLIII.

SOLENIPELLUCIDUS.

PELLUCID RAZOR SHELL.

GENERIC CHARACTER.

Bivalve, with equal valves, oblong, open at both ends ; at the hinge a subulated tooth turned back, often double ; not inserted in the opposite shell. Animal an ascidia.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell suboval, somewhat arcuated, fragile, pellucid : hinge with an acute bidentated tooth on one side.

SOLENIPELLUCIDUS : testa subovali subarcuata fragile pellucida cardine altero acute bidentato.

SOLENIPELLUCIDUS, *Penn. Brit. Zool. T. 4. p. 1. p. 84. sp. 23.*

A very rare species, and described only by Mr. Pennant, who says it inhabits Red Wharf, Anglesea.





PLATE CLIV.

BUCCINUM GLACIALE.

NORTHERN WHELK.

GENERIC CHARACTER.

Animal Limax. Shell univalve, spiral, gibbous. Aperture ovate, ending in a short canal or gutter, inclining to the right: tail or beak retuse: inner lip expanded.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell smooth, somewhat striated, ovate-oblong; lower whorl slightly carinated.

BUCCINUM GLACIALE: testa lævi substriata ovato-oblonga: anfractu infimo subcarinato. *Linn. Faun. Suec.* 2162.—*Gmel. Syst. Nat.* 4. 3491. sp. 92.
Chemn. Conch. 10 t. 152. 1446, 1447.

TRITONIUM GLACIALE, *O. Fabr. Faun. Grænl. No.* 397.

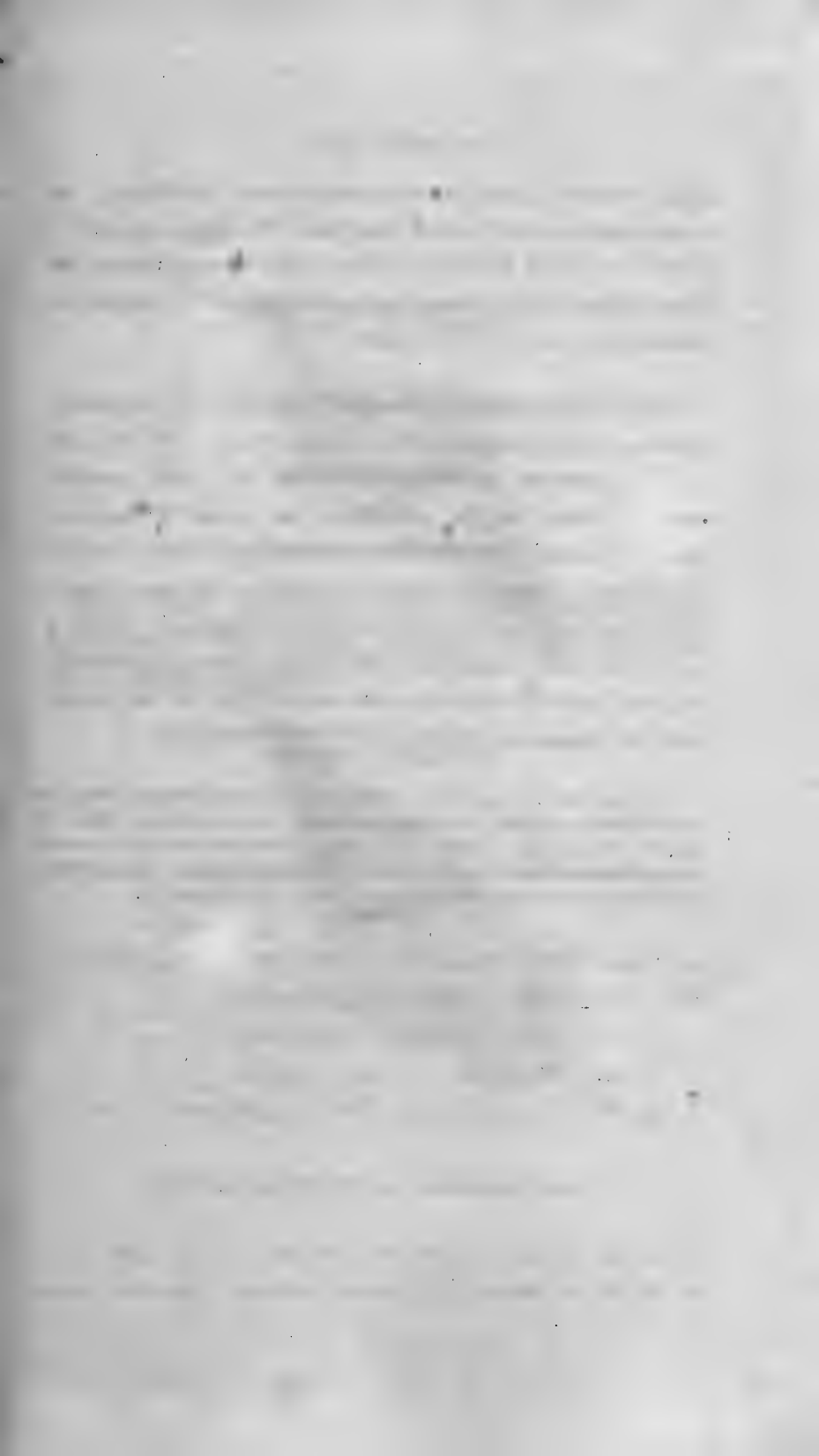
As a native of the North Seas, this shell was well known to Linnaeus, by whom it was most accurately and minutely described in his

PLATE CLIV.

Fauna Suecica *, but we have no other authority for believing it to be an inhabitant of our own seas, than that of Mr. Agneu, gardener to the late dutchess of Portland, by whom it was discovered among the Orkney Islands, and, in consequence, admitted into the collection of British shells in the Portland Museum.

One of the most striking characters of this shell, is a single carinated ridge that surrounds the first or largest wreath of the shell, and does not afterwards appear on either of the rest. This it may be proper to notice, since the circumstance has been strictly mentioned both by Linnæus, Fabricius, (*Faun. Groen.*) and Chemitz, but it is not certainly a constant criterion of the species: there was a variety of this kind in the collection of the late Dr. Fordyce, at present in that of the Earl of Tankerville, in which the carinated ridge distinctly traverses the whole shell in a spiral course, from the first wreath nearly to the apex.—The latter was from Newfoundland.

* *Buccinum glaciale*; testa crassa magnitudine extimi articuli pollices, pallida, secundum anfractus obsolete striata, acuminata superne conica. Anfractus infimus seu maximus subcarinatus est, sed hæc carina in reliquis superioribus anfractibus evanescit, cum sutura anfractuum evadat, quæ attenuata. Basis gibba emarginata. Apertura ovata. Labium exterius crassum patulum, striis incumbentibus. Linn. Fn. Succ.



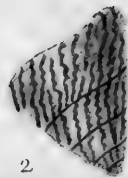
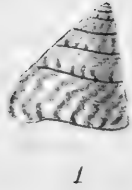


PLATE CLV.

FIG. I. I.

TROCHUS CONICUS.

CONIC TROCHUS, OR TOP SHELL.

GENERIC CHARACTER.

Animal a Slug. Shell conic : aperture nearly triangular.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell conic, smooth, whitish, obliquely lineated with brown, whorls flattish, and finely striated.

TROCHUS CONICUS : testa conica lævi, albida oblique fusco lineata : anfractibus planiusculis subtiliter striatis.

A small shell bearing some affinity with *Trochus Conulus*, from which it is notwithstanding perfectly distinct ; as a British shell we believe it is altogether new ; nor does it seem to be described by any foreign author. Four of these shells were picked up on the sea coast of Devonshire by J. Laskey, Esq. from whom we received the specimens represented in our Plate. It has been since communicated also from the Mediterranean sea.

PLATE CLV.

FIG. II. II.

TROCHUS CINEREUS.

ASHEN TOP SHELL.

SPECIFIC CHARACTER.

Shell pyramidal, umbilical, cinereous; marked with narrow blackish lines.

TROCHUS CINEREUS: pyramidalis umbilicatus, cinereus, lineis angustis nigrescentibus notatus. *Da Costa. Brit. Conch. p. 42. sp. 23. tab. 3. fig. 9. 10.*

Trochus pyram, parvus, ex viridi sive subcæruleo variegatus, insigniter umbilicatus. *List. H. Conch. tab. 633. fig. 21.*

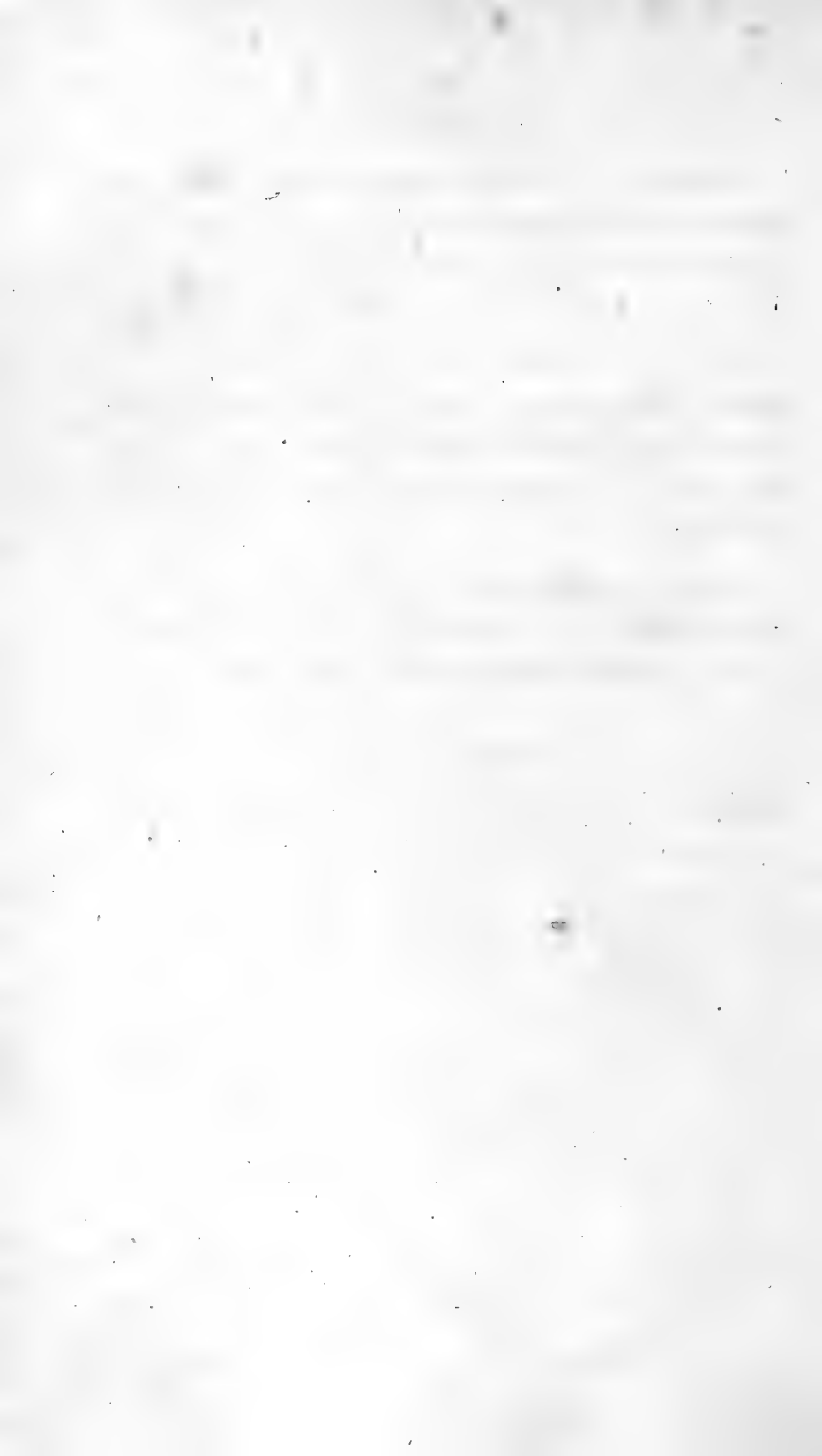
This shell is described and figured by Da Costa from the specimen at present in our possession; the only inducement we have for inserting it, for though this writer observes that it is a common shell on several of our coasts, we must acknowledge it has never occurred to us as a British shell. Exotic specimens we have, but these are said to have been brought from the South Seas. Da Costa, we have a strong suspicion was mistaken concerning this shell; his reference to Lister is correct; the rest of his synonyms, namely, those of *Dale*, *Wallis*, &c. are erroneous, since those writers meant a very different shell. The following is the minute description Da Costa gives of this kind:

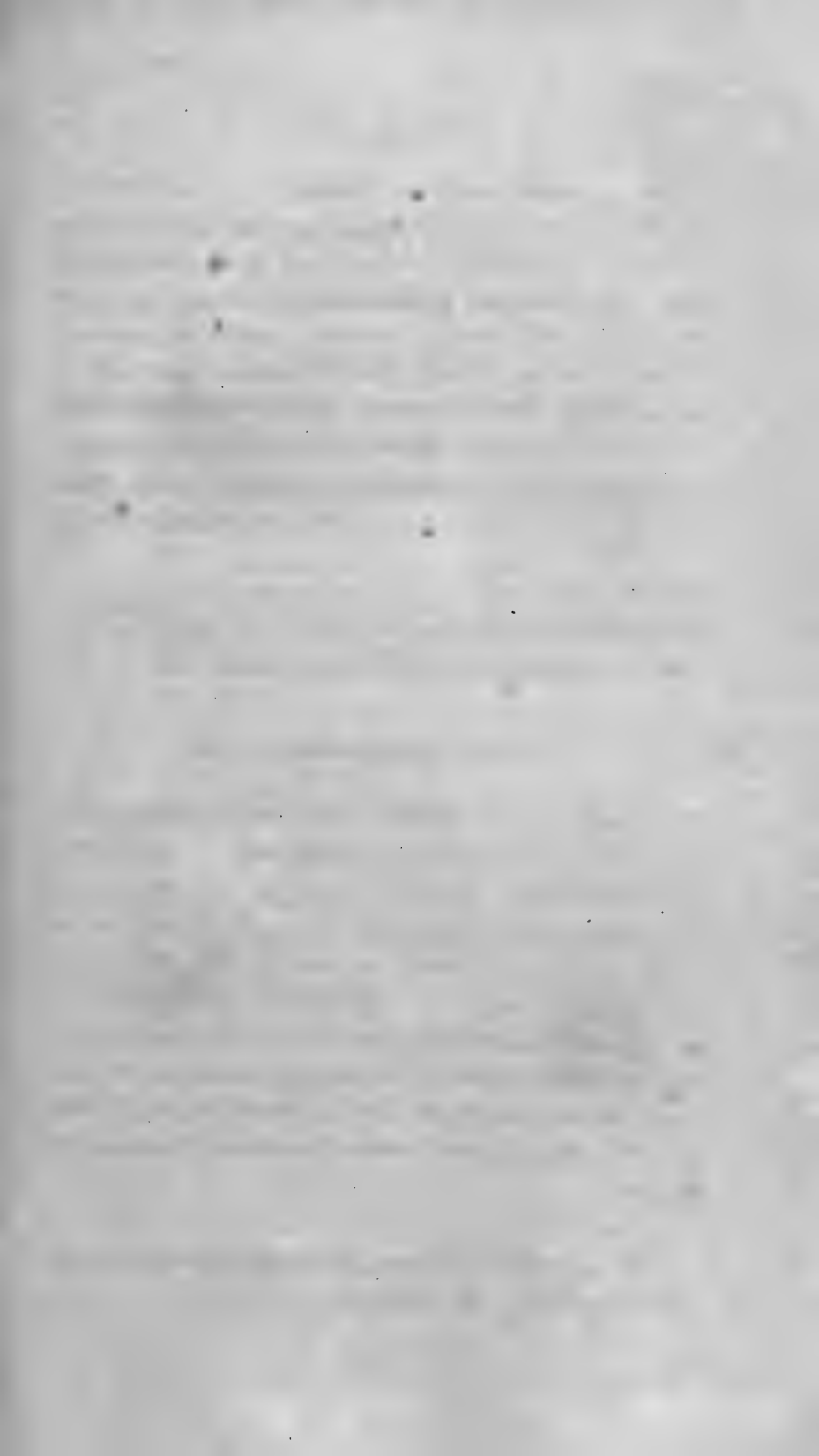
“ The shell is thick and strong, of the size of a cherry; shape obtusely pyramidal, or not quite tapering to a point.

PLATE CLV.

“ The base is very concave, with some circular furrows ; the mouth roundish and capacious, *within* fine mother-of-pearl ; the *outer lip* smooth and even ; the inner or *pillar lip* has two jags or slight teeth, and two furrows crossing it transversely ; from hence it widens, runs oblique, and forms a spacious cavity, at the bottom of which lies the *umbilicus*, deep, cylindric, and so hollow as to admit the head of a large pin. All this part is of a dark ash, greatly variegated with blackish lines, or streaks, which run lengthways and across ; but the beginning of the umbilicus is generally pearly, and of a fine light greenish colour.

“ The body and turban have five bellied, or swelled wreaths, or whorls, separated by a very depressed line ; they are circularly striated, but faintly, and the colours are exactly the same as at the base.”





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PLATE CLVI.

MUREX ANGULATUS.

ANGULATED MUREX.

GENERIC CHARACTER.

Animal Limax. Shell spiral, rough : aperture ending in a straight, and somewhat produced gutter or canaliculation.

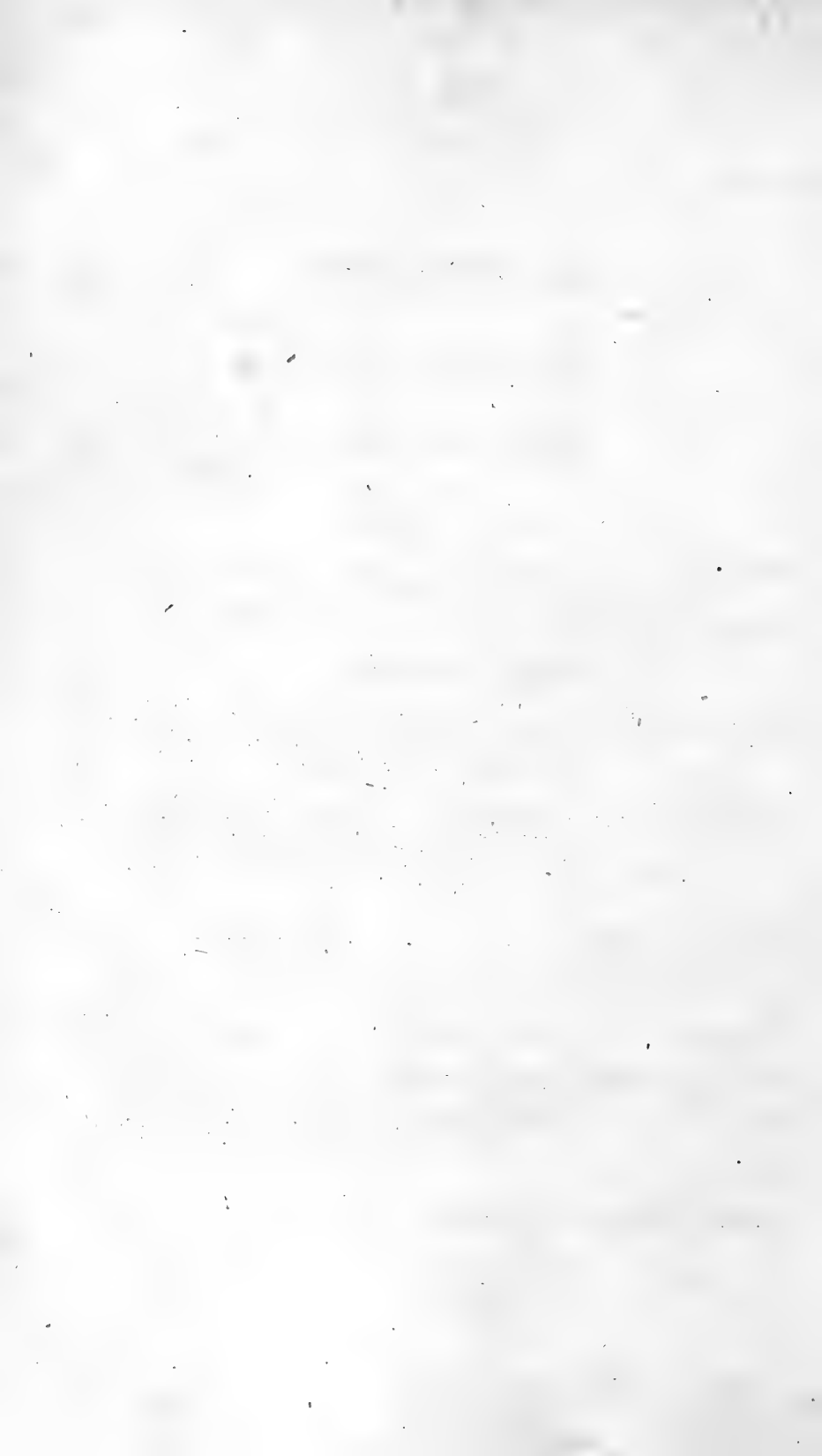
SPECIFIC CHARACTER.

Shell oblong, whorls depressed, angulated, transversely striated, sulcated longitudinally ; aperture toothless.

MUREX ANGULATUS: testa oblonga : anfractibus depressis angulatis transversim striatis longitudinaliter sulcatis, apertura edentula.

A neat shell of interesting figure, that has been found, though rarely, on the English coasts. The specimens figured in our Plate were discovered on the sands at Brighton by Mr. Munn, who kindly communicated them to us. We have received it since from the coast of Weymouth.

This is doubtless an undescribed species.





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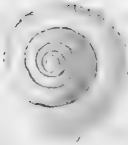
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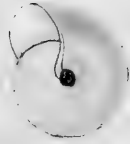


PLATE CLVII.

FIG. I. I.

HELIX RUFESCENS.

REDDISH SNAIL.

GENERIC CHARACTER.

Animal Limax. Shell univalve, spiral, diaphanous, fragile. Aperture semilunar, or roundish.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell umbilicated, and streaked with pale reddish.

HELIX RUFESCENS: testa umbilicata, et striata dilute rufescens.

Cochlea umbilicata, et striata dilute rufescens. **RUFESCENS** *Da Costa.*
Brit. conch. p. 80. sp. 43.

Cochlea dilute rufescens, aut subalbida, sinu ad umbilicum exiguo, circinata. *List. H. An. Angl. p. 125. tit. 12. tab. 2. fig. 12.*

Cochlea terrestris depressa & umbilicata mellei coloris, labio candido repando, sinu ad umbilicum exiguo circinato.
Gualt. 1. Conch. tab. 3. fig. N

PLATE CLVII.

This kind may be readily distinguished by a slight carene, or ridge that surrounds the first or largest wreath of the shell. The colour, as the name implies, is reddish when the animal is alive ; when dead, whitish and discoloured : the carene is usually of a lighter colour than the rest of the shell.

Da Costa speaks of it as being not very common ; observing at the same time that he had received it from Cornwall and Hampshire. It is pretty frequent, he adds, about Leeswood in Flintshire, between the bark and wood of trees thrown down, and decayed, especially alders. Dr. Lister found it in plenty about Tadcaster, in the woods and hedges of marshy and shady meadows, and in like places throughout Craven, in Yorkshire : he observes there is a variety, (if not a different species,) in Kent, somewhat larger, lighter coloured, and with a smaller umbilicus. Mr. Morton found it at Morsley, and the other, Northamptonshire woods. To this we should add, that from our own observation, the species appears to be more frequent in many parts of the country than our author imagined. It delights chiefly in marshy places. Occasionally we have found it on aquatic plants in Battersea meadows.

FIG. II.

HELIX PALLIDA.

PALE SNAIL.

SPECIFIC CHARACTER.

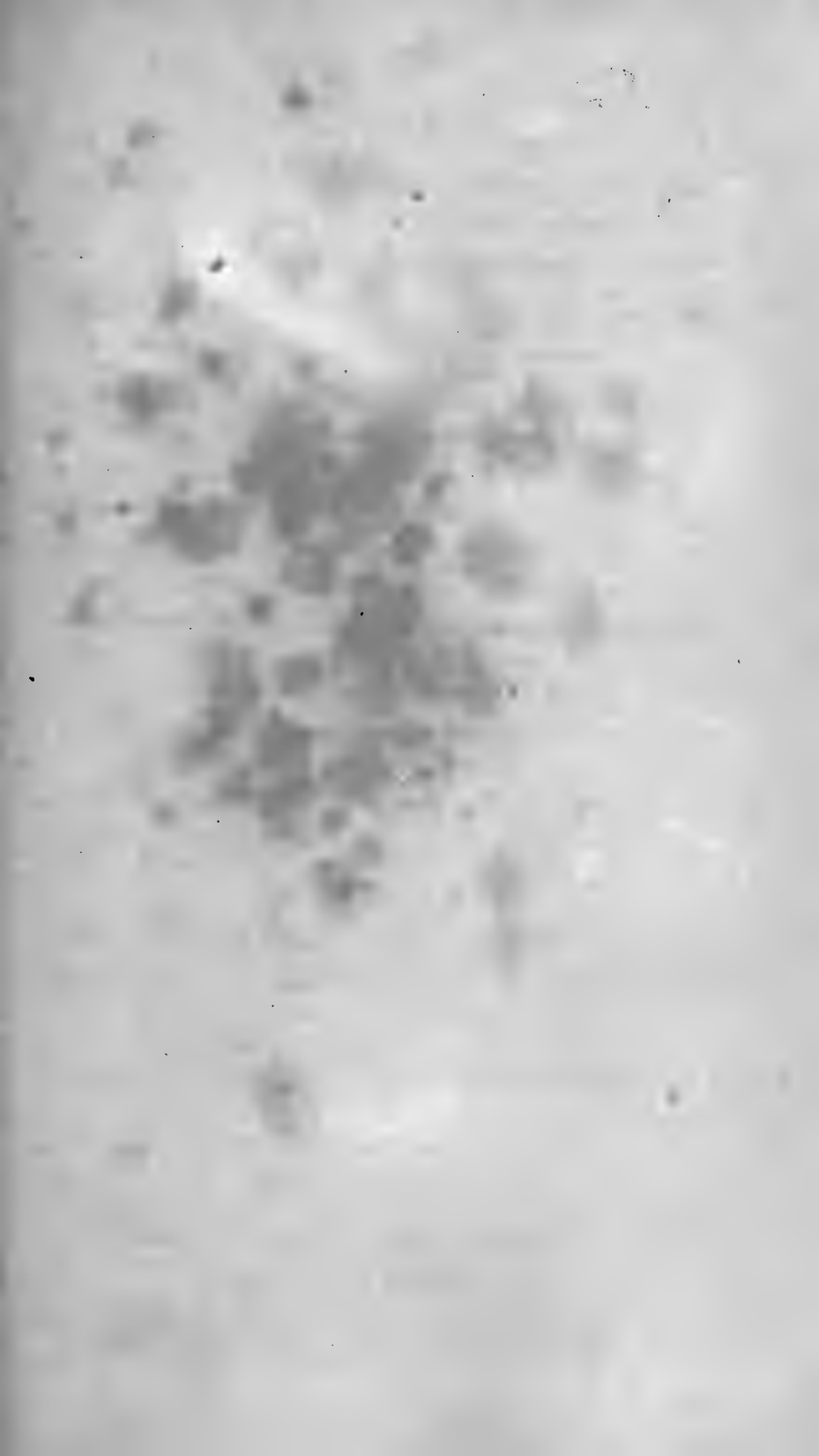
Shell inflated, slightly umbilicated, fragile, pale : whorls six, convex ; aperture semilunar.

PLATE CLVII.

HELIX PALLIDA: testa inflata subumbilicata fragili pallida: anfractibus sex convexis, apertura semilunari.

Rather a local species, found in some parts of Kent: we have also seen it on the great roman wall of Caerwent, Monmouthshire.





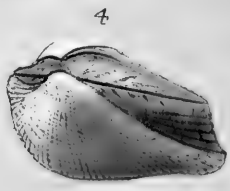
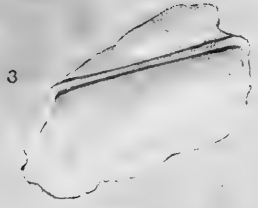
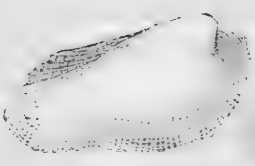


PLATE CLVIII.

FIG. I. II.

ARCA NOAE.

NOAH'S ARK SHELL.

GENERIC CHARACTER.

Shell bivalve, valves equal: teeth at the hinge numerous, acute, and inserted between each other.

SPECIFIC CHARACTER.

Shell oblong, striated, at the apex emarginated: beaks very remote: margin gaping.

ARCA NOAE: testa oblonga striata apice emarginata, natibus remotissimis, margine hiante. *Linn. Gmel. Syst. Nat. T. 1. p. 6. p. 3306. sp. 2.*

Musculus Matthioli. *List. t. 368.*

Concha rhomboides, *Rondel. 99. 2. p. 27.*

Bonanu. recr. 2. f. 32.

Miss Pocock, whose liberal communication of British shells collected by herself, we have had such frequent occasion to mention in the progress of this publication, has obliged us with a small specimen of the Arca Noae found on the shores of Cornwall; the smallest shell figured in the upper part of our Plate.

PLATE CLVIII.

It has been presumed before that this shell was a native of our coasts: that Borlase had met with it; and that the *Arca tortuosa* * of Pennant, (which he says inhabits Cornwall, and has been found near Weymouth,) was no other than the *Arca Noae* of Linnæus. But this still remained a matter of much uncertainty among Conchologists, and with ourselves, till we received the specimen from the lady above-mentioned, which proves beyond dispute that it is a British shell, and perfectly similar to those of the same species found in the Mediterranean sea. This being a young shell, is not of course covered with the rude brown epidermis, as in the old or full grown Mediterranean shell, figured with it, in order to elucidate the species with more precision. Since the publication of the Plate we have also had the satisfaction of receiving another specimen of the shell nearly thrice the size of the small one figured, in a parcel of shells collected on Slapton sands, Devonshire, last summer.

At the same time that Miss Pocock discovered this small specimen of *Arca Noae*, several worn valves of an *Arca*, confessedly of a different kind, occurred likewise. Both the internal and external view of these are represented in the lower part of the plate, fig. 3, together with that of the perfect specimen of a foreign shell, fig. 4, which may prove hereafter to be of the same species. The mutilated valves we have little hesitation in believing it to be precisely those of the shell figured by Lister, *t.* 367. *n.* 207. *Balanus Bellonij tenuiter striata*; though from their imperfect condition it might be improper to offer any positive opinion concerning them. At a future period we may be enabled, by receiving better specimens, to ascertain this point, and as it may then appear, our conjectures were not unfounded.

* No. 57, Penn. Brit. Zool.

PLATE CLVIII.

We should further add, that this species, though observed by Lister, has been overlooked by Linnæus; and that from a ms. note in one of the copies of Lister's work, in the library of Sir Joseph Banks, we find the late Dr. Solander intended to have named it specifically *fusca*, had he lived to publish his new arrangement of Conchology.







PLATE CLIX.

TURBO RETICULATUS.

RETICULATED TURBO.

GENERIC CHARACTER.

Animal Limax. Univalve, spiral, or of a taper form. Aperture somewhat compressed, orbicular, entire.

SPECIFIC CHARACTER.

Shell tapering, reticulated with granules, testaceous, whorl reversed; aperture straitened.

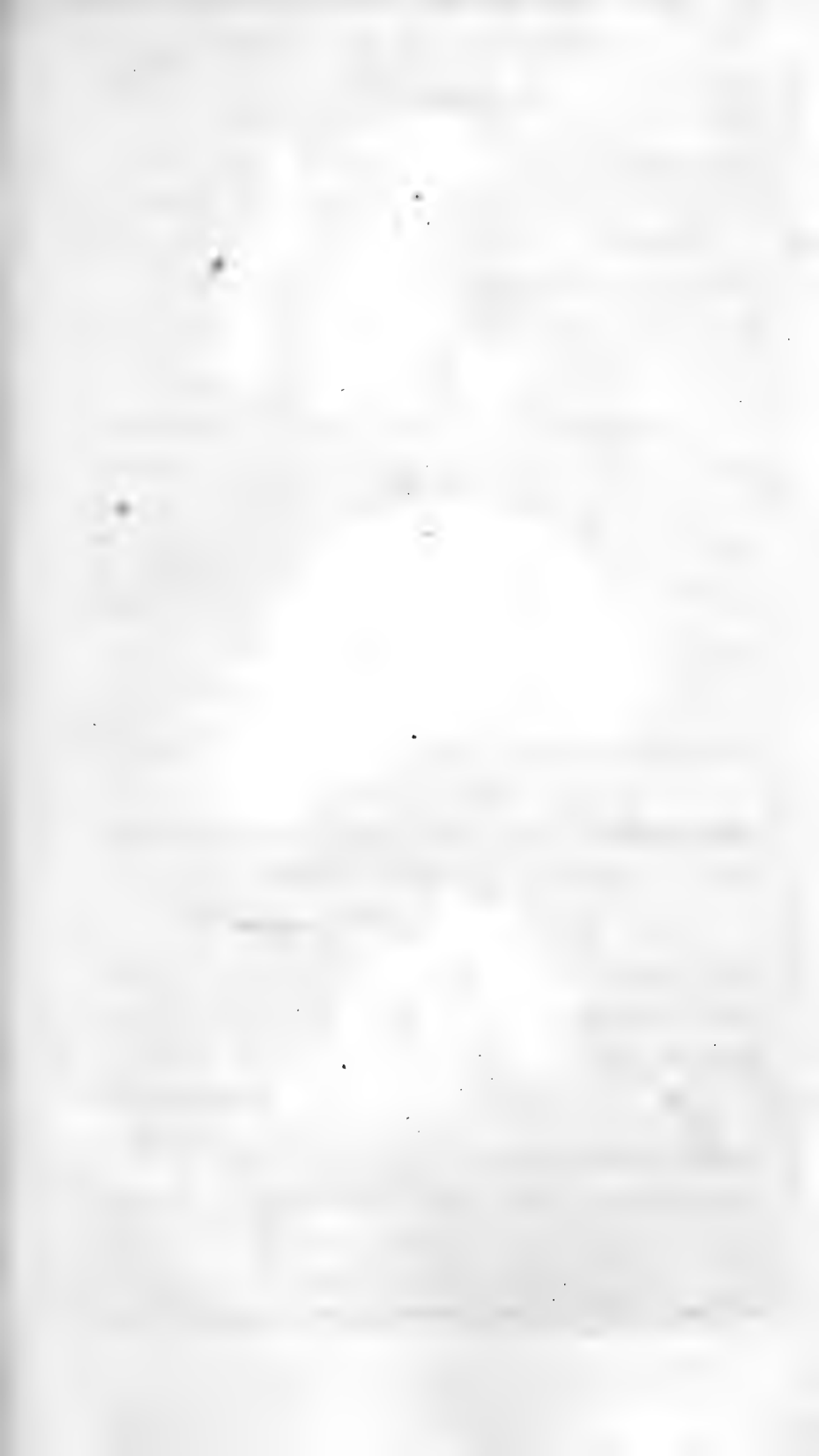
TURBO RETICULATUS; testa turrita reticulata granulata testacea, anfractibus coarctata.

This is a remarkably neat, or rather elegant shell, and equally distinguished for its rarity. It was found in the sands on the coast of Cornwall, by Miss Pocock, to whose polite attention we are exclusively indebted for the specimen now figured.

That this small species of Turbo is undescribed either as a British or a foreign shell, we have little reason to dispute, unless the following, described by Mr. Walker, should prove to be the same: "Turbo, Turritus perversus novem anfractibus punctatis apertura coarctata; the reversed taper Turbo of nine dotted whorls and straitened aperture.

PLATE CLIX.

A shell found at Sandwich."—The description does not strictly correspond with our shell, the figure is yet more remote. Some degree of ambiguity arises from this particular circumstance; in our shell the wreaths are uniformly lineated spirally, with three prominent rows of tubercles, or more correctly speaking, granulations, except on the first wreath, where they are more numerous, and the intermediate series on every wreath, consists of smaller granulations than those on either side of it. The term *punctatis*, on the contrary, which Mr. Walker has adopted, must rather imply a dot depressed: in the engraving also, by which his description is elucidated, the dots appear to be disposed in three distinct series upon each wreath, as the granulations are in the shell before us, but each dot is apparently depressed, and situated in the center of a quadrangular compartment: at the same time also it must be remarked, that the intermediate series of these dots on every wreath, are of an equal magnitude with the others. The aperture, whatever might be the shell designed, is miserably expressed, as are indeed the figures both of the natural size, and magnified. We suspect upon the whole, they are intended for our shell, and were it not for the objections stated, should insert a reference to his figure, plate 3. No. 48. as a synonym.



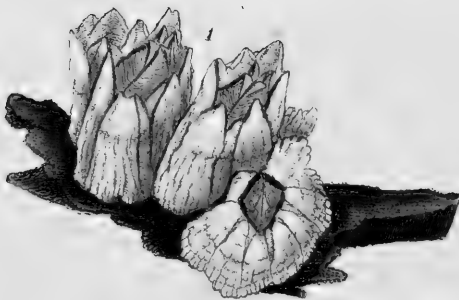
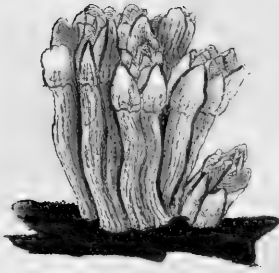


PLATE CLX.

LEPAS BOREALIS.

NORTHERN ACORN SHELL.

GENERIC CHARACTER.

Animal Triton. Shell affixed at the base; multivalve; the valves unequal.

SPECIFIC CHARACTER.

Shell erect, subconic, aperture quadrangular, operculum or lid acute, and striated transversely.

LEPAS BOREALIS; testa erecta subconica, apertura quadrangulari operculis acutis transversim striatis.

A few small clusters, with some single specimens of this curious species of *Lepas*, were discovered about three years since, attached to the bottom of the Warspight ship of war, when taken into dock to be repaired, after lying in the harbour of Portsmouth for a great length of time. Mr. James Hay, of Portsmouth, has since found two or three shells of the same kind, by dredging in Portsmouth harbour; so that though probably not indigenous, it has now become a naturalised species.

This was first communicated by J. Laskey, Esq. We have since received it from Newfoundland, affixed to the valve of

PLATE CLX.

a northern *ostrea*; and learning that it is undoubtedly a native of the north seas, we venture to assign it the specific name of *borealis*.—The clusters of these shells, when pressed together, (which rarely happens) take an elongated form, as is expressed in the upper figure.—We are certainly to consider this as a rare species.



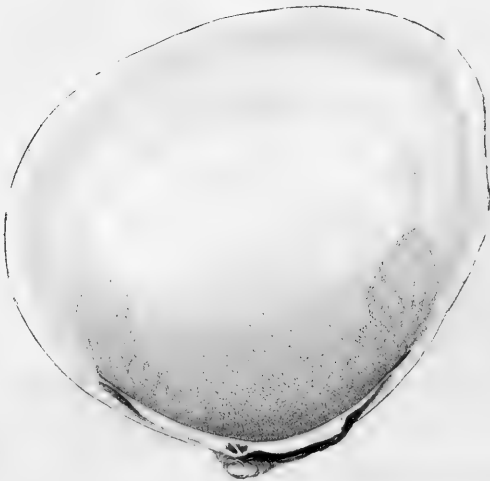


PLATE CLXI.

MACTRA RADIATA.

RADIATED MACTRA.

GENERIC CHARACTER.

Animal a Tethys. Shell bivalve, sides unequal. Middle tooth complicated, with a little groove on each side; lateral tooth remote.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell thin, fragile, somewhat triangular, compressed, whitish, and finely striated with testaceous rays.

MACTRA RADIATA: testa tenui fragili subtriangulari compressa albida subtilissime striata testaceo radiata.

Several valves of this shell were found upon Langston beach, near Portsmouth, after a severe storm that happened in the year 1800, by J. Laskey, Esq. of Crediton; from whom we received the specimens figured in the annexed plate.

This is a thin, brittle shell, of a large size; colour sordid white, tinged with reddish, and faintly marked with rays of a testaceous colour, beneath a brown filmy epidermis.



The following is a list of the books in the collection of the
Library of the University of Toronto, which were
purchased by the University of Toronto, and are
now in the possession of the University of Toronto.

The books in this collection were purchased by the
University of Toronto, and are now in the possession
of the University of Toronto.

The books in this collection were purchased by the
University of Toronto, and are now in the possession
of the University of Toronto.



PLATE CLXII.

DENTALIUM OCTANGULATUM.

EIGHT-RIDGED. TOOTH-SHELL.

GENERIC CHARACTER.

Animal a Terebella. Shell univalve, tubular, straight or slightly curved, with an undivided cavity open at both ends.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell white, somewhat curved, with eight ribs or angles, and three intermediate striæ.

DENTALIUM OCTANGULATUM: testa alba subarcuata octangulata: interstitius tri-striatis.

DENTALIUM STRIATULUM: *Gmel. Syst. Nat. 3738. sp. 13?*

For the discovery of this elegantly striated tooth-shell, as a native of the British coasts, we have once again to acknowledge our obligation to a lady, mentioned on other similar occasions in the progress of this work, Miss Pocock; several shells of this kind were found by her on the sandy coasts of Cornwall, near Lelant, in the year 1802.

PLATE CLXII.

It remains to express some little doubt, whether every circumstance will allow us to consider this as an hitherto undescribed species; as a British shell we can have no hesitation in saying it has not been mentioned by any author. We were rather inclined at first to think our shell could be no other than a variety of the *Dentalium striatulum* of Gmelin, which is described as a native of the Mediterranean and Sicilian seas. The synonyms given by Gmelin to that species, we found however to be less expressive of our shell than his description; Lister's shell, to which he refers, *t.* 547. *f.* 1. *b.* is much larger than our shell, as is likewise that of Martini, quoted with it; both are described to be of a fine green colour, with the tip only white, but it has uniformly eight distinct ribs or angles, as in our shell, which is a much more important characteristic of a species, than the mere difference of colour.—There is another shell, figured by *Martini*, *pl.* 1. *f.* 4. *B.* that seems to approach much nearer to our shell, and the colour is white, but as in *D. elephantium*, this has ten ribs instead of eight; it is the *Dentalium aprinum* of Gmelin.—As our shell, upon the whole, does not strictly accord with those species noticed, nor any others which we are acquainted with, a new name and character will tend at least to obviate confusion. Of *Dentalium striatulum* it may prove to be a variety, but that is doubtful; and there is scarcely any reason to dispute its being undescribed, unless it be of that species.

SECRET

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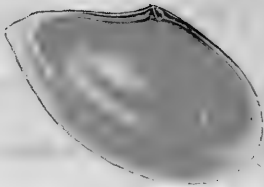
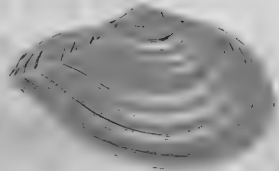
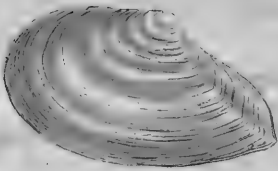


PLATE CLXIII.

TELLINA DEPRESSA.

DEPRESSED TELLEN.

GENERIC CHARACTER.

The hinge usually furnished with three teeth. Shell generally sloping on one side.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell inæquilateral, depressed, and very minutely striated.

TELLINA DEPRESSA : testa inæquilatera depressa minutissime striata.

Gmel. Linn. Syst. p. 3238. sp. 55.

Gualt. test. t. 88. f. L.

Tellina Squalida. Soland Mus. Port.—Pult. Cat. Dors. p. 29.

In the summer of the year 1800, we first discovered this shell, laying in plenty upon the sands on the south east side of Tenby, Pembrokeshire; where they had been apparently thrown up by a violent sea that had raged with considerable fury two or three hours before. This shell we conceived to be an undescribed British shell, but have since found that it had been observed on the north shore of Poole, at Weymouth, sparingly, by Dr. Pultney, and described by him in

PLATE CLXIII.

Hutchin's History of Dorsetshire, under the specific name of *Squalida*. This conchologist admit it to be *Tellina squalida* of Solander, *Mus. Port.* and *Tellina depressa* of Gmelin.

The only synonym given by Gmelin for his *T. depressa*, (whose *habitat* he is even unacquainted with,) is a reference to Gualtieri, f. H. I. L. The two first are small, and perhaps not of the same species, those represented at letter L and M, we believe to be the true shell of which we offer a figure as the *Tellina depressa* of Gmelin; Gualtieri thus describes his shell: " *Tellina inæquilatera satis depressa, minutissime striata, vel candida, vel purpurascens, vel subrosea.*"

The figures in the annexed plate represent the natural size of our largest specimens: the colours are variable, more or less, of a fine pale orange, yellow, and tinged with rosy. It is certainly rare.





PLATE CLXIV.

LEPAS DILATA.

DILATED LEPAS.

GENERIC CHARACTER.

Animal Triton. Shell affixed at the base: multivalve; the valves unequal.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell compressed, five valved, thin, dorsal valve dilated at the base with an acute angle; and seated on a peduncle.

LEPAS DILATA: testa compressa quinquevalvi tenui, valvula dorsali basi dilata angulo acuto, pedunculo insidente.

LEPAS FASCICULARIS: testa quinquevalvi lævi corpus tegente, valvula dorsali basi dilata angulo acuto prominente, stipite nudo. *Ellis. Zooph. pl. 15. f. 6. p. 167.*

LEPAS SIGILLATUM, *Mus. Portl?*

The first, and only account we have of this kind of Lepas, is that given by the late Mr. Ellis in his Natural History of Zoophytes. In addition to the character he assigns to this shell, quoted as a synonym, this writer acquaints us only that it is "from St. George's Channel." We have never met with it either on the coast of that

PLATE CLXIV.

channel, or any other, nor have we received it from any of our friends, at the same time that we have no reason to distrust the information of that author, and only infer from the attention we have by chance bestowed particularly to the marine productions of that sea, that it must be rare.

A specimen of this shell, one which we are inclined to think, on pretty good authority, to be the same, or one of them at least, that was sent by the late Mr. Ellis to the Dutchess of Portland, is at this time in our Cabinet; the late Dr. Fordyce became first possessed of this specimen, and at his death we obtained it, under the title of *Lepas sigillatum* of Solander. Unlike *Lepas anatifera*, or *anserifera*, the valves of this shell are uncommonly thin, brittle, in a certain degree corneous, with the largest lateral valves rather crumpled in the usual course of the striæ, and marked transversely with obsolete rays: the shell is likewise covered with a fine pale brown skin, or epidermis: is larger than *anatifera*, and has a singular acute prominent dilation at the base of the back valve.





PLATE CLXV.

VOLUTA LÆVIS.

SMOOTH VOLUTE.

GENERIC CHARACTER.

Animal a Limax. Shell with one cell, spiral; aperture without a tail or beak, and somewhat effuse. Columella plaited; generally without lips or umbilicus.

SPECIFIC CHARACTER.

Shell rather ovate, very smooth; spire obtuse; two plaits on the pillar lip; lip gibbous, and slightly denticulated.

VOLUTA LÆVIS: testa obovata lævissima, spira obtusa, columella biplicata, labro gibbo subdenticulato.

VOLUTA EDENTULA. *Mus. Portl.*

As a British species, this extremely rare little shell was first noticed on the coast of Weymouth, being dredged up in deep water by some fishermen, and consigned to the cabinet of the late Dutchess of Portland. The specimens we have figured, are two of those originally in the possession of her Grace.

PLATE CLXV.

Dr. Solander, who, it is well known to the scientific conchologist, intended to have published a catalogue of that Museum, it appears, on a reference to his posthumous papers, called this species *edentula* ; a name which, without detracting from the merit of that able naturalist, it must be allowed is by no means applicable. So far from its being destitute of teeth, the series of denticulations are sufficiently visible on the *columella* ; those on the lip are yet more prominent, and can by no means justify the appellation of *edentula*.

Voluta Lævis, for such we have presumed to name this shell, is remarkably glossy, free in a perfect degree from any kind of *striæ*, whitish, and most delicately tinged with pale blushes of red, and yellowish or straw colour.—It has much the habit of a *cypræa*, and might without any impropriety be arranged under that genus.





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PLATE CLXVI.

FIG. I.

LEPAS SCALPELLUM.

GENERIC CHARACTER.

Animal Triton. Shell affixed at the base, multivalve; the valves unequal.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell compressed. Valves thirteen, smooth, and seated on a scaly peduncle.

LEPAS SCALPELLUM: testa compressa tredecim valvi læviuscula pedunculo squamosa insidente. *Linn. Fn. Suec.* 2121.—*Gmel. Syst. Nat.* 3210. *Sp.* 11. *Ellis Phil. Trans.* 1758. t. 34. f. 4. page 849.

Lepas Scalpellum, a very rare and curious species, has been found attached to some sea weeds, dredged up on the coast of Weymouth; a specimen of it affixed to the branches of a coralline that was dis-

PLATE CLXVI.

covered here, after passing through the collections of the late Dutchess of Portland, and Dr. Fordyce, is at present in our possession.

There are several interesting remarks upon this singular genus in a paper written by the late Mr. John Ellis; which is inserted in the transactions of the Royal Society, for the year 1758: the letter is addressed to Mr. Isaac Romilly, a member of the society, and contains in particular, the following observation upon *Lepas Scalpellum*. "Fig. 2," he says, referring to his illustrative plate, "is the next animal of this class: this is not yet described. I found several of them sticking to the warted Norway Sea Fan, which Dr. Pantopidan, the Bishop of North Bergen, sent you: from its appearance, I have called it the Norway Sea Fan Penknife. The stem of this is covered with little testaceous scales. The upper part of the animal is enclosed in thirteen distinct shells, six on each side, besides the hinge-shell, which is common to both sides: these are connected together by a membrane that lines the whole inside.

Gmelin speaks of it as a native of the Norway seas.

FIG. II.

LEPAS ANSERIFERA.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell compressed, quinquevalve, striated, and seated on a peduncle.

LEPAS ANSERIFERA: testa compressa quinquevalvi, striata, pedunculo insidente. *Gmel. Linn. Syst. p. 3210.*
Sp. 12.

PLATE CLXVI.

Chiefly distinguished from *Lepas Anatifera*, described at the commencement of this work, by having the valves striated with elevated lines; the valves in the former being perfectly smooth. *Lepas anatifera* has been heretofore considered as a native of the American and Atlantic seas; but that it has been likewise found upon the English coast, there is no reason to dispute, the shell with the living animal has been dredged up at Weymouth, as well as the preceding species. We have the valves of this shell likewise in the collection of *Da Costa*, as an English species.





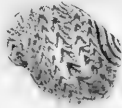


PLATE CLXVII.

NERITA INTRICATA.

INTRICATE-LINED NERIT.

GENERIC CHARACTER.

Animal Limax. Shell univalve, spiral, gibbous, flattish beneath : aperture semiorbicular, or semilunar ; pillar lip, transversely truncated, and flattish.

SPECIFIC CHARACTER.

Shell smooth : spire somewhat pointed : umbilicus large, nearly heart shaped, with a small carinated lobe.

NERITA INTRICATA : testa lævi : spira submucronata, umbilico magno subcordato ; lobo parvo carinato.

NERITA CANRENA *var?*

That this shell is not the young of *Nerita Glaucina*, as some have suspected, is evident from the depth and structure of the umbilicus, which in the former is almost completely closed by the pillar lip. It is rather allied to *Nerita Canrena*, which has a gibbous bifid umbilicus ; and may possibly indeed prove to be nothing more than a va-

PLATE CLXVII.

riety of that shell. The varieties of *N. Canrena*, enumerated by Gmelin, amount to twenty-five, neither of which accords exactly with our shell, and that writer describes them only as natives of India, Africa, and America, but it is not unlikely it may be also an European shell.

Our specimens are from Weymouth.





PLATE CLXVIII.

FIG. I.

HELIX PUTRIS.

MUD SNAIL.

GENERIC CHARACTER.

Aperture of the mouth contracted and lunulated.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell imperforate, obtuse, ovate, yellow: aperture ovate.

HELIX PUTRIS: testa imperforata, ovata obtusa flava: apertura,

ovata. *Linn. Fn. Suec.* 2189.

Gault. t. 5. f. H.

Chem. Conch. 9. t. 135. f. 1248.

List. Conch. t. 123. f. 23 ?

PLATE CLXVIII.

Helix (succinea) testa oblonga fulva diaphana, anfractibus tribus, apertura ovata. Mull. Zool. dan. prodr. 2912.

Turbo subflavus pellucidus imperforata, testa prætenui fragili, trium spirarum. TRIANFRACTUS, THREE SPIRED. Da Costa, p. 92. sp. 51. Pl. 5. fig. 13.

The two Linnæan species of fresh water helices, *putris*, and *limosa* are so closely allied, that authors have, not unfrequently, confounded one with the other. Dr. Pultney considers our shell with some doubt, as the *Helix limosa* of Linnæus, in which particular we think, he must be mistaken. The figure given by Gualtieri is the only one referred to by Linnæus, in the *Systema Naturæ*, for *Putris*, and that is most exactly the same as our shell, although the design is taken from a minute specimen. Pennant's *Helix Putris*, t. 86. f. 137. is apparently the *H. limosa*. Both the species in question are well figured by Chemnitz, on the same plate.

This shell is very common in ditches, ponds, and other watery places, and especially in those overgrown with weeds.

FIG. II.

HELIX BULLAOIDES.

SPECIFIC CHARACTER.

Shell ovate, smooth, glossy, horny, brittle, whorls reversed, spire short.

PLATE CLXVIII.

HELIX BULLAOIDES: testa ovata lævi nitida cornea fragili, an-
fractibus contrariis, spira brevi.

Received from Lincolnshire by the late Duchess of Portland, from
whose collection the specimen at this time in our possession was
obtained.







PLATE CLXIX.

FIG. I.

MUREX BAMFFIUS.

BAMFF WHITE MUREX.

GENERIC CHARACTER.

Spiral, rough. The aperture ending in a strait, and somewhat produced gutter, or canaliculation.

SPECIFIC CHARACTER.

Shell ventricose, white, ribbed longitudinally, with acute plaits.

MUREX BAMFFIUS: testa ventricosa alba costis longitudinalibus acutis plicatis.

A nondescript species, discovered by Mr. Cordiner, on the coast of Bamffshire, Scotland; and communicated by him to the late Duchess of Portland. The smallest figure is only of the young shell, we have it of the exact size of the largest figure, numbered 1, in the annexed plate. Uncommonly rare.

PLATE CLXIX.

FIG. II.

MUREX EMARGINATUS.

NOTCHED-LIP PALE MUREX.

SPECIFIC CHARACTER.

Shell somewhat elongated, pale, with a white band: wreaths striated, with longitudinal undulations: on the posterior part of the lip a single notch.

MUREX EMARGINATUS: testa sub-elongata pallida fusca alba: anfractibus striatis longitudinaliter undulatis labio postice emarginato.

The notch in the posterior part of the lip of this shell is singular. By this mark the species may be immediately distinguished in a collection of British Shells, being perhaps the only one of the kind found on our coast. This notch, it should however be added, is to be considered rather as the distinctive feature of a natural family of shells, than as the character of the individual species now before us, the very same appearance being observable on several of the extra-european shells of the Murex Genus.

Our specimens of this scarce, and, as we believe, undescribed species, were found on the western coast.



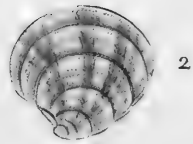
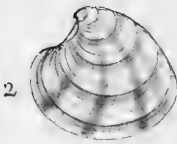
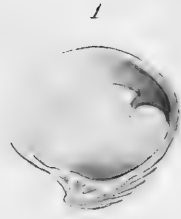
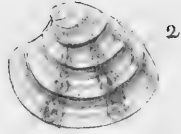


PLATE CLXX.

VENUS FASCIATA.

FASCIATED VENUS SHELL.

GENERIC CHARACTER.

Hinge furnished, with three teeth, two near each other, the third divergent from the beaks.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell somewhat heart-shaped, white, fasciated with brown: ridges large, broad, depressed, of regular thickness at both extremities.

VENUS FASCIATA: testa subcordata alba fusco-fasciata sulcis crassis latis depressis regularibus continuis.

Pectunculus parvus, planior, crassus dense fasciatus. Fasciated: *Da Costa, p. 188. sp. 25. Tab. 13. fig. 3.*

This elegant shell occurs very rarely on the coasts of this country; we have observed it sparingly distributed on the sands near Tenby, in Pembrokeshire. Da Costa says, he was informed that it is found near Bangor, among the rocks from Bangor Ferry to Anglesea, in

PLATE CLXX.

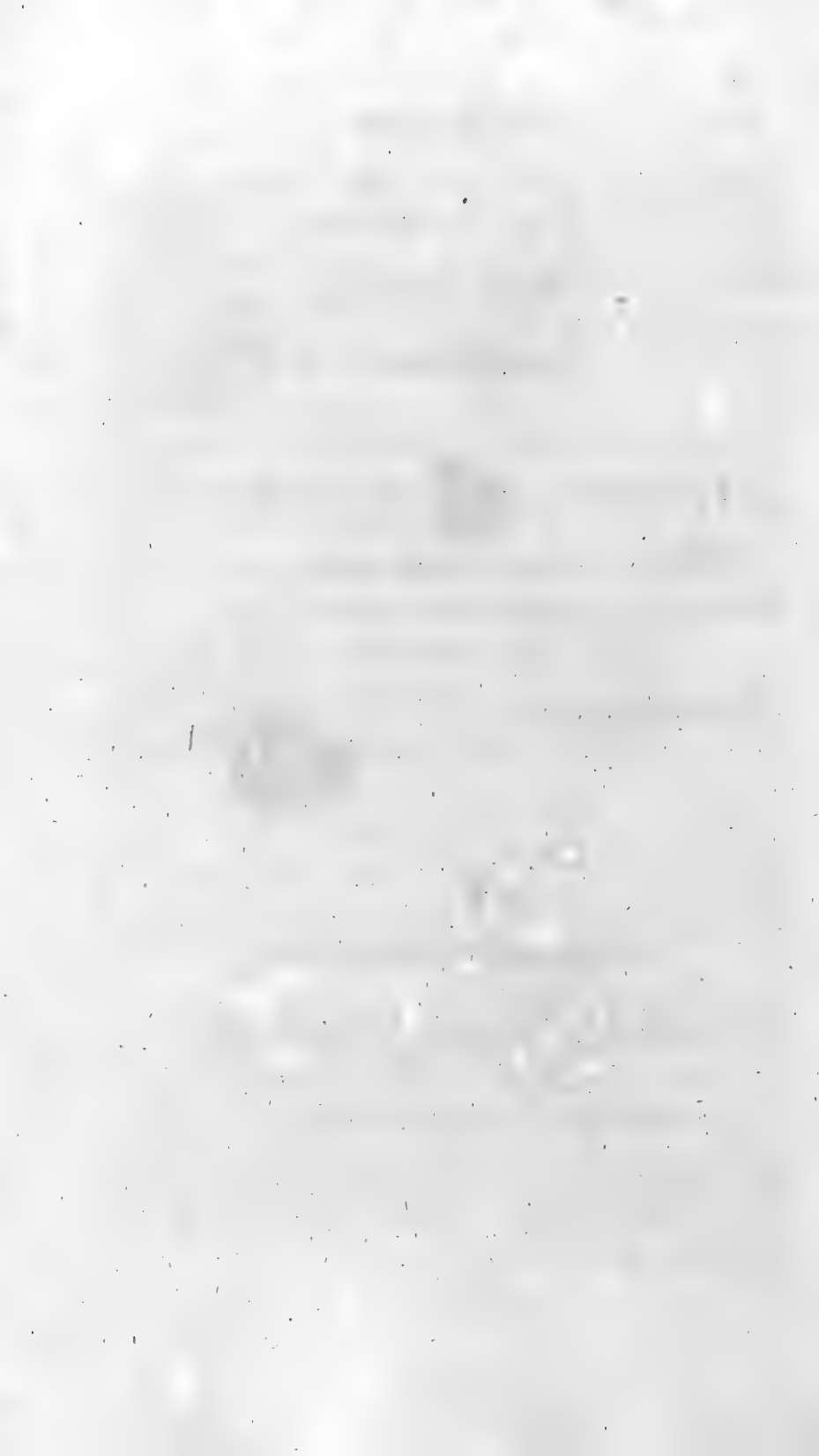
Wales, by which he could only mean that the species is an inhabitant of the Menai, the arm of Beaumaris bay, communicating with the St. George's channel which divides Caernarvonshire from the island of Anglesea. The same writer notes it likewise from Cornwall. Dr. Pultney describes it as a scarce shell, which he had found at Weymouth.

Having Da Costa's specimens of this shell, and also that of his *Pectunculus Vetula* before us, we should not refrain from observing, that the opinion of Dr. Pultney respecting these shells is incorrect; they are not merely transitions in growth, or varieties of the same kind, the difference between the two is obvious, and fully authorize us to consider them as distinct species. It should be understood in advancing this remark, that the shell which Da Costa figures and describes, for *Pectunculus Vetula* is clearly the Linnæan *Venus Paphia*, a shell well known as a native of the West Indies, and never found to our knowledge in any of the European seas. Da Costa was aware, after his work had been published, that he had erroneously confounded the variety of *Fasciatus*, Fig. 1, 1, in our Plate, with the West Indian shell; he had conceived the latter to be the same shell in a more perfect condition, and caused it to be engraved accordingly.

Dr. Pultney, in the passage wherein these shells of Da Costa are noticed (in his catalogue of the shells found on the coast of Dorsetshire,) describes the *Pectunculus Fasciatus* as nothing more than a variety of *Venus Paphia* (*Linn.*) in which respect he is assuredly mistaken. One of the most striking characters, by means of which the two species are to be discriminated, in our opinion, may be observed in the structure of the concentric ridges on the outside of the shell: these in the true Linnæan *Paphia* are remarkably thick, and

PLATE CLXX.

prominent in the middle, but in approaching each extremity become suddenly obtuse, and are then continued in an attenuated ridge, particularly as they extend towards the front of the shell, and thus exactly corresponding with the definition of Linnæus, “*rugis incrassatis, pube rugis attenuatis.*” On the contrary, in our shell the ridges are nearly of an uniform thickness throughout, sloping gradually with the depression of the shell behind, and only terminating abruptly at the edge of the front, or fore part of the shell where the valves appear obtuse: the outline of the shell is also very different from *Venus Paphia*, the latter being more produced on each side than our *Venus Fasciata*.





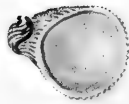


PLATE CLXXI.

PATELLA MILITARIS.

HOOKED LIMPET.

GENERIC CHARACTER.

Animal a Limax : shell univalve, sub-conic without spire.

SPECIFIC CHARACTER.

Shell entire, conic, pointed, striated, with the tip hooked, or recurved on one side.

PATELLA MILITARIS : testa integra conica acuminata striata, vertice hamoso lateraliter recurvo. *Linn. Mant.* 552.

List. Conch. 544.

Pult. Cat. p. 51.

When Linnæus described this shell in the Appendix to his *Mantissa Plantarum*, its native country was unknown to him. It is a Mediterranean species, and is sometimes, though rarely, met with on the British coast. We have it from Cornwall through the favour of Miss Pocock, and lately from Devonshire. Dr. Pultney acquaints us, that Mr. Bryer found this species on the sands near Weymouth Castle, Dorsetshire.

PLATE CLXXI.

Gmelin, in his edition of the *Systema Naturæ*, neglects to insert this species, for what reason we are at a loss to conceive. The specimens we possess of this rare shell, from the warmer parts of Europe, are larger than those found on our coast. In different specimens we observe that the striæ are liable to vary both in form and number, some shells appearing much more strongly reticulated than others.



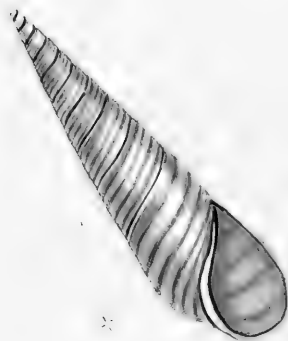


PLATE CLXXII.

TURBO SUBULATUS.

SUBULATE WREATH SHELL.

GENERIC CHARACTER.

Animal Limax. Shell univalve, spiral, or of a taper form.
Aperture somewhat compressed, orbicular, entire.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell subulate, tapering, pale flesh-colour, glossy, fasciated with
testaceous-brown. Aperture oval.

TURBO SUBULATUS: testa subulato-turrita pallide-carnea nitida
testaceo fasciata, apertura ovali.

STROMBIFORMIS parvus corneus glaber. Smooth. *Da Costa*,
Brit. conch. p. 117. sp. 69. Turbo lævis.
Smooth. *Penn. Brit. Zool. No. 115. tab. 79.*
upper figure ?

Our best specimens of this rare shell were dredged up on the
coast of Weymouth. Da Costa received it from Exmouth, in
Devonshire; he also adds, that three were found in the stomach
of a Five Finger, or common Stella Marina. The Turbo lævis

PLATE CLXXII.

of Pennant is from the coast of Anglesea, but it is altogether uncertain whether he means this species or not.—It is an elegant shell, of a taper form, thin, and semitransparent ; when very perfect, of a pale flesh-colour, spirally wreathed with whitish lines, and others of an ochreous or brownish hue ; the stripes are not uniformly disposed alike in all specimens. Da Costa thinks the species may be well distinguished by the spiral white lines.

The smallest figures in the plate denote the natural size of this shell.





PLATE CLXXIII.

TURBO MAMMILLATUS.

MAMMILLATED TURBO.

GENERIC CHARACTER.

Animal Limax: shell univalve, spiral, or of a taper form. Aperture somewhat compressed, orbicular, entire.

SPECIFIC CHARACTER.

Shell imperforate, subovate, whorls striated with raised dots, and slightly angulated by a few of the striæ, the dots of which are larger.

TURBO MAMMILLATUS: testa imperforata subovata anfractibus striatis punctis eminentibus striis aliquot majoribus subangulatus.

This remarkable shell is introduced among the British species of the Turbo genus, only on the authority of a posthumous memorandum in the hand writing of Da Costa, which we find in the collection of that Conchologist affixed to one of the specimens figured in the annexed Plate. From this it appears the shell had been picked up by Mr. Platt on the Scilly rocks, at the western extremity of Cornwall, and communicated by him to Da Costa.

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

PHYSICS 341

LECTURE 10

The first part of the lecture discusses the properties of the harmonic oscillator, including the energy levels and the wave functions. The second part discusses the properties of the hydrogen atom, including the energy levels and the wave functions.

The third part of the lecture discusses the properties of the harmonic oscillator in the presence of a magnetic field. The fourth part discusses the properties of the hydrogen atom in the presence of a magnetic field.

The fifth part of the lecture discusses the properties of the harmonic oscillator in the presence of a magnetic field and a harmonic potential. The sixth part discusses the properties of the hydrogen atom in the presence of a magnetic field and a harmonic potential.

The seventh part of the lecture discusses the properties of the harmonic oscillator in the presence of a magnetic field, a harmonic potential, and a harmonic oscillator. The eighth part discusses the properties of the hydrogen atom in the presence of a magnetic field, a harmonic potential, and a harmonic oscillator.

The ninth part of the lecture discusses the properties of the harmonic oscillator in the presence of a magnetic field, a harmonic potential, a harmonic oscillator, and a harmonic oscillator. The tenth part discusses the properties of the hydrogen atom in the presence of a magnetic field, a harmonic potential, a harmonic oscillator, and a harmonic oscillator.



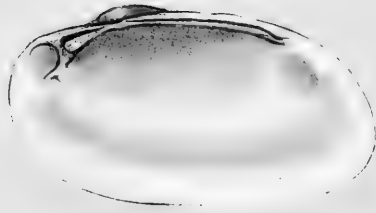


PLATE CLXXIV,

MYA PICTORUM.

PAINTER'S MUSCLE.

GENERIC CHARACTER.

Animal Ascidia. Shell bivalve, gaping at one end. The hinge for the most part furnished with a thick, strong, broad tooth, not inserted into the opposite valve.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell oblong, rounded at both ends; a single crenulated tooth in one valve, and two in the other.

MYA PICTORUM: testa oblonga antice posticeque rotundata, cardinis dente primario crenulato, alterius duplicato,

MYA PICTORUM. *Linn. Fn. Suec.* 2129.

Mya pictorum, Moule des Peintres. *Chemn. Conch*, 6. t. 1. f. 6.
Belg. verf houder.—*Dan.* Maler miegen,—
Maler Skiael, *ibid.*

Two, or perhaps no less than three different kinds of the fresh water *Mya* have been confounded with the *M. pictorum* of Linnæus, as it has been already intimated in the description of the *Mya*

PLATE CLXXIV.

Ovalis, Plate 89, of this work, a shell considered by Da Costa as the true *M. pictorum*. The present species, which we have little hesitation in believing to be the shell Linnæus means, is more of an oblong form than *M. ovalis*, rounded at both extremities, thin, semi-transparent, and of a pale colour, beneath the epidermis, which is of a faint green, or brownish hue; within the shell is pearly.

The only synonyms we can venture to adopt with certainty, are those above quoted. There can be no doubt that the figure given by Chemnitz for the *M. pictorum* of the continental writers, is the same as that now before us, but the extensive list of references to other works, added by that writer, we are induced to reject as being at least in many respects ambiguous. Our specimens of this shell were obtained from Mr. George Humphrey, who assures us, that although he never had met with it himself alive in this country, he was told some years ago by the late ——— Seymour, Esq. that this very species had been fished up in the river Stour.



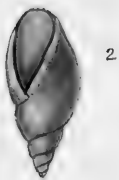
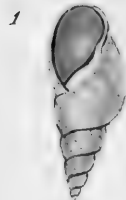


PLATE CLXXV.

FIG. I.

HELIX FRAGILIS.

BRITTLE RIVER SNAIL.

GENERIC CHARACTER.

Aperture of the mouth contracted, and lunulated.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell imperforate, ovate, tapering, round, pellucid: aperture oblong-ovate.

HELIX FRAGILIS: testa imperforata ovato-subulata tereti pellucida: apertura ovata-oblonga. *Linn. Faun. Suec.* 2187.—*Gmel. Linn. Syst. Nat.* 3658. *Sp.* 129. *Penn. Pl.* 86.

Brown River Snail. *Pult. Cat.* p. 48.

Helix fragilis is distinguished from Helix stagnalis, and one or two other very analogous species of river snail by a number of slight ridges which spirally traverse the whole shell, and are in particular

PLATE CLXXV.

obvious on the first wreath. The shell is likewise more uniformly elongated than *H. stagnalis*, the first wreath being less swollen, or ventricose, and the remainder more so, than in that shell.—*Helix fragilis* we have found on plants growing in rivulets about Greenwich. Dr. Pultney says, it is common on plants in the river Stour.

FIG. II.

HELIX FONTINALIS.

SMOOTH FRESH WATER SNAIL.

SPECIFIC CHARACTER.

Shell imperforate, ovate, and pointed, glabrous, horny; volutions five, the first and second ventricose.

HELIX FONTINALIS: testa imperforata ovato-acuminata glabra cornea anfractibus quinque, primo secundoque ventricosis.

Common in some of the rivulets in Devonshire. Communicated by J. Laskey, Esq.

Fig. 2, are those of the common sort; a reversed variety of the same species is distinguished by a star.



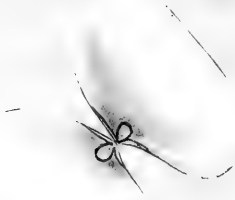


PLATE CLXXVI.

MYA PRÆTENUIS.

THIN WHITE SPOONHINGE GAPER.

GENERIC CHARACTER.

Animal an Ascidia. Shell bivalve, gaping at one end. The hinge for the most part furnished with a thick, strong, and broad tooth, not inserted into the opposite valve.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell ovate, subpellucid, fragile, white; tooth in both valves at the hinge oval, and patulous.

MYA PRÆTENUIS: testa ovata subpellucida fragili alba, cardinis dente ovali patulo.

MYA PRÆTENUIS: testa ovata subpellucida fragili alba subumbonali pubescente, cardinis dente ovali patulo. *Pult. Cat. p. 28.*

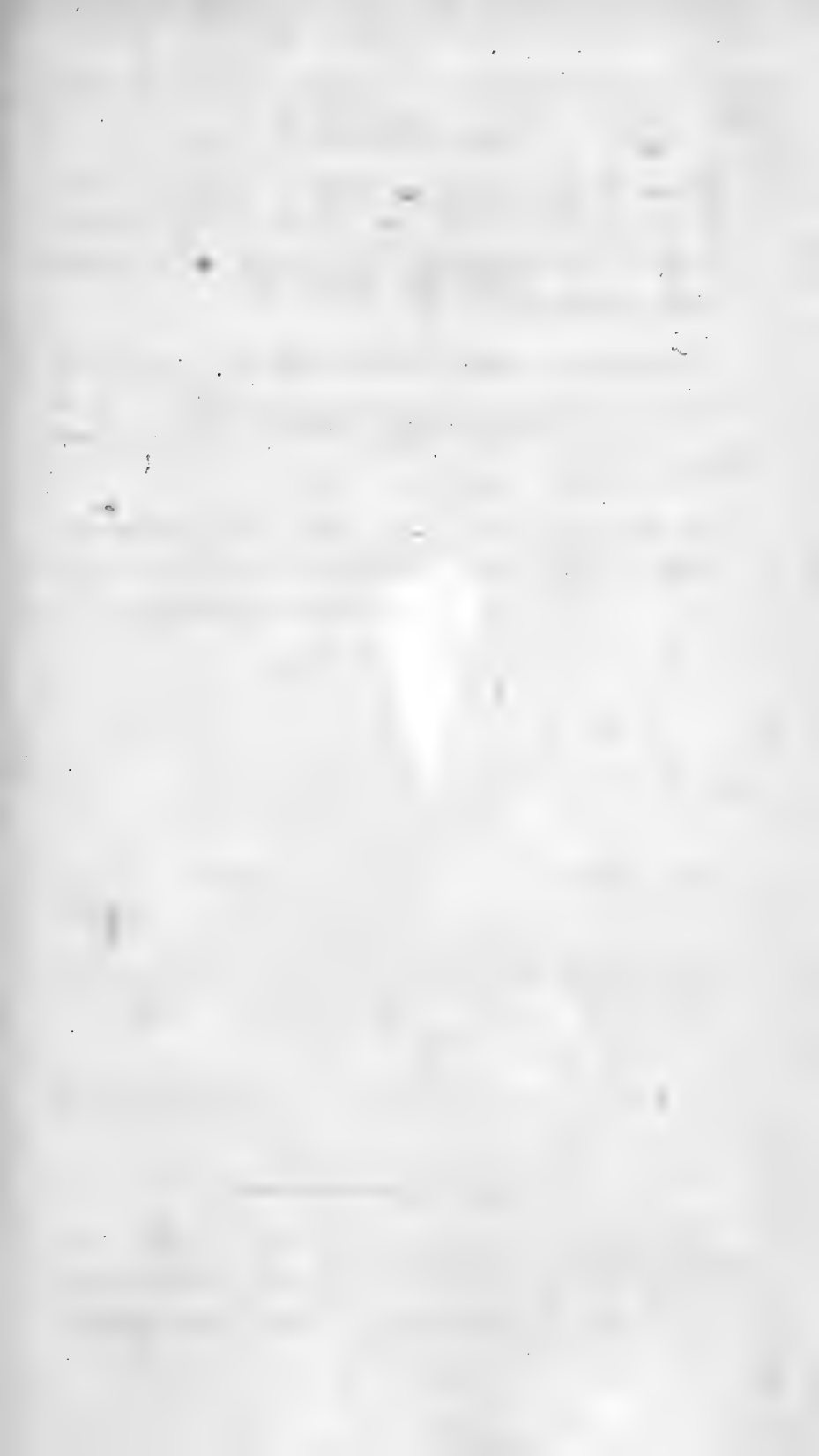
CHAMA *prætenuis* cardine cochleato porrectiore. *Petiv. Gaz. t. 94. 4.*

This delicate shell was first observed by us on the sandy coast of Caermarthenshire. We have since received the same kind from the shores of Cornwall, where it was found by Miss Pocock. Petiver

PLATE CLXXVI:

describes his shell as being found at Poole, in Dorsetshire: where Dr. Pultney also met with it on the sands in the harbour; likewise on the north shore near Brownsea Isle, and once with a few valves on the shore between Weymouth and Portland.

Mya prætenuis, as the specific name implies, is a remarkably thin shell, very brittle, of a whitish colour, and distinguished by having an oval process or tooth resembling the bowl of a spoon in each valve at the hinge.





*



PLATE CLXXVII.

TURBO ALBUS.

WHITE WREATH SHELL.

GENERIC CHARACTER.

Animal Limax. Shell univalve, spiral, or of a taper form. Aperture somewhat compressed, orbicular, entire.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell tapering, glossy, and white.

TURBO ALBUS: testa turrata nitida alba.

Strombiformis parvus albissimus lævis, white. *Da Costa Brit. Conch. p. 116. Sp. 68.*

Turbo minimus lævis albus. Milk white smooth whelke. *Borlase Cornw. p. 277.*

Turbo albus. *Penn. Brit. Zool. N° 114, tab. 79?*

We have never met with this shell on any of the British sea coasts, although we are told it is found not very unfrequently on several of

PLATE CLXXVII.

those to which our researches have been directed. Da Costa says, the species is found on the shores of Cornwall, about Fowey, Whitsand Bay, the Land's End, &c. and also in Devonshire. Pennant's *Turbo Albus* is from Anglesea.



3



2



1



PLATE CLXXVIII.

FIG. I.

TURBO VITTATUS.

RIBBON-WREATH SHELL.

GENERIC CHARACTER.

Animal Limax. Shell univalve, spiral, or of a taper form.
Aperture somewhat compressed, orbicular, entire.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell smooth, taper, whitish, whorls subobsolete ; on the first,
three chesnut bands, one on the rest

TURBO VITTATUS : testa turrita albida anfractibus subobsoletis,
primo faciis tribus castaneis reliquis unica.

This, and the following species of Turbo, we discovered in the
Menai, between Caernarvonshire and the island of Anglesea.
Turbo Vittatus, we have likewise been favoured with from Corn-
wall, by Miss Pocock, and from Devonshire, by J. Laskey, Esq.

PLATE CLXXVIII.

There is some reason for believing this to be the Turbo Trifasciatus of Adams's description of minute British Shells, discovered on the coast of Tenby, South Wales, which is inserted in the fifth volume of the Transactions of the Linnæan Society. The account he gives does not exactly agree with our Shell; he speaks of only two red bands on the first spire, instead of three; and the single spiral line arising from the posterior band, terminates in his Shell after encircling the second volution, whereas, in all our specimens this line is continued on every wreath to the apex. Should his *T. trifasciatus* be intended for our Shell, the outline also is very badly expressed.—The smallest figure in the annexed plate shews the natural size of this shell.

FIG. II.

TURBO INTERRUPTUS.

INTERRUPTED-STRIPE WREATH SHELL.

SPECIFIC CHARACTER

AND

SYNONYMS.

Shell smooth, taper, whitish, fasciated, with an interrupted ochreous band.

TURBO INTERRUPTUS: testa lævi turrata albida fascia interrupta ochrea.

TURBO INTERRUPTUS: testa quinque anfractibus subobtusis, apertura subrotunda. *Adams. Linn. Trans. V. 5.*
sp. 3 ?

PLATE CLXXVIII.

We feel a much slighter degree of hesitation in admitting this to be the Shell meant by Mr. Adams, in the paper above quoted, than the preceding species; notwithstanding that our Shell has a greater number of whorls; the outline of his figure is rude, and far from characteristic of the shell.—Our specimens are from Anglesea, as before mentioned. It is represented both of the natural size and magnified, in the plate.

FIG. III.

TURBO COSTATUS.

RIBBED WREATH SHELL.

SPECIFIC CHARACTER.

Shell taper, snowy white, with numerous obtuse longitudinal ribs.

TURBO COSTATUS: testa turrata nivea costis longitudinalibus numerosis obtusis.

Specimens of this elegant shell were found at Margate. The smallest figure denotes the natural size.

FIG. IV.

TURBO PALLIDUS.

PALE WREATH SHELL.

SPECIFIC CHARACTER.

Shell somewhat taper, pale; whorls very slightly bicarinated.

PLATE CLXXVIII.

TURBO PALLIDUS : testa subturrita pallida anfractibus obsolete
bicarinatus.

Found on the western coast : a Shell of very plain appearance, brownish colour, and rather flattened on the wreath, so as to form two slight spiral ridges or obtuse angles, especially on the first or largest volution.

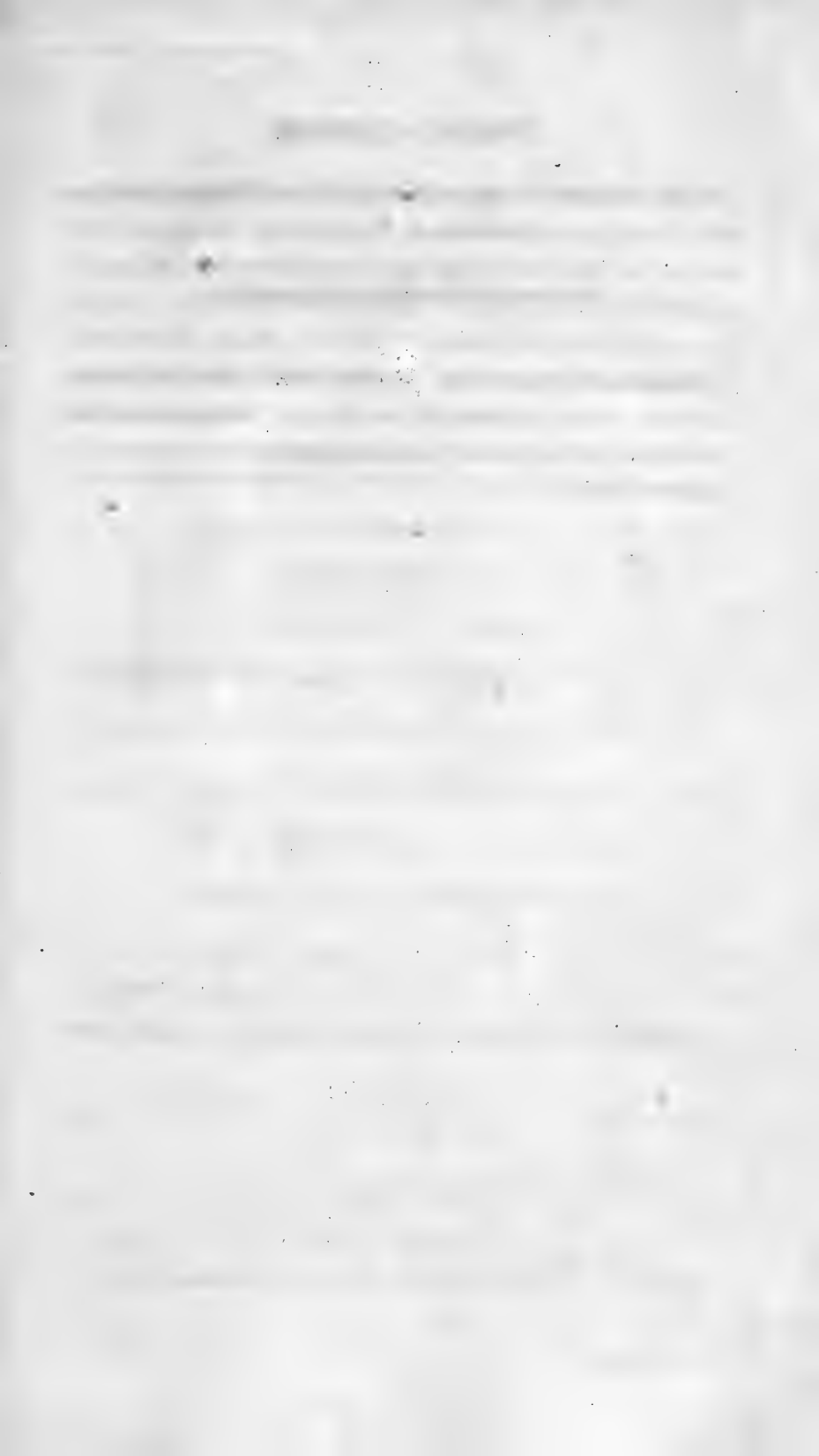




PLATE CLXXIX.

FIG. I.

TURBO ACUTUS.

ACUTE WREATH SHELL.

GENERIC CHARACTER.

Animal Limax. Shell univalve, spiral, or of a taper form. Aperture somewhat compressed, orbicular, entire.

SPECIFIC CHARACTER.

Shell taper, acute, snowy white, whorls about twelve with numerous oblique obtuse ribs.

TURBO ACUTUS: testa turrita acuta nivea, anfractibus subduodecim costis confertis obliquis obtusis.

A mutilated specimen of this curious Shell has been sent to us from the coast of Cornwall: we believe it has been also found at Weymouth; but our perfect shell of this species is from Guernsey.—The smallest figure is of the natural size.

PLATE CLXXIX.

FIG. II.

BUCCINUM BRUNNEUM.

LITTLE BROWN WHELK.

GENERIC CHARACTER.

Aperture oval, ending in a short canal.

SPECIFIC CHARACTER.

Shell taper, brown, whorls transversely striated, and longitudinally undulated. Aperture toothless.

BUCCINUM BRUNNEUM: testa turrata brunnea anfractibus transversim striatis longitudinaliter undulatis apertura edentula.

Found on the coast of Cornwall:—A rare, and, as it is presumed, an undescribed species.

FIG. III.

MUREX ELEGANS.

ELEGANT MUREX.

GENERIC CHARACTER.

Spiral, rough, aperture ending in a strait, and somewhat produced gutter or canaliculation.

PLATE CLXXIX.

SPECIFIC CHARACTER.

Shell yellowish, banded with ochreous, tip violet: whorls longitudinally ribbed, and finely striated transversely.

MUREX ELEGANS: testa ovata flavescente ochreo-fasciata apice violacea anfractibus longitudinaliter costatis transversim minutissime striatis.

A very beautiful little shell, discovered by Miss Pocock on the coast of Cornwall.

FIG. IV.

MUREX SEPTEM-ANGULATUS.

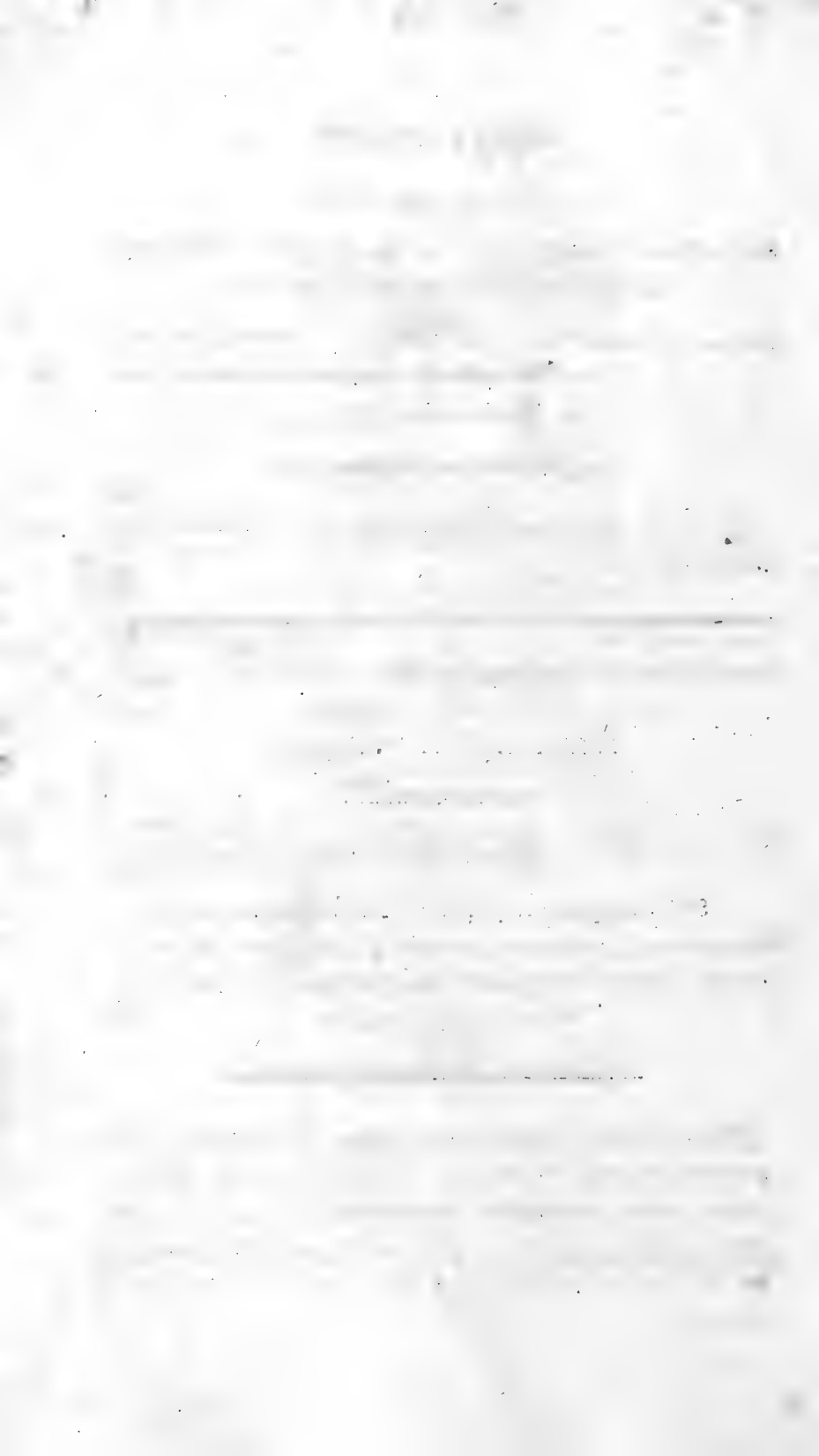
SEVEN-ANGLED.

SPECIFIC CHARACTER.

Shell oblong, acute, pale, with seven longitudinal angles.

MUREX SEPTEM-ANGULATUS: testa oblonga acuta pallida longitudinaliter septem-angulata.

This kind rarely occurs on our coasts. The specimens in our possession are from Weymouth. It bears a strong affinity to *Murex costatus*, plate XCIV. of this work, although it is certainly distinct. *Murex costatus* is much more linear in the outline, and has the ribs less prominent and acute than our *Murex septem-angulatus*.





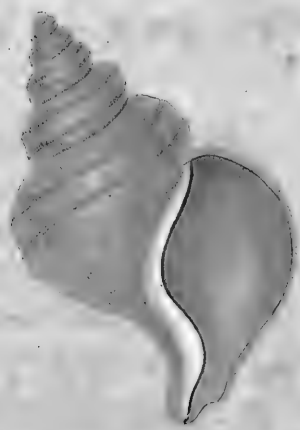


PLATE CLXXX.

MUREX DESPECTUS,

DESPISED MUREX.

GENERIC CHARACTER.

Spiral, rough. The aperture ending in a strait, and somewhat produced gutter, or canaliculation.

SPECIFIC CHARACTER

AND

SYNONYMS.

Tail patulous : shell oblong ; whorls eight, with two elevated lines.

MUREX DESPECTUS : testa patulo-subcaudata oblonga : anfractibus octo lineis duabus elevatis. *Linn. It. Wgoth.* 200. tab. 5. f. 8.

The present shell, it must be tacitly acknowledged, is inserted among the rarer shells of this country on very slight authority ; namely, that of a friend, who believes he once saw a few specimens of this *Murex* that were fished up in the sea at a short distance to the north of the Orknies.—On this suspicion only we

PLATE CLXXX.

could not have presumed to insert the species in this work, were it not to avail ourselves of the opportunity afforded by that means to correct an error very generally admitted concerning the true *Murex despectus* of Linnæus, the shell at this time under consideration.

To the English conchologist it need be scarcely said, that another shell, somewhat similar to the present, although specifically different, has been hitherto received as the *Murex despectus* of Linnæus by every writer in this country who has had occasion to speak of that shell. The origin of this mistake, it will be perceived from the following particulars, rests in a great measure, if not entirely, with Linnæus himself. The *Murex despectus* of this writer is noticed, for the first time, in the account of his Travels through part of Sweden: a small octavo volume written in the Swedish language, with notes, relative to Natural History in Latin. At page 200, he describes this shell in these words, “*cochlea spiris octo oblonga utrinque producta lineis duabus elevatis,*” referring to plate 8. fig. 5. of the same work for a delineation of the shell; the figure quoted in every respect agrees with our specimen, not only in the general outline, but most exactly in having the slight carinated ridges that pass spirally round the whorls, a character not observable on the *Murex despectus* of English authors. So far therefore we are convinced that the present shell is the *Murex despectus* of the Linnæan *Iter Westrogothicum*.

The work above mentioned appeared in 1746, the year in which Linnæus likewise published the first edition of his *Fauna Suecica*. In the latter, *Murex despectus* is again described with a reference to his *Iter W. goth.* and in addition to that synonym, a shell figured by Lister is also quoted for the same species. This is the source of that very confusion which has since arisen concerning the Linnæan

PLATE CLXXX.

Despectus, and should be fully stated.—*Lister's Angl. t. 3. f. 1.* is the reference given by Linnæus. Adverting to this we find the following definition of the shell given by Lister, “*Buccinum album læve maximum septem spirarum.*”—He further adds, in the general description, “*Testæ pars exterior ex tota lævis est, i. e. sine striis quamvis sæpius vel rugis quibusdam vel aliis rebus extrinsecus adnatis exasperetur.*” From this account, and from the figure he has given of the shell, there is not the smallest reason to dispute that Lister means the shell which English writers have heretofore considered as the *Murex Despectus* *; but it is not less certain that Linnæus was wrong in quoting Lister's figure for his Swedish shell, since they are not the same. However, on the authority of this reference to Lister, which afterwards appeared in the *Systema Naturæ*, this shell has continued to be considered as the species meant by Linnæus.

Nor was this the only oversight which appears to have been committed by that eminent Naturalist; by continuing to refer, in the *Systema Naturæ*, to Lister's figure for his species *Despectus*, no one scarcely could imagine that Lister's shell should be the *M. Antiquus* of Linnæus, instead of his *Despectus*, and yet we are persuaded, after attentively comparing his description of the shells with his synonyms, that such is the fact: the description agrees with it, and the figure given by *Gualteri* is surely of the same kind as that which Lister speaks of.

The Linnæan shell, *M. Despectus*, is well described, and the figure in his *Iter. IV. Goth.* is expressive: the two elevated spiral lines, together with the rotundity of the wreaths, are strikingly

* In Lister's Plate the shell is reversed by mistake, most likely, of the engraver.

PLATE CLXXX.

characteristic of this species. At the first glance this shell appears to be an intermediate kind between Lister's shell and the *Murex Carinatus* of Pennant, and ourselves: indeed the principal difference we perceive between the true *M. Despectus* and Lister's shell is, that the former has the whorls of the spire rather more ventricose, and distinctly marked with two slightly elevated spiral lines; from *Murex Carinatus* it differs principally in the very prominent angulations of the *anfractibus*, where the ridges appear, and more particularly in the strong depression between the upper ridge, and the suture of the whorls.

The *Murex despectus*, at present under consideration, is certainly very rare, except in the North of Europe, where we are led to suppose, from what Linnæus says, it is not uncommon.

The only specimens we have ever seen of this kind are from Greenland.

HAVING thus ascertained, as we may reasonably believe, the true Linnæan *Murex Despectus*, it remains in this place to propose the following emendations and additions to the description of two Shells figured in the course of this work, namely, *Murex Despectus*, Plate XXXI. and *Antiquus*, Plate CXIX. which, in common with other testaceological writers, we had misconceived.

PLATE XIX.

MUREX DESPECTUS,

read

MUREX ANTIQUUS.

ANTIQUATED MUREX.

Testa patulo-caudata oblonga : anfractibus octo teretibus. *Linn.*

Fn. Suec. 2165.

PLATE CXIX.

MUREX ANTIQUUS,

read

MUREX DUPLICATUS.

TUBERCULATED MUREX.

Dele reference to Linn. Fn. Suec. et Gmel. Syst. Nat.

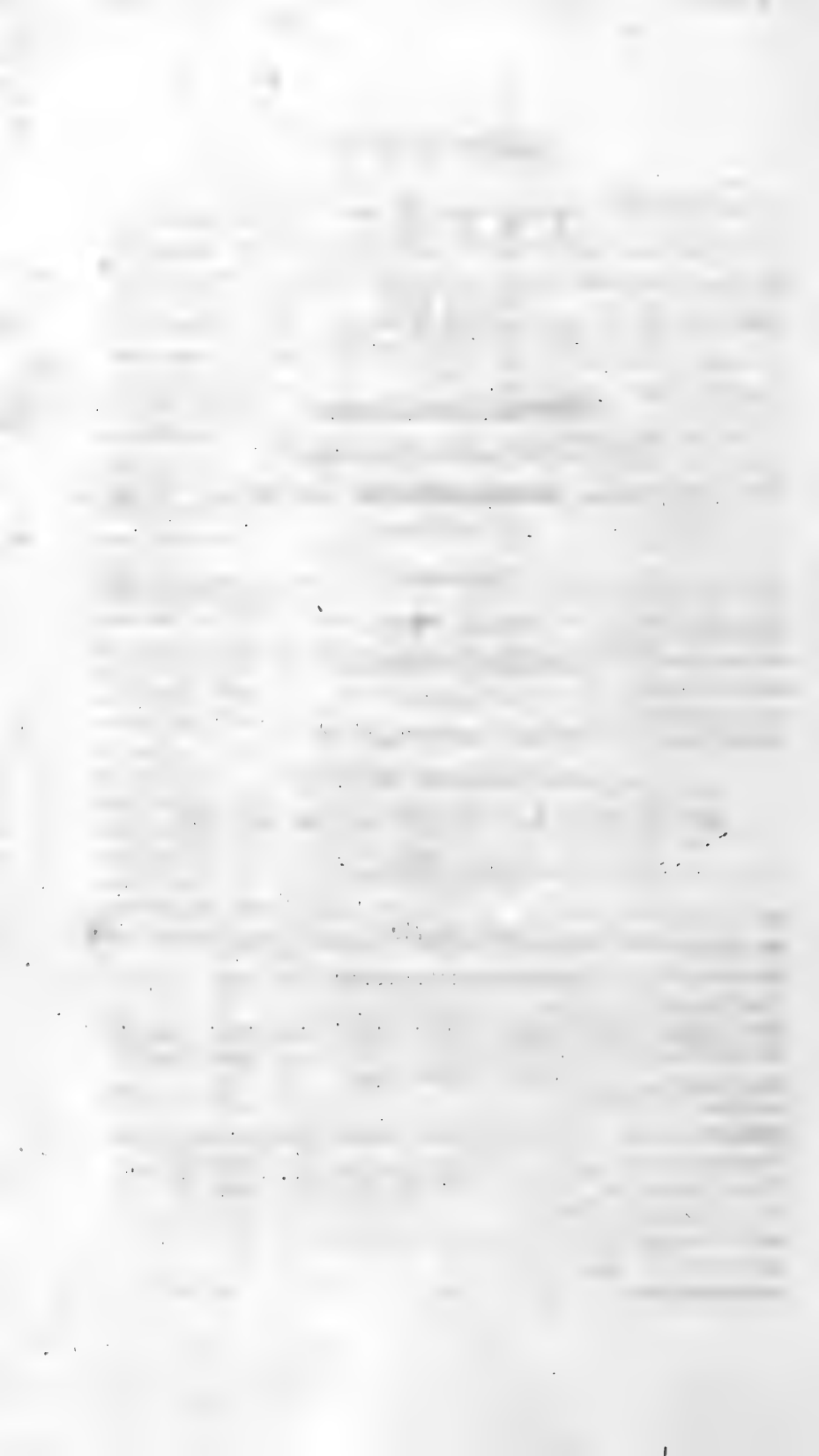
and

add for the

SPECIFIC CHARACTER

Shell patulous, tailed, oblong : whorls eight, tuberculated, striated,
with two raised ridges.

MUREX DUPLICATUS : testa patulo caudata oblonga : anfractibus
octo striatis duplicato carinatis : carinis tubercu-
latis.



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* TERRESTRES. LAND.

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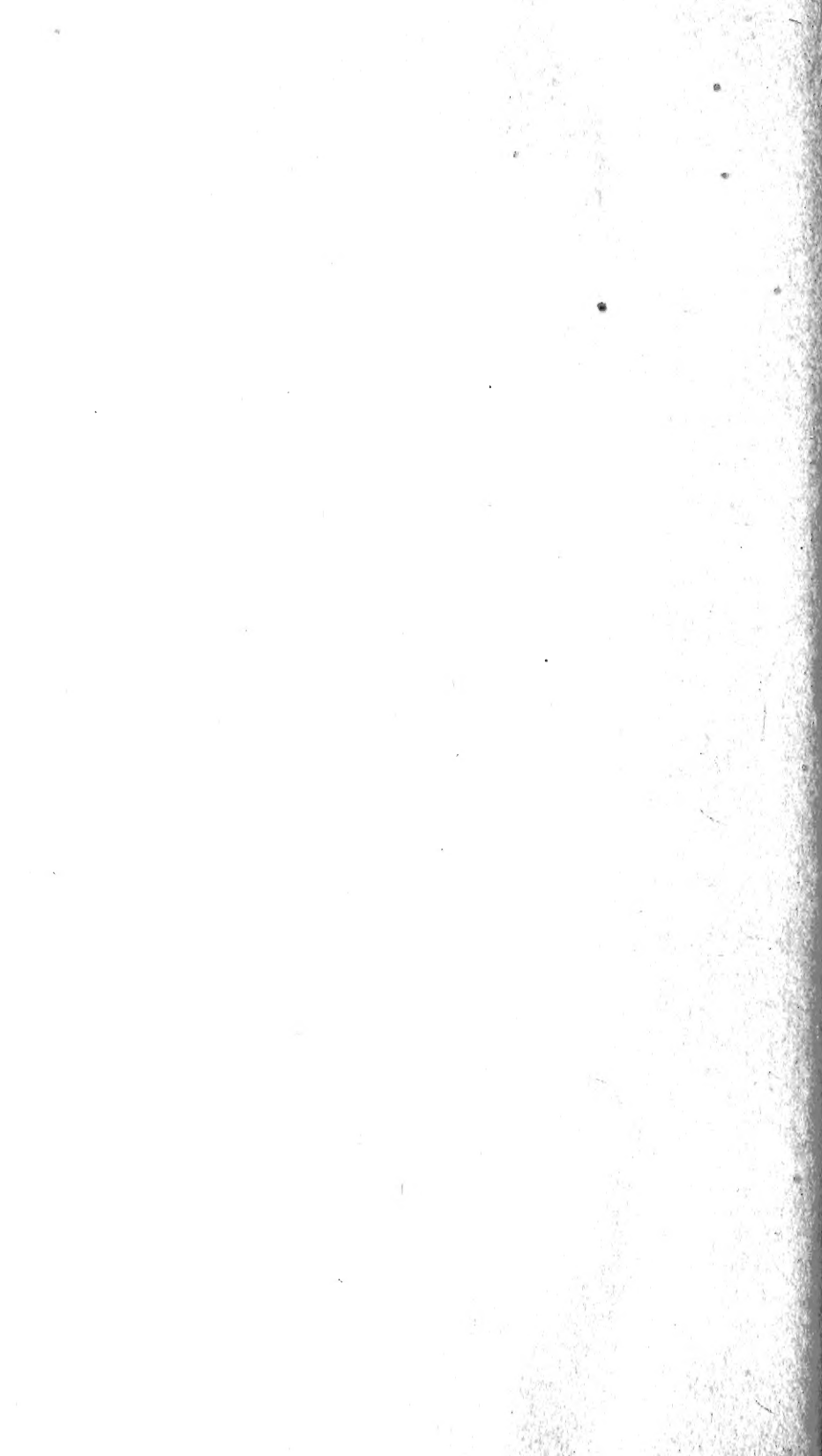
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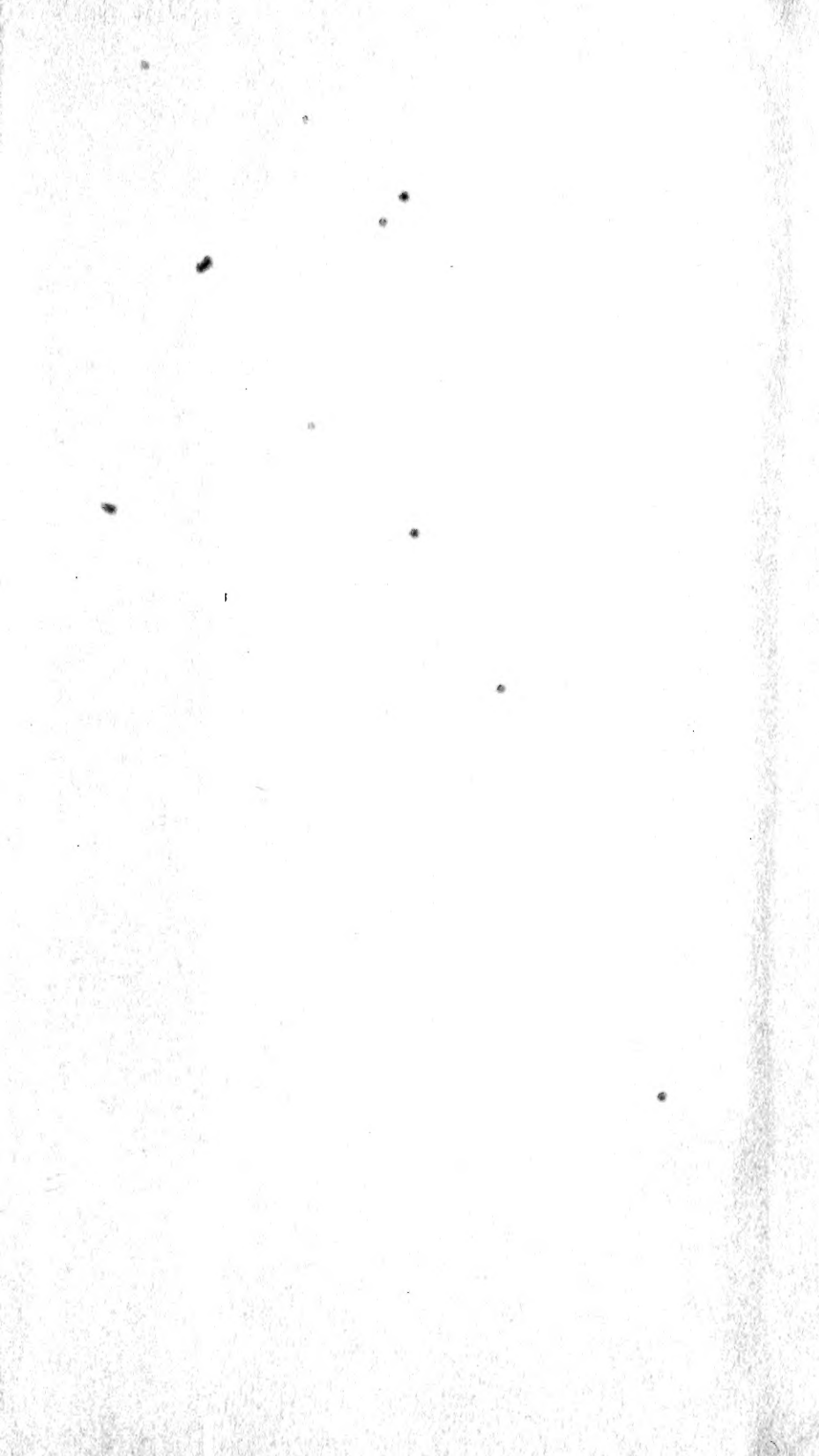
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