

CONCHOLOGIA
ICONICA.

MONOGRAPH

OF THE GENUS

Cardium



BY

LOVELL REEVE, F.L.S.

LONDON:

LOVELL REEVE & CO., 5, HENRIETTA STREET, COVENT GARDEN.

MONOGRAPH

OF THE GENUS

CARDIUM.

“These in their dark nativity the deep,
With heaven’s ray, and tempered, they shoot forth
So beauteous, opening to the ambient light.”—*Milton*.



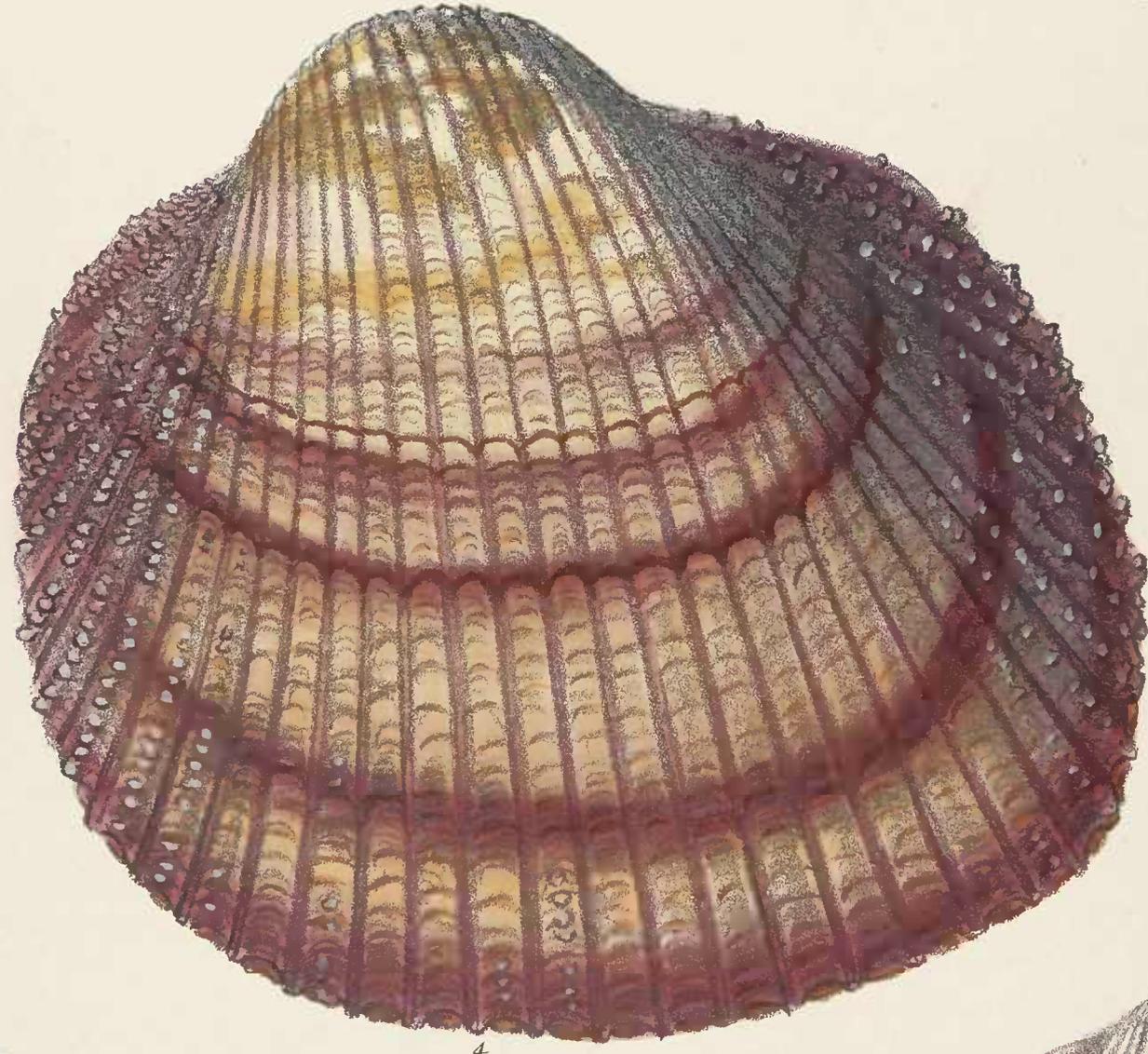
2



1



3



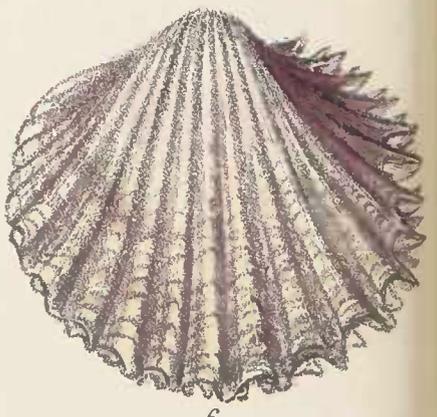
4



5



7



6

CARDIUM.

PLATE I.

Genus CARDIUM, Linnæus.

Testa æquivalvis, plus minusve inæquilateralis, subcordata, umbonibus prominulis, latere postico interdum hiante; plerumque costata, costis ab umbonibus symmetricè divergentibus, sæpissimè squamatis aut spinosis; valvarum marginibus crenulatis, interclaudentibus. Cardo: dentibus in utràque valvâ quatuor, duobus centralibus, obliquis, approximatis, cruciatim intersertis, duobus lateralibus, remotis. Pallii impressio muscularis integra. Ligamentum breve, externum.

Shell equivalve, more or less inequilateral, somewhat heart-shaped, umbones prominent, posterior side sometimes gaping; generally ribbed, ribs diverging symmetrically from the umbones, most frequently armed with scales or spines; margins of the valves crenulated, interclosing with each other. Hinge: four teeth in each valve, two central, oblique, approximated, interserted cross-wise; two lateral, remote. Muscular impression of the mantle entire. Ligament short, external.

The genus *Cardium* is one of the very few established by Linnæus that remains entire; the species, which are somewhat numerous, exhibit a great similarity of form throughout, and may be generally recognised by their cordiform shape, and the prominent development of the umbones. The most characteristic variation in form occurs in those species which Cuvier distinguished by the new title of *Hemicardium*, such as the *Cardium hemicardium*, *fragum*, *retusum*, *auriculatum*, &c., but the difference cannot for a moment be regarded of any particular generic importance. Another variation worthy of mention, because it seems to indicate a difference in the characters of the animal inhabitant, may be observed in those species which, like the *Cardia bullatum* and *apertum* gape more or less at the sides.

The hinge of *Cardium* is defined with great peculiarity in the typical species of the genus by the cross interlocking of the central, and the remote arrangement of the lateral teeth; but, in the aberrant species, it becomes modified to a degree which has induced Dr. Eichwald of Moscow, in his "Fauna Caspio-Caucasia," to subdivide the genus into the four following subgenera, founded on certain peculiar modifications in the development of the teeth; *Cardium*, *Didacna*, *Monodacna* and *Adacna*. I do not conceive, however, that these groups can be admitted on the same principal which separates, as says Dr. Eichwald, the *Uniones* and *Anadontes*; for the teeth of the *Uniones* alone exhibit as great a variation of character as those of the *Cardia*. Some, as in the learned doctor's subgenus *Didacna*, have

only half the usual number of central teeth developed; other species there are, like the *Monodacna*, in which the lateral teeth are obsolete; whilst the hinge of several species, as in *Adacna*, are almost edentulate.

The chief portion of the genus *Cardium* has been so well illustrated by Mr. Sowerby in his 'Conchological Illustrations,' that little remains for me but to complete the monograph as a whole. Some few additional species have presented themselves, but the monograph cannot be expected to exhibit that interesting array of novelty which has accompanied the genera hitherto published in this work.

Species 1. (Mus. Cuming.)

CARDIUM SERRATUM. *Card. testâ ovatâ, umbones versus gibbosiusculâ, glabrâ, nitidulâ, anticè subobsoletè striatâ; albido-flavicante, latere postico vividè citrino-flavido aut roseo-purpurascete, maculis flavido-purpurascensibus undatis circa umbones pallidè tinctâ, intus sub umbonibus flavescete; marginibus intus minutissimè serratis.*

THE SERRATED COCKLE. Shell ovate, rather gibbous towards the umbones, smooth, shining, anteriorly rather obsoletely striated; whitish yellow, posterior side bright citron yellow or pinkish purple, palely stained with pinkish-waved spots around the umbones, interior yellowish under the umbones; margins very minutely serrated within.

LINNÆUS (not of Gmelin), Syst. Nat. 12th edit. no. 89. p. 1123.

Cardium citrinum serratum Linnæi, Chemnitz, Conch. Cab. vol. vi. p. 194. pl. 18. f. 189.

Cardium lævigatum, Gmelin, Lamarck, Sowerby.

Hab. Islands of Nevis and St. Vincent, West Indies (found in sandy mud at the depth of from six to ten fathoms); Guilding.

I quite agree with M. Deshayes that Chemnitz "a très bien reconnu le *Cardium serratum* de Linné." The recorded opinions of Lamarck and Sowerby were induced probably by an error of Gmelin's, followed by Bruguière, in the Encyclopédie Méthodique.

Species 2. (Mus. Cuming.)

CARDIUM INCARNATUM. *Card. testâ gibboso-globosâ, longitudinaliter costatâ, costis quatuor et viginti, rotundis, complanatis, margines versus medio obsoletè brevispinosis, interstitiis angustis, subprofundis, transversim striatis; pallidè incarnatâ, radiis roseis transversis hic illic ornatâ.*

THE FLESH-TINTED COCKLE. Shell gibbously globose, longitudinally ribbed, ribs about four and twenty in number, round, smooth, obsolete short-spined in the middle towards the margins, interstices narrow, rather deep, transversely striated; pale flesh colour, ornamented here and there with transverse rose-coloured rays.

REEVE, Pro. Zool. Soc., 1844.

Hab. Bay of Manila (found in sandy mud at the depth of six fathoms); Cuming.

A warm flesh-tinted shell, of which Mr. Cuming collected a few odd valves in the above-mentioned locality, and has lately received several perfect pairs.

Species 3. (Mus. Cuming.)

CARDIUM SINENSE. *Card. testá subdepresso-orbiculari, posticè leviter rostratá, omnino, anticè præcipuè, minutissimè granulatá; radiatim costatá, costis quatuor et viginti, subcompressis, posticis angustioribus; albido-fulvá; marginibus fortissimè crenatis.*

THE CHINESE COCKLE. Shell somewhat depressly orbicular, posteriorly slightly beaked, everywhere minutely granulated, especially on the anterior side; radiately ribbed, ribs four and twenty in number, a little compressed, posterior narrower; fulvous white, margins very strongly crenated.

SOWERBY, Pro. Zool. Soc., 1840. Conch. Illus. f. 35.

Hab. China and Java.

The ribs of this species are peculiarly narrowed along the summit; and the granulated surface of the shell is of an extremely curious character.

Species 4. (Mus. Cuming.)

CARDIUM PSEUDO-LIMA. *Mitr. testá subcordatá, ventricosá, radiatim sulcatá, sulcis ad duodequadragenis, liris intermediis planiusculis, interdum omnibus, interdum lateralibus solum, tuberculis minimis serialibus, aspero-squamatis, armatis; roseo-incarnatá, radiis roseis transversis ornatá, tuberculis albis.*

THE FILE-LIKE COCKLE. Shell somewhat heart-shaped, ventricose, radiately grooved, grooves about thirty-eight in number, intermediate ridges rather flat, sometimes the whole, sometimes the lateral ridges only, armed with rows of very minute sharp-scaled tubercles; pink flesh-colour, ornamented with pink transverse rays, tubercles white.

Variety β .

Testa omnino nivea.

Shell entirely snowy white.

LAMARCK, Anim. sans vert. vol. vi. p. 396.

Hab. Zanzibar, east coast of Africa (found in deep water).

Mr. Cuming possesses the variety β of this well known species, of a pure snowy white, in fine fresh condition.

Species 5. (Mus. Cuming.)

CARDIUM BELCHERI. *Card. testá gibboso-globosá, longitudinaliter subobliquè costatá, costis ad quinque et vicenis, squamis compressis, plano-mucronatis, anticè reflexo-inclinatis, peculiariter armatis; flavicante-incarnatá, lateraliter et basaliter roseo vividè tinctá.*

BELCHER'S COCKLE. Shell gibbously globose, longitudinally rather obliquely ribbed, ribs about five and twenty in number, peculiarly armed with compressed flatly pointed scales, bent over in the anterior direction; yellowish flesh-colour, brightly stained at the sides and around the base with rose-pink.

BRODERIP and SOWERBY, Zoological Journal, vol. iv. p. 336. pl. 9. f. 3.

Hab. California and Panama; Belcher.

No one can fail to recognise this remarkable species by the erect flattened festooned scales which ornament the ribs.

Species 6. (Mus. Cuming.)

CARDIUM RINGENS. *Card. testá rotundatá, interdum depressiusculá, latere postico paululum hiante; radiatim costatá, costis ad sex et vicenis, plano-convexis, muticis, interstitiis posticis prope margines peculiariter incisus; flavescence-albá, roseo partim tinctá.*

THE GRINNING COCKLE. Shell rounded, sometimes rather depressed, a little gaping at the posterior side; radiately ribbed, ribs about six and twenty in number, flatly convex, smooth, posterior interstices peculiarly cut open near the margins; yellowish-white, partially stained with pink.

CHEMNITZ, Conch. Cab. vol. vi. p. 176. pl. 16. f. 170.

Hab. Mouth of the Gambia, Africa (found in sandy mud).

This species is singularly characterized by the curious manner in which the interstices between the ends of the posterior ribs remain open.

Species 7. (Mus. Cuming.)

CARDIUM MULTIPUNCTATUM. *Mitr. testá oblongo-oratá, obliquá, depressiusculá, tenui, lævigatá, politá, radiatim confertissimè impresso-striatá; rufescence-fulvá, posticè rubro vividè tinctá, punctis rubris undique pictá; intus flavido-rufescence.*

THE MANY-DOTTED COCKLE. Shell oblong-ovate, oblique, rather depressed, thin, smooth, polished, engraved with very close radiating impressed striæ; reddish fulvous, stained with bright red on the posterior side, painted all over with red dots, interior yellowish red.

SOWERBY, Pro. Zool. Soc., 1833.

Hab. China and the Philippine Islands.

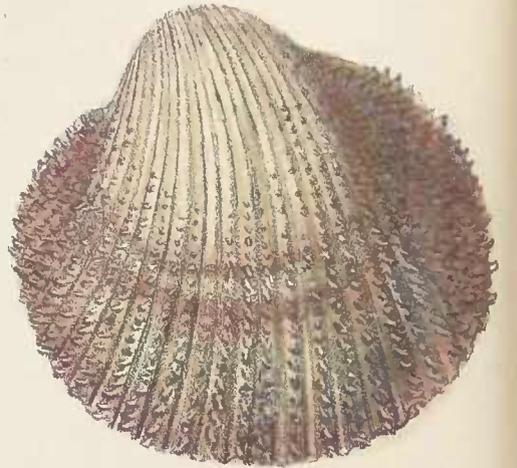
The *Cardium multipunctatum* which Mr. Sowerby described in 1833 as being a shell of great rarity, has now become comparatively abundant.



9



8



10



11



12



14



13

CARDIUM.

PLATE II.

Species 8. (Mus. Cuming.)

CARDIUM BULLATUM. *Card. testá transversè ovatá, tenui, utrinque hiante, latere postico producto; costatá, costis ad sex septemve et quadraginta, subangustis, striá subtilissimá elevatá interveniente, costis anticis crenulatis, posticis squamiferis; albidá, roseo purpureove sparsim maculatá.*

THE STUDDED COCKLE. Shell transversely ovate, thin, gaping at both sides, posterior side produced; ribbed, ribs about six or seven and forty in number, rather narrow, with a very fine raised stria intervening between each, anterior ribs crenulated, posterior squamiferous; whitish, spotted here and there with rose or purple.

LAMARCK, Anim. sans vert. (Deshayes edit.), vol. vi. p. 394. Chemnitz, Conch. Cab. vol. vi. pl. 6. f. 49, 50. *Solen bullatus*, Linnæus.

Hab. Islands of Nevis and St. Vincent, West Indies; Guilding.

Variety β .

Testa latere postico minus producto, costis subplanioribus, maculis roseis vel purpureis grandibus, frequentioribus.

Shell with the posterior side less produced, ribs rather flatter, rose or purple spots larger, more frequent.

Encyclopédie Méthodique, pl. 296, f. 6 a, b.

Cardium aspersum, Sowerby, Pro. Zool. Soc., 1833.

Hab. St. Elena and Monte Christi, West Columbia (found in sandy mud at the depth of seven fathoms); Cuming.

I do not conceive that the modification of character which distinguishes variety β , figured in the 'Encyclopédie Méthodique,' can be regarded of any particular specific importance.

Species 9. (Mus. Cuming.)

CARDIUM PAPYRACEUM. *Card. testá depresso-cordatá, tenui, fragili anticè minutissimè granulatá, radiatim impresso-striatá, striis rudo-incisis, epidermide radi-cantibus; albidá aut flavicante, purpureo hic illic pallidissimè tinctá, umbonibus rufo-purpureis, intus rufo-purpureá.*

THE PAPYRACEOUS COCKLE. Shell depressly heart-shaped, thin, fragile, anteriorly very minutely granulated, radiately impressly striated, striæ rudely engraved, giving root to an epidermis; whitish or yel-

lowish, faintly tinged here and there with purple, umbones reddish purple, interior reddish purple.

CHEMNITZ, Conch. Cab., vol. vi. p. 190. pl. 18. f. 184.

SOWERBY, Conch. Illus. f. 56 (not f. 55).

Hab. East end of the Island of Luzon, Philippines (found in sandy mud at the depth of seven fathoms); Cuming.

The accompanying figure, and Fig. 56. of Mr. Sowerby's 'Conchological Illustrations,' represent varieties of the true *Cardium papyraceum*, and are quite distinct from a fine new species which has been confounded with it in the same work, at Fig. 55. This shell, for which see *Cardium muticum*, Plate VI., is of much larger dimensions, of a more transversely ovate form, and exhibits no indication of that curious minute granulation which characterizes the posterior side of the *Cardium papyraceum*, after the manner of the *Cardium Sinense*.

Species 10. (Mus. Cuming.)

CARDIUM MULTISPINOSUM. *Card. testá rotundatá, ventricosá, radiatim costatá, costis ad tribus et tricenis, utrinque acutè angulatis, brevi-spinosis; incarnato-albá, rosaceo hic illic pallidè tinctá, interstitiis inter costas nonnunquam fuscis, spinis albis; intus albicante, radiatim symmetricè sulcatá.*

THE MANY-SPINED COCKLE. Shell rounded, ventricose, radiately ribbed, ribs about three and thirty in number, sharply angled on both sides, armed with short spines; flesh-tinted white, palely stained here and there with pink, interstices between the ribs sometimes brown, spines white; interior white, radiately symmetrically grooved.

Variety β .

Testa grandior, costis latioribus, de quatuor et vicens a duodecenis.

Shell larger, ribs wider, from four and twenty to eight and twenty in number.

Hab. Islands of Mindanao and Zebu, Philippines (found in sandy mud at low water, and at the depth of from six to twenty-five fathoms); Cuming.

The ribs of this beautiful species are peculiar in being quite under-grooved, as it were, on each side.

Species 11. (Mus. Cuming.)

CARDIUM COSTATUM. *Card. testá ovato-globosá, tenui, ventricosá, subæquilaterali, latere postico hiante; radiatim costatá, costis novenis, angustis, compressis, acutè elevatis, cavis, subdistantibus; niveá, interstitiis inter costas, posticis præcipuè, longitudinaliter fusco-fasciatis.*

THE RIBBED COCKLE. Shell ovately globose, thin, ventricose, nearly equilateral, posterior side gaping; radiately ribbed, ribs nine in number, narrow, compressed, sharply elevated, hollow, rather distant; snowy white, interstices between the ribs, the posterior especially, longitudinally brown-banded.

LINNÆUS, Syst. Nat. (Gmelin edit.), p. 3244.

Hab. East coast of Africa.

This remarkable and well-known shell stands almost alone in the genus, the *Cardium hians*, Plate V., being the only other species which presents any real affinity with it.

Species 12. (Mus. Cuming.)

CARDIUM LYRATUM. *Card. testá rotundatá, nonnunquam depressiusculá, posticè longitudinaliter costatá, costis crebris; anticè transversim obliquè plicato-liratá, liris angustis, distantioribus, subirregulariter leviter undulatis, interstitiis longitudinaliter minutissimè striatis; lacteá, epidermide coccineo-rubrâ indutá, umbonibus purpurascente pallidissimè tinctis; intus rufescente-aureá.*

THE LYRATED COCKLE. Shell rounded, sometimes a little depressed, posteriorly longitudinally ribbed, ribs close; anterior transversely obliquely plicately ridged, ridges narrow, more distant, rather irregularly slightly undulated, the interstices being longitudinally very minutely striated; cream colour, covered with a deep crimson-red epidermis, umbones very faintly tinged with purple; interior reddish golden colour.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. Island of Negros, Philippines (found in sandy mud at the depth of seventeen fathoms); Cuming.

The *Cardium lyratum* may be distinguished from the *Cardium pectinatum* (*C. Æolicum*, Born), to which it is so nearly allied, by its having no smooth area on the posterior side, and by its pure cream-coloured exterior enveloped in a bright crimson-red epidermis.

Species 13. (Mus. Cuming.)

CARDIUM UNEDO. *Card. testá subcordatá, latere postico angulato; radiatim costatá, costis ad tricenis confertis, interstitiis posticis ad margines subincisis; flavicante, costis scutellis seu liris transversis elatis vividè rosaceo-rubris ornatis.*

THE STRAWBERRY COCKLE. Shell somewhat heart-shaped, posterior side angulated; radiately ribbed, ribs about thirty in number, close-set, interstices on the posterior side slightly open at the margins; yellowish, ribs ornamented with bright pinkish-red, elevated cross ridges or small shields.

LINNÆUS, Syst. Nat. (Gmelin edit.), p. 3250.

Hab. Ceylon, Philippinc Islands, &c., (found in sandy mud at low water).

The bright red ornamental sculpture of the ribs varies in its character and size from minute cross ridges to small oblong square elevated shields, as in the specimen selected for illustration.

Species 14. (Mus. Cuming.)

CARDIUM PECTINATUM. *Card. testá gibboso-globosá, radiatim striatá, striis numerosis, confertis, posticis elevatis, anticis subobsoletis, plicis angustis subrugosis obliquè decussatis, areâ postremâ lævigatá; albicante, maculis pallidè rosaceis undatis undiquè pictá.*

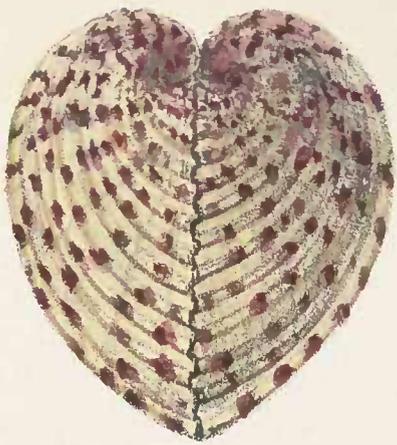
THE PECTINATED COCKLE. Shell gibbously globose, radiately striated, striæ numerous, close-set, the posterior elevated, the anterior somewhat obsolete and obliquely crossed with narrow slightly wrinkled plaits, the extreme posterior area of the shell smooth; white, everywhere painted with waved pink spots.

LINNÆUS (not of Lamarck, nor Philippi), Mus. Ulric. Deshayes, note in new edition of Lamarck, vol. vi. p. 404.

Cardium Æolicum, Born, Lamarck, Sowerby.

Hab. — ?

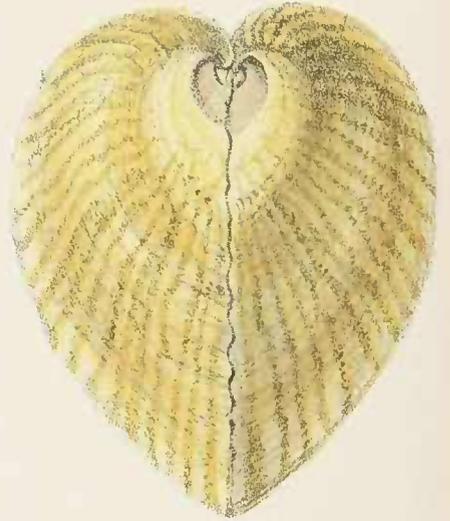
I restore the Linnæan name of this very beautiful and rare shell upon the testimony of M. Deshayes, much regretting that the appellation erroneously followed by Lamarck should have become so popular amongst conchological writers and amateurs.



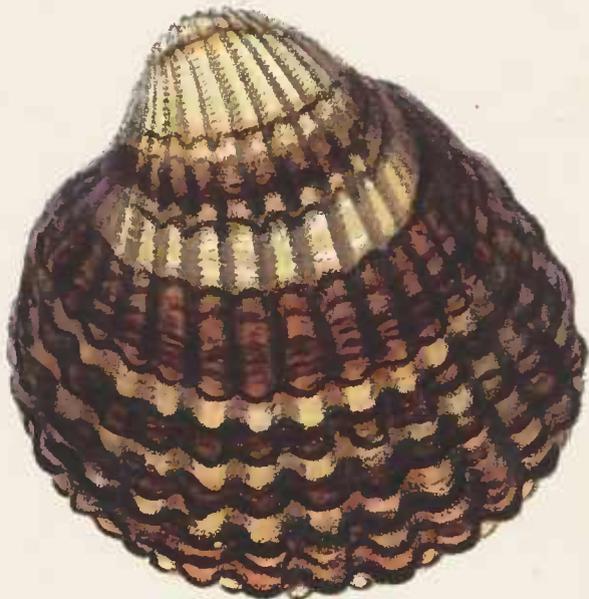
15a



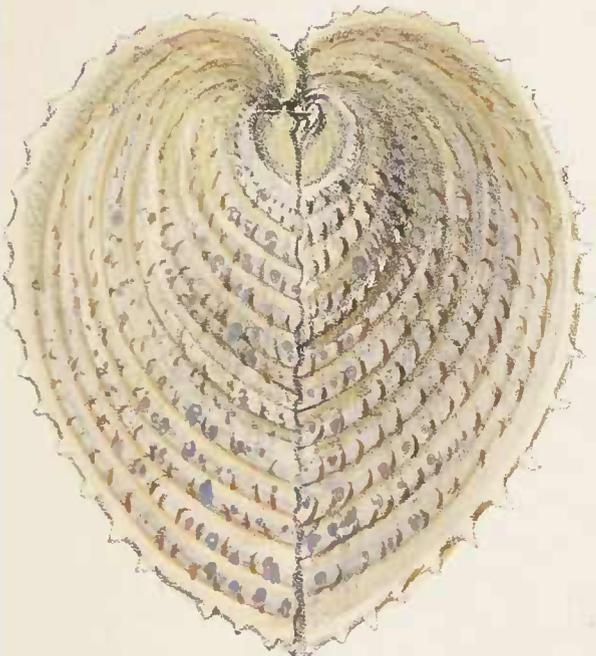
15b



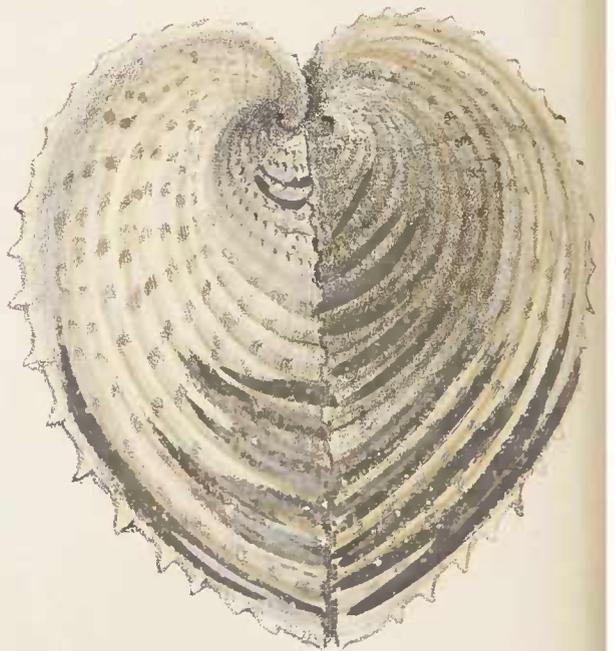
15c



16



15d



15e



15f

CARDIUM.

PLATE III.

Species 15. (Fig. *a—f*. Mus. Cuming.)

Variety *a*. Fig. *d* and *e*.

Variety *β*. Fig. *c*.

Variety *γ*. Fig. *a*.

Variety *δ*. Fig. *b* and *f*.

CARDIUM CARDISSA. *Card. testá lateraliter cordiformi, lateribus planissimo-compressis, utroque convexis, antico interdum, autem raro, concavo; radiatim exculptá, latere antico liris planis subobsoletis, æqualibus, æquidistantibus, postico lineis minutis elevatis; valvis in medio acutissimè elato-carinatis, carinâ nunc aspero-muricatâ, nunc obtuso-lævigatâ, valvarum marginibus simplicibus, leviter crenulatis, interclaudentibus; pellucidulo-albicante, stramineo pallidè tinctâ, lineis posticis radiantibus minutis plerumque coccineo-rufescentibus; ligamento parvo.*

THE LITTLE-HEART COCKLE. Shell laterally heart-shaped, sides very flatly compressed, both sides convex, the anterior sometimes but very rarely concave; radiately sculptured, the anterior side with equal, equidistant, flat, rather obsolete ridges, the posterior with minute raised lines; valves very sharply elevately keeled in the middle, keel sometimes sharp-prickled, sometimes obtusely smooth, margins of the valves simple, slightly crenulated, interlocking; transparent white, faintly tinged with straw colour, the posterior minute radiating lines generally scarlet-red; ligament small.

LINNÆUS, Syst. Nat., p. 1121.

Testa latere antico concavo.

Shell with the anterior side concave.

Cardium monstrosum, Chemnitz.

Cardium inversum, Lamarck.

Variety *β*. (Fig. 15 *c*.)

Testa stramineo vividè undato-variegata.

Shell undulately variegated with bright straw colour.

Variety *γ*. (Fig. 15 *a*.)

Testa latere antico roseo-maculato.

Shell with the anterior side spotted with rose.

Cardium humanum, Chemnitz.

Cardium Junoniæ, Lamarck.

Variety *δ*. (Fig. 15 *b* and *f*.)

Testa latere antico omnino roseo-tincto.

Shell with the anterior side stained all over with rose.

Cardium roseum, Chemnitz.

Cardium Junoniæ var., Lamarck.

Hab. Eastern Seas.

The remarkable laterally compressed growth of this species renders it one of extremely interesting character; and the changes of colour and style of painting which it exhibits are numerous and characteristic. The typical differences of form and colour were regarded both by Chemnitz and Lamarck of sufficient importance to characterize distinct species, I am inclined to agree, however, with Bruguière that no specific difference can be established, an opinion abundantly confirmed by the late numerous arrival of specimens from China, and various islands in the Eastern Hemisphere.

Species 16. (Mus. Cuming.)

CARDIUM RUSTICUM. *Card. testá subcordatâ, gibbosâ, latere postico subangulato, radiatim costatâ, costis ad vicenis, rotundatis, interstitiis peculiariter crispato-rugosis; fulvo-albicante, fasciis ferrugineo-fuscis latiusculis transversis ornatâ.*

THE RUSTIC COCKLE. Shell somewhat heart-shaped, gibbous, posterior side slightly angulated, radiately ribbed, ribs about twenty in number, rounded, interstices peculiarly crisply wrinkled; fulvous white, ornamented with rather broad rusty-brown transverse bands.

LINNÆUS, Syst. Nat., p. 1124.

Hab. Adriatic and other Seas of Southern Europe.

Varieties of the common *Cardium edule* appear to have been confounded by several authors with this species. The richly painted specimen here represented answers with remarkable accuracy to Linnæus' description of his *Cardium rusticum*, which may be easily distinguished by the curious crisped wrinkled sculpture in the interstices between the ribs.



18



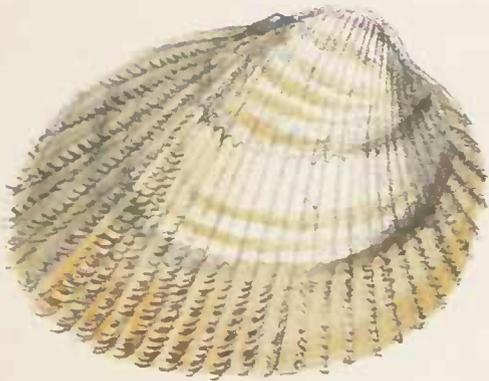
17



19



20



21



23



22

CARDIUM.

PLATE IV.

Species 17. (Mus. Cuming.)

CARDIUM ACULEATUM (*testa junior*). For description of this shell, which M. Deshayes has apparently taken for the *Cardium ciliare*, see Plate VII.

Species 18. (Mus. Cuming.)

CARDIUM PAUCICOSTATUM. *Card. testá rotundatá, tenui, ventricosiusculá, subæquilaterali, radiatim costatá, costis paucis, sedecim vel septemdecim, plano-convexis, in medio carinatis, cariná squamato-spinosá, interstitiis concavis, latis, transversim crispato-rugosis; pallidè fuscescente alboque transversim undato-zonatá.*

THE FEW-RIBBED COCKLE. Shell rounded, thin, rather ventricose, nearly equilateral, radiately ribbed, ribs few, sixteen or seventeen in number, flatly convex, keeled in the middle, keel armed with scale-like spines, interstices concave, wide, crisply wrinkled; zoned transversely in a waved manner with white and reddish brown.

SOWERBY, Pro. Zool. Soc., 1840; Conch. Illus. f. 20.

Cardium ciliare var. β ? Lamarck.

Cardium ciliare (*specimine antiquissimá*), Philippi, Enum. Moll. vol. ii. p. 37.

Hab. Adriatic and other Seas of Southern Europe.

I think Mr. Sowerby has acted very judiciously in promoting this shell to the rank of a new species. The *Cardium ciliare*, with which it has been confounded, has certainly as small a number of ribs, and is moreover the only other aculeated cockle with so few; but the spines of these two species vary most importantly in their character. The *Cardium ciliare* has a solid laterally compressed spine like that of the young *Cardium aculeatum*, noticed above; the *Cardium paucicostatum* has a folded scale-like spine, papiliform at the base, like that of the *Cardium erinaceum*.

Species 19. (Mus. Cuming.)

CARDIUM MINDANENSE. *Card. testá subobliquè cordiformi, longitudinaliter costatá, costis nonis et viginti, squamiferis, squamis numerosis, confertis, posticè fornicatis, costarum interstitiis subprofundis; albidá, fusco hic illic nebulosá; intus posticè vividè purpurascente.*

THE MINDANAO COCKLE. Shell somewhat obliquely heart-shaped, longitudinally ribbed, ribs nine and twenty in number, squamiferous, scales numerous,

close-set, arched over posteriorly, interstices between the ribs rather deep; whitish, here and there clouded with brown; interior stained on the posterior side with deep purple.

REEVE, Pro. Zool. Soc., 1844.

Hab. Cagayan, Island of Mindanao, Philippines (found among sand at low water); Cuming.

The vaulted structure of the scales in this species is about intermediate in its character between that of the scales of the *Cardia consors* and *isocardia*.

Species 20. (Mus. Cuming.)

CARDIUM MAGNUM. *Card. testá maximá, obliquè cordatá, ventricosá, latere postico subangulato-depresso; radiatim costatá, costis ad quinque et triginta, planulatis, confertiusculis, anticis crenulatis; flavido-fuscescente, maculis purpureo-fuscis transversim serialiter pictá; areá posticá depressá omnino purpureo-fuscá.*

THE GREAT COCKLE. Shell very large, obliquely cordate, ventricose, posterior side somewhat angularly depressed; radiately ribbed, ribs about five and thirty in number, flattened, rather close-set, anterior ribs crenulated; yellowish-brown, painted with transverse rows of purple-brown spots, the depressed posterior area entirely purple-brown.

BORN, Test. Mus. Cæs. Vind., pl. 3. f. 5.

Cardium maculatum, Gmelin.

Cardium ventricosum, Bruguière, Lamarck.

Hab. Gulf of Mexico.

The *Cardium magnum* is a large shell but does not attain so large a size as the *Cardia pseudo-lima* and *elatum*. It was described by Bruguière ten years subsequent to the publication of Born's work, and very accurately figured in the 'Encyclopédie Méthodique' pl. 299. f. 1.

Species 21. (Mus. Cuming.)

CARDIUM LATUM. *Card. testá transversè ovatá, depressiusculá, valdè inæquilaterali, latere antico brevissimo, paulo hiante; radiatim costatá, costis ad quadragenis, creberrimis, planulatis, striá unicá, epidermide setosá radicante, in medio exiliter impressis; costis margines versus subtilissimè aspero-squamatis; albidá, flavido-fuscescente variè tinctá.*

THE BROAD COCKLE. Shell transversely ovate, rather depressed, very inequilateral, anterior side very short, a little gaping; radiately ribbed, ribs about forty in number, very close-set, flat, faintly impressed down the middle with a single stria which gives root to a bristly epidermis; ribs armed with very fine sharp scales towards the margins; whitish, variously stained with yellowish brown.

BORN, Test. Mus. Cæs. Vind., pl. 3. f. 9.

Hab. Island of Mindoro, Philippines (found in sandy mud at the depth of four fathoms); Cuming.

This species may be recognised by its very inequilateral growth.

Species 22. (Mus. Cuming.)

CARDIUM EDULE. *Card. testá ovato-cordatá, vix obliquá, radiatim costatá, costis ad senis et viginti, noduloso-crenulatis; albidá, ferrugineo-fuscescente pallidè tinctá; intus albá margine postico rubido-fusco.*

THE EATABLE COCKLE. Shell ovately cordate, slightly oblique, radiately ribbed, ribs about six and twenty in number, nodulously crenulated; whitish, faintly

tinged with rusty brown; interior white, posterior edge reddish-brown.

LINNÆUS, Syst. Nat. (Gmelin edit.), p. 3252.

Variety. *Cardium glaucum*, Bruguière.

Hab. Seas of Europe.

This is the common eatable Cockle of our market, so highly esteemed by the generality of mollusk-epicures.

Species 23. (Mus. Cuming.)

CARDIUM FRAGUM. *Card. testá subcordatá, latere postico plano-angulato, radiatim costatá, costis ad tribus et triginta, confertis, tuberculis squamosis parvis lunatis creberrimè armatis; stramineo-albicante.*

THE WHITE STRAWBERRY COCKLE. Shell somewhat cordate, posterior side flatly angulated, radiately ribbed, ribs about three and thirty in number, close, armed with small thickly set half-moon scale-like tubercles; straw-tinged white.

LINNÆUS, Syst. Nat., p. 1123.

Hab. China, and the Philippine and Pacific Islands.

Found abundantly in the Eastern Hemisphere, and well known to early writers as "The white Strawberry."



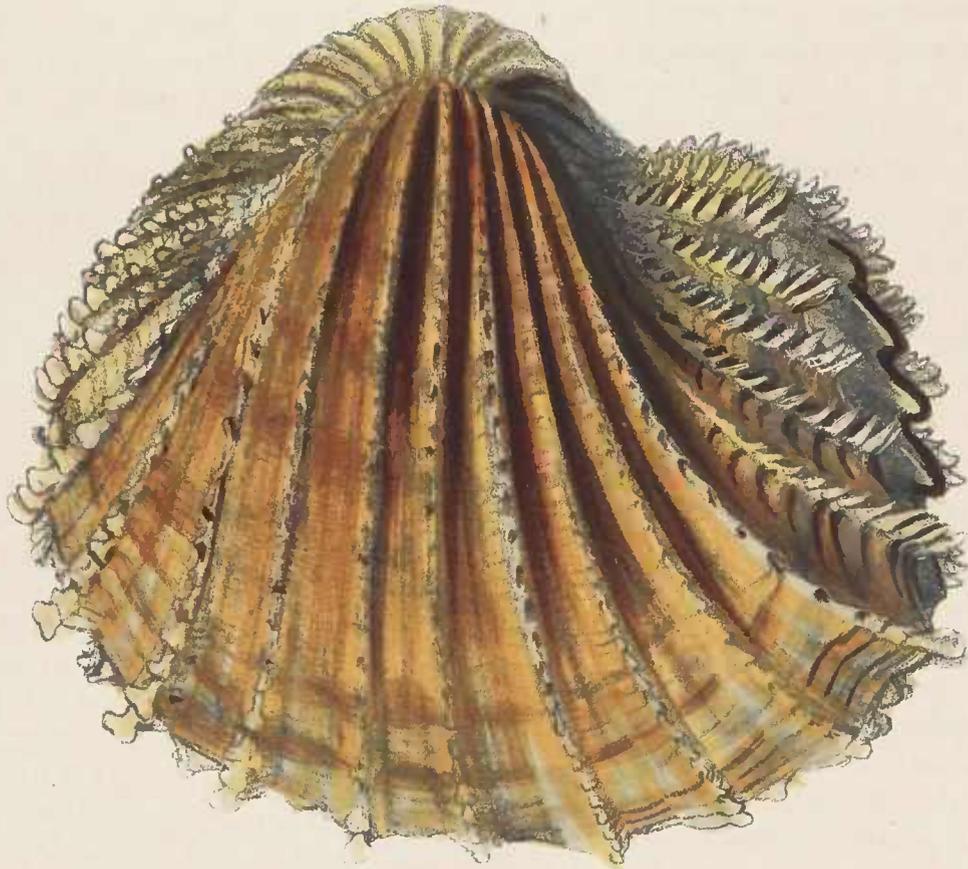
24



25



26 a



27



28



26 b

CARDIUM.

PLATE V.

Species 24. (Mus. Saul.)

CARDIUM AUSTRALIENSE. *Card. testá transversè ovatá, Donaciformi, medio subcontractá, posticè flexuoso-angulatá, subrostratá, anticè compresso-attenuatá; dimidio postico radiatim sulcato, antico lævigato, nitente; albidá, areá posticá strigis brevibus fuscis utrinque ornatá.*

THE AUSTRALIAN COCKLE. Shell transversely ovate, Donax-shaped, a little contracted in the middle, posteriorly flexuously angulated, slightly beaked, anteriorly compressly attenuated; posterior half of the shell radiately grooved, anterior smooth, shining; whitish, posterior area ornamented on each side with short brown stripes.

REEVE, Pro. Zool. Soc., 1844.

Hab. Port Lincoln, South Australia; Harvey.

This shell may be chiefly distinguished from the *Cardium Donaciforme*, to which it is in many respects allied, by the contracted flexuous prolongation of the posterior portion, and by the peculiarity of one half of the shell being conspicuously grooved, whilst the other half is smooth and shining.

Species 25. (Mus. Cuming.)

CARDIUM DONACIFORME. *Card. testá transversè ovatá, solidiusculá, Donaciformi, posticè angulatá, anticè compresso-attenuatá; radiatim sulcatá, sulcis anticis minus distinctis; albidá, vel aurantio-lutescente, punctis nigricantibus sparsis nebuloso-pictá.*

THE DONAX-SHAPED COCKLE. Shell transversely ovate, rather solid, Donax-shaped, angulated posteriorly, compressly attenuated anteriorly; radiately grooved, anterior grooves less distinct; whitish, or orange yellow, nebulously painted with scattered blackish dots.

SCHROETER, Einl. Conch., vol. iii. p. 68.

Hab. Island of Negros, Philippines (found in sandy mud at low water); Cuming.

The *Cardium Donaciforme* is of a much more solid and ventricose structure than the *Cardium Australiense*, wanting the posterior contraction, whilst the radiating grooves extend over its entire surface. The colour assumes a deeper tint and the spots are more clouded together on the posterior area, though presenting no appearance of cross stripes as in the preceding species.

Species 26. (Fig. a, Mus. Cuming; Fig. b, Mus. Saul.)

CARDIUM TRIGONOIDES. *Card. testá trigono-cordatá, posticè elongatá, subangulatá, umbonibus obtuso-carinatis, anticè abbreviatá, subcompressá; glaberrimá, albidá, radiis fuscescentibus, paulo elevatis, costis planulatis detritis simillimis, ab umbonibus regulariter divergentibus, ornatá.*

THE TRIANGULAR COCKLE. Shell triangularly cordate, elongated and slightly angulated posteriorly with the umbones obtusely keeled, shortened and compressed anteriorly; very smooth, whitish, ornamented with slightly elevated brown rays, very like worn flattened ribs, diverging with great regularity from the umbones.

PALLAS, 'Reise durch verschied. Provinzen des Russischen Reichs, vol. i.; Anhang (Appendix), p. 26, no. 80.

Cardium lineatum, Gmelin, Lamarck, Sowerby.

Didacna trigonoides, Eichwald.

Hab. Caspian Sea; Pallas, Eichwald.

The above is one of three shells described by Pallas in a somewhat obscure work treating principally of botanical subjects, entitled *Journey through different Provinces of the Russian Empire*, published at Leipzig in 1776.

Although a species of some rarity in our collections, it must be tolerably abundant in the Caspian Sea according to the testimony of both Pallas and Eichwald. The former, in the work above quoted, says "copiosissima testa mari Caspii"; and the latter writer, in his 'Fauna Caspio-Caucasia,' published only three years since, says "Hab. in omni fere mari Caspio, in septentrionali æque ac in meridionali ejus parte." The locality given by Lamarck, "Seas of America," is extremely vague, and most probably incorrect, as it appears to be founded merely upon the fact of his specimen, from the cabinet of M. DeFrance, having been presented to that naturalist by M. Richard after his return from Guyana.

It will perhaps be interesting to know that the shell before me, belonging to Miss Saul, is from the same source; the chief portion of M. Richard's conchological rarities fell into the possession of Dr. Goodhall of Eton, and, at the death of the venerable Provost, the specimen in question passed into the collection of the Rev. Mr. Stainforth, to whom its present possessor is indebted for it.

Species 27. (Mus. nobis.)

CARDIUM HIANS. *Card. testá ovato-globosá, subobliquá, subæquilaterali, ventricosissimá, posticè latissimè hiante, radiatim costatá, costis vicens, angustis, subobtusis, medianis lirá parvâ obtuso-convexâ intercedente, anticis squamiferis, posticis invicem compresso-planulatis, serrato-spinosis, spinis valdè irregularibus; fuscescente, ustulato-fusco fasciatim variegatá, interstitiis postico-medianis nigricante-fuscis, costis postremis subrosaceis, spinis albis, quasi eburneis.*

THE GAPING COCKLE. Shell ovately globose, rather oblique, nearly equilateral, very ventricose, very widely gaping posteriorly, radiately ribbed, ribs twenty in number, narrow, rather blunt, middle ribs with a small obtusely convex ridge running between them, anterior ribs squamiferous, posterior compressly flattened one upon the other, serrately spined, spines very irregular; brownish, the posterior-middle interstices blackish brown, extreme posterior ribs pinkish, spines white, like ivory.

BROCCHI, *Conch. Foss. Subap.*, vol. ii. p. 508, pl. 13, f. 6.

Cardium Indicum, Lamarck, Sowerby.

Cardium Burdigalinum (fossil), Lamarck.

Hab. Algeria.

This rare and very remarkable shell is one of considerable importance in the genus on account of its being the recent analogue of a fossil species described, and most accurately figured by Brocchi. Lamarck published the description of an odd valve which came into his possession, under the name of *Cardium Indicum*, and another valve was subsequently figured by Sowerby with the same title in the *Conchological Illustrations*. M. Deshayes, however, in his invaluable edition of Lamarck's *Anim. sans vert.*, says, "Cette belle et précieuse coquille est réellement le type vivant d'une espèce bien connue à l'état fossile, et dont Brocchi a donné une bonne figure sous le nom de *Cardium hians*"; and he has kindly satisfied me by ocular demonstration and comparison that another fossil shell, "Le *Cardium Burdigalinum* de Lamarck est une variété de localité de la même espèce."

The *Cardium hians* is of a light ventricose structure, gaping widely at the posterior side, and the only species approximating to that singularly formed shell the common *Cardium costatum*; the ribs of this species are much more feebly developed, but they exhibit a remarkable peculiarity of sculpture, the anterior ribs being surmounted with round vaulted scales somewhat like those of a miniature *Tridacna*, whilst the posterior, which are curiously flattened down one against the other, are armed along the edge with irregular short stout white spines, looking exactly like so many rows of small ivory tusks.

Species 28. (Mus. Cuming.)

CARDIUM IMBRICATUM. *Card. testá subquadratá, crassiusculá, anticè rotundatá, posticè angulatá, impresso-concavá, radiatim costatá, costis angustis, elevatiusculis, novenis et viginti, quarum undecenis postremis parvis, lævibus, cæteris squamis brevibus obesiusculis fornicatis armatis; extus niveá, intus vividè aurantiá, posticè purpurascete tinctá.*

THE IMBRICATED COCKLE. Shell somewhat square, rather thick, rounded anteriorly, angulated, impressly concave posteriorly, radiately ribbed, ribs narrow, rather elevated, twenty nine in number, the eleven most posterior of which are small, smooth, the rest armed with short stout vaulted scales; snowy white, interior bright orange, stained on the posterior side with pale purple.

SOWERBY, *Pro. Zool. Soc.*, 1840.

Hab. Swan River Colony.

The form of this shell is exactly similar to that of the *Cardium medium*, the anterior and middle ribs being, however, much more strongly squamiferous, and the interstices more deeply furrowed. It is a solid characteristic shell exhibiting, like all specimens from the rich and abundant locality above noted, an extremely delicate contrast from the interior, especially towards the hollow of the umbones, being of a bright orange, tinged along the posterior edge with pinkish purple, whilst the exterior is of a pure snowy white.



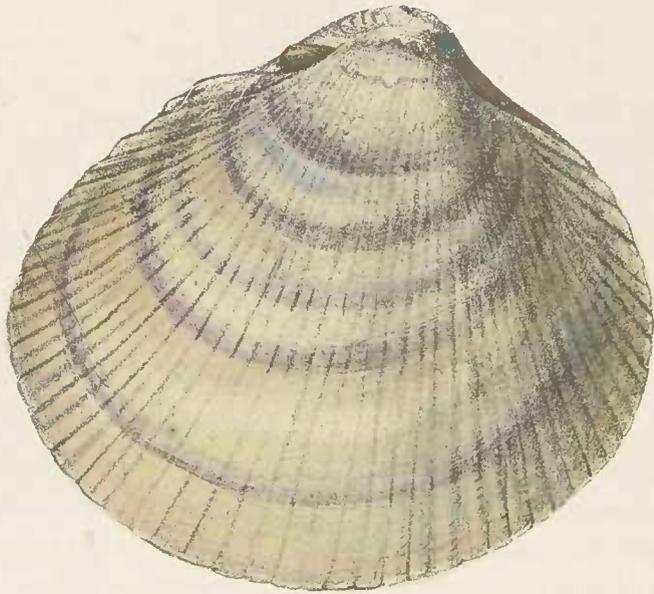
30



29



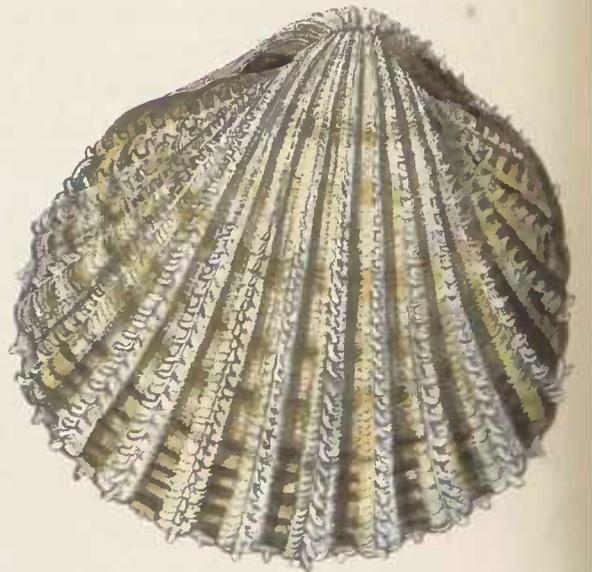
31



32



33



34

CARDIUM.

PLATE VI.

Species 29. (Mus. Saul.)

CARDIUM BIANGULATUM. *Card. testá subquadrato-cordatá, anticè rotundatá, posticè concavo-angulatá, subproductá, radiatim costatá, costis octonis et viginti, quarum novenis postremis angustis, parvis, rotundis, cæteris latioribus, planiusculis, peculiariter obliquo- seu undato-crenatis, costarum interstitiis transversim elevato-striatis; intus vividè purpureá.*

THE DOUBLE-ANGLED COCKLE. Shell somewhat squarely cordate, rounded anteriorly, concavely angulated and a little produced posteriorly, radiately ribbed, ribs twenty-eight in number, the extreme posterior nine of which are narrow, small, round, the rest wider, rather flat and peculiarly obliquely or undately crenated, interstices between the ribs transversely elevately crenated; interior richly stained with purple.

SOWERBY, Zool. Journal. vol. iv. p. 307; Conch. Illus. f. 2.

Hab. St. Elena and Isle of Plata, West Columbia (found in coral sand at the depth of seventeen fathoms); Cuming.

A species well distinguished amongst other characters by the peculiarly irregular manner in which the ribs are crenated, and by its rich purple interior.

Species 30. (Mus. Cuming.)

CARDIUM MEDIUM. *Card. testá subquadrato-cordatá, anticè rotundatá, posticè concavo-angulatá, radiatim costatá, costis senis et triginta, angustis, anticis brevisquamosis; albidá, rubido-fusco nebulosá et maculatá; intus albá.*

THE MIDDLE COCKLE. Shell somewhat squarely cordate, rounded anteriorly, concavely angulated posteriorly, radiately ribbed, ribs six and thirty in number, narrow, the anterior covered with short scales; whitish, clouded and spotted with reddish brown; interior white.

LINNÆUS, Syst. Nat., p. 1121.

Hab. Islands of Nevis and St. Vincent, West Indies (found in sandy mud at the depth of about six fathoms); Guilding.

It is a curious circumstance in the structure of this shell that the three most extreme posterior ribs next the ligament are broader than any of the rest.

Species 31. (Mus. Cuming.)

CARDIUM PLANICOSTATUM. *Card. testá subquadrato-cordatá, umbones versus attenuatá, anticè rotundatá, posticè brevissimè concavo-angulatá, areæ posticæ medio prominulo, radiatim costatá, costis tricenis, planis, acutimarginatis, anticis subrugoso-crenatis, posticis posticè subtiliter serratis, omnibus striis impressis arcuatis creberrimè exsculptis; costarum interstitiis profundè excavatis; rufescente-carneá, fusco nebulosá et maculatá, intus albá.*

THE FLAT-RIBBED COCKLE. Shell somewhat squarely cordate, attenuated towards the umbones, rounded anteriorly, very short, concavely angulated posteriorly, middle of the posterior area prominent, radiately ribbed, ribs thirty in number, flat, sharp-edged, the anterior crenated in a somewhat wrinkled manner, posterior finely serrated along the posterior edge, the whole very closely sculptured with arched impressed striæ; interstices between the ribs deeply excavated; warm pinkish flesh-colour, clouded and spotted with brown; interior white.

SOWERBY, Pro. Zool. Soc., 1833; Conch. Illus., f. 25.

Hab. Guacomayo, Central America (found in fine sand at the depth of thirteen fathoms); Cuming.

One of the most remarkable features in this species is the extremely delicate manner in which the flattened surface of the ribs is very minutely engraved throughout with close-set arched impressed striæ. The specimen here figured, from the collection of Mr. Cuming, and one in the British Museum, are all that have as yet been discovered.

Species 32. (Mus. Cuming.)

CARDIUM MUTICUM. *Card. testá transversè ovatá, depressá, tenui, fragili, anticè paulo hante, undique muticá, radiatim impresso-striatá, striis rudo-incisis, minutissimè undulatis, epidermide tenui radicanibus, striarum lateralium interstitiis medio concavis; lutescente, rosaceo-purpurascete umbones versus pallidè tinctá.*

THE SMOOTH COCKLE. Shell transversely ovate, depressed, thin, fragile, a little gaping anteriorly, everywhere smooth, radiately impressly striated, striæ rudely engraved, very minutely waved or zigzag, giving root

to a slight epidermis, interstices between the lateral striæ hollowed down the middle; pale yellow, faintly tinged with purple towards the umbones.

Cardium papyraceum, var., Sowerby, Conch. Ill., f. 55.

Hab. — ?

This is another very interesting shell of which no particular account has yet been given, Mr. Sowerby refers it to *Cardium papyraceum* (Sp. 9.), but an important character presents itself in that species, namely, the anterior side being roughed with very minute granules, of which I find no indication in this; and it is moreover *transversely* ovate, and altogether of a different tenour of form.

Species 33. (Mus. Cuming.)

CARDIUM MURICATUM. *Card. testá cordato-ovatá, subobliquá, radiatim costatá, costis convexis, tribus et triginta, quarum novenis anticis tuberculis minutis compressis, obliquè digestis, anticè muricatis, deinde duabus utrinque muricatis, cæteris posticè muricatis; albidá et flavicante, maculis perpaucis fuscis hic illic ornatá, lateribus marginibusque ventralibus aurantiis.*

THE MURICATED COCKLE. Shell cordately ovate, somewhat oblique, radiately ribbed, ribs convex, three and thirty in number, of which nine anterior are muricated with minute compressed obliquely arranged tubercles on the anterior side, then follow two muricated on both sides, and the rest muricated on the posterior side; whitish and yellowish, ornamented here and

there with a few light brown spots, sides and ventral margins orange.

LINNÆUS, Syst. Nat., p. 1123.

Hab. West Indies.

I think it very probable that several other species which the more critical acumen of modern conchologists have helped to identify were included under the above title by early writers.

Species 34. (Mus. Cuming.)

CARDIUM ECHINATUM. *Card. testá orbiculari-cordatá, subæquilaterali, radiatim costatá, costis vicenis interdum pluribus, medio exaratis, spinularum brevium serie regulari sulco exorientibus, costis interstitiisque perspicuè corrugatis; albidá aut fusciscente, fusco concentricè fasciatá.*

THE SHORT-PRICKLY COCKLE. Shell orbicularly cordate, nearly equilateral, radiately ribbed, ribs twenty in number, sometimes more, ploughed down the middle with a regular row of small short spines rising out of the groove, ribs and interstices conspicuously wrinkled or rather shrivelled; whitish or brownish, concentrically banded with brown.

LINNÆUS, Syst. Nat.. p. 1122. Enc. méth., pl. 298. f. 3.

Hab. Seas of Europe.

I cannot exactly concur in Lamarek's description of this well-known species, because its chief peculiarity appears to me to consist in the spines being very small, short, and not papilliferous at the base as in the *Cardium erinaceum*.



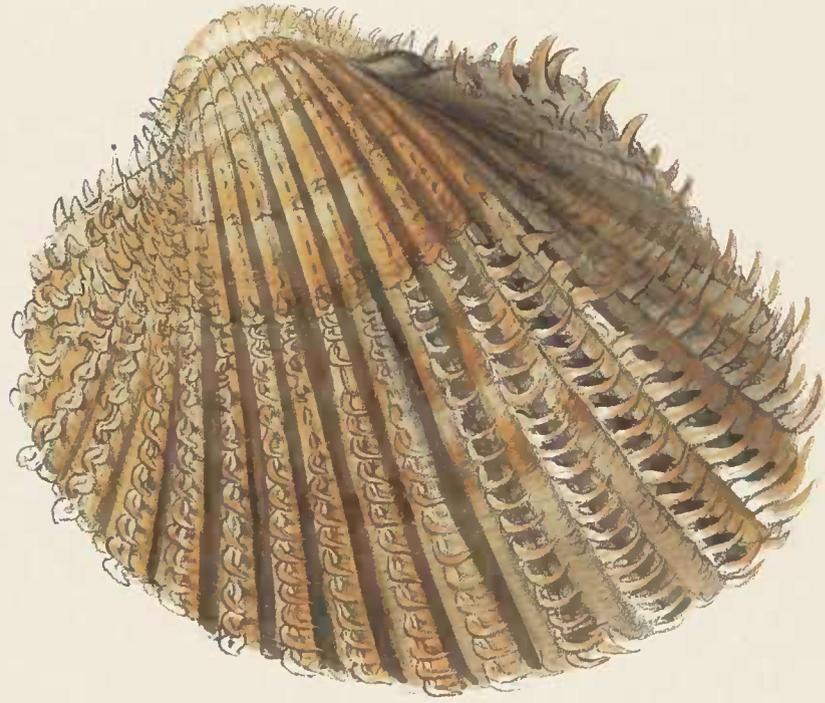
35



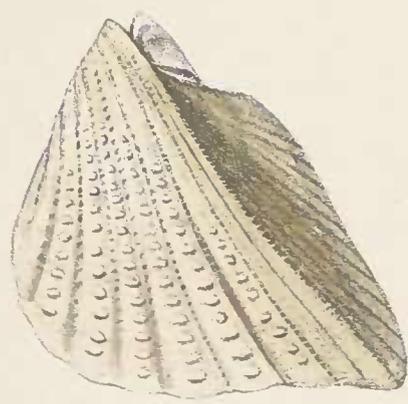
36



37



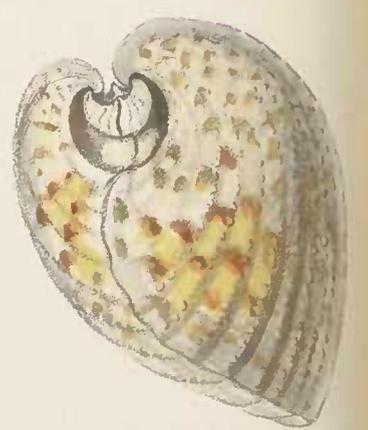
47



38 a



38 b



39

CARDIUM.

PLATE VII.

Species 35. (Fig. Enc. méth. pl. 298. f. 4.)

CARDIUM CILIARE. *Card. testá subcordatá, radiatim costatá, costis sedecim, angustis, peculiariter compresso-ciliatis.*

THE CILIATED COCKLE. Shell somewhat cordate, radiately ribbed, ribs sixteen in number, narrow, peculiarly compressly ciliated.

LINNÆUS, Syst. Nat. (12th edit.), p. 1122.

Chemnitz, Conch. Cab. vol. vi. p. 178, pl. 17, f. 171, 172.

Hab. — ?

I publish this species upon the testimony of the figures above referred to, as being quite distinct from the young of the *Cardium aculeatum* represented in Plate IV which has twenty-three ribs, whilst the *Cardium ciliare*, like the *Cardium paucicostatum*, has only sixteen.

Species 36. (Mus. Saul.)

CARDIUM OVIPUTAMEN. *Card. testá obliquè ovatá, tenui, ventricosá, radiatim tenuissimè striatá; niveá, opacá, strigis lineisve rosaceo-fuscescentibus exilibus undatis concentricè nebulosá, epidermide pallidá margines versus indutá; marginibus intus subtiliter crenulatis,*

THE EGG-SHELL COCKLE. Shell obliquely ovate, thin, ventricose, radiately very finely striated; opaque snowy white, concentrically clouded with faint waved pinkish-brown spots or lines, covered with a pale epidermis towards the margins; margins finely crenulated within.

REEVE, Pro. Zool. Soc. 1844.

Hab. — ?

The general appearance of this and the following species is very like that of the *Cardium serratum*, both, however, are of a less oblique form, and the *Cardium oviputamen* under consideration is more ventricose.

The concentrically waved pinkish brown marks above noticed, though faintly indicated, are nevertheless characteristic, as distinguished from those of a different pattern, in the following species.

Species 37. (Mus. Cuming.)

CARDIUM VITELLINUM. *Card. testá obliquè ovatá, tenuiculá, radiatim striatá; lutescente-albá, maculis parvis numerosis rosaceo-fuscescentibus umbones versus copiose*

lentiginosá, epidermide luteá indutá; marginibus intus crenulatis.

THE EGG-YOLK COCKLE. Shell obliquely ovate, rather thin, radiately striated; yellowish white, copiously freckled with numerous small pinkish-brown spots, covered with a yellow epidermis; margins crenulated within.

REEVE, Pro. Zool. Soc. 1844.

Hab. — ?

This shell is of a less ventricose ovate structure than the preceding, and farther distinguished by its different tinge and style of colouring.

Species 17. (Plates IV. and VII. Fig. 17. Mus. Cuming.)

CARDIUM ACULEATUM. *Card. testá cordatá, subquadrato-obliquá, radiatim costatá, costis tribus et viginti, convexis, aculeis numerosis prominentibus, posticè inflexis, medio seriatim armatis, costarum interstitiis transversim rugoso-fuscescentibus; intus subprofundè sulcatá.*

THE PRICKLY COCKLE. Shell ovate, somewhat squarely oblique, radiately ribbed, ribs three and twenty in number, convex, armed down the middle with a row of numerous prominent prickles bent over in the posterior direction; interstices between the ribs transversely rugosely impressed; light reddish brown; interior rather deeply grooved.

LINNÆUS, Syst. Nat. (12th edit.), p. 1122.

Hab. Seas of Europe. Britain (dredged off the coast of Dartmouth amongst sand and shells at the depth of about ten fathoms); Cuming.

The prickly spines of this well known species are peculiarly laterally compressed in an early stage of growth as represented at Plate IV.; but they soon disappear by friction or other causes, except on each side beneath the umbones.

Species 38. (Fig. a, Mus. Cuming; Fig. b, Mus. Saul.)

CARDIUM HEMICARDIUM. *Card. testá cordatá, tumidá, obliquè quadrilaterali, posticè compressá radiatim costatá, costis ad senis et viginti, plano-convexis, interstitiis peculiariter crebripunctatis, costis posticis lævibus, anticis tuberculato-crenatis, carinā prominente, ab umbone ad marginem decurrente, divisis; albá, areá posticá maculis rosaceis parvis interdum tinctá.*

THE HALF COCKLE. Shell cordate, swollen, obliquely quadrilateral, posteriorly compressed, radiately ribbed, ribs about six and twenty in number, flatly convex, interstices peculiarly closely punctured, posterior ribs smooth, anterior ribs tubercularly crenated, divided from the posterior by a prominent keel running down from the umbone to the margin in each valve; white, posterior area sometimes stained with small pink spots.

LINNÆUS, Syst. Nat. (Gmelin edit.), p. 3246.

Hemicardium — ? Cuvier.

Hab. St. Nicolas, Island of Zebu, Philippines (found in sandy mud at low water); Cuming.

The little tubercles which adorn the anterior ribs of this species are always worn away towards the umbones.

Species 39. (Mus. Cuming.)

CARDIUM AURICULA. *Card. testâ subquadrato-cordatâ, valdè tumidâ, posticè concavo-depressâ, radiatim indistinctè costatâ, costis planulatis, interstitiis exiliter*

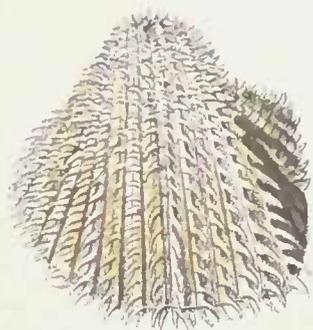
punctatis, costis posticis lævibus, anticis hic illic tuberculato-crenatis, carinâ subobtusâ ab umbone ad marginem decurrente dicens, lunulâ profundè excavatâ, calloso intrudo; lutescente-albâ, maculis rosaceis parvis eleganter tinctâ.

THE EAR COCKLE. Shell somewhat squarely cordate, very much swollen, posteriorly concavely depressed, indistinctly radiately ribbed, ribs flattened, interstices faintly punctured, posterior ribs smooth, anterior ribs here and there tubercularly crenated, separated from the posterior by a rather obtuse keel running down from the umbone to the margin; lunule deeply excavated, with a callosity intruding; yellowish white, elegantly stained with pink spots.

FORSKÆL, Fauna Arabica, f. 122.

Hab. Suez, north-west extremity of the Red Sea; Rüppell.

There appears to be about the same number of ribs in this as in the preceding species, but being rather indistinctly developed they cannot be enumerated with accuracy. The lunule is hollowed out with remarkable force.



40 a



40 b



41



42



43

CARDIUM.

PLATE VIII.

Species 40. (Mus. Cuming.)

CARDIUM HYSTRIX. *Card. testá subquadrato-cordatá, posticè concavo-angulatá, radiatim costatá, costis ad duas et triginta, angustis, compressis, posticis squamulis brevibus, cæteris spinis squamæformibus erectis, umbones versus subinflexis, elegantissimè ornatis; costarum interstitiis striis elevatis transversim subtiliter cancellatis; albidá, costarum interstitiis pallidè rosaceis, lineá vividè coccineá utrinque pictis; intus purpureo-rufescente.*

THE PORCUPINE COCKLE. Shell somewhat squarely cordate, posteriorly concavely angulated, radiately ribbed, ribs about two and thirty in number, narrow, compressed, the posterior elegantly ornamented with small short scales, the rest with erect scale-like spines, a little inflected towards the umbones; interstices between the ribs transversely finely cancellated with raised striæ; whitish, interstices between the ribs tinged with pink, and painted down each side with a bright scarlet line; interior purple-red.

REEVE, Pro. Zool. Soc., 1844.

Variety β .

Testa extus omnino nivea.

Shell exteriorly entirely white.

Hab. Island of Corrigidor, Philippines (found in coarse sand at the depth of about seven fathoms); Cuming.

The exquisite delicacy and beauty of this shell is remarkable; each rib is surmounted with a close-set row of slender scale-like spines, and the interstices are minutely cancellated; they are moreover tinged with pink, and down each side of the ribs is a bright scarlet line.

The accompanying figure is lithographed by Mr. G. B. Sowerby, Jun., from a very clever drawing of the specimen in Mr. Cuming's collection executed by his sister, a lady of eminent talent in natural history painting.

There is another very beautiful small specimen of the *Cardium hystrix* in the collection of Miss Saul; and Mr. Cuming is also in possession of two of the white variety.

Species 41. (Mus. Cuming.)

CARDIUM ELATUM. *Card. testá ovatá, obliquá, maximá, radiatim lirátá, liris ad tribus et quadraginta, plano-convexis, umbones versus obsoleteis, areis posticá anticáque extremis lævibus; citrino-flavá; intus albá.*

THE LOFTY COCKLE. Shell ovate, oblique, very large, radiately ridged, ridges about three and forty in num-

ber, flatly convex, obsolete towards the umbones, extreme posterior and anterior areas smooth; citron yellow, interior white.

SOWERBY, Pro. Zool. Soc., 1833.

Hab. Bay of California (found on mud-banks at low water); Lieut. Barlow.

This and the *Cardium pseudo-lima* are by far the largest species of the genus.

Species 42. (Mus. Cuming.)

CARDIUM PULCHELLUM. *Card. testá orbiculari, tenui, depressiusculá, subæquilaterali, radiatim crebristriatá, striis solidis, elevatis, regularibus, posticis minutissimè squamosis; albidá, striis quibusdam albis, plerisque vividè coccineis; intus lutescente, radiis binis coccineis ab umbone in utrâque valvâ divergentibus.*

THE PRETTY COCKLE. Shell orbicular, thin, somewhat depressed, nearly equilateral, radiately closely striated, striæ solid, raised, regular, the posterior striæ covered with very minute scales; white, striæ some few white, most of them bright scarlet; interior yellowish, two scarlet rays diverging within the umbone in each valve.

Cardium striatulum, jun., Sowerby, Conch. Ill., f. 45.

Hab. Australia.

This very pretty species cannot surely be the young of the *Cardium striatulum*; it is of a different form, being truly orbicular, and offers no indication of the wrinkled striæ with which that species is so peculiarly cancellated.

Species 43. (Mus. Saul.)

CARDIUM GRANIFERUM. *Card. testá obliquè ovatá, Trigoniformi, fortiter radiatim costatá, costis septemdecem, angulatis, noduloso-graniferis, sulcis interstitialibus latiusculis, profundis, pulcherrimè cancellatis; niveá.*

THE GRANIFEROUS COCKLE. Shell obliquely ovate, Trigonium-shaped, strongly radiately ribbed, ribs seventeen in number, angulated, nodulously granulated, interstitial grooves rather wide, deep, very beautifully cancellated; snowy white.

BRODERIP and SOWERBY, Zool. Journal, vol. iv. p. 367.

Hab. Gulf of Nicoya, Central America; and Xipixapi, West Columbia; Cuming.

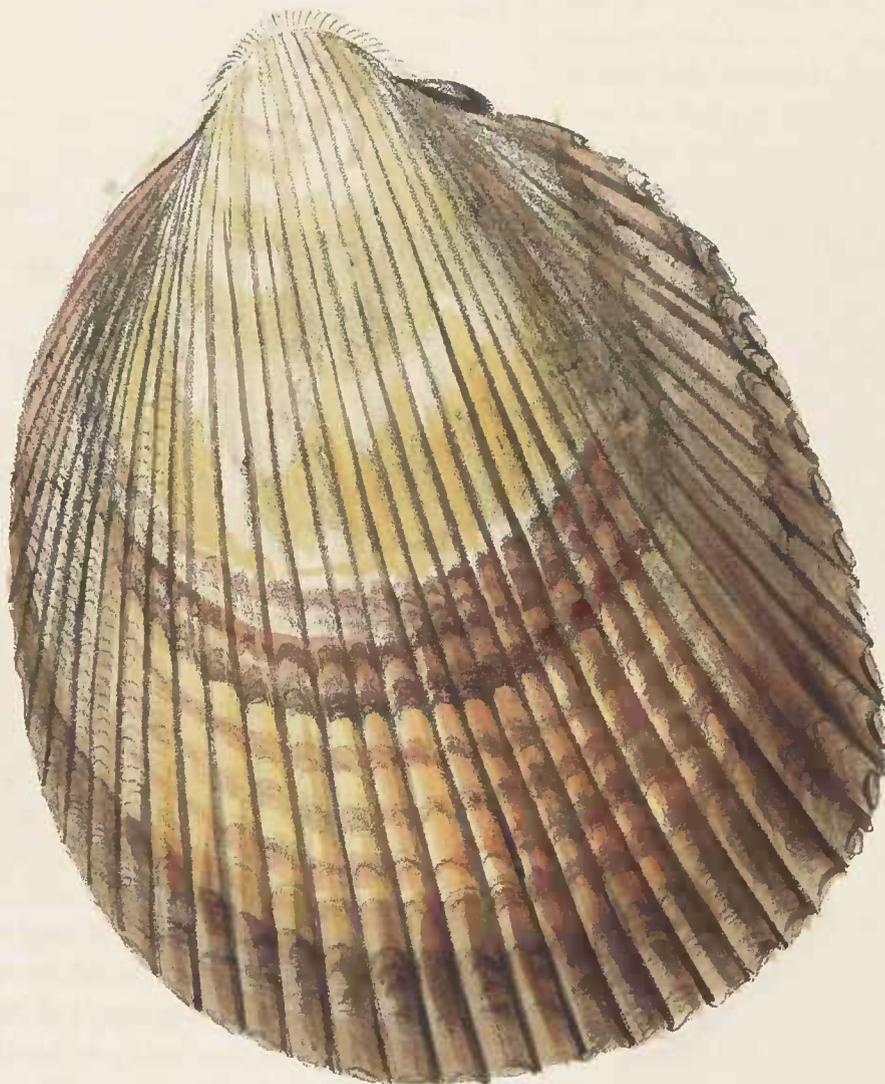
This curious little species may be recognised by its singular resemblance in form to a *Trigonium*.



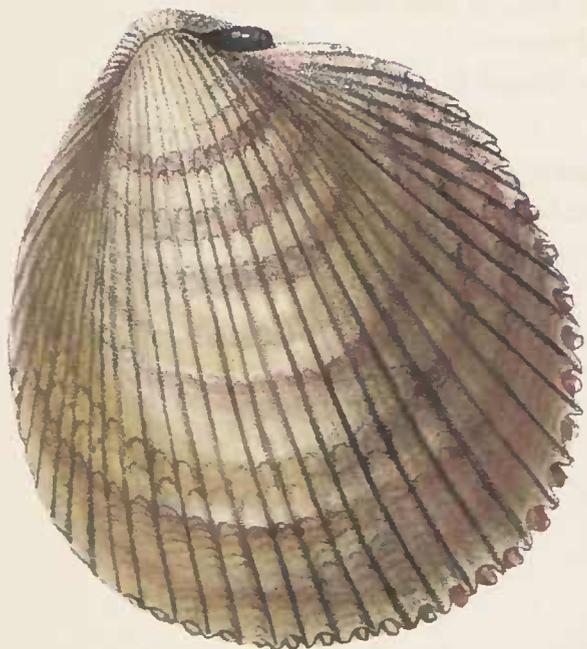
44



45



46



47



48

CARDIUM.

PLATE IX.

Species 44. (Mus. Cuming.)

CARDIUM RUBICUNDUM. *Card. testá oblongo-ovatá, vix obliquá, radiatim costatá, costis acutè convexis, septenis et triginta, quarum triente anticá squamoso-crenatá, medianá utrinque obtuso-squamatá, posticá tuberculatá; rubicundá, umbones versus albicante rubido-fusco maculatá; marginibus intus vividè rubris.*

THE BRIGHT RED COCKLE. Shell oblong-ovate, very slightly oblique, radiately ribbed, ribs sharply convex, seven and thirty in number, the anterior third portion squamosely crenated, the middle portion obtusely scaled on both sides, the posterior portion obliquely tubercled; bright red, whitish towards the umbones spotted with reddish brown, margins edged with bright pinkish red interiorly.

REEVE, Pro. Zool. Soc., 1844.

Hab. Zanzibar, East Coast of Africa.

An extremely pretty species, remarkable for its vivid colouring, and for the elaborate character of its sculpture.

Species 45. (Mus. Cuming.)

CARDIUM ASSIMILE. *Card. testá oblongo-ovatá, obliquè radiatim costatá, costis quinque et triginta, basi latis, approximatis, summitatem versus attenuatis, anticis crenatis, postremis tuberculatis, medianis lævibus, lateraliter subtilissimè impresso-serratis; pallidè purpureo-rufescente, umbones versus albicante, maculis sparsis variegatá.*

THE ASSIMILATING COCKLE. Shell oblong, ovate, obliquely radiately ribbed, ribs five and thirty in number, broad and approximated at the base, attenuated towards the summit, anterior rib crenated, the extreme posterior tuberculated, the middle smooth and very finely impressly serrated at the sides; pale purple red, whitish towards the umbones, variegated with scattered spots.

REEVE, Pro. Zool. Soc., 1844.

Hab. Zanzibar, East Coast of Africa.

This species approximates very closely to the *Cardium subelongatum*, yet there are differences which cannot be overlooked; it has a greater number of ribs, and the ribs are of another structure.

Species 46. (Fig. 46 and 47, Mus. Cuming.)

CARDIUM ELONGATUM. *Card. testá elongato-ovatá, latere postico subquadrato, serrato; radiatim costatá, costis tribus et quadraginta, planulatis, creberrimis, anticis subtilissimè crenulatis; albidá, flavicante sparsim grandimaculatá, costis, posticis præcipuè, versus margines fuscescente tinctis.*

THE ELONGATED COCKLE. Shell elongately ovate, posterior side somewhat square, serrated, radiately ribbed, ribs three and forty in number, flattened, very close-set, the anterior very finely crenulated; whitish, ornamented with a few scattered large yellowish spots, ribs, the posterior especially, stained with brown towards the margins.

BRUGUIERE, Dict. Enc. Méth., No. 26.

Sowerby, Conch. Illus. f. 49.

Hab. Island of Ticao, Philippines (found among coral sand in deep water); Cuming.

A fine shell in which the ribs are peculiarly flattened, and so closely arranged, that the interstitial grooves have the appearance of deep narrow cuts.

For Species 47. see Plate XIII.

Species 48. (Mus. Cuming.)

CARDIUM PENNANTII. *Card. testá depresso-cordatá, subobliquá, valdè inæquilaterali, radiatim exilissimè sulcatá, areá posticá lævi; sordidè flavicante, epidermide tenui lævi fictili indutá, intus albá.*

PENNANT'S COCKLE. Shell depressly cordate, rather oblique, very inequilateral, radiately very faintly grooved, posterior area smooth; dirty yellowish colour covered with a thin smooth earthy epidermis, interior white.

BECK, MSS., H. M. The King of Denmark's Museum.

Cardium lævigatum Pennant.

Hab. Exmouth, Devon. (found in sandy mud in deep water); Cuming.

The grooves of this species, which has been confounded with the *C. lævigatum*, are almost obsolete.



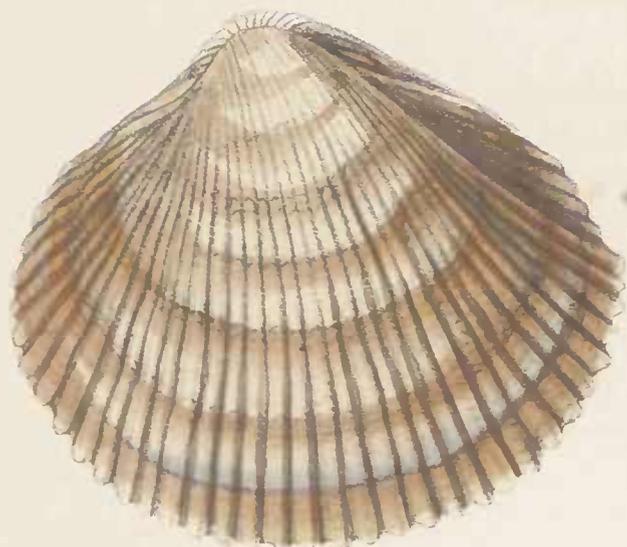
49



50



51



52



53

CARDIUM.

PLATE X.

Species 49. (Mus. Cuming.)

CARDIUM BIRADIATUM. *Card. testá elongato-ovatá, umbones versus attenuatá, radiatim striatá, areis posticá anticáque lævigatis; albá, maculis roseis undatis sparsis variegatá, intus roseo vividè biradiatá.*

THE DOUBLE-RAYED COCKLE. Shell elongately ovate, attenuated towards the umbones, radiately striated, posterior and anterior areas smooth; white, sparingly variegated with waved pink spots, interior vividly stained with two pink rays.

BRUGUIERE, Dict. Enc. Méth. No. 25.

Cardium lævigatum, Chemnitz, Conch. Cab., vol. vi. pl. 18. f. 185 and 186.

Hab. Island of Buriás, Philippines (found among coral sand at the depth of about six fathoms); Cuming.

The characteristic mark of this species, as its name implies, is represented by the two pink rays which diverge from within the umbone in each valve. I regret not having exhibited the interior of the shell in the accompanying plate, but the character is most accurately displayed by Chemnitz in the figure above referred to.

Species 50. (Mus. Cuming.)

CARDIUM TENUICOSTATUM. *Card. testá transversè ovatá, subobliquá, tenuiculá, ventricosá, radiatim subtilissimè costatá, costis numerosissimis, nunc quadragenis, nunc duabus tribusve et quinquaginta, muticis; albidá, costis maculis parvis carneolis undatim variegatis, umbonibus roseo-purpurascensibus.*

THE THIN-RIBBED COCKLE. Shell transversely ovate, rather oblique, somewhat thin, ventricose, radiately very finely ribbed, ribs very numerous, sometimes forty in number, sometimes about fifty-two or -three in number, smooth; whitish, ribs variegated in a waved manner with small flesh-colour spots, umbones rose-purple.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. vi. p. 372.

Hab. New Holland.

The ribs of this species appear to be much more numerous in some specimens than in others, varying from forty to two or three and fifty in each valve.

Species 51. (Mus. Cuming.)

CARDIUM PROCERUM. *Card. testá oblongo-ovatá, tumidá, latere antico rotundato, postico subquadrato-angulato, serrato; radiatim costatá, costis quinque et viginti, planulatis, arcuatim striatis, quaternis extremo-anticis obsoleteusculis, cæteris posticè angulatis; fusco-albicante, costis maculis perpaucis purpureo-fuscis exiliter tinctis, epidermide fictili lævi indutá, marginibus posticis intus purpureo-fuscis.*

THE TALL COCKLE. Shell oblong-ovate, swollen, anterior side rounded, posterior somewhat squarely angulated, serrated, radiately ribbed, ribs five and twenty in number, flattened, arcuately striated, the four extreme anterior ribs rather obsolete, the rest posteriorly angulated; brownish-white, ribs faintly stained with a very few purple-brown spots, covered with a thin earthy epidermis, posterior margins purple-brown within.

SOWERBY, Pro. Zool. Soc., 1833.

Testa juvenis,—*Cardium laticostatum*, Sowerby.

Hab. Real Llejos, Central America (found in coarse sand at a depth of from four to six fathoms); Cuming.

A fine bold species collected by Mr. Cuming at the above named locality, of which the *Cardium laticostatum* of Sowerby is unquestionably the young.

Species 52. (Mus. Cuming.)

CARDIUM PSEUDO-FOSSILE. *Card. testá depresso-ovatá, lateraliter subproductá, radiatim costatá, costis numerosissimis, ad quinquagenis angustis, lævibus, hinc et illinc tumidiusculis; ferrugineo-albá.*

THE FOSSIL-LIKE COCKLE. Shell depressly ovate, a little produced on each side, radiately ribbed, ribs very numerous, about fifty in number, narrow, smooth, a little swollen here and there; rusty white.

REEVE, Pro. Zool. Soc., 1844.

Hab. —?

This is a remarkable species and has so much the appearance of being in a fossil state, that I only felt satisfied to the contrary upon discovering a large portion of fresh horny ligament attached to the hinge of one of Mr. Cuming's specimens.

Species 53. (Mus. Cuming.)

CARDIUM GREENLANDICUM. *Card. testâ depresso-ovatâ, tenui, subcordatâ, lævi, striis impressis subdistantibus radiatim ornatâ, posticis fortioribus; cinereo-albidâ, flammulis minutis rufo-fuscescentibus interdum pictâ, epidermide indutâ.*

THE GREENLAND COCKLE. Shell depressly-ovate, thin, somewhat cordate, smooth, radiately ornamented with rather distant impressed striæ, the posterior of which are the stronger; ashy white, sometimes painted with minute reddish brown flames, covered with an epidermis.

CHEMNITZ, Conch. Cab., vol. vi. pl. xix. f. 198.

Cardium edentulum, Sowerby.

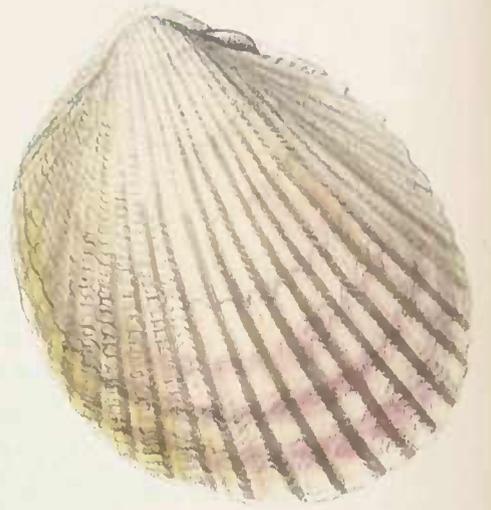
Aphrodite columba, Lea.

Hab. Coast of Greenland.

The *Cardium Greenlandicum* which Mr. Lea has described in the American Philosophical Transactions as a new estuary type "allied to *Cyrena*," is certainly a very aberrant form of the genus under consideration; the hinge being almost edentulate, and the shell varying considerably in its proportions at different stages of growth. When young it is nearly orbicular as figured in the Conchylien Cabinet and in the Encyclopédie Méthodique; it then assumes a more transverse Mactriform structure, as in the specimen figured in the accompanying plate; and in a more advanced state, when the valves become thickened and partially eroded, the form is more oblong and rounded, like that of the fine examples figured by Mr. Lea in the 'Transactions' above mentioned, and by Mr. Sowerby in his 'Genera of Shells.'



54



55



56



57



58

CARDIUM.

PLATE XI.

Species 54. (Mus. Cuming.)

CARDIUM ICELANDICUM. *Card. testá subdepresso-ovatá, tenuiculá, inæquilaterali, lateribus rotundatis, antico brevissimo; radiatim costatá, costis quaternis quinisque et triginta, parvis, angustis, medio subtilissimè serratis; albidá, epidermide crassá fictili indutá; umbonibus plus minusve erosis.*

THE ICELAND COCKLE. Shell somewhat depressly ovate, rather thin, very inequilateral, sides rounded, the anterior very short; radiately ribbed, ribs four or five and thirty in number, small, narrow, finely serrated down the middle; whitish, covered with a thick earthy epidermis; umbones more or less eroded.

CHEMNITZ, Conch. Cab. vol. vi. p. 200. pl. 19. f. 195-6.

Cardium Arcticum, Sowerby.

Testa juvenis,—*Cardium pubescens*, Courthouy.

Hab. Iceland.

The form of this shell is very much like that of a *Cytherea*.

Species 55. (Mus. Cuming.)

CARDIUM SUBRUGOSUM. *Card. testá subelongato-ovatá, umbones versus attenuatá, valdè obliquá, latere antico peculiariter rotundato; radiatim costatá, costis ad tricenis, pluribus minoribusve, postremis lævibus, cæteris rugoso-crenatis; lutescente-albá, pallidè rosaceá, epidermide luteo-fuscá margines versus interdum indutá.*

THE SLIGHTLY-WRINKLED COCKLE. Shell rather elongately ovate, attenuated towards the umbones, very oblique, anterior side peculiarly rounded; radiately ribbed, ribs about thirty, more or less, the extreme posterior ribs smooth, the rest rugosely crenated; yellowish white faintly tinged with rose, sometimes covered towards the margins with a brown epidermis.

SOWERBY, Pro. Zool. Soc., 1840; Conch. Illus. f. 34.

Hab. Ceylon, Philippine Islands, and Zanzibar.

The extreme posterior ribs of this species are smooth and nearly obsolete, whilst the middle ribs are most delicately wrinkled; and the wrinkles, increasing gradually in size and distance from each other, impart to the anterior portion of the shell, a distinctly crenated character.

Species 56. (Mus. Cuming.)

CARDIUM PANAMENSE. *Card. testá subelongato-ovatá, ventricosá, umbones versus attenuatá, latere antico rotundato, postico subangulato; radiatim costatá, costis ad vicenis, magnis, conspicuis, primum angulatis, demum rotundatis; albidá, epidermide olivaceá indutá; marginibus posticis intus purpurascensibus.*

THE PANAMA COCKLE. Shell rather elongately ovate, ventricose, attenuated towards the umbones, anterior side

rounded, posterior rather angulated; radiately ribbed, ribs about twenty in number, large, conspicuous, first angulated, then rounded; whitish, covered with an olive epidermis, posterior margins purple within.

SOWERBY, Pro. Zool. Soc., 1843.

Hab. Panama (found in sandy mud at the depth of about ten fathoms); Cuming.

This is a truly noble species, very closely allied to the *Cardium procerum*, but easily distinguished by its more elongated form, and by the marked development of the ribs.

Species 57. (Mus. Cuming.)

CARDIUM SUBELONGATUM. *Card. testá subelongato-ovatá, oblongá, radiatim costatá, costis ad duabus vel tribus et triginta, acutè angulatis, interstitiis profundè excavatis, costis postremis tuberculatis, medianis lævibus, anticis crenatis; albidá aut flavicante, rubro tinctá et maculatá.*

THE SLIGHTLY-ELONGATED COCKLE. Shell rather elongately ovate, oblique, radiately ribbed, ribs about two or three and thirty in number, sharply angled, interstices between them deeply excavated, the extreme posterior ribs armed with small tubercles, the middle ribs smooth, the anterior crenated; whitish or yellowish, stained and spotted with red.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. Island of St. Thomas, West Indies.

The deep-ploughed interstices between the ribs are very characteristic in this species.

Species 58. (Mus. Cuming.)

CARDIUM MACULATUM. *Card. testá oblongo-ovatá, valdè obliquá, umbones versus attenuatá, latere antico peculiariter rotundato; radiatim costatá, costis duabus tribusve et triginta, plano-convexis, approximatis, anticis pulcherrimè crenulato-rugosis; rufescente, purpureo-rufo vividè tinctá et maculatá, umbonibus albicantibus.*

THE SPOTTED COCKLE. Shell oblong-ovate, very oblique, attenuated towards the umbones, anterior side peculiarly rounded, radiately ribbed, ribs two or three and thirty in number, flatly convex, approximated, the anterior very beautifully crenulately wrinkled; reddish, stained and spotted with bright red, umbones whitish.

SOWERBY, Conch. Illus. Cat. *Card. Sp.* 56. f. 18.

Hab. Island of Tres Marias, Gulf of Mexico.

The ribs of this beautiful species are flattened and peculiarly approximated, the interstices exhibiting all the appearance of deep narrow cuts. The delicate crenulated sculpture of the anterior ribs presents a very striking effect.



59



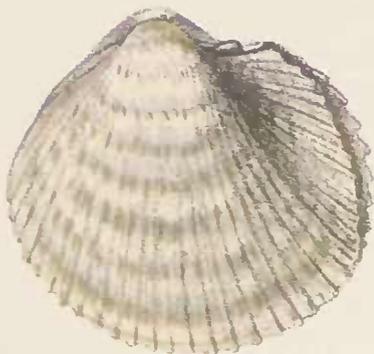
60



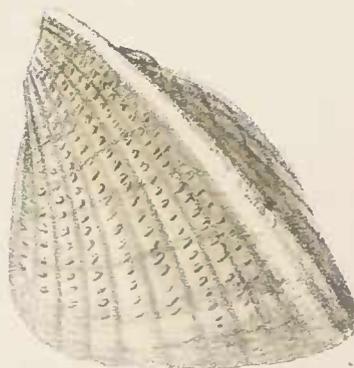
61



62



63a



64



63b

CARDIUM.

PLATE XII.

Species 59. (Mus. Cuming.)

CARDIUM CUMINGII. *Card. testá transversè ovatá, tenui, fragili, latere postico hiante; subtilissimè cancellatá, anticè rugosá, parte anticá cristá vel laminá elevatá, ab umbonibus ad margines decurrente, pulcherrimè ornatá; diaphano-roseá.*

CUMING'S COCKLE. Shell transversely ovate, thin, fragile, posterior side gaping; very finely cancellated, wrinkled anteriorly, anterior portion of the shell very beautifully ornamented with a thin elevated crest or lamina running down from the umbones to the margins; transparent rose pink.

BRODERIP, Pro. Zool. Soc., 1833.

Hab. Gulf of Dulee, Central America (found in sandy mud at the depth of twelve fathoms); Cuming.

The external appearance of this remarkably delicate transparent rosy Cockle is not much unlike that of some of the *Anatinæ*.

Species 60. (Mus. Cuming.)

CARDIUM STRIATULUM. *Card. testá transversè ovatá, tenuiculá, latere postico paululum hiante; radiatim crebristriatá, striis conspicuis, elevatis, rugis subtilissimis undatis peculiariter cancellatis, striis posticis versus margines minutissimè brevispinosis; pallidè ferrugineo-albá; intus albá, radiis binis aurantio-rufis ab umbone utriusque valvæ divergentibus.*

THE FINELY STRIATED COCKLE. Shell transversely ovate, rather thin, posterior side a little gaping, radiately closely striated, striæ conspicuous, elevated, peculiarly cancellated with very fine waved wrinkles, posterior striæ covered towards the margins with minute short spines; pale rusty white, two orange-red rays diverging from within the umbones of each valve.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. New Zealand.

A thin delicate shell, slightly produced at the posterior side, and having its entire surface cancellated with fine irregularly waved wrinkles.

Species 61. (Mus. Cuming.)

CARDIUM BRASILIANUM. *Card. testá obliquè ovatá, umbones versus attenuatá, lævigatá, nitidá; cinereo-albá,*

lineis spadiceo-rufis longitudinalibus margines versus creberrimè pictá, areis posticá anticáque fasciis brevibus latiusculis nigricante-cinereis subirregulariter decussatá.

THE BRAZILIAN COCKLE. Shell obliquely ovate, attenuated towards the umbones, smooth, shining; ashy white, closely painted towards the margins with brownish red longitudinal lines, posterior and anterior areas somewhat irregularly crossed with rather broad dark ashy bands.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. vi. p. 393.
Hab. Coast of Brazil.

The radiating longitudinal lines, with which this shell is partially painted, are very characteristic. "Cette coquille," says Lamarck, "n'offre ni cotes, ni stries longitudinales, mais seulement des lignes colorées."

Species 62. (Mus. Cuming.)

CARDIUM ERINACEUM. *Card. testá rotundato-cordatá, globosá, radiatim costatá, costis senis et triginta, acutè angulatis, aculeis numerosis breviusculis, posticè inflexis, basi papilliferis, anticis præcipuè, medio creberrimè armatis, costarum interstitiis profundè excavatis, transversim impresso-striatis; rufo-fuscescente.*

THE HEDGE-HOG COCKLE. Shell rotundately cordate, globose, radiately ribbed, ribs six and thirty in number, sharply angled, very closely armed down the middle with numerous rather short spines bent over in the posterior direction and papilliferous at the base, the anterior especially, interstices between the ribs deeply excavated, transversely impressly striated; light reddish-brown.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. vi. p. 397.
Hab. Mediterranean.

This species may be easily distinguished from the *Cardium aculeatum* by its having a greater number of ribs, and by the papilliferous structure of its spines.

Species 63. (Fig. a and b, Mus. Cuming.)

CARDIUM RUGATUM. *Card. testá orbiculari, tenuissimá, fragili, latere postico producto, hiante; radiatim costatá, costis ad tribus vel quaternis et quadraginta, tenuibus, subsuperficialibus, umbones versus fere obsoletis; albidá roseo variegatá, vel purpurascente, vel luteo-spadiceá, umbonibus roseo-purpureis.*

THE SHRIVELLED COCKLE. Shell orbicular, very thin, fragile, posterior side produced, gaping open; radiately ribbed, ribs about three or four and forty in number, thin, rather superficial, nearly obsolete towards the umbones; sometimes whitish variegated with pink, sometimes purple or yellowish bay, umbones pinkish purple.

GRONOVIVS, Zoophylaeium, pl. 18. f. 5.

Cardium apertum, Chemnitz, Lamarck, Sowerby.

Cardium virgineum, var. β , Gmelin.

Hab. Eastern coast of the Island of Luzon, Philippines (found in sandy mud at the depth of about seven fathoms); Cuming.

This very delicate and elegant species varies singularly in colour, some examples being white mottled with pink, whilst others are of a clear orange bay or purple.

Species 64. (Mus. Cuming.)

CARDIUM TUMORIFERUM. *Card. testâ cordatâ, tumidâ, obliquè quadrilaterali, posticè compressâ, carinâ promi-*

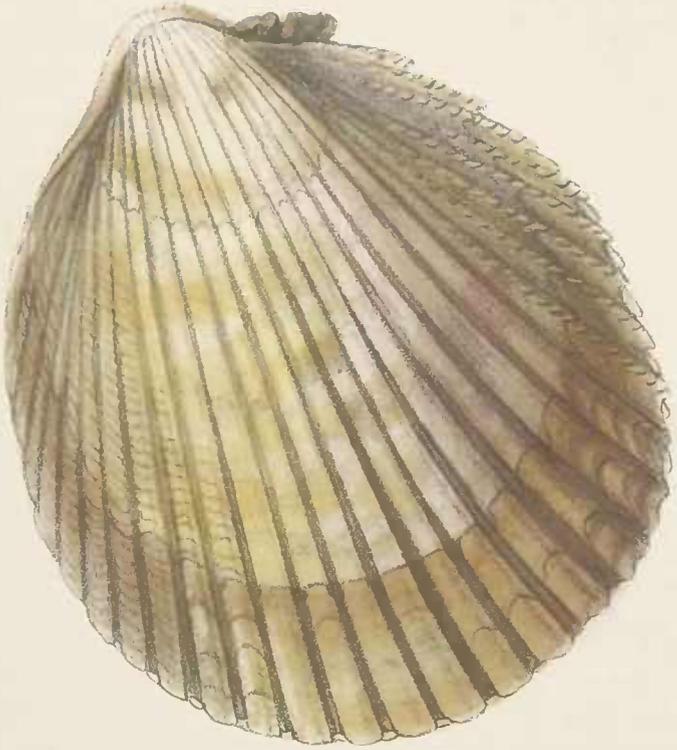
nente ab umbonibus ad margines decurrente; radiatim costatâ, costis planulatis, ferè evanidis, interstitiis crebripunctatis; areâ anticâ magnâ, lavi; nivedâ.

THE BLISTERED COCKLE. Shell eordate, swollen, obliquely quadrilateral, posteriorly compressed, with a prominent keel running down from the umbones to the margins; radiately ribbed, ribs flattened, almost obsolete, interstices closely punctured; anterior area large, smooth; snowy white.

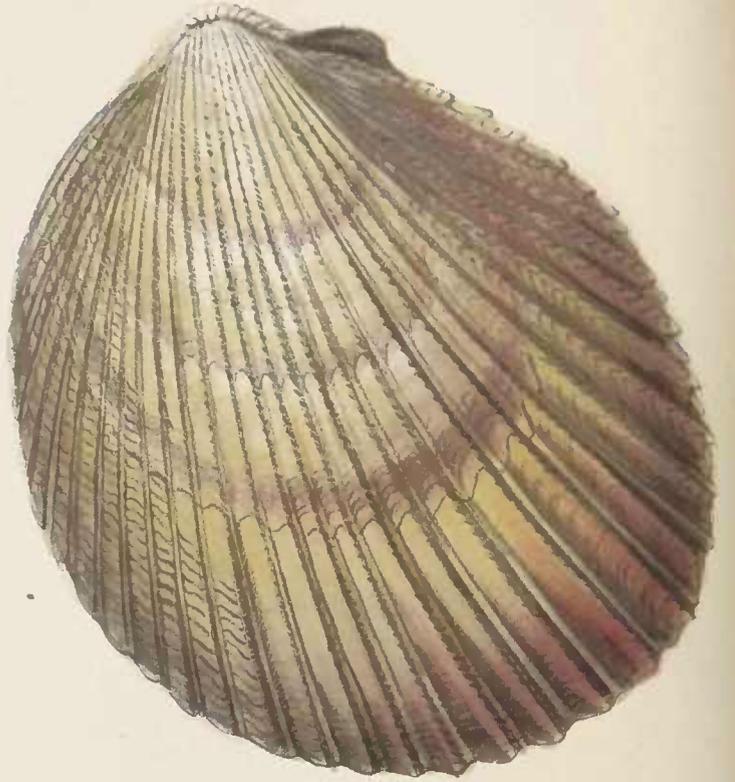
LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ii. p. 410.

Hab. New Holland.

This species which I at first hesitated to consider anything more than a variety of the *Cardium hemicardium*, appears to differ in having the anterior area perfectly smooth, whilst the ribs are much less prominently developed. The name given to this shell is suggested by the circumstance which Lamarck relates of its interior being often blistered, and which is certainly very conspicuous in the example before me.



47



65



66

CARDIUM.

PLATE XIII.

Species 47. (Mus. Cuming.)

CARDIUM LEUCOSTOMA. *Card. testá depresso-ovatá, sub-obliquá; radiatim costatá, costis ad tribus et triginta, plano-convexis, peculiariter separatis, lateraliter subtilissimè serratis, costis anticis crenatis; lutescente aut rosaceo-fuscescente, rosaceo aurantioque marmoratá; intus albá, marginibus aurantiis, radiisque binis aurantiis infra umbones interdum tinctá.*

THE WHITE MOUTH COCKLE. Shell depressly ovate, somewhat oblique; radiately ribbed, ribs thirty-three or four in number, flatly convex, peculiarly separated from each other, laterally very finely serrated, anterior ribs crenated; yellowish, or light pinkish brown, marbled with pink and orange; interior white, edges stained with orange, sometimes two faint orange rays beneath the umbones.

BORN, Mus. Cæs. Vind. pl. 3. f. 6 and 7.

Cardium marmoreum, Lamarek.

Hab. Singapore (found in sandy mud at low water); Cuming.

M. Deshayes very properly urges the propriety of restoring to this species the name under which it was originally published by Born, and adopted by Chemnitz. Lister may have used the word "*marmoreum*" in describing it, but the titles applied by the great founder of the Ashmolean collection to his figures of shells, have become obsolete through not being in accordance with the admirable form of nomenclature, now in use, which was subsequently introduced by Linnæus.

The ribs of the *Cardium leucostoma* are developed with peculiar distinctness, owing to the depth and remarkable decision of the grooves which separate them; a character very well portrayed by Mr. Wood in the representation of a specimen which he has erroneously figured in the 'General Conchology,' Pl. LIII. f. 3, for the *Cardium elongatum*. In his account of that species he says, "This is an oblong oval shell, with forty longitudinal ribs according to Bruguière, but our specimens have only thirty-four;" the specimens he had under consideration were beyond doubt *Cardium leucostoma*.

Species 65. (Mus. Cuming.)

CARDIUM ALTERNATUM. *Card. testá depresso-ovatá, valdè obliquá, posticè vix angulatá, paululum hiantè; radiatim costatá, costis duabus et triginta, angulatis, posticis præcipuè; costis anticis crenatis, posticis muricatis; cos-*

tarum interstitiis convexis, utrinque impresso-sulcatis; albidá aut carneá, luteo maculatá, margines versus rufescente-fusco interdum vividè tinctá; marginibus intus violaceo-brunneis.

THE ALTERNATED COCKLE. Shell depressly ovate, very oblique, posteriorly slightly angulated and a little gaping; radiately ribbed, ribs two and thirty in number, angulated, the posterior especially; anterior ribs crenated, posterior prickly; interstices between the ribs convex, peculiarly impressly grooved down each side; whitish or flesh-colour, spotted with yellow, sometimes richly stained with pinkish brown towards the margins; margins violet-brown interiorly.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. Island of Ticao, Philippines (found in coral sand on the reefs); Cuming.

This fine species may be distinguished by its very obliquely curved growth, and by the peculiar sculpture of the interstices between the ribs, which present the appearance of having a minute alternate rib.

Species 66. (Mus. Cuming.)

CARDIUM NUTTALLII. *Card. testá cordato-ovatá, Veneriformi, radiatim costatá, costis duabus et triginta, postremis creberrimis subobsoletis, cæteris rotundatis undique arcuatim noduloso-crenatis; albidá, epidermide olivaceo-fuscá crassiusculá indutá.*

NUTTALL'S COCKLE. Shell cordately ovate, Venus-shaped, radiately ribbed, ribs two and thirty in number, the extreme posterior ribs very close and almost obsolete, the rest rounded, nodulously crenated in an arched manner throughout; whitish, covered with a rather thick olive-brown epidermis.

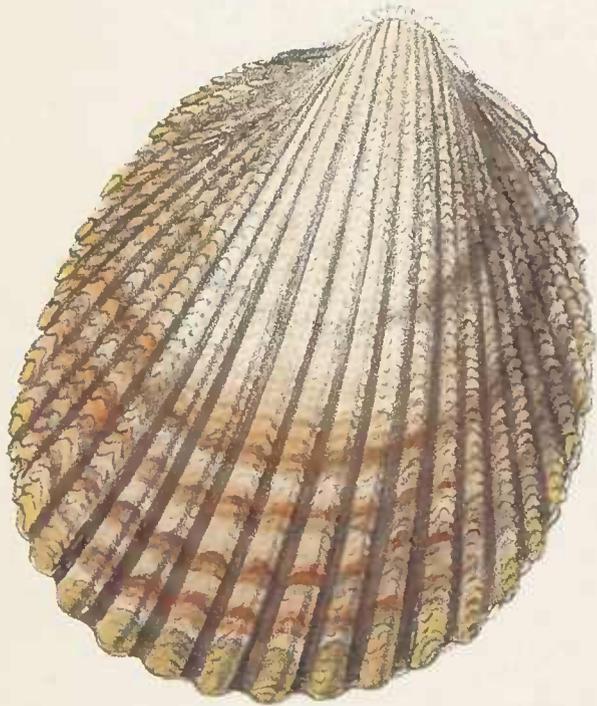
CONRAD, Journal Academy Nat. Sci. Philadelphia, p. 229. pl. 17. f. 3.

Hab. Sitka, North West coast of America.

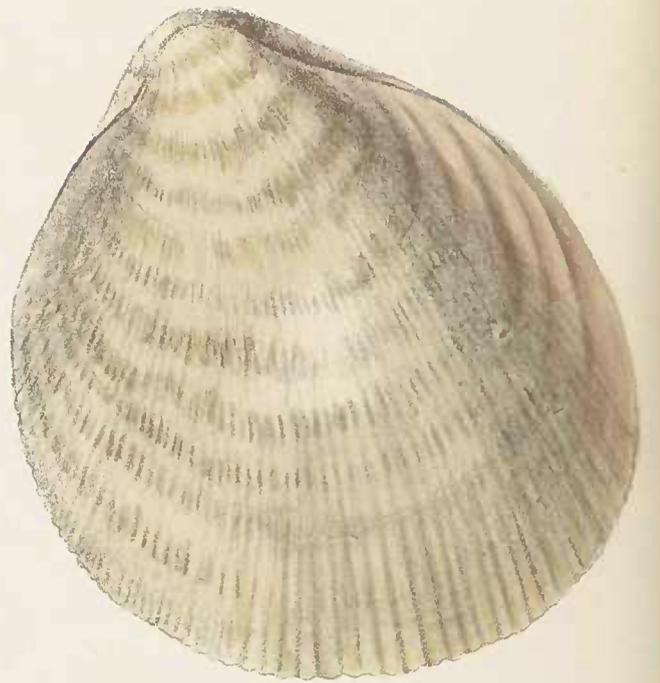
This is a noble species though not exhibiting any attractive display of colours; the ribs are rounded, and regularly crenated, in a peculiar arched style, from the margins to the summit of the umbones. All the specimens that have come under my notice are curiously characteristic of several distinct epochs of growth. The first stage of growth is completed within about the radius of an inch from the umbones, and it is succeeded by others at rather less intervals throughout.



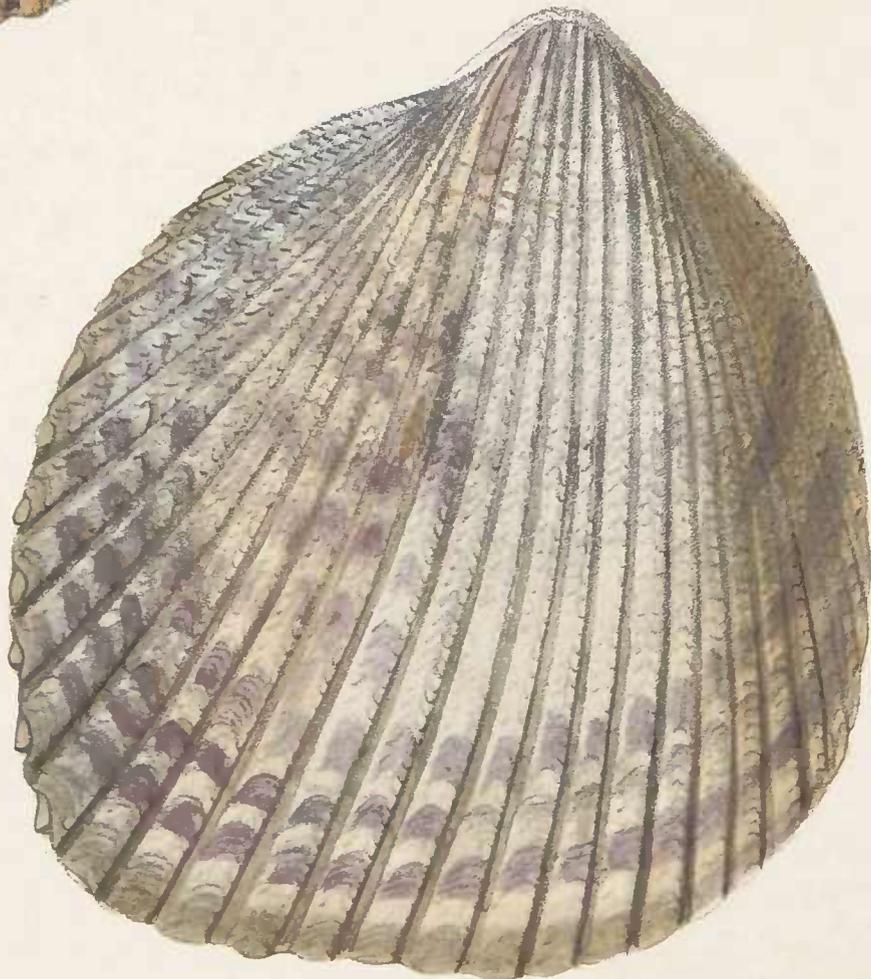
67



68



69



70

CARDIUM.

PLATE XIV.

Species 67. (Mus. Cuming.)

CARDIUM DUPUCHENSE. *Card. testá orbiculari-ovatá, crassiusculá, radiatim costatá, costis quaternis senisve et viginti grandibus, prominentibus, subdistantibus, postremis muricatis, medianis lævibus, posticè subtilissimè crenulatis, cæteris rugoso-crenatis; albá, epidermide lutescente-fuscá indutá, intus vividè purpureo-rubrâ.*

THE DUPUCH COCKLE. Shell orbicularly ovate, rather thick, radiately ribbed, ribs four or six and twenty in number, large, prominent, rather distant, extreme posterior ribs prickly, middle ribs smooth, posteriorly very finely crenulated, the rest rugosely crenated; white, covered with a yellowish brown epidermis, bright purple crimson within.

REEVE, Pro. Zool. Soc., 1845.

Hab. Island of Dupuch, Torres Straits (found on the reefs at low water); Dring, H. M. S. Beagle.

The sculpture and general external character of this shell are very similar to those of the following species; it is, however, of a shorter and more orbicular form, and singularly characterised by its deep crimson interior.

Species 68. (Mus. Cuming.)

CARDIUM RUGOSUM. *Card. testá oblongo-ovatá, crassiusculá, radiatim costatá, costis octonis et viginti ad tricenis, interstitiis profundè excavatis; costis postremis muricato-squamosis, medianis lævibus, posticè crenulatis, anticis rugoso-crenatis; albidá, rufo maculato-fasciatá.*

THE RUGOSE COCKLE. Shell oblong-ovate, rather thick, radiately ribbed, ribs from eight and twenty to thirty in number, interstices deeply excavated; extreme posterior ribs prickly scaled, middle ribs smooth, posteriorly crenulated, anterior rugosely crenated; white, banded with faint red spots.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. iv. p. 400.
Cardium magnum, Chemnitz.

Hab. Ceylon, Nicobar, Madagascar, &c.

The deep interstices between the ribs of this species give them an exceedingly prominent character.

Species 69. (Mus. Cuming.)

CARDIUM LÆVIGATUM. *Card. testá oblongo-ovatá, tenuiculá, ventricosá, lævigatá, radiatim subobsoletè striatá, areá postremá non striatá; albidá, aut flavicante, rufescente pallidissimè fasciatim nebulosá et radiatá; intus pallidè aureo-flavicante.*

THE SMOOTH COCKLE. Shell oblong-ovate, rather thin, ventricose, smooth, somewhat obsoletely rayed with striæ, extreme posterior area not striated; whitish or

yellowish, eluded with bands of very faint red or flesh tint, radiately lineated with the same; interior tinged with pale golden yellow.

LINNÆUS, Syst. Nat. (not of Lamarek, nor Pennant).

Hab. Island of Margarita, West Indies.

I fully concur with the valuable observations made by M. Deshayes, relative to the *Cardium lævigatum* of Linnæus, in his edition of the Anim. sans vert.' (vol. vi. p. 402, note). The shell here represented answers in each particular both to his description of that species, and to the figure referred to by him in the 'Encyclopédie Méthodique.' There is certainly a great discrepancy in the localities, but the characters mentioned in the following paragraph are defined in this specimen with particular distinctness; "Elle a une forme ovale, sa surface montre des stries très effacées, obsoletes et longitudinales, qui se terminent sur le bord en un nombre égal de dentelures. La coquille est rousse en dehors avec des taches nuageuses plus ou moins grandes, d'un blanc assez pur; d'autres fois le blanc domine, et la coquille est parsemée de petites taches rousses."

Species 70. (Mus. Saul.)

CARDIUM ANGULATUM. *Card. testá subquadrato-ovatá, depressiusculá, posticè angulatá, radiatim costatá, costis quinis et triginta ad quadragenis, angulato-convexis, postremis peculiariter planulatis posticè muricatis, medianis utrinque obliquè crenulatis, anticis creberrimè crenatis; albidá, purpurascente zonatá, latere postico intus extusque purpurascente tincto.*

THE ANGULATED COCKLE. Shell rather squarely ovate, rather depressed, posterior side angulated, radiately ribbed, ribs from five and thirty to forty, angularly convex, extreme posterior ribs peculiarly flattened, prickly on the posterior side, middle ribs obliquely crenulated on both sides, anterior ribs very closely crenated; white, zoned with pale purple, posterior side stained with pale purple within and without.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. vi. p. 336.

Hab. — ?

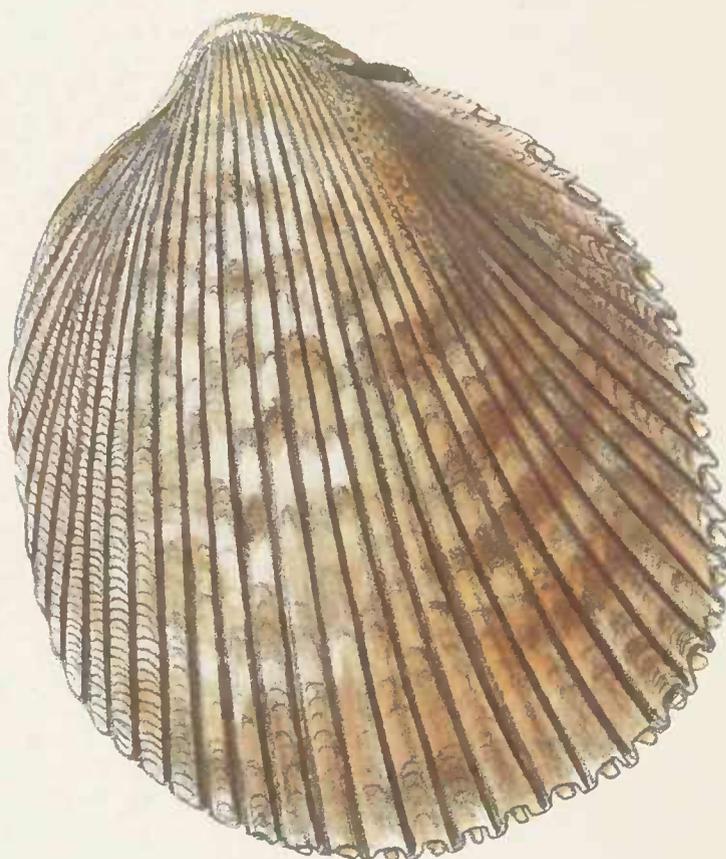
This species may be recognised first, by the square angulated growth of the posterior side; secondly, by the strong oblique crenulated sculpture of the middle and posterior ribs ("Les cotes du cote posterieur," says Lamarck, "sont comme crénelées obliquement par des tubercules"); and thirdly, by its purple colouring. The ribs are extremely variable in number; in one specimen before me they are thirty-nine to forty in number, in another thirty-five, whilst Lamarck mentions thirty-two only.



71



72



73



74



75

CARDIUM.

PLATE XV.

Species 71. (Plate XV. Fig. 71. and Plate XVI. Fig. 79.
Mus. Cuming.)

CARDIUM OBLONGUM. *Card. testá ovato-oblongá, ventricosá, umbones versus subattenuatá, tenuiculá, radiatim sulcato-striatá, areá posticá lævi; fuscescente-albidá, epidermide flavido-fuscá indutá.*

THE OBLONG COCKLE. Shell ovately oblong, ventricose, somewhat attenuated towards the umbones, rather thin, radiated with grooved striæ, posterior area smooth; brownish-white, covered with a yellowish brown epidermis.

LINNÆUS, Syst. Nat. (Gmelin's edit.), p. 3254.

Hab. Coast of Devonshire, Britain (dredged from mud at the depth of about twenty fathoms); Cuming.

Lamarck appears to have omitted all notice of this species.

Species 72. (Mus. Cuming.)

CARDIUM ATTENUATUM. *Card. testá elongato-ovatá, sub-obliquá, umbones versus peculiariter attenuatá, radiatim subobsoleté sulcato-striatá, areá posticá lævigatá; vitello-luteá, rubro tinctá et maculatá, maculis postremis saturatioribus, umbonibus rosaceis.*

THE ATTENUATED COCKLE. Shell elongately ovate, somewhat oblique, peculiarly attenuated towards the umbones, rayed with rather obsolete grooved striæ, posterior area smooth; yolk-yellow, stained and spotted with red, posterior spots of a deeper red; umbones pink.

SOWERBY, Pro. Zool. Soc., 1840.

Cardium lævigatum var., Wood, Gen. Conch. pl. 54. f. 2.

Hab. Ceylon, Zanzibar, Philippine Islands, &c.

Perfectly distinct from all the species with which it has been at different times confounded;—*Cardia biradiatum, lævigatum, and serratum.*

Species 73. (Mus. Cuming.)

CARDIUM ENODE. *Card. testá subobliquè ovatá, radiatim costatá, costis senis vel octonis et triginta, interstitiis sublatè sulcatis, postremis muricatis, medianis lævibus posticè crenulatis, anticis crenatis; albidá, posticè rosaceá, luteo pallidè marmoratá.*

THE SMOOTH COCKLE. Shell rather obliquely ovate, radiately ribbed, ribs six or eight and thirty in number, interstices rather widely grooved, extreme posterior ribs prickly, middle ribs smooth, crenulated on the posterior side, anterior ribs crenated; whitish, tinged

with pink on the posterior side, marbled with faint yellow.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. Ceylon.

This species mainly differs from the *Cardium elongatum* in the deep interlocking of the marginal extremities of the ribs, and in the width and decided character of the interstitial grooves.

Species 74. (Mus. Cuming.)

CARDIUM LIMA. *Card. testá ovatá, radiatim costatá, costis quaternis et triginta, rotundatis, brevimuricatis; luteá, rosaceo tinctá et maculatá.*

THE FILE COCKLE. Shell ovate, radiately ribbed, ribs four and thirty in number, rounded, armed with short prickles; yellowish, stained and spotted with pink.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

The short prickles which adorn this shell are not attached to the side of the ribs, as in the *Cardium muricatum*, but to the middle throughout. The pink tinge of colour noticed above is situated more particularly around the umbones.

Species 75. (Mus. Cuming.)

CARDIUM VARIEGATUM. *Card. testá subquadrato-ovatá, depressá, posticè subangulatá, radiatim costatá, costis quinis senisve et triginta, postremis plano-obsoletis, submuricatis, medianis peculiariter acutangulis, anticis rotundatis, subtilissimè crenatis; albá, maculis vividè roseis profusè variegatá.*

THE VARIEGATED COCKLE. Shell somewhat squarely ovate, depressed, posterior slightly angulated, radiately ribbed, ribs eight and thirty in number, the extreme posterior ribs flatly obsolete, slightly prickly, middle ribs peculiarly sharply angled, anterior ribs rounded, very finely crenated; white, profusely variegated with bright rose spots.

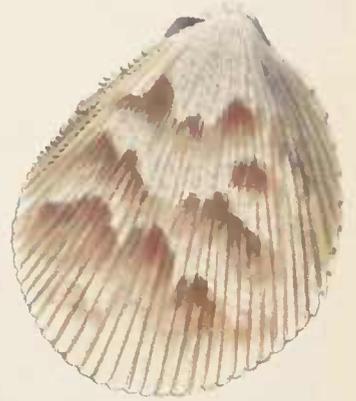
SOWERBY, Pro. Zool. Soc., 1840. Conch. Illus. f. 57.

Hab. Island of Ticao, Philippines (found on the reefs at low water); Cuming.

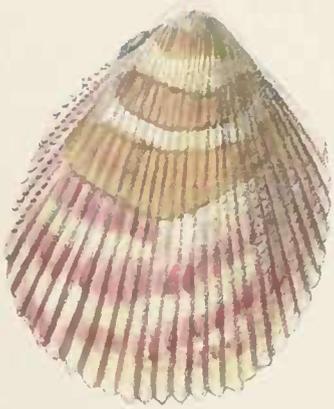
There is a peculiarity in the growth of this shell of which we find a similar indication in the *Cardium angulatum*;—a depressed square-like form, with the above described variation in the structure of the ribs.



76.



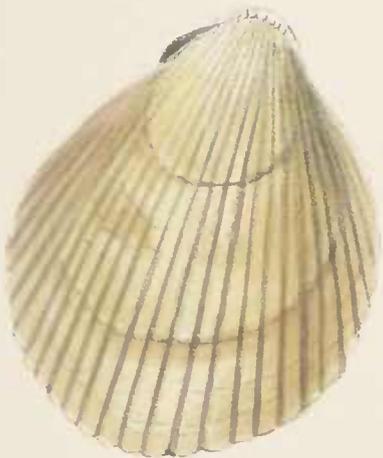
78.



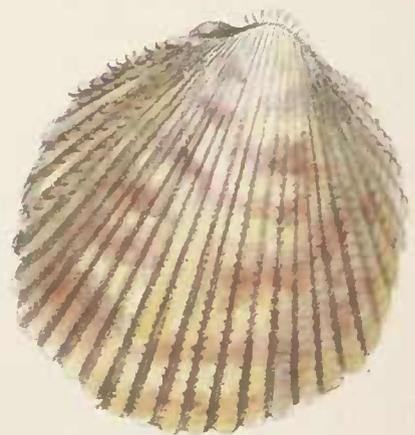
77.



79.



80.



81.



82.

CARDIUM.

PLATE XVI.

Species 76. (Mus. Cuming.)

CARDIUM MACULOSUM. *Card. testá oblongo-ovatá, ad umbones subattenuatá, radiatim minutè costatá, costis octonis et quadraginta, angustis, confertis, postremis subgraniferis; pallidè fulvá, rufescente punctulatá, umbonibus rosaceis.*

THE MOTTLED COCKLE. Shell oblong-ovate, somewhat attenuated towards the umbones, radiately minutely ribbed, ribs forty-eight in number, narrow, close-set, extreme posterior ribs slightly graniferous; pale fulvous yellow, dotted with pale red, umbones pink.

WOOD (not of Sowerby), General Conchology, pl. 52. f. 3.
Cardium multistriatum, Sowerby, Pro. Zool. Soc. 1833.

Hab. St. Elena, West Columbia; Cuming.

The ribs of this species, though minute, are of too decided a character to come under the denomination of striæ. If it were not that I have the identical shell before me from which Mr. Sowerby described his *Cardium multistriatum*, I should have hesitated to declare his species synonymous with that under consideration.

Species 77. (Mus. Cuming.)

CARDIUM OXYGONUM. *Card. testá oblongo-ovatá, umbones versus attenuatá, radiatim costatá, costis quinis et triginta, peculiariter acutangulis, basi posticè subtiliter crenulatis, postremis muricatis, anticis subtilissimè crenatis; albidá, roseo profusè tinctá et maculatá.*

THE SHARP-ANGLED COCKLE. Shell oblong-ovate, attenuated towards the umbones, radiately ribbed, ribs five and thirty in number, peculiarly sharp angled, finely crenulated at the base on the posterior side, extreme posterior ribs prickly, anterior very finely crenated; white, profusely stained and spotted with rose.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. China, and the Philippine Islands; Cuming.

This species exhibits a very peculiar plan of sculpture, the ribs being sharply angled at the summit, and very finely crenulated at the base, on the posterior side.

Species 78. (Mus. Cuming.)

CARDIUM ARENICOLUM. *Card. testá oblongo-ovatá, subobliquè arcuatá, umbones versus attenuatá, radiatim costatá, costis senis et quadraginta, convexis, levibus, postremis squamulosis; albidá, maculis rubidis variegatá.*

THE SAND-INHABITING COCKLE. Shell oblong-ovate,

somewhat obliquely curved, attenuated towards the umbones, radiately ribbed, ribs forty-six in number, convex, smooth, extreme posterior ribs squamulous; whitish, variegated with large ruddy spots.

Cardium maculosum, Sowerby (not of Wood), Conch. Illus.

Hab. Island of Ticao, Philippines (found among coral sand at the depth of about six fathoms); Cuming.

This is not the *Cardium maculosum*; it is of larger size, longer in proportion, and has an oblique curve in its growth.

Species 79. (Mus. Cuming.)

CARDIUM SULCATUM. *Card. testá subelongato-ovatá, umbones versus attenuatá, ventricosissimá, radiatim sulcatá, areá posticá lævi, depressá; ferrugineo-albá, epidermide flavo-olivaceá indutá.*

THE GROOVED COCKLE. Shell elongately ovate, attenuated towards the umbones, very ventricose, radiately grooved, posterior area smooth, depressed; rusty white, covered with a yellowish olive epidermis.

GMELIN, Syst. Nat. p. 3254.

Lamarek, Anim. sans vert. vol. vi. p. 401.

Cardium flavum, Börn.

Cardium serratum, Bruguière.

Hab. Mediterranean.

The sculpture of this species is of such a very similar character to that of the *Cardium oblongum*, that I at first doubted whether they be truly distinct. Upon subsequent examination I find they differ constantly in form, the *Cardium sulcatum* being more elongated and so much more full and ventricose about the umbones.

Species 80. (Mus. Cuming.)

CARDIUM IMPOLITUM. *Card. testá oblongo-ovatá, ventricosá, umbones versus attenuatá, radiatim costatá, costis quinis et triginta, convexis, anticis liris parvis subobsoletis decussatim clathratis; flavicante-albá, rufo-fuscescente obscurè fasciatá et maculatá.*

THE UNPOLISHED COCKLE. Shell oblong-ovate, ventricose, attenuated towards the umbones, radiately ribbed, ribs five and thirty in number, convex, anterior ribs rather obsoletely latticed across with small ridges; yellowish white, banded and spotted with faint reddish brown.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. China.

This shell is of a peculiar ghastly yellow colour.

CARDIUM.—PLATE XVI.

Species 81. (Mus. Cuming.)

CARDIUM LACUNOSUM. *Card. testá ovatá, ventricosá, interdum subobliquá, radiatim costatá, costis quaternis et triginta, lateraliter cavatis, postremis tuberculato-muricatis, medianis lævibus, utrinque subtilissimè crenulatis, anticis arcuato-crenatis, costarum interstitiis profundè canaliculatis; albidá aut flavicante, rubido variegatá.*

THE GUTTERED COCKLE. Shell ovate, ventricose, sometimes rather oblique, radiately ribbed, ribs four and thirty in number, laterally hollowed, extreme posterior ribs armed with prickly tubercles, middle ribs smooth, very finely crenulated on both sides, anterior ribs arcuately crenated; interstices between the ribs deeply canaliculated; whitish or yellowish variegated with red.

REEVE, Pro. Zool. Soc., 1845.

Hab. ——— ?

The ribs are hollowed at the sides, in such a manner that

their flattened summit forms a protruding crenulated ledge both posteriorly and anteriorly.

Species 82. (Mus. Saul.)

CARDIUM RASTRUM. *Card. testá suborbiculari, tenuiculi radiatim costatá, costis nonis et triginta, tredecenis anticis anticè muricatis, deinde duabus, interdum tribus, utrinque muricatis, cæteris posticè muricatis; fusciscenti-albá, rubido-fusco fasciatá et maculatá.*

THE HARROW COCKLE. Shell nearly orbicular, rather thin, radiately ribbed, ribs thirty-nine in number, the first thirteen anterior ribs prickly on the anterior side, then two, sometimes three, prickly on both sides, the rest prickly on the posterior side; brownish white, banded and spotted with reddish-brown.

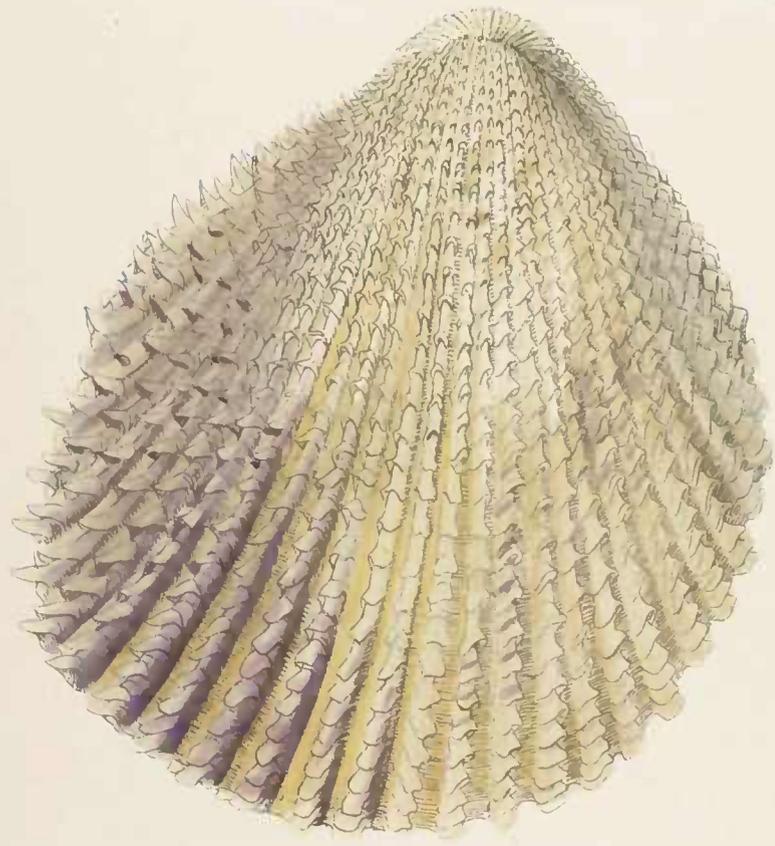
REEVE, Pro. Zool. Soc., 1845.

Hab. ——— ?

The sculpture of this shell is arranged very much after the style of the *Cardium muricatum*.



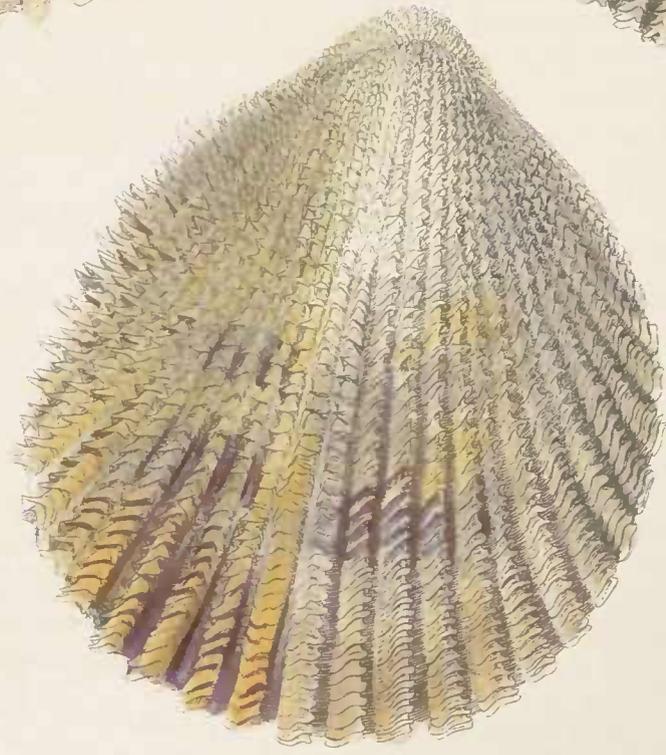
83



84



85



86

CARDIUM.

PLATE XVII.

Species 83. (Mus. Saul.)

CARDIUM DESHAYESII. *Card. testá rotundato-cordatá, gibbosá, subæquilaterali; radiatim costatá, costis duabus et viginti, squamarum brevium cochleariformium, umbones versus fornicantium, serie unicá medio armatis, squamis anticis latioribus, depressiusculis; costarum interstitiis transversim corrugato-striatis; pallidè ferrugineo-fuscescente.*

DESHAYES' COCKLE. Shell rotundately cordate, gibbous, nearly equilateral; radiately ribbed, ribs two and twenty in number, armed down the middle with a row of short spoon-shaped scales, vaulting over towards the umbones, anterior scales wider and rather depressed; interstices between the ribs transversely marked with wrinkled striæ; pale rusty brown.

PAYRANDEAU, Cat. Moll. de Corse.

Hab. Islands of Corsica, Sicily, &c.; Mediterranean.

This species is certainly distinct from any of the prickly group which inhabit the Mediterranean; the scales being of a peculiar spoon-shape, not papilliferous, and, contrary to the usual order of scales, arched over, or back as it were, towards the umbones.

Species 84. (Mus. Cuming.)

CARDIUM ISOCARDIA. *Card. testá obliquè cordatá, gibbosá; radiatim costatá, costis tribus vel quaternis et triginta, squamiferis, squamis fornicatis, elevatiusculis, posticè subplanatis, squamis anticis plus minusve obtuso-callosis; stramineá, purpureo-fuscescente hic illic nebulosa; intus, umbones versus præcipuè, vividè purpureo-coccineá.*

THE EQUI-HEART COCKLE. Shell obliquely heart-shaped, gibbous; radiately ribbed, ribs three or four and thirty in number, squamiferous, scales vaulted, rather elevated, slightly flattened on the posterior side, anterior scales more or less obtusely thickened; pale straw colour, stained here and there with purple-brown, interior bright purple scarlet, especially towards the umbones.

LINNÆUS, Syst. Nat. (Gmelin's edit.), p. 3249.

Hab. Island of Nevis, West Indies (dredged from sandy mud at a depth of from six to ten fathoms).

Little need be added to assist the identification of this magnificent and well known shell, except a caution against confounding it with the *Cardium consors*, from which it differs in the particulars noted in the description of that species, (Sp. 86).

Species 85. (Mus. Cuming.)

CARDIUM ORBITA. *Card. testá ovali, gibbosá, posticè subangulatá; radiatim costatá, costis duabus et quadraginta, quarum anticis rotundatis, crenatis, medianis utrinque obtuso-squamatis, squamis parvis, alternis, obliquis, posticis posticè squamatis, squamis majoribus, brevibus obtusis; costarum interstitiis, præcipuè medianis, profundè orbitatis; albidá, fulvo aut purpurascente pallidè variegatá, intus albá, marginibus vividè purpureis.*

THE DEEP-RUT COCKLE. Shell oval, gibbous, slightly angulated on the posterior side; radiately ribbed, ribs two and forty in number, of which the anterior are rounded and crenated, the middle are obtusely scaled on each side, the scales being small, alternate, and oblique, and the posterior are scaled on the posterior side, the scales being larger, but still short and obscure; interstices between the ribs, especially those of the middle ribs, deeply excavated or rutted; whitish, palely variegated with fulvous yellow or purple, interior white, margins richly stained with purple.

BRODERIP and SOWERBY, Pro. Zool. Soc., 1833.

Hab. Island of Annaa, Pacific Ocean (found in fine coral sand on the reefs); Cuming.

The sculpture of this species is well characterized by the oblique alternately diverging minute scales which ornament the middle ribs.

There is another remarkably fine specimen in the collection of Wm. Metcalfe, Esq.

Species 86. (Mus. Cuming.)

CARDIUM CONSORS. *Card. testá obliquè cordatá, gibbosisimá; radiatim costatá, costis duabus et triginta, squamiferis, squamis erecto-fornicatis, numerosis, creberrimis, posticè compresso-planis, squamis anticis obtuso-callosis; albicante, vel stramineá, fusco-rufescente, posticè præcipuè, tinctá et marmoratá; intus purpurascente.*

THE CONSORT COCKLE. Shell obliquely heart-shaped, very gibbous; radiately ribbed, ribs two and thirty in num-

March 1845.

CARDIUM.—PLATE XVII.

ber, squamiferous, scales erectly vaulted, numerous, close-set, compressly flattened on the posterior side, anterior scales obtusely thickened; whitish or straw colour, stained and marbled, especially on the posterior side, with brownish red, interior purple.

BRODERIP and SOWERBY, Pro. Zool. Soc., 1833.

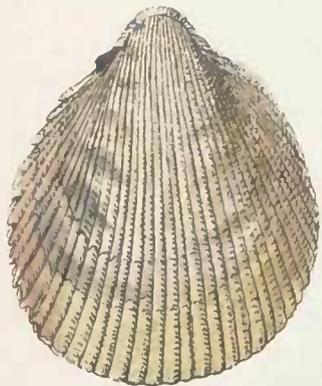
Hab. St. Elena and Guacomayo, West Columbia (found

in sandy mud at a depth of from six to eleven fathoms); Cuming.

This extremely interesting species differs from the *Cardium isocardia* in having the scales much more numerous and close-set, and peculiarly compressly flattened one upon the other on the posterior side.



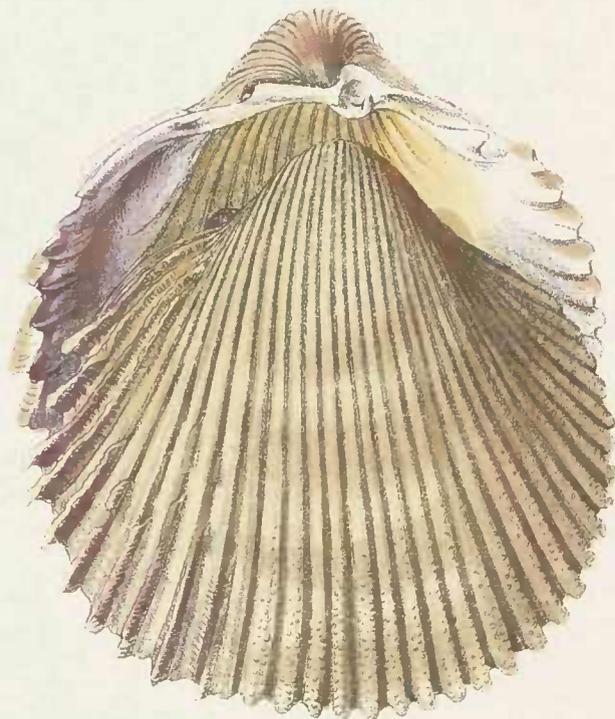
87



88



89



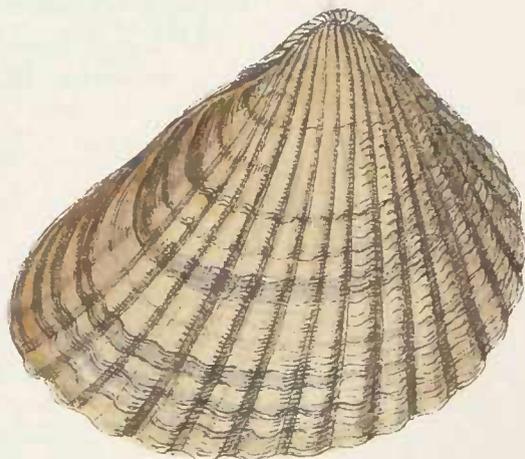
90



91



92



93

CARDIUM.

PLATE XVIII.

Species 87. (Mus. Cuming.)

CARDIUM FOVEOLATUM. *Card. testá oblongo-ovatá, compressiusculá, radiatim costatá, costis tribus et quadraginta, quarum postremis subangulatis, muricatis, medianis lævibus, anticis crenatis; albidá, costis lineis pallidè luteo-fuscis decussatis, areá posticá maculis nigris parvis ornatá; intus albá, maculis pallidè nigris tinctá.*

THE SMALL-PITTED COCKLE. Shell oblong-ovate, rather compressed, radiately ribbed, ribs three and forty in number, of which the extreme posterior are slightly angulated and prickly, the middle smooth, and the anterior crenated; whitish, ribs crossed at intervals with pale yellowish-brown lines, posterior area ornamented with small black spots; interior white, stained with pale black spots.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. Swan River.

The black spots which are faintly seen in the interior of each valve are still more faintly perceptible on the outside; looking as if they were concealed between the inner and outer layers of the shell.

Species 88. (Mus. Hanley.)

CARDIUM UNICOLOR. *Card. testá oblongo-ovatá, umbones versus subattenuatá, radiatim costatá, costis octonis et quadraginta rotundatis lævibus, anticis subtilissimè crenulatis; albidá, purpureo obscurè maculatá, intus pallidè rosaceá.*

THE UNICOLOURED COCKLE. Shell oblong-ovate, somewhat attenuated towards the umbones, radiately ribbed, ribs eight and forty in number, rounded, smooth, the anterior very finely crenulated; whitish, very obscurely spotted with purple, interior tinged with pink.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. Island of Ticao, Philippines (found in sandy mud at low water); Cuming.

The ribs of this species are very numerous considering the distinctness with which they are developed; and the interior of the shell is characteristically tinged in the interior with rose pink.

Species 89. (Mus. Hanley.)

CARDIUM RADIATUM. *Card. testá subquadrato-ovatá, radiatim subobscurè costatá, costis duabus et quinquaginta, propè ad umbones ferè obsoletis; incarnato-albicante, fuscescente pallidè concentricè fasciatá, radio lato purpureo conspicuo ad utremque umbonem intus extusque tinctá.*

THE RADIATED COCKLE. Shell somewhat squarely ovate, radiately rather obscurely ribbed, ribs two and fifty in number, nearly obsolete at the umbones; fleshy white, concentrically banded with pale brown, stained within and without at each umbone with a conspicuous purple ray.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

This species has been probably confounded hitherto with the *Cardium tenuicostatum*, from which it differs somewhat in form, besides being of a more solid structure.

Species 90. (Mus. Cuming.)

CARDIUM ASIATICUM. *Card. testá globosá, tenuiculá, radiatim costatá, costis septenis et triginta, angustis elevatiusculis, circa umbones lævibus, margines versus posticis lamelliferis, cæteris punctis solidis eminentibus copiosis peculiariter asperatis; incarnato-lacteá, costarum interstitiis ferrugineo-fuscescentibus, intus albidá, conspicuè sulcatá, marginibus postremis roseo-purpureis.*

THE ASIATIC COCKLE. Shell globose, rather thin, radiately ribbed, ribs seven and thirty in number, narrow, rather elevated, smooth round about the umbones, towards the margins the posterior lamelliferous, the rest peculiarly roughened with a profusion of solid raised dots; fleshy cream colour, interstices between the ribs pale rusty brown, interior white, conspicuously grooved, extreme posterior edges rose purple.

BRUGUIERE, Enc. Méth. vers., vol. i. p. 124.

Hab. China.

This interesting species is singularly characterized by the roughened surface of the middle and anterior ribs. It may also be easily distinguished from the following species by its orbicular form, and by the posterior ribs only being lamellated.

March 1845.

Species 91. (Mus. Cuming.)

CARDIUM FIMBRIATUM. *Card. testá transversè ovatá, posticè subproductá; radiatim costatá, costis senis et triginta, angustis, lævibus, prope ad margines lamellá serratá fimbriatis; lacteá, rosaceo pallidè tinctá.*

THE FRILLED COCKLE. Shell transversely ovate, somewhat produced posteriorly; radiately ribbed, ribs thirty-six in number, narrow, smooth, frilled near the margins with a serrated lamella; cream colour, palely tinged with pink.

WOOD, General Conchology, p. 234. pl. 56. f. 4, 5.

Hab. China.

Lamarck has always been referred to as the author of this very characteristic species, but it was first described, and most accurately figured, in the year 1815, by our esteemed countryman Mr. Wood. His excellent representation of it, is, I believe, the only one that has been hitherto published, for the shell figured under the above name by Mr. Gray, in the Zoology of Beechey's Voyage, appears by its orbicular form to be only a young specimen of the *Cardium Asiaticum*. The *Cardium fimbriatum* in a young state, before the development of the marginal lamellæ, would still be of a transverse, posteriorly produced, form. It is perfectly distinct from the preceding species both in size and shape, as well as in the arrangement and character of its external sculpture.

Species 92. (Mus. Cuming.)

CARDIUM PALLIDUM. *Card. testá subquadrato-ovatá, depressiusculá, posticè paululum angulato-productá; radiatim tenuicostatá, costis numerosissimis, nunc duabus tribusve et quadraginta, nunc duabus tribusve et quinquaginta, lævibus subcarinæformibus; pallidá.*

THE PALE COCKLE. Shell somewhat squarely ovate, rather depressed, posteriorly a little angularly produced; radiately finely ribbed, ribs very numerous, sometimes two or three and forty, so metimes two or three and fifty in number, smooth, somewhat keel-shaped; pale.

REEVE, Pro. Zool. Soc., 1845.

Hab. Bay of Manila (found in sandy mud at a depth of from four to five fathoms); Cuming.

This is another species which has been probably confounded with the *Cardium tenuicostatum*, an examination of several specimens assures me, however, that it is distinct. It is more depressed, has not the slightest indication of the waved flesh-colour spots which adorn that species, and is altogether different.

Species 93. (Mus. Cuming.)

CARDIUM LAMARCKII. *Card. testá transversè ovatá, subcordatá, tenuiculá, ventricosá, posticè obliquè productá; radiatim costatá, costis duabus tribusve et viginti, latiusculis, obtusis, in aream posticam subevanidis; transversim undato-striatá; albidá, ferrugineo-fusco cæruleoque variegatá, umbonibus livido-fuscis, intus, posticè præcipuè, livido-fuscescente.*

LAMARCK'S COCKLE. Shell transversely ovate, subcordate, rather thin, ventricose, posteriorly obliquely produced; radiately ribbed, ribs two or three and twenty in number, rather broad, obtuse, indistinct upon the posterior area; transversely striated in a waved manner; whitish, variegated with blue and rusty brown, umbones livid brown, interior livid brown especially towards the posterior side.

Cardium rusticum, Lamarck (not of Linnæus).

Cardium edule, var., Deshayes.

Hab. Coast of Devonshire, Britain (found in the sand at low water).

This shell is the type of that extreme variety of the *Cardium edule* which Lamarck distinguished, after Chémnitz, by the title of *Cardium rusticum*; it is not, however, the species which Linnæus described under that name (for which see Plate III. Sp. 16), as Lamarck himself admitted, "Je n'ai pas encore reconnu le *Card. rusticum* de Linné."



94



95



96



97



98



99



100



101



102



103

CARDIUM.

PLATE XIX.

Species 94. (Mus. Cuming.)

CARDIUM EICHWALDII. *Card. testá ovatá, crassiusculá, valdè gibbosá posticè subangulatá, fortiter costatá, costis duabus tribusve et viginti, plus minusve indistinctè tuberculatis; transversim rugoso-striatá; albidá, intus albá, posticè livido-fuscescente exiliter tinctá.*

EICHWALD'S COCKLE. Shell nearly ovate, rather thick, very gibbous, slightly angulated on the posterior side, strongly ribbed, ribs about two or three and twenty in number, more or less indistinctly tuberculated; transversely roughly striated; whitish, interior white, faintly stained with livid brown on the posterior side.

Cardium rusticum, Eichwald (not of Linnæus, nor Lamarck) Fauna Caspio-Caucasia. pl. 38. f. 24-27.

Hab. Caspian Sea.

This species, which is intermediate between the *Cardia edule* and *Lamarckii*, should, I think, be distinguished on account of its tuberculated structure, and further peculiarity of form.

Species 95. (Mus. Cuming.)

CARDIUM NIVALE. *Card. testá trigono-cordatá, margines versus subcompressá, posticè angulatá, plano-depressá; radiatim planicostatá, costis quinis et triginta, areæ posticæ lævibus, irregularibus, nunc angustis, nunc latiusculis, anticis subtilissimè noduloso-crenatis; lucido-albá, maculis niveis opacis, in aream posticam præcipuè, profusè ornatá.*

THE SNOW-SPOTTED COCKLE. Shell triangularly cordate, a little compressed towards the margins, angulated and flatly depressed on the posterior side; radiately flatly ribbed, ribs five and thirty in number, those of the posterior area smooth, irregular, sometimes narrow, sometimes rather broad, the anterior very finely nodulously crenated; transparent white, profusely ornamented, on the posterior area especially, with opaque snowy spots.

REEVE, Pro. Zool. Soc., 1845.

Hab. Island of Corrigidor, Philippines (dredged from coral sand at the depth of eight fathoms); Cuming.

An interesting new species, intermediate in form between the *Cardia fragum* and *hemicardium*.

Species 96. (Mus. Cuming.)

CARDIUM CASPIUM. *Card. testá transversè ovatá, posticè hiante; radiatim costatá, costis lævigatis, plano-depressis, quasi detritis; albidá, costis flavo- aut rubido-fuscescentibus, intus rubicundá.*

THE CASPIAN COCKLE. Shell transversely ovate, posteriorly gaping; radiately ribbed, ribs smooth, flatly depressed, as if worn down; whitish, ribs yellowish or reddish brown, interior reddish.

Corbula Caspia. Monodacna Caspia.—Eichwald, Fauna Caspio-Caucasia, p. 274. pl. 39. f. 4 a, b, c.

Hab. North coast of the Caspian Sea; Eichwald.

The ribs of this species being somewhat broad and peculiarly flattened, have the appearance of coloured rays diverging from the umbones.

Species 97. (Mus. Cuming.)

CARDIUM AUSTRALE. *Card. testá obliquè ovatá, umbones versus attenuatá; tenuissimè costatá, costis numerosissimis; albidá, roseo-purpureo pallidè maculatá, umbonibus purpureis, areá postremá purpureo fasciatá, intus luteá, radio unico purpurascete infra umbonem utriusque valvæ divergente.*

THE SOUTHERN COCKLE. Shell obliquely ovate, attenuated towards the umbones; very finely ribbed, ribs very numerous; whitish, faintly spotted with pinkish purple, umbones purple, extreme posterior area banded with purple, interior yellow, with a single purple ray diverging beneath the umbo in each valve.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. Australia.

This shell, which has a peculiarly oblique form, is very nearly allied to the *Cardium tenuicostatum*.

Species 98. (Mus. Cuming.)

CARDIUM PULCHRUM. *Card. testá ovatá, umbones versus subattenuatá; radiatim tenuissimè sulcatá; incarnato-fuscescente, prope margines albá maculis roseis quadratis pulchrè ornatá, umbonibus purpureis, intus roseo concentricè variegatá.*

THE PRETTY COCKLE. Shell ovate, somewhat attenuated towards the umbones; radiately very finely grooved;

March 1845.

fleshy brown, white towards the margins, prettily ornamented with square rose spots, umbones purple, interior concentrically variegated with rose.

Cardium australe, var., Sowerby.

REEVE, Pro. Zool. Soc., 1845.

Hab. China.

This interesting species is not only distinct from the preceding in form, but in sculpture and colouring.

Species 99. (Mus. Hanley.)

CARDIUM NEBULOSUM. *Card. testá ovatá, subPectiniformi, radiatim costatá, costis duabus tribusve et quadraginta, convexis, lævibus, posticè subtilissimè crenulatis; albidá, maculis fusciscentibus nebulosá, costis lineis rubris transversis hic illic irregulariter pictis; intus albá, infra umbones roseo tinctá, maculisque purpureo-violaceis prope margines vividè ornatá.*

THE CLOUDED COCKLE. Shell ovate, somewhat Pecten-shaped, radiately ribbed, ribs two or three and forty in number, convex, smooth, posteriorly very finely crenulated; whitish, clouded with pale brown spots, ribs irregularly painted here and there with red transverse lines; interior white, stained with pink beneath the umbones, ornamented near the margins with blotches of bright purple violet.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

The external painting of this shell is very similar to that of the *Pectunculus pectinatus*.

Species 100. (Mus. Cuming.)

CARDIUM SUBRETUSUM. *Card. testá oblongo-cordatá, valdè tumidá, posticè concavo-depressá; radiatim planicostatá, costis medianis nodulosis, costarum omnium interstitiis creberrimè puncturatis; lunulá subexcavatá, callositate ferè obsoletá intrudá; intus extusque albá.*

THE SOMEWHAT BLUNT COCKLE. Shell oblong-cordate, very much swollen, posteriorly concavely depressed; radiately flatly ribbed, middle ribs nodulous, interstices between all the ribs very closely punctured; lunule slightly excavated, with a somewhat obsolete callosity intruding; white within and without.

SOWERBY, Pro. Zool. Soc., 1840; Conch. Illus. f. 24.

Hab. — ?

Chiefly distinguished from the *Cardium retusum* by the middle ribs being noded, and the interstices between the whole being merely finely punctured.

Species 101. (Mus. Cuming.)

CARDIUM MORTONI. *Card. testá subobliquè ovatá, tenuiculá, lævigatá, albidá, lævissimè erosá, epidermide luteofuscescente margines versus indutá; intus lutescente.*

MORTON'S COCKLE. Shell somewhat obliquely ovate, rather thin, smooth, whitish, very slightly eroded, covered towards the margins with a yellowish-brown epidermis; interior yellowish.

CONRAD, Journ. Acad. Nat. Sci. Phil., vol. vi. pl. 11. f. 5-7.

Hab. United States.

A thin opaque white shell, slightly eroded towards the umbones, and covered with a yellowish-brown epidermis towards the margins.

Species 102. (Mus. Saul.)

CARDIUM PULICARIUM. *Card. testá suborbiculari, Pectiniformi, radiatim costatá, costis quaternis et triginta, anticis muricatis, medianis utrinque crenulatis, posticis crenatis; luteo-vel incarnato-albá, maculis parvis nigrofuscis sparsim tinctá, intus rosaceo-albá, marginibus cardinem versus roseo-purpureis.*

THE FLEA-SPOTTED COCKLE. Shell somewhat orbicular, Pecten-shaped, radiately ribbed, ribs four and thirty in number, the anterior prickly, the middle crenulated on both sides, and the posterior crenated; yellowish or fleshy white, stained with scattered blackish brown spots, interior pinkish white, margins rose-purple towards the hinge.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

A characteristic little shell, which I cannot refer to any described species.

Species 103. (Mus. Cuming.)

CARDIUM RETUSUM. *Card. testá gibboso-cordatá, subobliquá, posticè concavo-depressá; radiatim costatá, costis convexis, lævibus, interstitiis fortiter clathratis, lunulá profundè excavatá, callositate conspicuá intrudá; intus extusque albá.*

THE BLUNT COCKLE. Shell gibbously cordate, somewhat oblique, posteriorly concavely depressed; radiately ribbed, ribs convex, smooth, interstices strongly latticed, lunule deeply excavated, with a conspicuous callosity intruding; white within and without.

LINNEÆUS, Syst. Nat. (Gmelin's edit.), p. 3245.

Hab. China, &c.

This well-known species is called by French conchologists "The Diana's Heart Cockle."



104



105



106



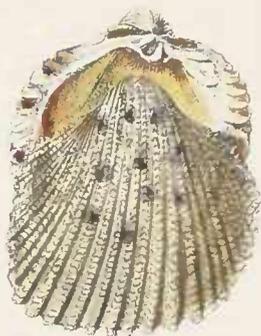
107



108



109



110



111



112



113

CARDIUM.

PLATE XX.

Species 104. (Mus. Cuming.)

CARDIUM ELENENSE. *Card. testá tenui, ovatá, umbones versus subattenuatá; transversim et longitudinaliter striatá, striis transversis subtilissimis confertis, longitudinalibus latiusculis subdistantibus; pallidè fulvâ, punctis minutis rubido-fuscis trigono-maculatâ, areâ postremâ immaculatâ; umbonibus livido-purpurascens, intus fusco-rubente fasciatâ.*

THE ELENA COCKLE. Shell thin, ovate, somewhat attenuated towards the umbones; transversely and longitudinally striated, transverse striæ very fine and close-set, longitudinal striæ rather broad and comparatively distant; pale fulvous, painted with triangular spots of reddish brown dots, posterior area unspotted; umbones livid purple, interior banded with brownish red.

SOWERBY, Pro. Zool. Soc., 1840; Conch. Illus. f. 58.

Hab. St. Elena, West Columbia (found in sandy mud at the depth of seven fathoms); Cuming.

The minute dotted painting of this shell is one of its characteristic features.

Fig. 105.—As the shell here represented proves to be merely an obscure specimen of the *Cardium papillosum*, I take the opportunity of inserting a rare and very distinct species omitted in the illustration.

Species 105. (Mus. Linn. Soc.)

CARDIUM RIGIDUM. *Card. testá obliquè ovatâ, radiatim fortiter costatâ, costis tuberculis compressis creberrimè armatis; albâ, fuscescente pallidè tinctâ.*

THE ROUGH COCKLE. Shell obliquely ovate, radiately strongly ribbed, ribs armed with very close-set compressed tubercles; white, faintly tinged with brown.

WOOD, General Conchology, p. 236. pl. 57. f. 2, 3.

Hab. — ?

There are three odd valves of this remarkable species, in the Museum of the Linnæan Society, from the collection of Sir Joseph Banks, and I have not seen any other shell at all approaching to it. The ribs are surmounted with very close tubercles, worn away towards the umbones.

Species 106. (Mus. Saul.)

CARDIUM FERRUGINOSUM. *Card. testá suborbiculari, posticè depressiusculâ, radiatim costatâ, costis tribus et viginti quarum senis postremis planulatis, subtilissimè muricatis, medianis lævibus, anticis crenatis; luteo-albidâ, maculis ferrugineis hic illic aspersâ.*

THE RUST-SPOTTED COCKLE. Shell somewhat orbicular, rather depressed posteriorly; radiately ribbed, ribs three and twenty in number, of which the six extreme posterior are flattened, and very finely muricated along the edge, the middle smooth, and the anterior crenated; yellowish white, sprinkled here and there with rusty spots.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

The ribs are rather strongly grooved out in the interior of the shell, and on the posterior side they are a little divided at the extremity, as in the *Cardium ringens*.

Species 107. (Mus. Cuming.)

CARDIUM EXASPERATUM. *Card. testá subquadrato-globosâ, radiatim liratâ, liris ad centenis minutissimis creberrimis, tertiâ quâque erecto-squamatâ, quasi spinosâ, duabus intervenientibus minutè brevisquamatis; niveâ, lateribus roseo-aurantiis; lunulâ vividè aurantiâ, intus albâ, marginibus minutissimè serratis.*

THE SHARP COCKLE. Shell somewhat squarely globose, radiately ridged, ridges about a hundred in number, very minute, very closely arranged, every third ridge, surmounted by a row of erect spine-like scales, the two intervening ridges by a row of minute short scales; snowy white, sides tinged with pinkish orange, lunule bright orange, interior white, margins very minutely serrated.

SOWERBY, Pro. Zool. Soc., 1840; Conch. Illus. f. 37.

Hab. Swan River; Lieut. Collie.

An interesting and beautiful species, exhibiting that remarkable novelty of design which is so characteristic of the Australian Fauna.

Species 108. (Mus. Cuming.)

CARDIUM FRAGILE. *Card. testá subobliquè ovatâ, depressâ, tenui, papyraceâ; radiatim costatâ, costis septenis et viginti, lævibus vel obsoletè tuberculatis; albâ.*

THE FRAGILE COCKLE. Shell somewhat obliquely ovate, depressed, thin, papyraceous; radiately ribbed, ribs seven and twenty in number, smooth, or obsoletely tuberculated; white.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

A very delicate fragile papyraceous shell.

March 1845.

Species 109. (Mus. Cuming.)

CARDIUM STELLATUM. *Card. testá obliquè quadratá, gibbosá, valdè inæquilaterali, latere antico brevissimo, postico angulato; radiatim planicostatá, costis tribus vel quaternis et viginti, utrinque subtiliter crenulatis, costis anticis noduliferis; ferrugineo-fuscá, maculis perpaucis albis stellatá.*

THE STARRY COCKLE. Shell obliquely quadrate, gibbous, very inequilateral, anterior side very short, posterior angulated; radiately flatly ribbed, ribs three or four and twenty in number, finely crenulated on each side, anterior ribs noduliferous; rusty brown, starred with a few white spots.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

A square gibbous shell of which the anterior side is remarkably short and contracted.

Species 110. (Mus. Cuming.)

CARDIUM FORNICATUM. *Card. testá subquadratá, anticè rotundatá, posticè concavo-angulatá; radiatim costatá, costis quinis et triginta, creberrimè imbricato-squamatis, ad latera minutissimè crenulatis, costarum interstitiis subprofundè excavatis, transversim subtiliter striatis; albidá, purpurascente nodulosá, intus vividè aurantiá, margines versus roseo-purpureá.*

THE VAULTED COCKLE. Shell somewhat square, rounded anteriorly, concavely angulated posteriorly; radiately ribbed, ribs five and thirty in number, very closely imbricately scaled, minutely crenulated at the sides, interstices between the ribs rather deeply excavated, transversely finely striated; whitish, clouded with pale purple, interior bright orange, pinkish purple towards the margins.

SOWERBY, Pro. Zool. Soc., 1840; Conch. Illus. f. 50.

Hab. — ?

The chief peculiarity of this remarkable shell, which is at present unique in the collection of H. Cuming, Esq., consists in the ribs having a double pattern of sculpture, being surmounted with a close-set row of small vaulted scales, whilst the sides are minutely crenulated.

Species 111. (Mus. Cuming.)

CARDIUM PAPILLOSUM. *Card. testá suborbiculari, convexá, paululum obliquá, radiatim costatá, costis quaternis et viginti, papillis brevibus undique echinatis, costarum interstitiis transversim impresso-punctatis; albidá, ferrugineo-fusco tinctá et sparsim maculatá.*

THE PAPILLOSE COCKLE. Shell somewhat orbicular, convex, a little oblique; radiately ribbed, ribs four and twenty in number, echinated throughout with short papillæ, interstices between the ribs transversely impressly punctured; whitish, stained and sparingly spotted with rusty brown, interior white, reddish brown on the posterior side.

POLI, Testacea utriusque Siciliae, pl. 16. f. 2-4.

Cardium Polii, Payrandean.

Hab. Mediterranean.

A well-known species, which may be easily recognised by the papilliferous sculpture of the ribs, and the peculiar transverse groove-like punctures in the interstices.

Species 112. (Mus. Cuming.)

CARDIUM CRENULATUM. *Card. testá transversè ovatá, subæquilaterali, radiatim costatá, costis vicenis convexo-planatis, rugis transversis creniformibus sculptis; albidá, ferrugineo-fusco posticè tinctá et maculatá*

THE CRENULATED COCKLE. Shell transversely ovate, nearly equilateral; radiately ribbed, ribs about twenty in number, convexly flattened, sculptured with transverse creniform wrinkles; whitish, stained and spotted on the posterior side with rusty brown.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. vi. p. 407.

Cardium edule, var., Deshayes.

Hab. Plymouth, Britain.

This is one of several species, which, in my opinion, have been erroneously confounded together as varieties of the *Cardium edule*.

Species 113. (Mus. Cuming.)

CARDIUM BELTICUM. *Card. testá tenuiculá, transversè ovatá, subobliquá, posticè compresso-productá; radiatim costatá, costis ad tricenis, planatis, angustis, lævibus, subdistantibus; albicante, costis medianis posticisque nigro-fuscis.*

THE BALTIC COCKLE. Shell rather thin, transversely ovate, somewhat oblique, posteriorly compressly produced; radiately ribbed, ribs about thirty in number, flattened, narrow, smooth, rather distant; whitish, middle and posterior ribs blackish brown.

BECK, MSS. Mus. King of Denmark.

Hab. Baltic Sea.

May be distinguished by its narrow, flattened, smooth, distant, dark brown ribs, which are very conspicuous upon the light ground of the shell.



114



115



116



117



118



119



120



121



122



123

CARDIUM.

PLATE XXI.

Species 114. (Mus. Cuming.)

CARDIUM UNIMACULATUM. *Card. testá lateraliter cordiformi, medio valdè convexá, carinatá, cariná spinosodentatá, lateribus plano-compressis, antico radiatim sulcato, postico radiatim planilirato, liris medio minutissimè elato-punctatis; albidá, maculis niveis opacis aspersá, roseo circa lunulam posticam vividè tinctá.*

THE SINGLE-SPOTTED COCKLE. Shell laterally heart-shaped, very convex in the middle, keeled, keel spinosely dentated, sides flatly compressed, anterior radiately grooved, posterior radiately flatly ridged, ridges armed down the middle with minute raised dots; whitish, sprinkled with opaque snowy spots, vividly stained around the posterior lunule with pink.

BRODERIP and SOWERBY, Pro. Zool. Soc., 1833.

Hab. Island of Annaa, Pacific Ocean (found in coral sand on the reefs); Cuming.

A front view of this shell is given by Mr. Sowerby, jun., in his Conch. Illus. f. 1 **, as the young of the *Cardium cardissa*; it is, however, maturely grown, and quite distinct from that species; Mr. Cuming collected it at the above named locality in great abundance.

Species 115. (Mus. Cuming.)

CARDIUM RINGICULUM. *Card. testá transversè ovatá, lateribus hiantibus, antico brevissimo, postico elongato; radiatim costatá, costis quaternis quinise, angustis, rudis, subinconspicuis, anticis subtiliter crenulatis, interstitiis posticis prope margines incisís; lutescente-albá, intus interdum posticè vividè rosacéa.*

THE LITTLE GRINNING COCKLE. Shell transversely ovate, sides gaping, anterior very short, posterior elongated; radiately ribbed, ribs four or five and twenty in number, narrow, rude, rather inconspicuous, anterior ribs finely crenulated, posterior interstices cut near the margins; yellowish-white, interior sometimes brightly stained with rose on the posterior side.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. Islands of Nevis and St. Vincent, West Indies (found in sandy mud); Guilding.

There seems to be an error in the locality quoted by Mr. Sowerby for this interesting little species.

Fig. 116. The shell here represented proves upon further examination to be a variety of the *Cardium crenulatum* in which the creniform wrinkles of the ribs are almost obsolete.

Species 117. (Mus. Cuming.)

CARDIUM OBOVALE. *Card. testá oblongo-cordatá, obliquá, gibbosá, lateribus brevissimis; radiatim costatá, costis duabus et viginti, lateralibus depresso-planis, anticis posticè crenulatis, medianis rotundatis, undique creberrimè crenatis, interstitiis omnibus transversim impresso-cancellatis; albidá, fuscescente umbones versus pallidissimè tinctá.*

THE OBLONG-OVAL COCKLE. Shell oblong, heart-shaped, oblique, gibbous, sides very short; radiately ribbed, ribs two and twenty in number, side ribs depressly flattened, anterior of which are finely crenulated on the posterior side, middle ribs rounded, very closely crenated throughout, interstices between all the ribs transversely impressly cancellated; whitish, faintly tinged with brown towards the umbones.

BRODERIP and SOWERBY, Pro. Zool. Soc., 1833.

Hab. Xipixapi, West Columbia, (found in sandy mud at the depth of eleven fathoms); Cuming.

Of a very singular oblong form, with a peculiarity of sculpture, which I have not observed in any other species.

Species 118. (Mus. Cuming.)

(Figure slightly magnified.)

CARDIUM FASCIATUM. *Card. testá subquadrato-ovatá, posticè leviter angulatá; radiatim costatá, costis senis et viginti, posticis subtiliter muricatis, anticis obtusosquamatis; albidá, ferrugineo-fusco pallidè tinctá et fasciatá.*

THE BANDED COCKLE. Shell thin, somewhat squarely ovate, posteriorly slightly angulated; radiately ribbed, ribs six and twenty in number, the posterior finely muricated, the anterior obtusely scaled; whitish, faintly stained and banded with rusty brown.

MONTAGU, Test. Brit. Supp. p. 30. pl. 27. f. 6.

Hab. Britain (found on the western coast).

A thin pellucid shell, slightly gibbous on the posterior side.

March 1845.

Species 119. (Mus. Cuming.)

(Figure slightly magnified.)

CARDIUM OVALE. *Card. testā tenui subquadrato-ovatā, depressiusculā, posticè leviter angulatā; radiatim costatā, costis, anticis præcipuè, obscurè subtilissimè muricatis; albidā, fuscescente pallidè tinctā et fasciatā.*

THE OVAL COCKLE. Shell thin, somewhat squarely ovate, rather depressed, posteriorly slightly angulated; radiately ribbed, ribs, the anterior especially, obscurely very finely muricated; whitish, faintly stained and banded with brown.

SOWERBY, Cat. *Card. Conch. Illus.*, no. 24.

Cardium elongatum, Montagu, (not of Bruguière).

Hab. Britain (Torbay).

More depressed than the preceding species.

Species 120. (Mus. Saul.)

(Figure slightly magnified.)

CARDIUM VIRGO. *Card. testā subquadrato-cordatā, posticè concavo-angulatā; radiatim costatā, costis octonis et triginta, angustis, compressis, creberrimè squamosis, medianis squamis erectioribus, costarum interstitiis transversim elevato-striatis; extus niveā, intus sanguineā.*

THE VIRGIN COCKLE. Shell somewhat squarely heart-shaped, posteriorly concavely angulated; radiately ribbed, ribs about thirty-eight in number, narrow, compressed, very closely scaled, middle ribs with the scales more erect, interstices between the ribs transversely elevately striated; pure snowy white without, blood-red within.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

Care should be taken not to mistake this very delicate and beautiful shell for a white variety of the *Cardium hystrix*, to which it is most nearly allied.

Species 121. (Mus. Cuming.)

CARDIUM EXIGUUM. *Card. testā obliquè ovatā, gibbosā, latere antico brevissimo, postico angulato; radiatim costatā, costis duabus et viginti, obsolete tuberculatis, interstitiis punctatis; albidā, ferrugineo-fusco pallidè tinctā.*

THE LITTLE COCKLE. Shell obliquely ovate, gibbous, anterior side very short, posterior angulated; radiately ribbed, ribs two and twenty in number, obsolete tuberculated, interstices between the ribs punctured; whitish, faintly tinged with rusty brown.

GMELIN, *Systema Naturæ*, p. 3255. no. 37.

Hab. Britain.

The tubercles are, in some specimens, almost obliterated.

Species 122. (Mus. Cuming.)

CARDIUM DIONÆUM. *Card. testā lateraliter cordiformi, latere antico producto, postico planè concavo-depresso, medio valdè gibbosā, carinatā, carinā spinoso-dentatā; posticè radiatim sulcatā, anticè radiatim planiliratā, liris muricato-nodulosis; albā, areā posticā maculis niveis opacis floccatā.*

DIONE'S COCKLE. Shell laterally heart-shaped, anterior side produced, posterior very flatly concavely depressed, the middle very gibbous, keeled, keel spinosely dentated; posterior side radiately grooved, anterior radiately flatly ridged, ridges prickly noded; white, posterior area flaked with opake snowy spots.

SOWERBY, *Zoological Journal*, vol. iv. p. 367.

Hab. Island of Annaa, Pacific Ocean (found among fine coral sand at low water); Cuming.

A delicate pretty species, allied to the *Cardium cardissa*, the anterior side of which is attenuately produced, whilst the posterior is peculiarly flattened.

Species 123. (Mus. Cuming.)

CARDIUM HIULCUM. *Card. testā transversè oblongā, latere antico brevi, postico elongato; radiatim costatā, costis octonis et triginta, postremis anticisque muricatis; albā, roseo hic illic pallidè maculatā.*

THE UNCLOSED COCKLE. Shell transversely oblong, anterior side short, posterior elongated; radiately ribbed, ribs eight and thirty in number, the extreme posterior and anterior of which are muricated; white, faintly spotted here and there with pink.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

This approaches the *Cardium bullatum* somewhat in form, but has fewer ribs and a different style of sculpture.



124



125



126



127



128



129



130



131



132



133

CARDIUM.

PLATE XXII.

(Figures moderately magnified.)

Species 124. (Mus. Cuming.)

CARDIUM RUBRUM. *Card. testá globoso-cordatá posticè leviter angulatá; radiatim costatá, costis convexis, hic illic muricatis; roseá, subpellucidá.*

THE RED COCKLE. Shell globosely cordate, posteriorly slightly angulated; radiately ribbed, ribs convex, here and there prickly; rose-colour, somewhat transparent.

MONTAGU, Testacea Britannica, p. 83.

Hab. Britain.

A small, transparent, rose-coloured shell, furnished here and there with a few prickles.

Species 125. (Mus. Cuming.)

CARDIUM MUNDUM. *Card. testá trigono-cordatá, gibbosá, posticè plano-depressá, radiatim planiliratá, liris medianis anticisque minutè muricatis; albá, areá posticá maculis albis opacis floccatá.*

THE NEAT COCKLE. Shell triangularly cordate, gibbous, posteriorly flatly depressed, radiately flatly ridged, middle and anterior ridges minutely muricated; white, posterior area flaked with opaque white spots.

REEVE, Pro. Zool. Soc., 1845.

Hab. Lord Hood's Island, Pacific Ocean (found among coral sand); Cuming.

A neat little species, allied in form to the *Cardium fragum*, of which several specimens were collected by Mr. Cuming at the above named island.

Species 126. (Mus. Cuming.)

CARDIUM OVULOIDES. *Card. testá oblongo-ovatá, valdè gibbosá, radiatim costatá, costis ad septenis, medianis anticisque grandibus, fortibus, noduloso-granatis, interstitiis transversim impresso-striatis, costis posticis angustis, lævibus planatis; intus extusque lutescente-albá.*

THE LITTLE EGG-LIKE COCKLE. Shell oblong-ovate, very gibbous, radiately ribbed, ribs about seventeen in number, the middle and anterior large, strong, nodulously granulated, interstices transversely impressly striated, posterior ribs narrow, smooth, flattened; yellowish white within and without.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

This little species exhibits the form of the *Cardium obovale* with the sculpture of the *Cardium graniferum*.

Species 127. (Mus. Cuming.)

CARDIUM CARDITÆFORME. *Card. testá transversè oblongá, latere antico brevissimo; subtiliter radiatim costatá; costis minutissimè crebrisquamatis, squamis posticis eminentioribus; albidá, posticè aurantio-fuscescente tinctá.*

THE CARDITA-SHAPED COCKLE. Shell transversely oblong, anterior side very short; finely radiately ribbed, ribs covered with very minute scales, the posterior of which are the more eminent; white, faintly tinged posteriorly with orange-brown.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

A small thin shell, partaking very much of the characters of *Cardita*, although it has the hinge of *Cardium*.

Species 128. (Mus. Cuming.)

CARDIUM NODOSUM. *Card. testá orbiculari, depressiusculá, posticè subangulatá; radiatim costatá, costis quinise et viginti, conspicuè obtuso-nodosis; albidá.*

THE NODOSE COCKLE. Shell orbicular, rather depressed, posteriorly slightly angulated; radiately ribbed, ribs five or six and twenty in number, conspicuously obtusely noduled; whitish.

MONTAGU, Testacea Britannica, p. 81.

Hab. Torbay, Britain; Turton.

Each rib is surmounted with a row of small blunt nodules.

Species 129. (Mus. Cuming.)

CARDIUM QUADRARIUM. *Card. testá tenui, quadrato-ovatá, posticè leviter concavo-angulatá; radiatim costatá, costis planulatis, echinato-squamatis, squamis areæ posticæ muticis, costarum interstitiis subprofundè incisis; albidá, areá posticá concavá ferrugineo-fuscescente.*

THE SQUARE COCKLE. Shell thin, squarely ovate, posteriorly slightly concavely angulated; radiately ribbed, ribs flattened, here and there prickly scaled, those of the posterior area smooth, interstices between the ribs rather deeply cut; whitish, the concave posterior area pale rusty brown.

March 1845.

CARDIUM.—PLATE XXII.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

The chief peculiarities of this shell are its flattened ribs, the interstices between which are narrowly and deeply cut, and its posterior concavity.

Species 130. (Mus. Cuming.)

CARDIUM PINNULATUM. *Card. testâ ovatâ, subobliquâ, radiatim costatâ, costis senis et viginti, squamis brevibus obtusis numerosis irregulariter sculptis, costis posticis eminentioribus; albicante.*

THE FEATHERED COCKLE. Shell ovate, rather oblique, radiately ribbed, ribs six and twenty in number, irregularly sculptured with numerous short obtuse scales, posterior ribs the more conspicuous; whitish.

CONRAD, Journ. Acad. Nat. Sci. Phil., vol. vii.

Hab. — ?

Although some doubt has been attached to the value of this species, the shell here represented, which has been handed to me for it on good authority, is certainly distinct from any of the small *Cardia* that I have had an opportunity of examining.

Species 131. (Mus. Taylor.)

CARDIUM BOREALE. *Card. testâ subtransversè ovatâ, radiatim subtiliter sulcatâ, sulcis medianis anticisque obsolete; albidâ, lineis trigonis fuscescentibus exilissimè pictâ, epidermide tenui prope margines indutâ.*

THE NORTHERN COCKLE. Shell somewhat transversely ovate, radiately finely grooved, middle and anterior grooves obsolete; whitish, very faintly painted with pale brown triangular lines, covered near the margins with a thin epidermis.

REEVE, Pro. Zool. Soc., 1845.

Hab. Greenland.

The anterior portion of this little shell is comparatively smooth, whilst the posterior is distinctly grooved. I have not seen any other specimen.

Species 132. (Mus. Cuming.)

CARDIUM SUEDIENSE. *Card. testâ minutâ, orbiculari, tenui, fragili, radiatim costatâ, costis octonis et viginti, convexis, muricatis; albâ, epidermide tenui stramineâ indutâ.*

THE SWEDISH COCKLE. Shell minute, orbicular, thin, fragile, radiately ribbed, ribs eight and twenty in number, convex, prickly; white, covered with a thin straw-coloured epidermis.

REEVE, Pro. Zool. Soc., 1845.

Hab. West coast of Sweden.

This is the smallest species of *Cardium* I have met with; it is not much unlike the figure of an odd valve discovered by M. Philippi, at Palermo, and figured in his second volume of the Enum. Moll. Siciliæ, pl. 14. f. 18, under the name of *C. minimum*; his description, however, by no means agrees with the northern species under consideration.

Species 133. (Mus. Cuming.)

CARDIUM ARCUATUM. *Card. testâ ovatâ, tenui, subpellucidâ, radiatim costatâ, costis plano-convexis, squamis obtusis arcuatis irregulariter sculptis; albidâ.*

THE ARCHED COCKLE. Shell ovate, thin, somewhat transparent, radiately ribbed, ribs flatly convex, irregularly sculptured with obtuse arched scales; whitish.

MONTAGU, Testacea Britannica, p. 85. pl. 3. f. 2.

Hab. Falmouth Harbour, Britain.

A very thin, fragile shell, in which the scales are unusually numerous and obtuse, having almost the appearance of raised striæ.

NOTE.—Since the publication of the *CARDIUM RUSTICUM* in October last, my views in regard to that species (according to the example of Poli, but in opposition to that of Chemnitz, Lamarek, Sowerby and others) have been singularly confirmed by an incident to which I attach considerable importance. Upon looking over the shells formerly belonging to Linnæus, in the Museum of the Linnæan Society of London, I have had the pleasure of finding the very shell from which the great Professor of Upsal probably described the species in question; it has, at all events, the figures "91" very legibly written upon the inside of one of the valves, in his own handwriting, referring to the *CARDIUM RUSTICUM* of the 'Systema Naturæ,' 12th edition.

M. Deshayes will no doubt be pleased to hear that an odd valve of the *CARDIUM SERRATUM* also, such as I have published it, is still preserved in the same collection, marked "86" in Linnæus' handwriting, referring in like manner to the 12th edition of the 'Syst. Nat.'—L. R.

CARDIUM

	Plate.	Species.		Plate.	Species.
<i>aculeatum</i> , Linnæus	VII.	17	<i>erinaceum</i> , Lamarck	XII.	62
<i>Æolicum</i> , Born	II.	14	<i>exiguum</i> , Gmelin	XXI.	121
<i>alternatum</i> , Sowerby	XIII.	65	<i>fasciatum</i> , Montagu	XXI.	118
<i>angulatum</i> , Lamarck	XIV.	70	<i>ferruginosum</i> , Reeve	XX.	106
<i>apertum</i> , Chemnitz	XII.	63	<i>fimbriatum</i> , Wood	XVIII.	91
<i>Arcticum</i> , Sowerby	XI.	54	<i>flavum</i> , Born	XVI.	79
<i>arenatum</i> , Montagu	XXII.	133	<i>fornicatum</i> , Sowerby	XX.	110
<i>arenicolum</i> , Reeve	XVI.	78	<i>foveolatum</i> , Sowerby	XVIII.	87
<i>Asiaticum</i> , Bruguière	XVIII.	90	<i>fragile</i> , Reeve	XX.	108
<i>aspersum</i> , Sowerby	II.	8	<i>fragum</i> , Linnæus	IV.	23
<i>assimile</i> , Reeve	IX.	45	<i>glaucum</i> , Bruguière	IV.	22
<i>attenuatum</i> , Sowerby	XV.	72	<i>Grœnlandicum</i> , Chemnitz .. .	X.	53
<i>auricula</i> , Forskâel	VII.	39	<i>graniferum</i> , Broderip	VIII.	43
<i>australe</i> , Sowerby	XIX.	97	<i>hemicardium</i> , Linnæus	VII.	38
<i>Australiense</i> , Reeve	V.	24	<i>hians</i> , Brocchi	V.	27
<i>Belcheri</i> , Broderip	I.	5	<i>hiulcum</i> , Reeve	XXI.	123
<i>Belticum</i> , Beck	XX.	113	<i>humanum</i> , Chemnitz	III.	15
<i>biangulatum</i> , Sowerby	VI.	29	<i>hystrix</i> , Reeve	VIII.	40
<i>biradiatum</i> , Bruguière	X.	49	<i>Icelandicum</i> , Chemnitz .. .	XI.	54
<i>boreale</i> , Reeve	XXII.	131	<i>imbricatum</i> , Sowerby	V.	28
<i>Brasilianum</i> , Lamarck	XII.	61	<i>imbricatum</i> , Born	IV.	23
<i>bullatum</i> , Lamarck	II.	8	<i>impolitum</i> , Sowerby	XVI.	80
<i>Burdigalinum</i> , Lamarck	V.	27	<i>incarnatum</i> , Reeve	I.	2
<i>cardissa</i> , Linnæus	III.	15	<i>Indicum</i> , Lamarck	V.	27
<i>Carditæformis</i> , Reeve	XXII.	127	<i>inversum</i> , Lamarck	III.	15
<i>Caspium</i> , Reeve	XIX.	96	<i>isocardia</i> , Linnæus	XVII.	84
<i>ciliare</i> , Linnæus	VII.	35	<i>Junonia</i> , Lamarck	III.	15
<i>citrinum</i> , Wood	I.	1	<i>lacunosum</i> , Reeve	XVI.	81
<i>consors</i> , Sowerby	XVII.	86	<i>lævigatum</i> , Linnæus	XIV.	69
<i>costatum</i> , Linnæus	II.	11	<i>lævigatum</i> , Pennant	IX.	48
<i>crenulatum</i> , Lamarck	XX.	112	<i>lævigatum</i> , Gmelin	I.	1
<i>Cumingii</i> , Broderip	XII.	59	<i>lævigatum</i> , Chemnitz	X.	49
<i>Deshayesii</i> , Payrandeau	XVII.	83	<i>Lamarckii</i> , Reeve	XVIII.	93
<i>Dionæum</i> , Sowerby	XXI.	122	<i>laticostatum</i> , Sowerby	X.	51
<i>Donaciforme</i> , Schroeter	V.	25	<i>latum</i> , Born	IV.	21
<i>Dupuchense</i> , Reeve	XIV.	67	<i>leucostoma</i> , Born	XIII.	47
<i>echinatum</i> , Linnæus	VI.	34	<i>lineatum</i> , Gmelin	V.	26
<i>edentulum</i> , Sowerby	X.	53	<i>lima</i> , Reeve	XV.	74
<i>edule</i> , Linnæus	IV.	22	<i>lyratum</i> , Sowerby	II.	12
<i>Eichwaldii</i> , Reeve	XIX.	94	<i>maculatum</i> , Sowerby	XI.	58
<i>elatum</i> , Sowerby	VIII.	41	<i>maculatum</i> , Gmelin	IV.	20
<i>Elenense</i> , Sowerby	XX.	104	<i>maculosum</i> , Wood	XVI.	76
<i>elongatum</i> , Bruguière	IX.	46	<i>maculosum</i> , Sowerby	XVI.	78
<i>elongatum</i> , Montagu	XXI.	119	<i>magnum</i> , Born	IV.	20
<i>enode</i> , Sowerby	XV.	73	<i>magnum</i> , Chemnitz	XIV.	68

CARDIUM.

	Plate.	Species		Plate.	Species.
<i>marareum</i> , Lamarek	XIII.	47	<i>pulicarium</i> , Reeve	XIX.	102
<i>medium</i> , Linnæus	VI.	30	<i>quadrarium</i> , Reeve	XXII.	129
<i>Mindanense</i> , Reeve	IV.	19	<i>radiatum</i> , Reeve	XVII.	89
<i>monstrosum</i> , Chemnitz	III.	15	<i>retusum</i> , Linnæus	XIX.	103
<i>Mortoni</i> , Conrad	XIX.	101	<i>rigidum</i> , Wood	XX.	105
<i>mucronatum</i> , Poli	VI.	34	<i>ringens</i> , Chemnitz	I.	6
<i>multipunctatum</i> , Sowerby	I.	7	<i>ringiculum</i> , Sowerby	XI.	115
<i>multispinosum</i> , Sowerby	II.	10	<i>roseum</i> , Chemnitz	III.	15
<i>multistriatum</i> , Sowerby	XVI.	76	<i>rubicundum</i> , Reeve	IX.	44
<i>mundum</i> , Reeve	XXII.	125	<i>rubrum</i> , Montagu	XXII.	124
<i>muricatum</i> , Linnæus	VI.	33	<i>rugatum</i> , Gronovius	XII.	63
<i>muticum</i> , Reeve	VI.	32	<i>rugosum</i> , Lamarck	XIV.	68
<i>nebulosum</i> , Reeve	XIX.	99	<i>rusticum</i> , Linnæus	III.	16
<i>nivale</i> , Reeve	XIX.	95	<i>rusticum</i> , Lamarek	XVIII.	93
<i>nodosum</i> , Montagu	XXII.	128	<i>rusticum</i> , Eichwald	XIX.	94
<i>Nuttallii</i> , Conrad	XIII.	66	<i>senticosum</i> , Sowerby	XVI.	82
<i>oblongum</i> , Linnæus	XV.	71	<i>serratum</i> , Linnæus	I.	1
<i>obovale</i> , Sowerby	XXI.	117	<i>serratum</i> , Bruguière	XVI.	79
<i>orbita</i> , Sowerby	XVII.	85	<i>Sinense</i> , Sowerby	I.	3
<i>ovale</i> , Sowerby	XXI.	119	<i>stellatum</i> , Reeve	XX.	109
<i>oviputamen</i> , Reeve	VII.	36	<i>striatulum</i> , Sowerby	XII.	60
<i>ovuloides</i> , Reeve	XXII.	126	<i>subelongatum</i> , Sowerby	XI.	57
<i>oxygonum</i> , Sowerby	XVI.	77	<i>subretusum</i> , Sowerby	XIX.	100
<i>pallidum</i> , Reeve	XVIII.	92	<i>subrugosum</i> , Sowerby	XI.	55
<i>papillosum</i> , Poli	XX.	111	<i>Suediense</i> , Reeve	XXII.	132
<i>paucicostatum</i> , Sowerby	IV.	18	<i>sulcatum</i> , Gmelin	XVI.	79
<i>Panamense</i> , Sowerby	XI.	56	<i>tenuicostatum</i> , Lamarck	X.	50
<i>papyraceum</i> , Chemnitz	II.	9	<i>trigonoides</i> , Pallas	V.	26
<i>pectinatum</i> , Linnæus	II.	14	<i>tuberculatum</i> , Chemnitz	III.	16
<i>Pemantii</i> , Beck	IX.	48	<i>tumoriferum</i> , Lamarck	XII.	64
<i>pinnulatum</i> , Conrad	XXII.	130	<i>unedo</i> , Linnæus	II.	13
<i>planicostatum</i> , Sowerby	VI.	31	<i>unicolor</i> , Sowerby	XVIII.	88
<i>Poli</i> , Payraudeau	XX.	111	<i>unimaculatum</i> , Sowerby	XXI.	114
<i>procerum</i> , Sowerby	X.	51	<i>variegatum</i> , Sowerby	XV.	75
<i>pseudo-fossile</i> , Reeve	X.	52	<i>ventricosum</i> , Bruguière	IV.	20
<i>pseudo-lima</i> , Lamarck	I.	4	<i>virgineum</i> , Gmelin	XII.	63
<i>pubescens</i> , Courthouy	IX.	54	<i>virgo</i> , Reeve	XXI.	120
<i>pulehellum</i> , Reeve	VIII.	42	<i>vitellinum</i> , Reeve	VII.	37
<i>pulehrum</i> , Reeve	XIX.	98			

ERRATA.

- Species 10. *CARDIUM MULTISPINOSUM*,—insert SOWERBY, Pro. Zool. Soc., 1840; Conch. Illus. f. 38 *a, b*.
 Species 16. *CARDIUM RUSTICUM*,—Add as synonyme, *Cardium tuberculatum*, Chemnitz, Sowerby, (not of Linnæus); the *Cardium tuberculatum* of Linnæus being an obscure specimen of the *Cardium echinatum*.
 Species 23. *CARDIUM FRAGUM*,—Add as synonyme, *Cardium imbricatum*, Born.
 Species 34. *CARDIUM ECHINATUM*,—Add as synonyme, *Cardium mucronatum*, Poli.
 Species 82—*for* *CARDIUM BASTRUM*, Reeve; *read* *CARDIUM SENTICOSUM*, Sowerby, Pro. Zool. Soc., 1841; Conch. Illus. f. 10. *Hab.* St. Elena, West Columbia; Cuming.

03.321
R257c

DEDALUS - Acervo - IO

Conchologia iconica:



12200003440

REEVE, LOVELL.

1595

CONCHOLOGIA ICONICA:
MONOGRAPH OF THE GENUS...
03.321/R257C

210037866

1595

BIBLIOTECA
Inst. Oceanográfico

MOD. 300-084 - 6.000 - 7 - 62



ORIENTAÇÕES PARA O USO

Esta é uma cópia digital de um documento (ou parte dele) que pertence a um dos acervos que fazem parte da Biblioteca Digital de Obras Raras e Especiais da USP. Trata-se de uma referência a um documento original. Neste sentido, procuramos manter a integridade e a autenticidade da fonte, não realizando alterações no ambiente digital – com exceção de ajustes de cor, contraste e definição.

1. Você apenas deve utilizar esta obra para fins não comerciais. Os livros, textos e imagens que publicamos na Biblioteca Digital de Obras Raras e Especiais da USP são de domínio público, no entanto, é proibido o uso comercial das nossas imagens.

2. Atribuição. Quando utilizar este documento em outro contexto, você deve dar crédito ao autor (ou autores), à Biblioteca Digital de Obras Raras e Especiais da USP e ao acervo original, da forma como aparece na ficha catalográfica (metadados) do repositório digital. Pedimos que você não republique este conteúdo na rede mundial de computadores (internet) sem a nossa expressa autorização.

3. Direitos do autor. No Brasil, os direitos do autor são regulados pela Lei n.º 9.610, de 19 de Fevereiro de 1998. Os direitos do autor estão também respaldados na Convenção de Berna, de 1971. Sabemos das dificuldades existentes para a verificação se uma obra realmente encontra-se em domínio público. Neste sentido, se você acreditar que algum documento publicado na Biblioteca Digital de Obras Raras e Especiais da USP esteja violando direitos autorais de tradução, versão, exibição, reprodução ou quaisquer outros, solicitamos que nos informe imediatamente (dtsibi@usp.br).