

On the Marine Mollusca of Madeira ; with Descriptions of Thirty-five new Species, and an Index-List of all the known Sea-dwelling Species of that Island. By the Rev. ROBERT BOG WATSON, LL.D., F.R.S.E., F.L.S.

[Read 6th May, 1897.]

(PLATES 19 & 20.)

THE species here described were chiefly obtained in dredgings which I carried on in Madeira between 1864 and 1874. Much additional material was sent me by my lamented friend the late T. Vernon Wollaston, as executor of the Rev. R. T. Lowe, who dredged and collected from 1826 to 1872, when, with all his treasures of botanical research, he was lost in the Bay of Biscay. Some wreckage on the French coast from the s.s. 'Liberia,' in which Mr. Lowe had sailed for Madeira, was the only record of all on board.

In addition to these gatherings, I have carefully gone over the Mollusca secured by Mr. J. Yate Johnson in his 30 years' study of the various forms of life both in the deeper and shallower waters of the Madeiran sea. It is to his collection that I owe the *Coralliophaga*, which is by far the most important of all the species presented here.

The entire list, including the 35 new species which follow, extends to 382 species.

When not otherwise mentioned, the species here given have been collected by myself ; I have been careful to note the fact when this has not been the case.

LIST OF NEW SPECIES FROM MADEIRA.

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| 1. <i>Cylichna spreta.</i> | 19. <i>Scalaria Fischeri.</i> |
| 2. <i>Amphisphyræ flava.</i> | 20. — <i>Smithii.</i> |
| 3. <i>Philine complanata.</i> | 21. <i>Aclis vitrea.</i> |
| 4. — <i>trachyostraca.</i> | 22. — <i>trilineata.</i> |
| 5. — <i>desmotis.</i> | 23. — <i>tricarinata.</i> |
| 6. <i>Doridium laurentianum.</i> | 24. <i>Eulima fulva.</i> |
| 7. — <i>maderense.</i> | 25. — <i>sordida.</i> |
| 8. <i>Pleurobranchus Dautzenbergi.</i> | 26. — <i>badiu.</i> |
| 9. — <i>Lowei.</i> | 27. — <i>rhaphium.</i> |
| 10. <i>Nassa antiquata.</i> | 28. — <i>trunca.</i> |
| 11. <i>Murex (Ocinebra) medicago.</i> | 29. — <i>inconspicua.</i> |
| 12. <i>Trophon Lowei.</i> | 30. <i>Odostomia omphaloessa.</i> |
| 13. <i>Bittium depauperatum.</i> | 31. — (<i>Turbonilla</i>) <i>undata.</i> |
| 14. — <i>incile.</i> | 32. <i>Schismope depressa.</i> |
| 15. <i>Cæcum atlantidis.</i> | 33. <i>Montacuta triangularis.</i> |
| 16. <i>Natica (Nacca) furva.</i> | 34. <i>Coralliophaga Johnsoni.</i> |
| 17. <i>Scalaria rhips.</i> | 35. <i>Teredo Dallii.</i> |
| 18. — <i>aspera.</i> | |

Fam. SCAPHANDRIDÆ.

Gen. CYLICHNA, *Lov.*

1.* CYLICHNA SPRETA, n. sp.

Shell smallish, oval, somewhat broad just below the middle and contracted upwards, truncated above, where the edge is carinated and thickened but not furrowed. *Longitudinals*: the lines of growth are very faint, delicate, close-set, and hair-like. *Spirals*: there are very slight and superficial microscopic scratches which extend to the whole surface. *Colour* dull pellucid white. *Mouth* club-shaped, bent, narrow above, widened but drawn out and lop-sided in front. *Outer lip* rising from the outer edge of the apex, bends back, and with a slightly patulous front makes a minute semicircular sweep round the top, whence with a slight divergence in its direction to the right it runs straight forward, with a barely retreating edge, till it nears the point of the shell, where scarcely patulous it sweeps round and merges with a very faint twist into the point of the pillar, continued up the body as a mere film to its junction with the outer lip. *Apex*, which is contracted and small, consists of the round edge which is thickened by a pad within the shell, in the centre is a somewhat abrupt minute pore.—L. 0·09 in. B. 0·05.

This species a good deal resembles the young shell of *C. ovata*, Jeffr., but has the mouth more bent, the swell of the body-whorl lies higher and is not so large, while the apex and the front of the shell are smaller; the apical pore is also more contracted.

The few specimens of this species I got from about 30 to 40 fms. off Porto Santo; they are nearly all quite young shells.

Gen. AMPHISPHYRA, *Lov.*

2. AMPHISPHYRA FLAVA, n. sp.

Shell globose, thin, glossy, brownish yellow, with large open mouth and a hidden spire. *Sculpture*: there are faint soft longitudinal undulations, and, like these, following the lines of growth are very fine silky striations with a mere suggestion of spirals in the structure of the shell. *Colour* yellowish with a faint tinge of ruddyish brown. *Spire* very small, and sunk in a minute pore-like depression. *Whorls*: that of the body, which is alone visible, is shortly globose above, but, below this, on the left is hard twisted in round the pillar, while, in forming the

* These numbers correspond with those of the figures on Plates 19 and 20.

mouth, it sweeps widely and freely away to the right. *Outer lip*: it rises in the young shell barely perceptibly (in the older shell, not at all) above the apex, with very little of an advancing edge, and forming no sinus it turns at an obtuse angle and advances a little obliquely but in a straight direction to the periphery, from which, neither contracted nor expanded but retaining its forward edge, it slopes slightly backwards, and then makes a great patulous sweep round the base out to the left of the pillar, from the tip of which, with a free circular sweep, its sharp edge bends round to join the body, leaving behind it a narrow groove and an open-mouthed, but minute, umbilical depression, above which to the apex the mouth-edge is defined by a broadish-spread, thin, white film.—H. 0.133. B. 0.13.

From Funchal Bay along the S. coast eastward to Punta São Lourenço down to 50 fms.; rare. Mr. Johnson got one specimen; I several, but chiefly young. It resembles *A. globosa*, Lov., but differs in colour, in smaller body, in larger opener mouth, in flatter top, and in sunken apex.

Fam. PHILINIDÆ.

Gen. PHILINE, *Asc.*

3. PHILINE COMPLANATA, n. sp.

Shell thin, tumid, smooth, a little oblique in form, and with a flattened top. *Sculpture*: rather feeble, close, irregular lines of growth. *Colour* pure white, translucent, not glossy. *Spire* tabulated, nucleus slightly impressed, but the rest of the spire becomes gradually a very little prominent. *Whorls* two and a half, with a small mammillary nucleus. *Mouth* pear-shaped. *Outer lip* open: it springs from slightly below the top edge, advancing a very little, it curves at the top freely round and then runs downward straight, but in its direction a little obliquely towards the right; across the base it sweeps with a free curve, is a little patulous, and on the left rises to join the point of the pillar, which is barely if at all prominent. *Inner lip* more or less curved; it runs a little obliquely but in a line of increasing straightness, carrying the thin glaze spread on the body across to the sharp-edged curved pillar, leaving behind it a minute chink and a mere suggestion of an umbilicus.—L. 0.1. B. 0.067.

Funchal Bay, 50 fms.

This species resembles *P. finmarchica*, M. Sars, but is smaller,

less tumid, and the outer lip does not, as in that species, rise above the crown except, and but occasionally, in the very young shell: the sculpture too is quite different.

4. PHILINE TRACHYOSTRACA, n. sp. (*τραχυόστρακος*, rough-shelled.)

Shell oval, but slightly truncated across the top, flattened, thin, translucent, very rough and fretted on the outside surface. *Sculpture*: the whole surface is very harshly roughened by a network of coarse, sharp, narrow, unequal projecting bars, which give a crusted appearance to the shell; where this network is rubbed off the surface of the shell appears like frosted glass fretted in squares: the longitudinal bars run on the lines of growth, those which cross them are spirals. *Colour*: the surface made up of the bars is dead dirty white. *Spire*: a little sunken; in the bottom of a small, open, funnel-shaped depression is the mammillary apex, round which coil two whorls. *Suture* barely impressed. *Mouth* pear-shaped, rather small. *Outer lip* rises shortly, makes a short and narrow curve at the top, runs down with a hardly prominent edge and but slight curve to the base, where it sweeps round freely (but is barely patulous) to join the point of the pillar. *Inner lip*: down the body from well inside the mouth this lip projects as a narrow square-set shelf, which dies off on the straight longish sharp-edged pillar, which is slightly truncate at its point.—L. 0·11. B. 0·07.

Of this curiously marked *Philine* I got only two specimens, one of them young—both from about 50 fms. Funchal Bay.

5. PHILINE DESMOTIS, n. sp. (*δεσμώτις*, enchained.)

Shell rhomboidal, but with the upper left-hand corner rounded off; flattened, thin, but not fragile, horny, hardly glossy. *Sculpture*: there are many unequal and somewhat irregular lines of growth, coincident with whose curves are very fine microscopic lines which seem to pervade the substance of the shell; crossing these nearly at a right angle are impressed chain-like lines whose links are 3 to 4 times as long as they are broad, towards the lower edge of the shell these links are more and more elongated, the raised surfaces between the chains are slightly wider than the chain lines, and project on the edge of the shell which they crenellate strongly above, more feebly but still more or less traceably, especially in the young shell, all along its whole edge; a slight translucent pad encircles the top of the shell. *Colour*

white, somewhat opaque, and with a yellowish tinge. *Spire* not in the least prominent, the apex being small, mammiform, and slightly sunken; round it rapidly enlarging, and defined by a small slightly impressed suture, coils a single whorl whose upper narrow, flattened but rounded edge slightly overtops the apex. *Mouth* very large, being about 4 times as broad as the body, narrowing above, it is very wide and scoop-like in front. *Outer lip* perfectly straight and parallel to the axis, at the top and at the base it turns quickly but roundly and a little patulously to join the spire. *Inner lip* has a narrow thin appressed glaze across the upper part of the very slightly oblique body; after the glaze dies out, the thin sharp lip runs on with a slight twist to join the outer edge of the shell.—L. 0·07; do. of the body-whorl 0·05. B. 0·056.

Punta de São Lourenço, Santa Cruz, Porto Santo, to 50 fms. Not rare.

In shape this species is very like the young of *P. aperta* (L.), but is slightly narrower; the outer lip does not rise so high as in that species; the body-whorl is slightly narrower, longer, and more parallel to the axis: texture and sculpture are of course quite different, and the full-grown shells are utterly unlike. Than *P. scabra*, Müll., this is broader, the top does not slope obliquely down to the right; the body-whorl is narrower and not so much swollen to the right, and its direction being more oblique the shell is more narrowed upwards; the whole front of the shell below is wider, opener, more scoop-shaped. The chain-link sculpture is in a single row, and is only doubled when a fresh row first begins to appear: the links are fully 3 times as long as they are broad. Than *P. catena*, Mont., this is much wider, opener, and straighter; the sculpture-chains are more distant from each other, and the links are smaller and longer. *P. Loveni*, Malm, is much narrower, has a larger body-whorl; the outer lip falls much short of the apex, the chain-sculpture is double, and the links are much shorter. *P. cingulata*, Sars, and *P. quadrata*, Wood, differ much from this both in form and sculpture.

Fam. DORIDIIDÆ.

Gen. DORIDIUM, *Meckel*.

6. DORIDIUM (?) LAURENTIANUM, n. sp. (Not figured.)

Body unknown.

Shell small, but relatively to its size strong, somewhat flattened

on both faces; outline trapezoidal, the front and back lines being fairly parallel, though somewhat converging upward (*i. e.* where the head of the animal would be); the lower edge is rounded; the top of the shell is produced into a short oblique wing-like extension, from which four to six short small bluntish points project. This wing-like projection slopes downward to the left towards the somewhat unformed nuclear top of the pillar, from which it is separated by a small rounded sinus with a reverted edge; below the nuclear pad the lip-edge is broadly but shortly reverted, leaving behind it on the left a well-marked very oblique umbilical furrow; the whole mouth-edge is strong; the front face of the shell is slightly concave, the back is rather flatly convex. The surface of the shell is somewhat rudely marked by lines of growth, and microscopic, close-set, faint, regular longitudinal markings can just be traced; the colour is translucent white, only the embryonic knob is brownish and of a limy texture.

The living animal I never found, and only four minute shells presented themselves in dredgings of 50 fms. from Punta de São Lourenço, whence the specific name is taken.—L. 0.06. B. 0.036. They are probably *Doridium*s. Of the four specimens, two were unfortunately lost by a friend.

7. *DORIDIUM MADERENSE*, n. sp. (Figs. 7, 7 a, 7 b.)

Body about half an inch in length and a third of an inch in breadth; it is well arched; the foot is oval in contour, with the mantle-covered square-fronted body just perceptibly projecting in front; while the tail, which is short, square, abruptly truncated, hardly bifid, but with a slight tubercular prominence at either corner, is more prominent behind; there is no flagelliform appendix; the entire head is covered by the unbroken mantle which extends over the body, either side of which is inlapped by the mantle-flaps, as in *Philine*; in the substance of the tail the shell can be distinctly seen with the spire directed towards the animal's head, while in the body, rather on the left side, can be traced (what is apparently the stomach and entrails) a slightly opaque, elongately oval substance defined by a brownish outline, but varying slightly in form and position. I failed to detect either the branchial plume or the vent, though there is no membranous lobe to hide these as in *D. carnosum*, Cuv. (see Veysière, *Tectibranches*, p. 48, pl. ii. 42). *Colour*: the whole animal is opaque (or rather not quite translucent) white, dotted, especially

on the foot, with a very few and extremely minute specks of crimson, and each of the two tail-tips has a bright but minute crimson fleck. Preserved in spirit, the animal's colour changed to a uniform brownish-black.

Shell: in shape like one outspread wing and tail of a bird which has been cut longitudinally through the middle; in the centre there is a small thickened nucleus, with a short pillar and an open coil of one and a half whorls. In *substance, colour,* and *ornamentation* it is much like the shell of *Philine scabra*, Müll., or *P. punctata*, Clerk. A fine but distinct marginal bar of somewhat varying strength, beaded on the outer face and projecting sharply on the inner face of the shell, runs round nearly the whole edge, and three or four others occur at somewhat irregular intervals between the upper and lower edges of the shell. Besides these there are many spiral and longitudinal undulations with much finer rounded spirals.—L. (body) half an inch, B. 0·3. Shell, L. 0·09, B. 0·065.

Funchal, Ponta de São Lourenço, Caniçal. From shallow water to 50 fms.

The shells of this species I found not unfrequently, but only one living animal presented itself. It lived with me for some days. I never saw it swim—it always crawled, and then never on the surface of the sand of the bottom; as soon as it could it passed in just below the surface, burrowing not deeply, but forcing the sand to rise and pass over its back in a way very curious.

Cf. *Acera marmorata*, Cantraine, Malac. Médit. p. 73, ii. 2. *Doridium carnosum*, Cuvier, and *D. membranaceum*, Meckel, Veyssière, Moll. Opisthobranches, pp. 41–49, pl. ii. 42–47.

Fam. PLEUROBRANCHIDÆ.

Gen. PLEUROBRANCHUS, Cuv.

8. PLEUROBRANCHUS DAUTZENBERGI, n. sp.

Shell oval, flattened, fairly strong, white, dull outside but glossy within. *Sculpture*: strongish, irregular and unequal lines of growth, with longitudinal striæ, similar to but keener than those of *P. plumula*; the oblique furrow of that species is entirely absent. *Colour* semitransparent to opaque yellowish white. *Spire*: a small rounded knob lying well over to the right and bent down on the back of the shell so as to be quite

dominated by the further growth of the first whorl, which rises up on the left and forms the most prominent part of the shell at this end as it turns over with a sharp twist and encloses a small pear-shaped body-space within the *inner lip*, which, with a sharp finely-projecting edge, sweeps freely round and, slightly expanding, runs straight down to the base, where, scoop-like and with a semicircular curve, it passes round to form the sharp, barely curved *outer lip*, which, parallel to the other, rises to or nearly to the full height of the apex, leaving, however, a small nick at its junction with the apical whorl.—L. 0·18. B. 0·11.

A well-marked species, to which I have attached the name of M. Ph. Dautzenberg, who, in conjunction with M. Henri Fischer, is so ably working out the Prince of Monaco's dredgings in the 'Hirondelle' and the 'Princesse Alice' at the Azores.

The species is not very common. I have the two specimens of it got by the Rev. R. T. Lowe in 1829 at Magdalena. Another of his specimens and a few of mine came from near Funchal, but most of mine and one of his came from the east end of the south shore towards Punta de São Lourenço.

Mr. Lowe has a note on the living specimen which he got at the Gorgulho, near Funchal, that the "animal was white, subpellucid, about $\frac{1}{2}$ in. long," that "the edges of the mantle were loose and floating, as in *Sigaretus*"; the branchiæ he says he had not seen.

9. PLEUROBRANCHUS LOWEI, n. sp.

Shell strong, shallow, long, narrow-pointed and gathered in at the caudal end, broad, flat and open at the cephalic end, with nearly straight sides. *Colour* white and translucent. *Sculpture* fine sharpish regular lines of growth; of longitudinals, a suggestion is traceable under the microscope in exceptionally good light—a very faint trace of such a diagonal impression as forms so marked a feature in *P. plumula*, Mont., is visible on the outside and shows more distinctly in the interior. *Spire* consists of $3\frac{1}{2}$ well-rounded whorls parted by a distinct impressed, slightly margined suture; the apex lies flat on the back of the shell and a little behind the extreme point; the tip is minute, rounded, and glossy, of a pale ruddy-brownish colour; from this point the two sides slope away as a cloak hangs on a peg, and the back of the shell is here well rounded. *Mouth* spreads fully open but for the small, long, narrow curved chamber which lies in under the spire and the edge of the inner lip. *Outer lip* rises

almost to the point of the shell, runs slightly obliquely towards the right, then, with scarcely an angulation, it runs straight forward, sweeps quite patulously in a semicircle round the front, and so with a very gentle curve the inner lip, sharp-edged and a little prominent, rises to the top, where it makes a quicker curve, and then turns almost at a right angle in the line of axis to join the base of the spire, where it leaves but half conceals a small shallow umbilicus, round which the lines of growth appear as strongish wrinkles, and the traces of longitudinal striæ in exceptionally good light seemed faintly more definite.—L. 0.35. B. 0.17.

Of this species Mr. Lowe, in 1827, got one good specimen at Labra, near Punta de São Lourenço, to the east of which I got a quite unmistakable fragment. These, so far as known to me, are the only representatives of this well-marked species.

Fam. NASSIDÆ.

Gen. NASSA, Lam.

10. NASSA ANTIQUATA, n. sp.

Shell small, strongish, pale brownish white flecked with chocolate-brown, compact, with a rather tall conical spire, a small closely-coiled turbinated apex, a short conical rounded base, a very short but strong pillar. *Sculpture*—*Longitudinals*: on the first three normal whorls are about 9 rather feeble ribs, helped to prominence by a row of nearly adjacent small flattened tubercles which run down them; on the lower whorls these riblets disappear and only close sharp lines of growth appear, which come to strength on the base but especially behind the outer lip, where there is a flat strongish rather remote callus. *Spirals*: below the suture there is a small, flat, slightly raised ribbon defined on its lower side by a distinct stippled furrow; this ribbon and furrow begin to show on the third regular whorl, but are barely traceable on the external callus of the outer lip; on each of the upper regular whorls there are three pronounced rounded threads, rising where they cross the ribs into tubercles and separated from one another by narrow furrows; these spiral threads are barely traceable on the intermediate whorls, but to the number of 9 or 10 become strong and crowded on the base; at the point is a strong furrow, and below it a thread twisting round the pillar and defining the canal; below it the pillar is scored by about six threads and weak furrows. *Colour* a very pale ruddy brownish

white, which is porcellanous on the pillar and in the mouth. *Spire* somewhat tall, conical, with hardly convex profile-lines. *Apex* small, pellucid white, consisting of three compact, turbinated, slightly swoln, smooth whorls, the extreme tip of which is very small. *Whorls* 9, conical, almost straight-sided, not constricted below, with a short rounded base. *Suture* linear, scarcely impressed, but distinct from a slight prominence of the subjacent whorl. *Mouth* oval, short, not expanding, channelled above but not in the lip; the canal at the pillar is narrow and deep, it is inclined to the left and widens as it advances. *Outer lip* nearly semicircular, but its curve is slightly flattened above and intensified in passing round to the base; it has a little way within the mouth about 10 teeth, of which one at the top, two in the middle, and one at the edge of the canal are strongish; the others are small, but all run some way into the mouth. *Inner lip* well reverted and thickened, with an abrupt edge across the body; on the base and down the pillar it leaves a small umbilical chink behind it; just within the mouth it bears a few flattened tubercles, which vary in number and size; the tip of the pillar is well flanged along the canal-edge.—L. 0·45. B. 0·22.

Rare—Funchal and Cabo Girão (*Lowe, Watson*).

None of the *Nassas* of our seas resemble this species, differing as it does from them in its narrow compact form and in its sculpture. Judging from figures, *N. glabrata*, A. Ad., from the Pacific is a good deal like in many ways, in some of its forms especially. Amidst the inconceivable multitude of Ligurian Tertiary forms figured by Bellardi it seemed probable that this species might be found, but nothing satisfactory presents itself there, nor elsewhere has the search among Tertiary fossils been successful, though diligently prosecuted. I do not attempt a comparison of it with *N. semistriata*, Broc., nor with *N. labiosa*, J. Sow., nor with the *N. corniculum*, Olivi, nor with the *N. trifasciata*, A. Ad., nor with the *N. Gallandiana*, Fischer, for the relation of these species has become more and more impossible for off-hand treatment.

Fam. MURICIDÆ.

Gen. MUREX, L.

11. MUREX (OCINEBRA) MEDICAGO, n. sp.

Shell strongish, pale brown, rather stumpy biconical, with a

tallish scalar spire, spinous whorls, a small but coarse tip, a shortish base, and a flattened snout. *Sculpture*—*Longitudinals*: there are no varices, but on each whorl 7 to 8 quite distinct rounded ribs, which are made prominent by the small, open, internally imbricated, upturned prickles, of which a prominent series crowns each whorl at its shoulder a little below the suture; others similar, but smaller, crest each spiral as it crosses the successive longitudinalinals; the whole surface is covered with sharp, thin, continuous forward-facing laminae, not close-set but somewhat crowded and imbricated on the crest of the ribs. *Spirals*: there are 5 to 6 well-marked spiral threads on the last whorl, about 3 on the penultimate, and 2 on the earlier whorls; the first, which forms the shoulder, lies a little remote from the suture; the twisted snout is scored by the strong-vaulted old-canal scars. *Colour* pale slightly ruddy brown, paler on the tip and on the spines. *Spire* rather high, conical, subscalar. *Apex* is small, but not fine nor sharp; it consists of $1\frac{1}{2}$ whorls, which in very young and perfect specimens appear faintly ribbed; the extreme tip is semi-immersed. *Whorls* 7 to 8 in all; they are flattened and very slightly declining from the suture to the shoulder, from below which they are rounded and contracted on the base to the somewhat small flattened and triangularly-shaped snout, the point of which is slightly reverted and emarginated. *Suture* indistinct. *Mouth* narrowly oval, rounded and patulous above; in front there is a rather narrow, oblique, open canal. *Outer lip* barely patulous, well arched, thin on the edge; within it has a feeble varix near the edge with 5 to 6 rounded but rather feeble teeth. *Inner lip* with a slightly projecting thin edge; it forms a continuous curve across the body and then straight down the pillar, the point of which is cut off abruptly and obliquely at the canal, over which the edge projects sharply but without closing it in; between this edge and the old canal-swelling is a very slight and open furrow.—H. 0.6. B. 0.3.

Not common. Madeira, Punta de Lourenço to 50 fms.; Magdalena (dredged); Selvagem Grande, shore (*Lowe, Watson*).

This species somewhat resembles *Trophon Loweii*, Wats., but the shape of the whorls, of the apex, and of the mouth, as well as the sculpture and colour, are different. *Murex cristatus*, Broc., resembles it most, but is narrower and differs in shape of whorls, in sculpture, and in colour.

Gen. TROPHON, *Montfort.*

12. TROPHON LOWEL, n. sp.

Shell strong, biconical, with a straight-sided spire and a very small glassy turbinated tip; the snout is shortish but small. *Sculpture*—*Longitudinals*: there are 7 strong, rounded, slightly shouldered ribs which run continuously down the spire; they rather tend to multiply towards the tip, where they pass into being round tubercles; they are parted by slightly narrower, shallow, rounded and open furrows; these, as well as the ribs, are closely scored with small superficial harsh lines. *Spirals*: there are on the body-whorl 12 to 15 narrow, slightly raised threads, roughened but not squamated by the crossing of the longitudinal threads; they are chestnut-tinted, with flattened interspaces of about twice their breadth; in each of these lie more or less distinct smaller threads which are occasionally double; a fine rounded thread encircles the top of each embryonic whorl, but tends to die out in the later whorls. *Colour* yellowish grey, with chestnut tint on the spirals. *Spire* straight-sided, conical, slightly higher than its breadth above the body-whorl; in its upper part slightly scalar; the tip is sharp, very small and prominent, and consists of the 4-whorled glassy turbinated embryo-shell. *Whorls* 7 besides those of the embryo-shell; they are slightly shouldered below the suture, between which shoulder and the suture they are slightly hunchy; the last is rather small and slightly flattened. *Suture* not sunken, linear, undulated. *Mouth* small, narrow, oval, pointed at both ends, not expanded, exactly half of the shell in length. *Canal* rather narrow, short, turned back and to the left behind the pillar. *Outer lip* very slightly curved, not patulous, with a thin but strong straight edge, strengthened externally by a strong varix-like, somewhat remote rib, and internally by a strongish pad on which project 6 stumpy, somewhat elongated teeth. *Inner lip* flat, subpatulous, extremely thin, but with a very slight straight edge, which becomes a little stronger towards the point of the pillar; there a very small furrow appears behind the lip just where it takes a slight twist; at its upper end, just before it is joined by the outer lip, a feeble tubercle occurs, helping to define an indistinct gutter-like sinus, which does not cut the outer lip-edge. *Operculum* small, narrow, slightly curved, ruddy chocolate in colour; the *apex* is small and lies, when extruded, towards the

animal's head, when retracted it points towards the canal.—
L. 0·8. B. 0·34.

Not common. Madeira, 50 fms.; Labra; Punta de São Lourenço (*Lowe, Johnson, Watson*).

This is the species which McAndrew gives at p. 40 of his Report as living on the "rocks" of the "shore;" "rare, species obtained in Canaries;" see also *l. c.* p. 32, where he says of it "rare—white." There are unnamed specimens of the species in his collection both at Cambridge and in the British Museum. On the shore-rocks I certainly never found it. Mr. Johnson's one young specimen came from a deepish-water coral, and Mr. Lowe's were dredged in Labra from a depth of some fathoms; but one or two of them are occupied by hermit-crabs, whose presence seems to indicate shallow water.

This species most nearly resembles *T. fusulus*, Broc., but it is narrower, flatter, with a narrower mouth; the sculpture is very markedly different. It has some likeness to *Murex cristatus*, Broc., and very worn specimens may be easily confounded, but the two species are unmistakably different. I feel by no means sure that this is not *M. productus*, Bellardi, Moll. Terr. terz. Piemonte, pt. i. p. 99, vii. 6; but his description is very vague, his measurements suggest a larger and narrower shell, and no specimen is available.

Fam. CERITHIIDÆ.

Gen. BITTIUM, *Leach*.

13. BITTIUM DEPAUPERATUM, n. sp.

Shell: a tall narrow cone with a contracted and produced base, barely translucent, slightly glossy, of a uniform pale yellow colour, occasionally palely brown banded. *Sculpture*: there are weak spiral threads, of which, on the body-whorl, five lie above the periphery and four on the base; these last are not cross-hatched but simple; the furrows which part these ridges are shallow and narrow; the number of the ridges and furrows is fewer on the earlier whorls, on the 2nd whorl they are only two; the threads are studded with rather blunt round tubercles which run in continuous and somewhat diagonal lines across the whorls—about 20 of these lines are on the last whorl; parallel to these cross-lines the whole shell-surface is feebly and microscopically undulated. *Colour* yellowish white, with occasionally a palish

ruddy-brown band on the lower two spiral threads. *Spire* fine and regular with very straight outlines—the extreme tip though small ends somewhat abruptly and flatly. *Whorls* 10, flat on the side, of very regular increase. *Suture* neither broad nor deep, but well marked—from the distinct though small contraction of the lower part of the superior whorl. *Mouth* small, oval, angulated above, and having a small shallow gutter at the point of the pillar. *Outer lip* flatly and regularly arched; the tubercles of the exterior sculpture very slightly and indeed rarely affect the inner surface. *Inner lip* thin but distinct, turned back and appressed on the pillar, where it is perpendicular with a slight twist resulting in a small tuberosity in front at the upper edge of the gutter.—L. 0·24. B. 0·08.

This is a much slimmer form than *B. reticulatum*, da Costa, with also a blunter apex; slimmer, too, than *Bittium incile*, Wats., and with much straighter contours and narrower base, and with smaller tubercles on the more numerous spirals. The species has a far-off but yet distinct suggestion of a *Cerithiella*. Very rarely a feeble varix appears on the last whorl.

This species I found abundantly on the south coast of Madeira and at Porto Santo, but it does not seem to have presented itself to other collectors.

14. BITTIUM INCILE, n. sp. (Figs. 14 & 14 a.)

Shell a tall narrow cone, but somewhat coarse both in sculpture and in its proportions; its contour-lines are very slightly curved, and from the periphery the base contracts slowly; its whorls are glossy, strongly defined, and almost turreted. *Sculpture*: the bluntly rounded apical whorl is microscopically and very faintly spiralled and longitudinally marked; the three following whorls have 2 and the succeeding four whorls 3 strong spiral ridges; on the base below the periphery there are 3 of these ridges, the last forming the bulge of the colump; none are varicose, they are all strong but not very projecting, the appearance of prominence which on the spire they present being largely due to their being set with coarse rounded tubercles some 16 on each ridge, arranged in very regular longitudinal lines across the whorls; the longitudinal grooves which part them are broader but hardly so deep as those which separate the spiral ridges; the whole surface of the shell is microscopically but roughly fretted with sharpish longitudinal and ruder spiral lines; on the base

below the tubercles lies a small plain encircling thread, with a small narrow groove, within which lies a stronger ridge, these two ridges and the furrow between them are pale in colour, sometimes speckled; within the last of these ridges is a strong furrow, and then the strong ridge forming the twisted columella; this ridge and the furrow beyond it are stained deep chestnut. *Colour* varies from dark brown to ruddy chestnut, with a whitish band round the top of each whorl occupying the highest and extending sometimes to the 2nd spiral ridge, with an occasional intrusion to the ridge-tubercles here and there. Rarely the shell, though quite fresh, is pure dead white. *Spire* rather stumpy for the genus; the apex, though small, is not drawn out, and ends in a small, rounded, half-immersed tip. *Whorls* 9 to 9½, rarely 10, nearly flat on the side, of slow and very regular increase; relatively to the axis of the spire the longitudinal ridges run a little transversely. *Suture* very strongly marked, but its in-girdling appearance is due, not so much to its depth and breadth, as to the way in which the succeeding whorl projects below it. *Mouth* irregularly rhomboidal, with a small gutter rather than a notch at the point of the pillar. *Outer lip* straight and sharp, very slightly indented on the base, where it sweeps round with a semicircular curve to the point of the pillar, which leans away from it diverging slightly from the line of the axis. *Inner lip* has on the pillar a thin but well-marked projecting edge, which thins across the body but recovers its strength at the upper corner near the outer lip. *Operculum* small, elliptical, thinnish, paucispiral, with a central nucleus; the outer surface is closely scored with fine, curved, radiating lines densely crossed by a minutely microscopic tissue whose lines show the curves of growth.—L. 0·22. B. 0·075.

Madeira, Porto Santo, Selvagens, Grand Canary.

This species is found very abundantly. Mr. McAndrew, however, does not refer to it, nor did I find it in other collections. It is the same as a species sent to me from the Mediterranean as *B. lacteum*, Phil., but which is, I think, distinct from that species; the longitudinal spiral and basal threads are the same in number, but in *B. incile* the apex is smaller and more sunken, being neither so much produced nor so scalar as in that other; the contour-lines of the shell, too, are distinctly convex, not straight; the last whorl is more contracted, while the base is attenuated and rounded, not square.

Fam. CÆCIDÆ.

Gen. CÆCUM, *Flem.*

15. CÆCUM ATLANTIDIS, n. sp.

Shell very small, thin, transparent, of a dull glossy white, a good deal bent, subannulated. *Sculpture*: there are towards the tip a few sparse, somewhat feeble, but rather sharply topped, encompassing rings, which die out on the concave curve of the shell; one or two similar but feebler rings appear near the mouth; on the intermediate space undulations rather than rings are traceable; the whole surface is marked by faint lines of growth, and excessively minute, sharp, densely crowded microscopic longitudinal striæ. The *apex* is closed by a flat somewhat impressed plate, from the forward side of which projects a short, blunt, laterally compressed triangular plug. The *mouth*, which is circular, is neither contracted nor patulous. *Operculum* thin, impressed, brown, with circular lines of growth. —L. 0.085. B. 0.022.

C. vitreum, Carp., is larger than this species, and lacks its sculpture and circular rings, and has contraction of the lip. The plug in *C. atlantidis* is like that of *C. trachæa*, Mont., but the shell is much smaller than in that species; the circular rings are not close-set but are well parted; their tips are not flattened but sharp or rounded. *C. atlantidis*, without being rare, is certainly not common, and was not found in the collections of Lowe, McAndrew, or Johnson. I got it only at Porto Santo. For the beautiful figure of this species I am indebted to the Marquis de Folin, who was kind enough to draw it for me.

Fam. NATICIDÆ.

Gen. NATICA, *Adans.*

16. NATICA (NACCA) FURVA, n. sp.

Shell white, with two dark smoky bands which are sometimes absent but sometimes occupy nearly the whole shell, which is pretty strong, depressedly conical, with a small but a little raised spire and rounded whorls; the last of these is large, with an open mouth; a continuous white porcellanous pad fills the upper part of the mouth and nearly chokes the umbilicus. *Sculpture*—*Longitudinals* none, but lines of growth which,

however, from the suture a good way downwards present themselves as well-defined rounded curved riblets parted by narrower but open furrows; these riblets cease rather suddenly and pass into very faint lines of growth. *Spirals* none. *Colour* porcellanous white, somewhat translucent except round the whorls below the suture; below this dead-white band lies a broadish smoky-brown band, which in the upper whorls encircles their base; in the body-whorl below this dark band a white band of about the same breadth occupies the periphery; below it on the base is a slightly narrower dark band; the whole base round the umbilicus is white, but there is often a rusty tinge in the umbilicus and on the edge of the umbilical pad; there are colour-variations from uniform pure white to dark brown, with a pale base, but the spire has always a dark tinge. *Epidermis*: there are traces of a hard, corneous, yellowish-brown integument. *Spire* unusually small, but well-exserted and with a minute prominent dark tip. *Whorls* $4\frac{1}{2}$, not in the least angulated or gibbous; those of the spire are unusually small; the body-whorl is large, and gives breadth to the shell in spite of being longitudinally and obliquely drawn out. *Suture* scarcely oblique, linear. *Mouth* semi-oval, open, long rather than large, the whole plane of its edge retreats extremely from above to the base; its height is nearly four-fifths of the whole height of the shell. *Outer lip* thin, well arched, retreating to the base, but from that point advancing slightly to the pillar. *Inner lip* oblique, nearly straight, thickened by a broad white porcellanous pad which fills the whole upper corner of the mouth, projecting there in a blunt, low, rounded prominence; the face of this pad projects bluntly all the way to the point of the pillar, it crosses the body with a straight well-defined edge whose direction is oblique; where it quits the body to join the rust-stained umbilical pillar-pad it is more or less deeply cut by the umbilical furrow which sometimes feebly, sometimes very strongly, twists out round the pillar, circumscribing it markedly but failing to cut in on the edge of the inner lip, which here to the point of the pillar is shortly reverted and slightly thickened. *Umbilicus* is sometimes a mere depression, but normally is a strong but rather narrow furrow coiling round the pillar and deeply penetrating the middle of the shell. *Operculum* calcareous, pure white, pretty strong, lustrous, fairly flat, but slightly padded in the nuclear region, from which a very slight rounded swelling curves with

the progress of growth; outside of this swelling lies a small shallow, open, but well-defined furrow, beyond which on the extreme edge of the operculum rises a single small, simple, narrow flange.—H. 0·47. B. 0·42.

The marked features of this species are the curved radiating riblets below the suture, the two smoky bands, the small dark prominent spire, the sharp apex, and the entire absence of the slightest trace of the reddish-brown flammulations some trace of which is always visible in *N. variabilis*, Récl., and *N. Dillwynii*, Payr. It is very common from the whole coast of Madeira and of Porto Santo, from 10 to 50 fms. I found it sparingly represented in the collections of Mr. Lowe and of Mr. Johnson.

Fam. SCALARIIDÆ.

Gen. SCALARIA, Lam.

17. SCALARIA RHIPS, n. sp. ($\rho\psi$, wicker-work.)

Shell small, conical, rather strongly but sharply ribbed and spiralled; carinated round the smooth and flattened base, a high narrow spire, depressed whorls which are rounded at their profile, an impressed suture; it is dull, somewhat ruddy, and has a small, conical, fine-tipped, pale chestnut-coloured, smooth embryonic apex. *Sculpture*—*Longitudinals*: there are on the 5th (*i. e.* last) whorl 22 prominent but narrow palish ribs cut off at the basal carina, separated by smooth surfaces of double their breadth; they follow closely the plane of the axis, and slowly diminish in number all the way up the spire. *Spirals*: there are on the body-whorl 5 prominent spirals very similar to the longitudinals, beneath which they pass without forming knots but throwing out these others somewhat sharply; of these spirals the two at the periphery are stronger than the others and slightly more distant from each other; the wide flattened base (whose edge projects slightly beyond the curve of the last whorl, and thus forms a carina) is microscopically scored with curved radiating lines and with much ruder but fainter spiral threads. *Colour* somewhat ruddy, with rather paler ribs and base, the pillar being almost white, while the apex is glossy chestnut. *Spire* high and narrow, with barely convex profile-lines. *Whorls* 5½ exclusive of the apex; they are rather short, with a rounded profile. *Suture* strong and deep, very little oblique. *Apex* a very beautiful glossy pale chestnut little cone of 4 whorls, which

are microscopically marked with spiral and longitudinal striæ; the extreme tip is slightly immersed, small, bluntly rounded; the basal whorl of these four is slightly tumid, with a minute, flatly spreading edge, from within which the regular growth of the shell begins abruptly. *Mouth* slightly elliptical. *Lip* not fully developed.—H. 0·14. B. 0·06.

This is a singularly beautiful little shell; among the *Scalarias* of the Italian tertiary there are some species that faintly recall the Madeiran form; among living species *S. decussata*, Kien. (not Pease), alone has some slight features of resemblance, but they are very slight. The sculpture is like wicker-work, and hence the name of the species. I got only one young specimen from 50 fms. in Funchal Bay.

18. SCALARIA ASPERA, n. sp.

Shell ruddy, small, high and narrowly conical, roughly fretted on the whole surface, strongly ribbed, tuberculately carinated within the rounded base, and with an oblique, impressed, and crenulated suture. *Sculpture*—*Longitudinals*: there are on each whorl up to the very top 10 or 11 strong, narrowish, rounded not outspread ribs, running continuously with a slight trend to the right from whorl to whorl down the spire, on either side of which is one stronger than the rest, that on the outer lip being peculiarly prominent; the interspaces are rounded and slope up the sides of the ribs; towards the top of the spire they are nearly crowded out by the ribs. *Spirals*: the whole surface of the shell is covered by irregular, unequal, flattish rounded threads, of which about 30 of the larger can be counted on the body-whorl; but there are others smaller past counting; all these spirals, both larger and smaller, are sharply densely crenellated by tooling produced by minute tubercles which often run over into fine longitudinal threads; well within the base round the pillar runs a very coarse string-keel which towards the lip is strongly continuous and rises on the ribs in low swollen rounded tubercles. *Colour* a dull ruddy hue as if dusted over with a palish powder. *Spire* high and narrow, with very straight profile-lines. *Whorls* 7, exclusive of the embryonic apex which is broken off; they are small but not short, slightly hunchy beneath the suture, but very slightly convex below. *Suture* oblique, impressed, and rather strongly crenulated. *Mouth* circular, but a little flattened on the upper inner side. *Lip* a minute sharp, not expanded

flange projects round the edge of the mouth, attached as a shelf across the body ; it projects minutely down the pillar, but leaves no chink behind it.—L. 0·2. B. 0·08.

From 50 fms., Funchal Bay.

This species has so much character, that though I found only one possibly young and not quite perfect specimen, I do not think it will ever be difficult to recognize. It is more like *S. tortilis*, Wats., 'Challenger' Gaster. p. 139, ix. 1, than any other I know ; but that species has a shallower and less oblique suture with flatter-sided whorls, and the whole sculpture, but especially the basal keel, is totally different. *S. funiculata*, Wats. (*l. c.* p. 141, ix. 4), is still more divergent. It is certainly not the *S. crenulata*, Linn., of the Canaries, nor the *S. Hotessieriana*, d'Orb., of Cuba. It belongs to the very marked and curious group which, besides those referred to here, includes the *S. longissima*, Seguenza, the *S. torulosa*, Broc., and several others given by Sacco from the Italian tertiaries, and by Deshayes from the Paris basin.

19. SCALARIA FISCHERI, n. sp.

Shell small, delicate, translucent, with short, rounded, depressed whorls, a scalar spire whose whorls are each rather more contracted at the bottom than at the top, fine close-set spurred ribs and very distinct spirals, a strongly impressed, not very oblique suture, and a small base. *Sculpture*—*Longitudinals*: 23 or 24 thin projecting riblets, which crowd the surface, and from each of which close to the suture rises a small tooth, often broken off. *Spirals*: of these some 17 to 20 can be counted on the 2nd last whorl just above the corner of the mouth ; they are rounded, well raised, can be traced as they cross the riblets, and are, like the whole surface of the shell, fretted with minute longitudinal scratches. *Colour* translucent white. *Spire* high and narrow. *Whorls* 7, exclusive of the embryonic tip ; they are short, with a rounded profile, but lie like somewhat oblique slabs from the depth and straightness of the suture and the expansion of each whorl below the suture in consequence of the minute projection there of the tooth which crowns each rib. *Suture* deep, strongly marked by the flat shelf below it on the top of the succeeding whorl ; it runs somewhat obliquely but in a very straight line across the shell. *Apex* has a peculiar almost metallic sheen, is a very perfect, rather high, fine-pointed cone,

which, as set on the spire, slightly diverges from the axis of the shell; it consists of 4 full whorls, flat-sided, glossy, faintly striated longitudinally, which are parted by a barely impressed, slightly chestnut-tinged suture. *Mouth* very slightly elliptical in the axial line, the pillar being little curved. *Lip* patulous all round and flat-edged, except just where it crosses the body-whorl, and is there attached so as to leave no umbilical chink whatever.—H. 0.25. B. 0.09.

My specimens are nearly all young, but the size was measured from the juxtaposition of 2 or 3 larger, well-preserved fragments. The apex, the suture, the shape of the whorls, the stumplier form, the crowded longitudinals bespurred close to the suture, the crisper spirals, and the absence of any approach to an umbilicus, markedly differentiate this species from *S. Smithii*, which superficially it seems very like.

Not rare, from deepish water along the S. coast from Funchal to Ponta de São Lourenço; other collectors did not meet with it. I have named the species in remembrance of my much lamented friend Dr. Fischer, of the Jardin des Plantes, Paris.

20. SCALARIA SMITHII, n. sp.

Shell small, with short, rounded, slightly depressed whorls, a spire which is a little scalar, fine translucent mucronate ribs, very delicate spiral threads, a slightly impressed little-oblique suture, and a rounded umbilicated base. *Sculpture*—*Longitudinals*: on the lower whorls there are about 20 fine sharply projecting translucent riblets, which run in a slightly oblique discontinuous line from whorl to whorl down the spire, on the earlier whorls they are somewhat fewer in number; on each riblet, slightly above the periphery, there projects a small nearly right-angled tooth—very often broken off. *Spirals*: there are about 15 to 20 very fine rounded little raised threads, which tend to become fainter about the periphery of each whorl. *Colour* saccharine white. *Spire* high and narrow. *Whorls* 6 (exclusive of those of the apex); they are rather short and tumid, markedly broader below than above, and are of very regular increase. *Suture* fairly impressed and rather oblique. *Apex*: 3 complete rounded whorls form a small high regular blunt cone on a small base set on a little to one side of the axis of the spire; these whorls are microscopically barred longitudinally. *Mouth* almost quite round, not small. *Lip* sharp-edged, not patulous,

level-fronted, slightly detached (in the full-grown shell) from the body, and leaving behind it a small distinct funnel-shaped umbilicus.—H. 0·17. B. 0·07.

This species very much resembles *S. Fischeri*, but is distinct. It is a larger form, the spire is in proportion broader, the whorls are rounder and less depressed; the apical whorls are 3 not 4, they are smaller and the way in which they are set on the top of the spire is peculiar; the spiral threads are sparser, flatter, finer, and more rounded, and at the periphery somewhat fainter; the longitudinal ribs are fewer and sparser; the minute tooth on these, when present, occurs lower on the whorl (that is, nearer the periphery), while in *S. Fischeri* it comes very near the suture; the base of the embryonic apex is much smaller. I have named the species after Mr. E. A. Smith, of the British Museum, whom often, and always profitably, I have had occasion to consult. Specimens, several in number, were mixed up with shells of *S. Fischeri* I had got from Funchal and Punta de São Lourenço and also from Porto Santo, Madeira.

Gen. ACLIS, *Lov.*

21. ACLIS VITREA, n. sp.

Shell thin, hyaline, glossy, tall and narrow. *Sculpture*: there are very faint unequal lines of growth; a very feeble spiral angulation is sometimes traceable round the base of the whorl. *Colour* glossy, transparent white. *Spire* high, with very regular narrow outline and a bluntish rounded half-immersed tip. *Whorls* 7; their curve is a very regular flattened arch. *Suture* shallow, oblique. *Mouth* a full round oval, small. *Outer lip* thin, prominent, but toward the body it is drawn back almost into a sinus, somewhat expanding on the base. *Inner lip* thin, sharp, and patulous; its connection across the base with the outer lip is long and very filmy. *Umbilicus* a small funnel-shaped shallow depression.—L. 0·08. B. 0·029.

This species is a good deal like *A. Walleri*, Jeffr., but is much smaller, with 7 instead of 10 to 11 whorls; the spire is much broader, the tip much larger and coarser in proportion to size, the whorls are longer, more regularly rounded, much less expanded round the axis, and the contour of each is more compressed, the suture is more oblique, the mouth smaller, lip open rounder.

This species is abundant in deep water from Funchal to Punta

de São Lourenço, and from Porto Santo. The animal is dark green in colour. I have met with it nowhere but in my own dredgings.

The shell somewhat resembles that of *Aclis Gulsonæ*, Jeffr., but is very much smaller, the spire is much more contracted and ends in a minute knob of a point, the outer lip is inflected instead of being prominent and expanding, the suture is much deeper, and the whorls are more prominent and rounded.

22. *ACLIS TRILINEATA*, n. sp.

Shell thinnish, semitransparent, rather glossy, longish, narrow with squarish outlines. *Sculpture*: there are on each whorl 3 very strong rounded but slightly crested threads, absent on the embryonic tip, faint on the two succeeding whorls but well-marked on all the others—no others appear on the base; the 1st, which is the strongest, lies a little remote from the suture and forms for the whorl a well-marked shoulder; the 2nd, though helped by the bulge of the whorl, is barely more prominent than the first; the 3rd is slightly feebler than the others, and lies near but quite clear of the suture: besides these there are faint close-set microscopic striations and vaguer traces of longitudinal markings; the furrows between the threads are shallow and rounded. *Colour* white and semitransparent. *Spire* high and narrow, ending a little abruptly in a small rounded, not prominent tip. *Whorls* $6\frac{1}{2}$. From the suture there is a downward sloping shoulder to the first thread, from which the very straight contour-line runs down parallel to the axis, and with scarcely any contraction into the suture below. *Suture* broad, open, and shallow, rather oblique. *Mouth* oval, rather large. *Outer lip* thin, with a free convex sweep. *Inner lip* thin, sharp, and prominent, with a well-rounded curve it spreads very thinly across the body. *Umbilicus* a shallow, small, funnel-shaped depression.—L. 0·08. B. 0·03.

Of this species I got only 5 specimens (and of these but one full-grown) in deep water from the east end of the island. The shell slightly resembles *A. ascaris*, Mont., but is smaller, less delicate in the whorls, spire, and tip, and is different in sculpture.

23. *ACLIS TRICARINATA*, n. sp.

Shell strong, rather stumpy, semitransparent, and somewhat glossy. *Sculpture*: excessively strong spiral keels project from

each whorl, from below the embryonic whorl two of these appear on each succeeding whorl, weaker than these a third one lies just above the suture and runs out on the last whorl at the corner of the mouth nearly as strong as the other two: on the base a similar but weaker keel encircles the pillar. These keels are parted by a flat shallow furrow, which is rather over .001 in. in width, and which is scored across by pretty close-set distinct but not strong round-topped longitudinal threads, which again are scored by microscopic spiral striæ; these striæ, but hardly the longitudinal threads, are visible on the top of the spiral keels. *Colour* white, glossy, but hardly brilliant. *Spire* high and narrow, with a blunt, globular, regular, one-sided, hyaline, glossy tip, consisting of one whorl on which some very faint longitudinal striæ are doubtfully traceable. *Whorls* 6, with a contour very much angulated by the spiral keels and the broad sunken suture. *Suture* is wide, deep, and rather oblique. *Mouth* obovate, rather large. *Outer lip* has a sweep which in itself regular is much disturbed, especially on the base, by the spiral keels and furrows, these give the thin lip-edge an unfinished appearance. *Inner lip* somewhat irregular, from the forward tip to the umbilicus it is patulous and slightly curved; where it strikes the base the curve is obtusely and roundly angulated; across the body the lip runs in an oblique straight line with a projecting strongish edge till past the umbilicus, when it lies close back on the body and though thinner continues till it joins the outer lip. *Umbilicus* is a deep narrow chink.—L. 0.08. B. 0.035.

This species I found sparingly (some 25 specimens) at the Gorgulho shore, and in deeper water at Punta de São Lourenço. It is the unlabeled "rare" species which McAndrew gives (*Geog. Distrib.* p. 32) as dredged by him in 12 fms. at Orotava, Tenerife, and specimens of which are in his collection. At first sight the shell is startlingly like the *Hydrobia bicarinata*, des Moulins, from the South of France, but the differences are very marked.

Fam. EULIMIDÆ.

Gen. EULIMA, *Risso*.

24. EULIMA FULVA, n. sp.

Shell shining but not brilliant, very small, straight, with a blunt rounded tip, slightly convex whorls, and a slightly produced somewhat truncate base. *Sculpture*: lines of growth are just recog-

nizable under the microscope, but the surface is not very glossy. *Colour* a rich deep chestnut, with a pale yellowish narrow band round the base of each whorl and occupying the outer lip and extreme base of the shell. *Spire* narrow, with straight outlines, the whorls being barely rounded. *Apex* small, but very bluntly rounded, and its two sides are scarcely unequal. *Whorls* 6; of regular and slow increase, barely rounded. *Suture* slightly oblique and a little impressed. *Mouth* rather short and somewhat broad. *Outer lip* has the edge slightly sinused near the body and convex to the base—in direction it runs straight; on the broadish base it is fairly patulous and in its curve regular. *Inner lip* a longish but very little convex curve across the body to the point of the short pillar; it is a little thickened, but not in the least expanded.—H. 0·067. B. 0·027.

In deep water at the east end of the island—not rare.

This species is very like *E. Jeffreysiana*, Brus., but is smaller and narrower, with fewer, less rounded whorls, a much blunter spire, a shorter base, and a much shorter and rounder mouth; its colour also is a much deeper richer chestnut.

It is absent in all the other collections I have seen.

25. EULIMA SORDIDA, n. sp.

Shell shining, very small, straight, with a very narrow spire, very blunt tip, barely convex whorls, very blunt base, and oval mouth. *Sculpture* very doubtful, if any. *Colour* a sordid yellow. *Spire* narrow and straight. *Apex* very small, but blunt and round; its two sides are very equal. *Whorls* 7, of very regular and slow increase, almost perfectly flat on the sides. *Suture* scarcely impressed, but visible from the transparency of the shell—hardly oblique. *Mouth* very small, oval, but narrow pointed at the top. *Outer lip*: its edge advances a little from where it leaves the body, but the whole curve of the mouth is very regular. *Inner lip* is very slightly patulous on the pillar with a minute chink behind it, and it is very feebly angulated where it joins the body.—H. 0·066. B. 0·024.

Punta de São Lourenço—rare. Found only by myself.

This species is very much less like *E. Jeffreysiana*, Brus., than is *E. fulva*. From the latter it differs in being smaller with nearly a whole whorl more, it is narrower, the mouth is smaller and rounder, the base more truncate, the whorls are less rounded, the suture less impressed, the apex is smaller and rounder, and

even in bleached specimens the paler and whiter colour is well marked.

26. *EULIMA BADIA*, n. sp.

Shell small, brilliant, dark brown, conical, with straight contour-lines, a smallish mouth, a rather attenuated base, and a very small tip. *Sculpture*: there are minute hair-like lines of growth with some very faint superficial and irregular spirals. *Colour* a deep rich chestnut, darker than in *E. fulva*; the extreme point of the base is pale and transparent. *Spire* high and narrow, conical, with straight contour-lines which do not perfectly correspond on the two sides. *Apex* exceedingly small and sharp, but round withal. *Whorls* 9, of exceedingly slow and regular increase and just perceptibly rounded in outline, the first three being markedly more so than the others; the last one is small, but that is from being short rather than narrow. *Mouth* oval, rather small, and not much pointed above. *Outer lip* thin, well arched, with an edge retreating well above and advancing not very much at the periphery. *Inner lip* very faint on the body, thickened and somewhat expanded on the pillar, behind which is a slight umbilicus; at the base the pillar is very slightly truncated.—H. 0.1. B. 0.044.

Very rare. The few known specimens I got at Punta de São Lourenço.

The sharp apex and larger size differentiate this species markedly from *E. fulva*, which it resembles in colour. In general appearance it is like *E. Jeffreysiana*, Brus., but the apex is distinctly sharper, the contour-lines of spire are straighter, the whorls are shorter, of slower increase, and of more convex outline; in shells of the same length, *E. Jeffreysiana* has one whorl fewer. I have no doubt some one will say they are the same, but that will none the less be a mistake. Than the young of *E. stenostoma*, Jeffr., this is much finer in the apex and is broader in its proportions; like *E. gracilis*, F. & H., in apex, it is of a stumper form. Than *E. Philippii*, Weink., this is slimmer, the spire is not bent, the base is more elongated, the periphery is not carinated. With the young of larger species it is needless to compare so slim and small a form; a careful comparison fully confirms one's first impression of diversity.

27. *EULIMA RHAPHIUM*, n. sp. (ράφιον, a small needle.)

Shell very small, very narrow throughout its whole length

with a very small tip, an attenuated base, and a small narrow oval mouth. *Sculpture* none, the surface being glassy. *Colour* hyaline white. *Spire* exceedingly high and narrow; the contour-line on the right is quite straight, that on the left slightly curved, but both are perfectly uninterrupted by any swell of the whorls or contraction of the suture. *Apex* minute and symmetrically rounded. *Whorls* 11, of very slow and regular increase, the last is both short and narrow but not contracted. *Mouth* small, narrow, oval, pointed above. *Outer lip* thin, straight, its edge hardly retreats above or advances at the periphery. *Inner lip* has a slightly thickened edge and curves very regularly across the body and down the pillar, with hardly the slightest furrow behind it; it has no truncation at the base.—H. 0.11. B. 0.03.

One specimen I got from deep water in Funchal Bay.

This is a very much slimmer form with a finer apex and narrower spire than any of the other Madeiran species, none of which in their youngest state approach it in these respects; even the small form of *E. Philippii*, Weink., of the same length is much broader, has fewer whorls, a much larger base, rounder mouth, and more projecting outer lip. *E. psila*, Wats., from the W. Indies, resembles it most, but is a larger shell with a coarser apex.

28. EULIMA TRUNCA, n. sp.

Shell conic-oblong, ivory-white, strong, straight in all its lines, with a broad short base and sharp tip. *Sculpture* none, the whole surface being brilliantly glossy; but a feeble flattened varix appears on each whorl and runs interruptedly up the spire. *Colour* ivory-white, but very slightly pellucid. *Spire* high and conical, with very straight contour-lines, the whorls being just barely rounded in outline. *Apex* very small and sharp, but very slightly impressed. *Whorls* 9, of very slow and regular increase, the upper ones just barely, the lower not at all rounded in outline, the last is short with a truncated well-rounded base. *Suture* hardly oblique, slightly abruptly but distinctly impressed. *Mouth* fairly oval, but with its curve on the left-hand side a little constricted, shortly pointed above. *Outer lip* thick, with a rounded edge which has a feeble and wide sinus above and a slight forward curve about the periphery of the shell. *Inner lip* a good deal thickened and well defined

across the body, but still more on the pillar, at the point of which is a very shallow sinus.—H. 0·2. B. 0·1.

Found by Mr. Lowe in dredging near Punta de São Lourenço, near which I also got it as well as on the Gorgulho shore to the west of Funchal.

This species slightly resembles *E. paivana*, W., but is larger, with a sharper apex, a more abrupt base, straighter contour-lines, flatter whorls, a shallower but more sharply impressed suture. I have examined *E. Stalioi*, Brus., with which Jeffreys (P. Z. S. 1884, p. 368, xxviii. 3, 3a), simply followed by Tryon (Manual, VIII. p. 275, lxi. 53), on examination of my specimens, identified this shell. The Madeiran species is certainly not that figured by Jeffreys and copied by Tryon; but Brusina, I believe, questions the correctness of Jeffreys's identification, and the figure with a strangely bent spire as given in the P. Z. S. (*loc. sup. cit.*) is obviously not the same as Brusina's figure in Journ. de Conch. 1877, and described in the same journal for 1869, p. 242. The *E. glabella* of Searles Wood is a much (three times) larger shell, and has, like Brusina's species, a more obtuse apex than *E. trunca* of Madeira. *E. microstoma*, Brus., and *E. intermedia*, Cantr., are both much slimmer forms, and especially in the spire narrower. The varix in the Madeiran species resembles that of *E. polita*, L., a very much larger species with a much narrower spire.

29. *EULIMA INCONSPICUA*, n. sp.

Shell small, narrow, but less contracted in the spire than most species, thin, translucent, straight, with a produced base, a shortish narrowly oval mouth, and a small tip. *Sculpture* none, but the surface is dull. *Colour* translucent white. *Spire* high, not bent, but the contour-lines are slightly convex. *Apex* very small and sharp. *Whorls* 10, barely convex, of regular but not very slow increase. *Suture* very slight and scarcely at all oblique. *Mouth* smallish, oval, narrow, pointed above. *Outer lip* thin, sharp, rather straight in its direction, well rounded and patulous on the base; near the body it retreats, forming a marked sinus. *Inner lip* slightly concave, on the body almost imperceptible but a little thickened and reverted on the pillar, where its well-defined edge is marked by a slight chink; at the point of the pillar there is a slight truncation.—L. 0·13. B. 0·04.

Very rare. The only specimens of which I know were got at Ponta de São Lourenço.

Compared with *E. intermedia*, Cantr., this, besides being smaller, is narrower, has a longer base, a more slowly contracted spire, and a slightly larger apex. *E. microstoma*, Brus., has a shorter rounder mouth with a more truncate and slightly broader base. The *E. glabra*, Jeffr. (Lightn. & Porc., P. Z. S. 1884, p. 367, xxviii. 2), is slightly like this species, but is a much larger and stronger shell, with a broader coarser apex and a larger mouth.

Fam. PYRAMIDELLIDÆ.

Gen. ODOSTOMIA, *Flem.*

30. ODOSTOMIA OMPHALOESSA, n. sp. (ὀμφαλόεσσα, umbilicated.)

Shell small, conical, translucent, dullish, with a somewhat swollen umbilicated body-whorl, a shortish spire, and a small abruptly truncated tip, across which the sinistral embryonic shell lies on its side. *Sculpture* none but very faint lines of growth: there is no keel at the periphery even in young shells. *Colour* translucent, almost transparent, with a slight ruddy tinge, so that the general appearance is a little horny. *Spire* short, small, of few whorls; conical, with a small truncated tip crowned by the sinistral embryonic shell which lies on its side across it. *Whorls* $4\frac{1}{2}$ exclusive of the embryonic tip, fairly curved in contour, and not compressed; the last in particular is large and a little tumid, with freely curved outlines: it makes up $\frac{2}{3}$ of the shell's height. *Suture* is strongly marked, being neither shallow nor narrow: its line is very little oblique. *Mouth* short and round, the length being to the breadth very nearly as 5 to 4, very little pointed above. *Outer lip* sweeps with a very free curve all round, is not inflected above, and is barely patulous below. *Inner lip* is very thin and barely convex on the body, which it quits rather early (breaking soon but not immediately into a strong but short tooth), very slightly reflected, not straightened down the pillar, at the point of which it is barely patulous and is not angulated. *Umbilicus* wide and open, but soon contracted. —H. 007. B. 0036.

Rather common, but absent in other collections than my own.

This species is rather like a small *O. acuta*, Jeffr., but is less conical, has the whorls, especially the last, more tumid and rounded, with no keel round the base nor on the periphery even

in the younger shells, has the suture less oblique and deeper, the mouth is rounder, the pillar is not straightened nor the lip flattened and produced at the base, the umbilicus is freer, even a little larger, and the pillar-tooth lies a little higher on the body-whorl.

31. ODOSTOMIA (TURBONILLA) UNDATA, n. sp.

Shell cylindrical, strong, dull, pure white. *Sculpture*—*Longitudinals* strong, rounded, slightly oblique ribs, of which there are 16 or 17 on the penultimate whorl, but they are disproportionately numerous on the last whorl, where they become narrower and more crowded near the lip-edge; on the base they are feebly present, they are separated by strongish rounded furrows; they are traceable up to the tip, but not on the embryonic whorl; on the later whorls one or two are varicose. *Spirals*: there are no definite threads, but there is a very faint suggestion of close superficial microscopic puckering extending to the whole surface, but very obscure. *Colour* a dull glossy deadish white. *Spire* high, less conical than usual, that is broader in the upper and narrower in the later whorls than most of the group. *Apex* abruptly and somewhat squarely cut off, the extreme tip being slightly immersed, leaving in profile a minute rounded dome. *Whorls* 6, very equally rounded and loosely twisted, the last is just $\frac{1}{2}$ the total length of the shell. *Suture* rather deep, but small and very little oblique. *Mouth* widely oval, bluntly pointed above, slightly patulous on the base, rather more than a fourth of the whole length. *Outer lip* not sharp, bent in but not sharply at its junction with the body-whorl just below the periphery; its whole curve is very regular. *Inner lip* as a mere glaze and very little obliquely it crosses the body, is scarcely angulated at the pillar, down which it runs with a very sharp but barely projecting edge, and only at the extreme point of the pillar (where it becomes faintly patulous and forms a slight angulation in curving to the right) does the lip palpably project. There is no umbilicus and no pillar-tooth.—H. 0·15. B. 0·05.

Extremely rare. Two specimens are all I found; they came from the Gorgulho shore.

At first sight this species is very like *O. clathrata*, Jeffr., with which Dr. Gwyn Jeffreys at first classed it, but afterwards revised his opinion. That species is more transparent, less of a dead white, is more conical, has smaller ribs with spiral striæ,

a smaller and more narrowed apex, and a more turned-over tip, the mouth is narrower, the pillar-edge more prominent, and there is an umbilical chink.

Fam. PLEUROTOMARIIDÆ.

Gen. SCHISMOPE, *Jeffr.*

32. SCHISMOPE DEPRESSA, n. sp. (Figs. 32 a, 32 b, 32 c.)

Shell very small, hyaline white with a tinge of pale brown, obliquely depressed, flattened above, with a minute apex and linear suture, a large sub-circular mouth, and a large half-funnel shaped fissure for an umbilicus; its last whorl is carinated on its upper surface by the raised edges of the scar of the respiratory orifice. *Sculpture*—*Longitudinals*: there are on the earlier whorls close-set radiating riblets which are sometimes obsolete, and in all cases degenerate on the base and on the later whorls into mere threadlets widely parted; the whole surface is further scored by sharp radiating curved scratches. *Spirals*: nearly half of the last whorl is keeled (but not angulated) by the canal-ridge which rises well within the periphery, and leads to the narrow oblong respiratory orifice which is formed in the shell as it grows, and is plugged up at its posterior end as the shell-edge is pushed forward in growth; along the interior of the shell the edges of the disused canal project in a minute sharp-edged flange; on the outside from the front of the orifice on to the mouth-edge an irregular depression (visible within the mouth also) scars the shell-surface; the shell-substance shows no trace of this interruption in the earlier whorls, and the strong oblique downward bend of the last whorl only arises with the expansion of the last whorl and very shortly before the respiratory orifice claims a place. Above the keel the flat surface is scored by about ten fine threads and furrows which become fainter and sparser near the suture; below the carina the whole surface is similarly but more strongly and irregularly scored. *Spire* very much flattened, *apex* hardly raised. *Whorls* barely three, of sudden increase. *Suture* scarcely impressed. *Mouth* large, gibbous like a nearly-full moon, excessively oblique. *Outer lip* greatly descending, flat above, well rounded but scarcely patulous below, where at the pillar-point it forks and the outer edge of it sweeps round a little within the edge of the

umbilicus, and rejoins the pillar-lip at the corner of the mouth. *Inner lip* projects very slightly, is a little patulous, and leaves behind it only a broad umbilical fissure. Across the body it is hardly curved, and joins the outer lip almost at a right angle.—H. 0·025. B. 0·032. Mouth: H. 0·021; B. 0·017.

Common from Funchal eastward and at Porto Santo, deep water. It does not seem to have been observed by any one but myself.

If the shell be really nacreous, the layer of nacre must be so transparently thin as to give no opalescent reflection. The species is very like *S. tabulata*, Wats. ('Challenger' Gasterop. p. 117, viii. 7), but is very much smaller in all its dimensions, especially in height of spire; in spite, too, of superficial resemblances, it differs in sculpture, the riblets being here much fewer and feebler and more curved, the canal-keel and respiratory hole lie much nearer the suture, the spirals are feebler, the last whorl too is larger and not so much contabulated. It should be noted how deceptively different the adolescent is from the full-grown shell.

This is the shell a hasty identification of which from my specimens led Dr. Gwyn Jeffreys to quote *Scissurella costata*, d'Orb., for Madeira.

Fam. ERYCINIDÆ.

Gen. MONTACUTA, *Turt.*

33. MONTACUTA TRIANGULARIS, n. sp.

Shell triangularly round but not at all rhomboidal, somewhat tumid, strongish but almost transparent, bright but not brilliant. *Sculpture* fine, close-set, somewhat unequal concentric lines of growth. *Colour* clear white. *Epidermis*, none visible. *Margin* rotundly oval but for the upward and backward prominence of the beaks; the edges of the valves meet directly with very little expansion at coming together. *Beaks* small, rounded, sufficiently prominent to give a triangular aspect to the shell; they are somewhat nearer the back end of the shell, towards which but still more upward they slightly turn. *Hinge-line* broken into a right angle by the beak; the edge is long and very narrow in front, behind it is comparatively very short and broad. *Hinge-plate* has a deep triangular cleft from the interior of the shell to the beak; in the right valve on either side of this cleft there rises a solid little rounded tooth; in the left valve the cleft is

bordered by a remote longish narrow lamina which rises into a small rounded prominence. *Inside* glossy, with a suggestion of faint radiating lines in the inner substance of the shell.—L. 0·13. H. 0·09.

Rare; but found by Mr. Lowe and Mr. Johnson as well as myself. I dredged it both at Funchal and at Ponta de São Lourenço. This species is much more triangular than *M. bidentata*, Mont., and much more oval than *M. striata*, Mont.

Fam. CYPHRINIDÆ.

Gen. CORALLIOPHAGA, *de Blainv.*

34. CORALLIOPHAGA JOHNSONI, n. sp.

Shell very irregularly rhomboidally oval, the straightish hinge-margin which runs out in front to a small bluntly rounded corner being vaguely parallel to the rounded lower margin, while the oblique straight but slightly incurved front line is in a way parallel to the easy sweep of the convex, almost semicircular curve of the posterior margin: the valves are tumid above and in front, but are a little compressed behind and below; they are in substance thin, subpellucid and fragile, with fine sharpish but unequal concentric lines of growth. *Colour* dirty yellowish white, with a chestnut tinge towards the beaks. *Epidermis* very thin, worn off except towards the hind margin, where it shows a tendency to slight irregular puckering. *Beaks* small, rounded, polished, pointing forwards, and bent in on the hinge-line so as to meet one another; they lie a little in front of the middle of the dorsal margin. *Margins*: they fit quite closely, and, where the lips are not inverted, meet one another in the face abruptly, except below where the shell is slightly flattened out. *Ligament* ruddy brown, thin but strong, prominent, short, ceasing abruptly at the beaks. *Hinge-line* straight, narrow. *Teeth*: there are three small rounded laminæ in each valve, forming a little shelf on the inner side of the hinge-margin; they are nearly parallel with the hinge-margin; the front one, which is a little hummocky, is the shortest; the second, which is directly under and behind the beak of the shell, is longer and more compressed; while the posterior one is somewhat vaguely spread out and cut up; in the left valve it is a little more developed than in the right, otherwise in the two valves the teeth are very much alike. *Inside* not nacreous, but doubtfully opalescent, only vaguely fretted, quite

smooth and shining, but not polished except on the *muscular scars*, of which the anterior, semilunar in form, is pushed up into the extreme front rounded corner of the shell, while the hinder one, also placed very high, is oval; the two are connected by a strongly marked but narrow ragged-edged pallial line, which below and behind retreats into a broad, very shallow sinus.— H. 0.55. B. 0.6.

Mr. J. Yate Johnson, whose name I have attached to this very interesting species, got the few specimens known of it in a mass of oysters and corals dredged up from over 30 fathoms off Funchal. On superficial examination I took it for *Modiolarca trapezina*, Lam.; but Mr. Edgar A. Smith kindly examined it for me, and he assures me it is a *Coralliophaga*, and distinct from any in the British Museum. The young shell scarcely shows the compressed posterior and the expansion below which characterize the adult.

Fam. TEREDINIDÆ.

TEREDO, *L.*

35. TEREDO DALLII, n. sp.

Shell small, convex, solid, translucent, glossy internally and externally, scored by a very slight ridge and minute furrow from the beak to the point of the shell, and by a fine sharp line which curves across the surface from the beak to the front marginal angle, answering to a fine raised white rib in the interior. *Sculpture*: the front area is covered with low, rounded, fine (sometimes, but rarely, strongish) threads, the excessively minute but somewhat irregular microscopic serration of which is almost wholly confined to the upper edge, from which, however, it faintly extends to the lower side of the flat furrow above; where these threads abut upon the ends of the answering mid-area ridges their termination is sharply defined by a small but strongly marked furrow, which curves down with posteriorly convex sweep from the beak to the apex of the right angle at the margin where the front area and the central area meet. On the central area the ridges are stronger, are nearly contiguous, and are much more strongly and obliquely serrated, almost tubercled. In number they are usually about 20; but even in specimens of equal growth the number sometimes amounts to 30. Behind this mid-area is a shallow flat with a slight depression, sometimes a

furrow, across which the tails of the mid-area ridges spread somewhat rudely in concentric upward-facing curves; the back-edge of this is a very regular curve from the apex to the point, and which drops rather abruptly into a little shallow furrow, beyond which the thin flat concentrically-undulated posterior ear projects (somewhat as in *T. megotara*, Haul.), placed rather low but still quite on the shoulder of the shell; a very shallow obtuse angle lies between this ear and the back margin of the posterior area. In the young shell this ear is generally somewhat obsolete; the ear-edge is not reverted. *Dorsal line* not much irregular. *Beaks* are like smallish round knobs from which, somewhat posteriorly, a minute cup-shaped process projects perpendicularly, while the *apophysis* springs from the same knob but a little farther back: it is like that of *T. megotara*, Haul.; it is a curved, very slightly twisted, shortish narrow ribbon projecting rather directly towards the lower point of the valve; its front edge is slightly roughened but not thinned out; the inside is glossy; above the beak it is shortly reverted along the hinge-line, which is only slightly hollowed out and furrowed. In the belly of the shell two very marked ribs run divergingly from behind the beak to the margin: one, narrow but prominent and well defined, corresponds exactly to the curved sharp impressed line on the outside formed at the junction between the fine horizontal threads of the front area and the stronger perpendicular ones of the middle area; the other has more, though imperfectly, the character of a projecting shelf to strengthen the attachment of the ear. At the narrowed and somewhat inturned point of the shell is the usual rounded tooth or knob.—H. 0·15. B. 0·12.

This species (whose name I have borrowed from my eminent friend of the Washington Smithsonian Institution) is from the south-eastern coast of Madeira, but the precise locality I failed to note. It varies very greatly in the number of the threads on the entire area of its outer surface. On specimens of much the same size I counted of these from 12 to 37. At first sight it seems very like *T. Stutchburii*, de Blainv.; but on closer examination the differences stand strongly out, and the two species may be distinguished at once by the sharp line of demarcation (like that of *Xylophaga dorsalis*, Turt.) between the threads of the front area and those which are their prolongation at right angles down the middle area, and the distinction is even more visible in the fine

but very distinct white riblet which on the inner face of the shell follows this external line. A similar feature seems to exist in the *T. chlorotica*, Gould, a Pacific Ocean species which unfortunately I know only from description, and that (both of Gould * and Tryon †) is too vague and too divergent from the Madeiran shells to allow of guesses as to its relation to the species from Madeira, of which, moreover, the pallets are wanting.

INDEX-LIST

OF THE SEA-DWELLING MOLLUSCA OF MADEIRA.

I have called this an Index-List in justification of the alphabetical arrangement adopted.

Geographical details will be found in the Presidential Address to the Conchological Society for 1890, published in the 'Conchological Journal,' vol. vi. no. 11, July 1891; and it will suffice to note here that a special interest attaches to Madeira from its position as a point where the Mollusca of Western Europe, of the Mediterranean, of West Africa, and even of the North Atlantic and Eastern North America, find a centre of convergence. The list of collecting stations is given below.

To the specific names which follow are added for each the author's name, and the title and date of the publication in which it appeared, with the addition of at least one reference to some easily accessible illustrated work. Somewhat more is added where difficulty more or less obvious exists. Novelties in nomenclature have been shunned. Except when actually wrong, authors have been left to their own mode of spelling, with a general impression that, as in the instance of the word Gasteropod, it is a little presumptuous to correct Cuvier when backed by Homer in declining *γαστήρ*. Subgenera have been very sparingly introduced, and the writer has abstained as much as possible from manufacturing species out of those trifling variations to which every living creature is subject.

Two lists of the Mollusca of Madeira have been already published: the one of McAndrew, presenting in his Report to the British Association of 1850 the results of his collecting and

* Gould, *Inverteb. of Massachusetts*, 2nd. ed. p. 33, fig. 360.

† Tryon, *Amer. Mar. Conch.* p. 131, figs. 292 to 294.

dredging during "a few days spent in the Madeira islands;" the other, published in 1889, that of Prof. Nobre, enumerating the species collected by Mr. Ernesto Schmitz of the Seminario de Funchal.

McAndrew individualizes 156 (I follow his reckoning) species, but 29 are unnamed, and of the remaining 127, three (*Dentalium dentalis*, *Marginella guancha*, and *Neritina viridis*) have crept in by mistake, and with almost equal certainty the same may be said of four others (viz. *Poromya granulata*, *Pectunculus siculus*, *Murex cristatus*, and *Amphisphyrina hyalina*). Besides these, four were wrongly identified, viz. *Bulla ampulla*, *Chiton fascicularis*, *Pecten maximus*, and *P. opercularis*; finally, *Rissoa purpurea*, probably a slip for *R. violacea*. Thus 12 more have to be deducted, leaving 115.

The other list, "Contribuições para a Fauna Malacologica de Madeira," was published in the 'Instituto,' no. 3, 1889 (Porto), by Senhor Augusto Nobre. It contains the names, but barely more, of 93 species: one of these, *Litorina canariensis*, d'Orb., is merely the young form of *L. striata*, which also occurs in the list; another, *Trochus conuloïdes*, is a re-duplication of *T. zizyphinus*. Five more, viz. *Mytilus edulis*, *Tellina serrata*, *Natica flammulata*, *N. Alderi*, *N. Josephina*, "dredged at Funchal," require confirmation. *Marginella Philippi* calls for further examination. Eight, therefore, of Nobre's 93 species must for the present be, I think, excluded*. Of the 85 which remain, 59 were already given by McAndrew, so that 26—not an inconsiderable addition—swell McAndrew's list of 115 to a total of 141 known species in all. To these I now add 35 new species and 206 previously determined species—that is, 241; bringing up the entire number of observed Mollusca from the Madeiran sea to 382.

This result has come about through a combination of circumstances not very usual. During ten years' residence in Madeira I had opportunity to collect and dredge. In 1874 the collections of the Rev. R. T. Lowe, continued from 1827 to 1872, were sent to me by his literary executor, my lamented friend Mr. T. V. Wollaston. In 1896 Mr. J. Yate Johnson (instead of himself publishing, as I had long hoped he would do) sent to me his

* Fuller criticism of this List will be found in the Presidential Address to the Conchological Society, 1890, *l. c. supra*. Six more of the species given in the List should, I fear, have been excluded: see, at the end here, a strange list of dredging products.

very valuable collection, the accumulation of very many years. The mutual relations of these different collections are supplied in the following list, where, for the sake of shortness, M. represents McAndrew; L., Lowe; N., Nobre; Jn., Johnson; and W., Watson.

If my reference to dredging-depths is somewhat indefinite, it is so left on purpose. Unable personally to superintend this dredging, I have only the boatmen's testimony to the obedience rendered to my order that dredging should go down to 50 fms. One, indeed, of my four boatmen was honest, but truthfulness is not a notable characteristic of the Funchal boatmen; and it is not in human nature, uncoerced, to do more troublesome work at 50 fms. than the easier at 20 or 30—especially when to those engaged the work appears silly, and their employer is regarded as a madman.

I have gratefully to acknowledge counsel and help from the late Dr. Gwyn Jeffreys, from Mr. Edgar A. Smith of the British Museum, and from the Marquis of Monterosato. To the last especially I am indebted for determining (and that with Mediterranean specimens sent me for comparison) the very hopeless wave-beaten fragments of *Vermetidæ* with which I have had to deal.

Names and Depths of Dredging or Collecting Stations.

- Canical, towards east end of the Island. 10 to 15 fms.
 Cruz, Santa; 7 to 8 miles east of Funchal. 10 to 50 fms.
 Cruz, Porto da. North coast to deep water.
 Cruz, Punta da. Shore to deep water. Two miles west of Funchal.
 Desertas shore. Islands 20 to 30 miles S.E. of Funchal.
 Funchal. Shore to 50 fms.
 Gorgulho, Fort. Shore west of Funchal, and some shallow dredging.
 Labra*; bay east of Canical. Depth uncertain.
 Lourenço, Punta São, extreme east end. 15 miles from Funchal; to 50 fathoms.

* *Abra* is Arabic for a bay or mooring-place; the letter *L* of the Madeiran name is probably the article. The Moorish "reivers" for long found the island a happy hunting-ground.

- Machico ; east of Santa Cruz. 10 to 15 fms.
 Magdalena ; 13 miles west of Funchal. Shallow. A jar, however, with some shells within it was brought up entangled in a fisherman's line from 100 fms.
 Moniz, Porto ; the furthest north, and almost the furthest west, point of the north coast. Shore.
 Piedade ; south coast near the east end. 25 to 35 fms.
 Ribeiro Secco ; north coast off Fayal. 10 fms.
 Santo, Porto. Large island 35 miles north-east of Madeira. Shore to 50 fms.
 Seixal ; shore, north-west coast.
 Selvagens. Uninhabited islands, some 200 miles south of Madeira. Shore.

INDEX-LIST OF SPECIES.

1. *Accera bullata*, 1776, Müller, Prod. Zool. Dan. p. 242. no. 2921, and Zool. Dan. II. lxxi. 1-5 : Gwyn Jeffreys, Brit. Conch. IV. 430, viii. 3 ; & v. xc. 1. *Hab.* From the Lofotens to the Mediterranean. (W.) S.W. coast from Funchal to Punta de São Lourenço, 10 to 50 fms. My specimens are many but small.
Acirsa, see *Scalaria*.
2. *Aclis (Hemiactis) ascaris*, 1819, Turton (as *Turbo*), Conch. Dict. p. 217 : Gwyn Jeffreys, Brit. Conch. IV. 102 ; & v. 210, lxxii. 2. *Hab.* From Shetland to the Adriatic. (W.) Caniçal and Funchal, 10 to 50 fms. Not common.
3. *Aclis supranitida*, 1842, S. Wood (as *Alvania*), Ann. & Mag. IX. 534, pl. v. : Gwyn Jeffreys, Brit. Conch. IV. ii. 4 ; & v. 210, lxxii. 3. *Hab.* From Norway to the Adriatic and Ægean. (W.) Caniçal and Funchal, 10 to 50 fms. Not common.—McAndrew's collection in the Brit. Mus. contains this species from the Canaries, but it is not named in his Report.
4. *Aclis tricarinata*, 1897, Wats. *antea*, p. 255.
5. *Aclis trilineata*, 1897, Wats. *antea*, p. 255.
6. *Aclis (Cioniscus) unica*, 1803, Montagu (as *Turbo*), Test. Brit. II. 299 : Gwyn Jeffreys, Brit. Conch. IV. 100 ; & v. 210, lxxii. 1. *Hab.* Norway to the Adriatic and to St. Helena. (W.) Caniçal, Funchal, &c. Not common.
7. *Aclis (Cioniscus) vitrea*, 1897, Wats. *antea*, p. 254.—Dr. Gwyn Jeffreys (Lightn. & Porcup. Moll., P. Z. S. May 20, 1884,

- p. 344) gives *Actis (Pherusa) Gulsonæ*, Clerk, as Madeiran on my authority. I am not aware that I ever thought so; if I did I was mistaken. *A. vitrea* sent by me was probably the species which led to the mistake on Dr. Gwyn Jeffreys's part.
8. *Acmaea virginea*, 1776, Müller (as *Patella*), Zool. Dan. Prod. i. pl. xii. 4, 5: Gwyn Jeffreys, Brit. Conch. III. 248; & v. 200, lviii. 4. *Hab.* Doubtfully Arctic or Mediterranean. It extends from Iceland (*Torell*) to Mogador (*McAndrew*). (L., Jn., W.) From Funchal along the whole south-east coast and also to Porto Santo. Very common.
 9. *Actæon pusillus*, 1843, Forbes (as *Tornatella*), B. Assoc. Rept. Ægean Inverteb. p. 191; Watson, Chall. Rep. p. 627; Dall, 'Blake' Rep., Harv. Coll. Bull. xviii. 39. *Hab.* North Atlantic from Cuba to Mediterranean, 40 to 1456 fms. (W.) Magdalena, 100 fms., in an old jar entangled in a fishing-line; Punta de São Lourenço, 50 fms. 3 specimens.
 10. *Actæon tornatilis*, 1767, Linné (as *Voluta*), Syst. Nat. p. 1187: Gwyn Jeffreys, Brit. Conch. iv. 433, viii. 4; & v. 224, xcv. 2. *Hab.* From the Lofotens to the Mediterranean and Mogador. (W.) Funchal.—I have three specimens given me as from Funchal; other specimens, too, I have seen said to be from the same locality. I never found it, but (hesitatingly) accept it as Madeiran on the strength of these specimens and the fact that both McAndrew and Lowe got it at Mogador.
 11. *Adeorbis subcarinatus*, 1803, Montagu (as *Helix*), Test. Brit. II. 438, vii. 9: Gwyn Jeffreys, Brit. Conch. iv. 231, iii. 5; & v. 216, lxxix. 1. *Hab.* From the English Channel to the Adriatic and the Ægean. (W.) From deep water. One specimen.
Alvania, see *Rissoa*.
 12. *Amphidesma castanea*, 1803, Montagu (as *Donax*), Test. Brit. p. 573: Gwyn Jeffreys, Brit. Conch. II. 413, viii. 1; & v. 188, xliii. 1. From the English Channel to the Canaries. (M., L., N., Jn., W.) Everywhere; very common.
 13. *Amphisphyræ flava*, 1897, Watson, *antea*, p. 234.
 14. *Anomia ephippium*, 1767, Linné, Syst. Nat. p. 1150: Gwyn Jeffreys, Brit. Conch. II. 30, i. 4; & v. 165, xx. 1. *Hab.* From Iceland to Madeira, and from N. America to the Black Sea. (M., L., N., Jn., W.) Funchal. Not common.
 15. *Aplysia punctata*, 1803, Cuvier, Ann. Mus. II. 295, i. 2-5:

- Gwyn Jeffreys, Brit. Conch. v. 5, i. 1 & xvii. 1. *Hab.* From Norway (see Sars, Moll. Norv. p. 363) to the Mediterranean and Canaries. (M., W.) From Funchal eastwards, 10 to 50 fms. Not uncommon.
16. *Aplysia ocellata*, 1839, d'Orbigny, Moll. Canar. p. 44, v. 1-4. *Hab.* Canaries. (W.) From west of Funchal to the extreme E. point of the island, from the shore to 50 fms. Many young shells.—Mr. Pilsbry (Manual, 1st ser. xvi. 76) adopts *A. dactylomela*, Rang, for this species, but gives no explanation of his passing-by d'Orbigny's express statement that they cannot be united—a statement he would not have made hastily.
 17. *Arca diluvii*, 1802, Lamarck, Ann. Mus. vi. 219; An. s. Vert. 1819, vi. (1) 45, 2nd ed. (1835) vi. 476, note of Deshayes; Philippi, Enumeratio, i. 59 (as *A. antiquata*), ii. 43, pl. v. 2. *Hab.* Mediterranean to Canaries. (W.) Funchal, 50 fms. 3 separate valves.—On the strength of the habitat I admit this species, but with the gravest doubt.
 18. *Arca nodulosa*, 1776, Müller, Zool. Dan. Prod. p. 247; Gwyn Jeffreys, Brit. Conch. ii. 180; & v. 176, c. 2. *Hab.* From Norway to the Mediterranean and Adriatic. (L., Jn.) A few living specimens from 10 to 30 fms., dredged in Labra near the extreme E. point of the island.
 19. *Arca pectunculoïdes*, 1834, Scacchi, Ann. Sicil. vi. 82; Philippi, Enum. ii. 44, xv. 3; Forbes & Hanley, Brit. Moll. (as *A. raridentata*) ii. 241, xlv. 8. *Hab.* From Greenland to Mediterranean. (Jn.) One specimen, with the valves united.
 20. *Arca plicata*, 1795, Chemnitz, Conch.-Cab. xi. 244, cciv. 2008; Beechey (as *A. gradata*), Voy. 'Blossom,' p. 152, xliii. 1; E. A. Smith (as *A. domingensis*, Lam.), 'Challenger' Lamellib. p. 265.—Lischke traces this species (as *A. domingensis*, Lam.) under most of its synonyms from Japan to Australia, to Natal, to the S. Pacific, to Panama, to the West Indies, the Red Sea, and the E. coast of Africa. In the face of such a record I have not the courage to refuse right of citizenship in Madeira to the two rather undergrown, much weathered, but still quite recognizable specimens which I got from deepish water at Ponta de São Lourenço, the eastern point of Madeira, and which alone represent the species in the island.

21. *Arca scabra*, 1795, Poli, Test. Sicil. II. 145, xxv. 22; Kobelt, Conch.-Cab. 2nd ed. VIII. pt. 2, p. 141, xxxvi. 5, 6. *Hab.* Mediterranean.—Mr. Lowe got, in Labra near Punta de São Lourenço, in 1829, one valve of an *Arca* in crevices of a stone with *Gorgonia*. It differs from all the other Madeiran species, and I feel constrained to accept his determination of it.
22. *Arca tetragona*, 1795, Poli, Test. Utr. Sicil. II. 137, xxv. 12, 13; Gwyn Jeffreys, Brit. Conch. II. 180, iv. 5^a; & v. 176, xxx. 6. *Hab.* From Finmark to the Mediterranean and the Canaries. (M., L., N., Jn., W.) Everywhere, very common, but scarcely ever full-grown.
23. *Argiope decollata*, 1784, Chemnitz (as *Anomia*), Conch.-Cab. VIII. 96, lxxviii. 705; Gwyn Jeffreys, Brit. Conch. II. 18; & v. 164, xix. 3. *Hab.* From Guernsey to the Ægean and the Canaries. (M., L., Jn., W.) Very common.
24. *Argonauta argo*, 1758, Linné, Syst. Nat. p. 708; Woodward, Manual Moll. p. 66, fig. 32. (W.) Porto Santo. One perfect specimen.
25. *Assimineæ litorina*, 1825–30, d. Chiaje (as *Helix*), Mém. An. s. Vert. III. 215, xlix. 36–38; Gwyn Jeffreys, Brit. Conch. v. 101, xcvi. 6. *Hab.* S.W. England to Mediterranean and Tenerife. (L., Jn., W.) Madeira and Selvagens. Not uncommon.
26. *Atlanta Peronii*, 1817, Lesueur, Jour. de Phys. LXXXV. 390, ii. 1; Woodward, Man. Moll. p. 200, pl. xiv. 21–23.—A pelagic species. Everywhere; Madeira and Porto Santo. Common.
27. *Atys Jeffreysi*, 1868, Weinkauff (as *Cylichna*), Conch. Mit-telm. II. 199; Monterosato, Nomenclatura, p. 145 (as *Roxaniella*).—No good figure exists of this species. Brocchi, who (*teste* Philippi) erroneously identified it with *Bulla ovulata*, Lam., gives a figure which resembles *B. redacta*, Desh., much more than it resembles either the *B. ovulata*, Lam., or the Mediterranean or Madeiran species. Jeffreys's figure (Ann. & Mag. 1856, vol. xvii. 188, ii. 18, 19), though better, is not characteristic. The *B. semistriata*, Desh. Coq. foss. Paris, II. 44, pl. v. 27, 28), offers as good a representation of this species as any I know.—*Hab.* Mediterranean. (N., Jn., W.) Everywhere; excessively common.
28. *Auricula æqualis*, 1832–34, Lowe (as *Melampus*; 1854, *Auricula*), Zool. Jour. v. 288, xiii. 1–5; Gray, Moll. Anim. III.

- cccv. 3, copied from Lowe as *Cassidula*. *Hab.* Under stones below high-water mark at the East end and along the whole North coast of the island; also at the Selvagens. Unknown elsewhere. (L., Jn., W.) Very common.—Pfeiffer, Zool. Blätter, XIII. (1866), gives this species on the authority of de Paiva as from the South coast as well; but de Paiva's collectors are not to be trusted.
29. *Auricula gracilis*, 1832-4, Lowe (as *Melampus*; 1854, *Auricula*), Zool. Jour. v. 288; Morelet (as *A. vespertina*), Hist. Nat. Açores, p. 210, pl. v. 9. *Hab.* Under stones below high-water mark on North shore in fissures of the rocks; also at the Selvagens. Always rare. Unknown elsewhere. (L., W.)
30. *Auricula Paivana*, 1866, Pfeiffer (as *Alexia*), Mal. Blätt. XIII. 146; Wollaston, Test. Atlantic. p. 295. Unfigured. *Hab.* Under stones below high-water mark in the Selvaagem Grande, and there common: unknown elsewhere. (W.) I follow Wollaston in giving this on Pfeiffer's authority as a distinct species, though, as Wollaston mentions, Dr. Fischer shared my opinion that it is a mere variety of *A. bidentata*, Mont.
31. *Auricula Watsoni*, 1878, Wollaston, Test. Atlant. pp. 269, 295. Unfigured. *Hab.* North coast, under high-water mark. Selvagens: rare. Unknown elsewhere. (W.)
32. *Avicula hirundo*, 1769, Linné (as *Mytilus*), Syst. Nat. p. 1159; Gwyn Jeffreys, Brit. Conch. II. 95, ii. 3; & v. 178, xxv. 6. *Hab.* From Channel Islands to Mediterranean and Canaries. (M., L., Jn., W.) From Funchal along the coast eastwards; also Porto Santo. 10 to 50 fms.
33. *Azinus croulinensis*, 1847, Jeffreys, Ann. & Mag. xx. 19, ser. 3, II. 122, v. 2; Brit. Conch. II. 250; & v. 180, xxxiii. 2. *Hab.* From the Lofotens to the Mediterranean. (W.) Rather common.
34. *Bifrontia zanclea*, 1844, Philippi, Enum. II. 225, xxviii. 11; Sowerby, Manual, 4th ed. p. 84, xvi. 354-6; Woodward, Manual, p. 135; Kobelt, Prodrömus, p. 218 (as *Omalaxis*). *Hab.* Mediterranean: in a few localities. Everywhere; very common. (M., N., Jn., W.)—Of course every one knows that a good deal may be said against the generic name here adopted, but even more perhaps can be urged in its favour, and especially while so little is known of the animal

it may be permissible to retain an old friend, whom if we forsake to whom shall we turn. *Omalaxis* of Deshayes is like one of Adanson's facetious names. *Homalalaxis* of Herrmansen is fatuous. *Homalaxis* is a hybrid, neither Greek nor Latin. *Torinia* is a mere guess, and thereafter the mazes of *Ilaira*, *Euomphalus*, *Evomphalus*, *Omalaxon*, *Pseudomalaxis*, &c. may well send us back thankfully to *Bifrontia*, where if we are ignorant we are at least humble. Monterosato (Conch. d. profundita &c. Palermo, p. 16), who adopts the last of the above-quoted generic names, rejects the identification of this Madeiran species with that of Philippi. His opinion deserves the utmost respect, but I am not able to adopt it in this case.

35. *Bittium depauperatum*, 1897, Watson, *antea*, p. 245.
36. *Bittium incile*, 1897, Watson, *antea*, p. 246.
37. *Bittium reticulatum*, 1778, da Costa (as *Strombiformis*), Brit. Conch. p. 117, viii. 13: Gwyn Jeffreys, Brit. Conch. iv. 258, iv. 4; & v. 217, lxxx. 4. *Hab.* From the Lofotens (*Lovén*) to Mediterranean and Canaries. (M., L., N., Jn., W.) Everywhere; very common.
38. *Bulla (Haminea) hydatis*, 1767, Linné, Syst. Nat. p. 1183: Gwyn Jeffreys, iv. 437, viii. 5; & v. 224, xcv. 3. *Hab.* Gt. Britain to Mediterranean, Canaries, and St. Helena. (W.) Not common and small.
39. *Bulla punctata*, 1868, A. Adams, Cuming's Collection, *teste* Sowerby in Reeve's Conch. Icon. xvi., *Bulla* sp. 15. Not *Bulla punctulata* (so in Explanation of Plates and Index, pp. 604 & 607, corrected from *B. punctata* of the text) of Sowerby's Thesaurus; not *Bullæa punctata* of John Adams, Trans. Linn. Soc. v. 1, pl. i. figs. 1, 2, where there is a *Philine*, and which in Sowerby's Thesaurus, II. 600, cxxv. 161, is given by A. Adams as *B. punctata*; nor is it the *Bulla punctata* or *punctulata* of C. B. Adams, which (*teste* Carpenter) is the *B. Adamsi*, Mke.; nor the *Atys (Roxania) punctulata* of A. Adams. Whether Pilsbry's Manual of Conch. contains the species is, I think, very doubtful; the figure pl. xxvii. 40, 41, taken from Reeve, not good in the original, is not mended in the copy.—*Hab.* Madeira and Canaries (*f.* McAndrew, who gives it as *Bulla ampulla*). (L., Jn., W.) Everywhere; pretty frequent, especially young shells.

40. *Cadulus Jeffreysi*, 1875, Monterosato (as *Helonyx*), Nuova Revista, p. 20. no. 293; Gwyn Jeffreys, Brit. Conch. v. 196, ci. 3 (as *Siphonodentalium subfusiforme*, Sars). *Hab.* Gt. Britain to the Mediterranean and to St. Helena. (Jn., W.) Rare.
41. *Cæcum atlantidis*, 1897, Watson, *antea*, p. 248.
42. *Cæcum glabrum*, 1803, Montagu (as *Dentalium*), Test. Brit. p. 497; Gwyn Jeffreys, Brit. Conch. iv. 77; & v. 209, lxx. 5. *Hab.* From Norway to Mediterranean and Canaries. (W.) Ponta de São Lourenço. One specimen.
43. *Cæcum trachæa*, 1808, Montagu (as *Dentalium*), Test. Brit. II. 497, xiv. 10; Gwyn Jeffreys, B. C. iv. 75, i. 6; & v. 209, lxx. 4. *Hab.* From Scotland to Mediterranean, Canaries, and Cuba. (W.) P. de São Lourenço. One broken specimen.
44. *Cæcum vitreum*, 1858, Carpenter, P. Z. S. p. 432. no. 29; Tryon, Man. Conch. VIII. 215, lxvi. 54 (see McAndrew, Canarian List, p. 31, as *C. glabrum*). Japan (see A. Adams, Ann. & Mag., Nov. 1868). (W.) Everywhere very common, in Funchal Bay especially.—The name alone of this species, but without description, bears an earlier date than that given above.
45. *Calyptræa chinensis*, 1767, Linné (as *Patella*), Syst. Nat. p. 1257; Gwyn Jeffreys, Brit. Conch. III. 273, vi. 6; & v. 201, lx. 1. *Hab.* From English Channel to Black Sea and Canaries. (M., L., N. Jn., W.) Everywhere; very common.
46. *Cancellaria minima*, 1856, Reeve, Conch. Icon. sp. 77; Kobelt, Mart. & Chemn. Conch.-Cab. 2nd ed. iv. pt. 4, p. 81, pl. xxi. 3, 4. *Hab.* Straits of Gibraltar, Madeira. (L., Jn., W.) Everywhere; very common.
47. *Capulus hungaricus*, Linné (as *Patella*), Syst. Nat. p. 1259; Gwyn Jeffreys, Brit. Conch. III. 269, vi. 5; & v. 201, lix. 6. *Hab.* From North Finmark to Mediterranean. (L., Jn., W.) Funchal and Ponta de São Lourenço, 10 to 40 fms. The pullus shells very common; only one full-grown shell.
48. *Cardita calyculata*, 1767, Linné (as *Chama*), Syst. Nat. p. 1138; Born, Mus. Cæs. Vindob. pl. v. 10, 11; Poli, Test. Sicil. II. xxiii. 7-9. *Hab.* Iberian Peninsula, Mediterranean, Canaries. Everywhere—Madeira, Porto Santo; the Selvagens. Semi-fossil, Caniçal beds. Very common.
49. *Cardium aculeatum*, 1767, Linné, Syst. Nat. p. 1122; Gwyn Jeffreys, B. C. II. 268; & v. 180, xxxiv. 1, 1^a. *Hab.* From

- S. England to Mediterranean. (L., N., Jn., W.) Everywhere very common, but small.
50. *Cardium exiguum*, 1789, Gmelin, Syst. Nat. p. 3255: Gwyn Jeffreys, B. C. II. 278; & v. 181, xxxv. 2. *Hab.* Extant from the later Tertiaries it extends from North Norway to the Black Sea. (N.) Dredged at Caniçal it must, on Senr. Nobre's responsibility, be admitted here.
51. *Cardium norvegicum*, 1792, Spengler, Script. Nat. Selskab. v. (1) p. 42: Gwyn Jeffreys, B. C. II. 294; & v. 182, xxxv. 7. *Hab.* From North Norway to Canaries. (M., L., N., Jn., W.) Everywhere; common, but small.
52. *Cardium papillosum*, 1791, Poli, Test. Sicil. i. 56, xvi. 2-4: Gwyn Jeffreys, II. 275; & v. 181, xxxv. 1. *Hab.* From the Channel Islands to Mediterranean and Canaries. (M., L., N., Jn., W.) Everywhere; very common.
53. *Cardium transversale*, 1854, Deshayes, P. Z. S. p. 333; Smith, 'Challenger' Report, p. 162, viii. 3. *Hab.* Alboran Islands, Mediterranean; Açores to Canaries. (Jn., W.) Everywhere; extremely abundant.
54. *Cardium tuberculatum*, 1767, Linné, Syst. Nat. p. 1122: Gwyn Jeffreys, B. C. II. 273; & v. 181, xxxiv. 3. *Hab.* Great Britain to Mediterranean and Canaries. (M., L., N., Jn., W.) Everywhere; very common.
55. *Carinaria Lamarckii*, 1810, Péron & Lesueur, Ann. Mus. xv. 69, iii. 15; Gray, Fig. Moll. II. pl. clxi. 1 (as *C. mediterranea*); Woodward, Man. Moll. p. 200, fig. 105, pl. xiv. 19 (as *C. cymbium*). *Hab.* Mediterranean. (L., W.) Floating alive off the Desertas. Fry rare in dredgings.
- Cassidula*, see *Auricula*.
- Cassis saburon*, 1757, Adanson, Coq. Sénégal, p. 112. no. 8, pl. vii. 8; Bruguière, Dict. Encycl. i. 420. no. 4; Lamarck, An. s. Vert. VII. 227, 2nd ed. (Deshayes) x. 36. no. 21. *Hab.* From the Bay of Biscay to the Mediterranean, Mogador, and Senegal; but it has not been recorded from the Canaries. I never found it nor have seen it from Madeira, and the shells labelled as this species in Lowe's collection belong to *C. sulcosa*. Having it therefore as Madeiran on Senr. Nobre's authority alone, with no information beyond the name, and in absence from his list of the common *C. sulcosa*, I may, I trust, without discourtesy, hold the species as more than doubtfully Madeiran.
56. *Cassis sulcosa*, 1780, Born (as *Buccinum*), Mus. Cæs. Vind. p. 241; Lamarck, An. s. Vert. VII. 226, 2nd ed. vol. x. 34. no. 19; Wood, Ind. Test. pl. xxii. 25. *Hab.* Mediterranean

- to Madeira. (M., L., Jn., W.) Nearly everywhere; very abundant.
57. *Cavolina** *gibbosa*, 1828?, Rang (as *Hyalæa*) in d'Orb. Voy. Amér. Mérid., Moll., 1836-43, p. 97, pl. v. figs. 21-25; Souleyet, Voy. 'Bonite,' Zool. II. 144, iv. 13-19; and Ptérop. p. 38, x. 3, 4; Pelseneer, 'Challenger' Report, pt. 65, p. 82. *Hab.* Pelagic. (L., Jn., W.) Rare.
 58. *Cavolina inflexa*, 1813, Lesueur (as *Hyalæa*), Nouv. Bull. Soc. Phil. III. 285. no. 69, pl. v. 4. A, B, C, D; d'Orbigny, Voy. Amér. Mérid., Moll. v. 103, vi. 16-20; Lamarck, An. s. Vert. 2nd ed. VII. 422. no. 16; Souleyet, Ptérop. p. 41, iii. 9-12; Pelseneer, 'Challenger' Report, pt. 65, p. 85. *Hab.* Pelagic. (M., Jn., W.) Common. *Note*—McAndrew gives this as *Hyalæa vaginella*.
 59. *Cavolina quadridentata*, 1821, Lesueur (as *Hyalæa*) in Blainville, Dict. Sc. Nat. vol. XXII. p. 81; d'Orbigny (as *H. quadrispinosa*), Voy. Amér. Mérid., Moll. v. 85, vi. 1-5; Pelseneer, 'Challenger' Report, pt. 65, p. 78. *Hab.* Pelagic. (Jn., W.) Not uncommon.
 60. *Cavolina tridentata*, 1775, Forskål (as *Anomia*), Descrip. Anim. Itin. orient. p. 124, and Icon. pl. xl. fig. *b*; Woodward, Manual, p. 204, fig. 107, & xiv. 32; Pelseneer, 'Challenger' Report, pt. 65, p. 83. *Hab.* Lands End to Eastern America; Mediterranean to Canaries. (M., L., W.) Rare.
 61. *Cavolina trispinosa*, 1821, Lesueur (as *Hyalæa*) in Blainville, Dict. Sc. Nat. XXII. 82; Souleyet, Ptérop. p. 45, pl. iii. 1-7; Voy. 'Bonite,' II. 161, vi. 1-10. Of general distribution. (Jn., W.) Common.
 62. *Cerithiopsis atalaya*, 1885, Watson, Cerithiopsides from N.E. Atlantic, Journ. Linn. Soc., Zool. XIX. p. 94, pl. iv. 9, 9a. *Hab.* Madeira. (Jn., W.) From Funchal to Punta de São Lourenço. Not uncommon.
 63. *Cerithiopsis diadema*, 1885, Watson, Cerithiopsides from N.E. Atlantic, Jour. Linn. Soc., Zool. XIX. p. 93, pl. iv. 8; Gwyn Jeffreys, Moll. Lightn. & Porcup., P. Z. S. 1885, p. 60, vi. 9, 9a. *Hab.* Madeira and Mediterranean. (W.) From Funchal eastwards to Punta de São Lourenço. Frequent.

* *Note*—So Abildgaard wrote his proposed genus. It would be curious to learn by what authority names, except when wrong, are changed. If *Cavolina* and all the host of emendations so dear to the *doctrinaire* mind be adopted, where shall change be checked? Are we seriously enamoured of a fresh Babel?

64. *Cerithiopsis fayalensis*, 1885, Watson, Cerithiopsides N.E. Atlantic, Jour. Linn. Soc., Zool. xix. p. 92, iv. 5-5 a; 'Challenger' Report, Moll. p. 527, pl. xxx. 2. *Hab.* Mediterranean, Portugal, Açores to Madeira. (W.) Frequent.
65. *Cerithiopsis Jeffreysi*, 1885, Watson, Cerithiopsides N.E. Atlantic, Journ. Linn. Soc., Zool. xix. 90, iv. 2; Gwyn Jeffreys (as *C. pulchella* but not of C. B. Adams), Ann. & Mag. 3rd ser. II. 129, v. 8; Brit. Conch. iv. 269, & v. 217. *Hab.* English Channel to Mediterranean. (W.) Rare. Monterosato (*in litt.*) suggests that Conti's name of "*concatenata*" should have precedence: see Conti, Foss. di Monte Mario; but there are other questions, besides, regarding the species which had need of settlement before further disturbance of the name.
66. *Cerithiopsis Metaxa*, 1829, d. Chiaje (as *Murex*), Mém. An. s. Vert. III. 222, pl. xlix. 29-31; Tiberi (as *Cerithium Crosseanum*), Jour. de Conch. 1863, p. 160, vi. 2; Gwyn Jeffreys, B. C. iv. 271; & v. 217, lxxxi. 4. *Hab.* Shetland to Mediterranean and Canaries. (M., L., N., Jn., W.) Everywhere; common.
67. *Cerithiopsis minima*, 1864, Brusina (as *Cerithium*), Conch. Dal. p. 17; Bucquoy, Dautzenberg, & Dollfuss, Moll. Rouss. p. 207, xxvii. 5-9. *Hab.* Mediterranean. (W.) Very rare.
68. *Cerithiopsis tiara*, 1885, Watson, Cerithiopsides N.E. Atlantic, Jour. Linn. Soc., Zool. xix. p. 92, iv. 6, 6 a. *Hab.* Madeira and Mediterranean. (W.) From Funchal eastwards to Ponta de São Lourenço. Not uncommon.
69. *Cerithiopsis tubercularis*, 1803, Montagu (as *Murex*), Test. Brit. I. 270; Gwyn Jeffreys, B. C. iv. 266, iv. 5; & v. 217, lxxxi. 1. *Hab.* Norway to Mediterranean. (W.) From Funchal eastwards to the Point of the Island and to Porto Santo. Not uncommon.
70. *Cerithium rupestre*, 1826, Risso, Hist. Nat. Europ. iv. 154; Philippi, Enum. I. 194, xi. 7. *Hab.* Mediterranean. (L., Jn.) Selvagens, *vide* Barão de Paiva.
71. *Chama gryphoides*, 1767, Linné, Syst. Nat. p. 1139; Woodward, Man. p. 276, xviii. 8, 9 (as *C. macrophylla*, Chemn.). *Hab.* Bay of Biscay to Mediterranean and Canaries. (L., N.?, Jn., W.) Everywhere; very common.—It is curious

McAndrew, whose collection has 10 specimens from the Mediterranean and Canaries, did not get it.

Chascax, see *Fasciolaria armata*.

72. *Chiton cancellatus*, 1839, G. B. Sowerby, Conch. Illustr. no. 5, figs. 104-5: Gwyn Jeffreys, B. C. III. 217; & v. 198, lvi. 1. From Sweden and Norway to Mediterranean. (L., Jn., W.) From west of Funchal to East point and Porto Santo. Common.
73. *Chiton (Acanthochiton) discrepans*, 1827, Brown, Ill. Conch. p. 65, xxi. 20: Gwyn Jeffreys, B. C. III. 214; & v. 198, lv. 4. Channel Islands to Mediterranean and Mogador. (M., as *C. fascicularis*; L., Jn., W.) Everywhere; very common.
74. *Chiton (Callochiton) levis*, 1767, Pennant, Brit. Zool. iv. 72, xxxvi. 3; Philippi, Enum. I. 107, vii. 4, II. 83: Gwyn Jeffreys, B. C. III. 226; & v. 199, lvi. 6. *Hab.* From Northern Norway to Mediterranean and Canaries. (W.) From Funchal eastwards and Porto Santo. Specimens not rare, but all small.
75. *Chiton (Ischnochiton) marginatus*, 1767, Pennant, Brit. Zool. iv. 71, xxxvi. 2: Gwyn Jeffreys, B. C. III. 221; & v. 199, lvi. 5. *Hab.* From Lofotens to Sicily and Mogador. (M., as *C. cinereus*; L., W.) Caniçal, near Punta de São Lourenço. Very rare.

Chiton (Ischnochiton) sp.—Dr. Gwyn Jeffreys considered this to be *C. Rissoi*, Payr.; but out of 30 or 40 very small and separate valves which I collected, about half are those of the head alone, not one is of the tail, and on none is the girdle preserved; so that the species cannot be determined with any confidence.

Cioniscus, see *Aclis*.

76. *Circe minima*, 1803, Montagu (as *Venus*), Test. Brit. p. 121, iii. 3: Gwyn Jeffreys, II. 322, vi. 4; & v. 183, xxxvii. 6. *Hab.* From Finmark to Mediterranean and Canaries. (M., L., Jn., N., W.) Everywhere; very common.
77. *Clio (Creseis) acicula*, 1828, Rang (as *Creseis acicula* and *C. clava*), Ann. Sc. Nat. XIII. 317, xvii. 5, 6; Souleyet, Hist. Ptérop. p. 56, vi. 5, 7; Woodward, Manual, p. 205, xiv. 34. *Hab.* Pelagic. (W.) Everywhere, but not common.
78. *Clio pyramidata*, 1767, Linné, Syst. Nat. p. 1094; Souleyet, Hist. Ptérop. p. 50, v. 7-10; Woodward (as *Cleodora*), Man. p. 205, xiv. 33. *Hab.* Pelagic. (Jn., W.) Everywhere.
79. *Clio striata*, 1828, Rang (as *Creseis*), Ann. Sc. Nat. XIII.

- 315, xvii. 3; Souleyet, Hist. Ptérop. p. 55, vi. 3. *Hab.* Pelagic. (W.) Funchal Bay; very rare.
80. *Clio (Styliola) subula*, 1827, Quoy & Gaimard (as *Oleodora*), Ann. Sc. Nat. x. 233, viii. 1-3; Souleyet, Hist. Ptérop. p. 55, vi. 2, 6. *Hab.* Pelagic. (Jn., W.) Everywhere; very common.
81. *Columbella (Mitrella) cribraria*, Adanson, 'Le Barnet,' p. 146, pl. x. 1; 1822. Lamarck (as *Buccinum*), An. s. Vert. vii. 274. no. 43; Quoy & Gaimard, 'Astrolabe' Moll. ii. 421, pl. xxx. 21, 22; Kiener (*Buccinum*), p. 22. no. 23, xvi. 58. *Hab.* Guinea Coast, St. Helena, Ascension, Canaries, West Indies, &c. (M., L., Jn., W.) Funchal to East end of Island. Very common.
82. *Columbella Kraussii*, 1844, Sowerby, P. Z. S. p. 53; Thes. Conch. i. xl. 180; Krauss, Süd-Afrik. Moll. (as *C. cerealis*, Mke., MS.); Sowerby (George), Mar. Shells S. Africa (as *C. cerealis*, Krauss), p. 21. *Hab.* Port Elizabeth, the Cape, and probably the Mediterranean. (L., Jn., W.) Everywhere; common. I also found it at the Canaries.—It is very like *C. catenata*, Sow., in colour; but that species is larger, stouter, and more coarsely ribbed. It is even liker *C. Broderipii*, Sow.; but the Madeiran species is so variable as to suggest much caution. It is the *C. albuginosa*, Reeve, Conch. Icon. xi. no. 223; and probably *C. pediculus*, Monterosato, and some other Mediterranean forms which he individualizes.
83. *Columbella minor*, 1836, Scacchi, Cat. Reg. Neap. p. 10, f. 11; Philippi, Enum. Moll. Sic. ii. 190, xxvii. 12. (N., W.) *Hab.* Mediterranean.—This as a species is painfully suggestive of some depauperated forms of *C. scripta*, L., from which, however, since some are willingly responsible for separating it, it may be observed to differ in a slightly finer apex and more delicate spiral threads round the snout; but, as distinctive features, neither colour nor size count for much.
84. *Columbella rustica*, 1767, Linné (as *Voluta*), Syst. Nat. p. 1190; Adanson, 'Le Siger,' p. 135, ix. 28; Philippi, Enumeratio, i. 228, xii. 11. *Hab.* From Bay of Biscay to Mogador and Mediterranean. (M., L., N., Jn., W.) Everywhere; very common.
85. *Columbella scripta*, 1767, Linné (as *Murex*), Syst. Nat. p. 1225;

- Kiener, xiii. 43 (as *Buccinum Gervillei*), and xvi. 56 (as *B. corniculum*). *Hab.* Mediterranean. (L., Jn., W.) Magdalena; Funchal; Ponta de São Lourenço and Porto Santo. 40 to 50 fms. Not common.
86. *Conus mediterraneus*, 1790, Hwass* in *Encycl. Méthod.* i. 701, pl. ccxxx. 4; Wood, *Index Test.* p. 83, pl. xv. 101; Reeve, *Conch. Icon.* xvi. 89.—I give this species here on the authority of Senhor Nobre. Specimens were occasionally brought to me by Funchal boatmen, but I never considered them Madeiran. A very worn specimen in Mr. Johnson's collection seems rather to confirm my doubts. Still its presence on the coast of Portugal, throughout the Mediterranean, and at the Canaries makes its existence at Madeira anything but unlikely.
87. *Coralliophaga Johnsoni*, 1897, Watson, *antea*, p. 265.
Coralliophila, see *Murex*.
88. *Crania anomala*, 1776, Müller, *Prod. Zool. Dan.* p. 237; *Zool. Dan.* i. 4, pl. v. 1-8; Woodward, *Man.* pp. 235-6, ff. 157-8; Gwyn Jeffreys, *B. C.* ii. 24, i. 3; & v. 165, xix. 6; Davidson, *Rec. Brach.*, *Trans. Linn. Soc.*, *Zool.* iv. 183, xxvii. 1-9b. *Hab.* Greenland and Spitzbergen to Mediterranean. (L., Jn., W.) Funchal, 50 fms. A few valves.
89. *Craspedotus Tinei*, 1830, Calcara (as *Monodonta*), *Ricerche Mal.* p. 14, t. 8; Philippi, *Enum.* ii. 157, xxv. 19 (as *Monodonta limbata*, but not of Quoy & Gaim., and not a *Monodonta*, being umbilicated and non-nacreous). *Hab.* Mediterranean. (Jn., W.) Funchal, 50 fms. 2 specimens.
90. *Crenella rhombea*, 1827, Berkeley (as *Modiola*), *Zool. Jour.* iii. 229, xviii. 1; Gwyn Jeffreys, *B. C.* ii. 131; & v. 172, xxviii. 5. *Hab.* English Channel to Mediterranean and Canaries. (W.) Funchal, 50 fms. Ponta de São Lourenço, 50 fms. Not common.
Crossea, see *Rissoa*.
91. *Cuspidaria costellata*, 1836, Deshayes (as *Corbula*), *Morée*, p. 86, xxiv. 1-3; Gwyn Jeffreys, *B. C.* iii. 49; & v. 191, xlix. 3 (as *Neæra*). *Hab.* Norway to Mediterranean and Canaries. (M., L., Jn., W.) Everywhere; very common.
92. *Cuspidaria cuspidata*, 1792, Olivi (as *Tellina*), *Zool. Adr.* p. 101, iv. 3; Gwyn Jeffreys, *B. C.* iii. 53, ii. 4; & v. 191,
* Hwass, *teste* Bruguière, *Encycl. Méthod.* i. p. 598, wrote the whole article on *Conus*.

- xlix. 5. *Hab.* From Spitzbergen and Greenland to Mediterranean and Canaries. (M., L., Jn., W.) Everywhere; common.
93. *Cuvieria columella*, 1827, Rang, Ann. Sc. Nat. xii. 323, xlv. 1-8; Souleyet, Hist. Ptérop. p. 59, pl. iv. & xiv. 1-6; Woodward, Man. p. 205, pl. xiv. 35. *Hab.* Pelagic. (Jn., W.) Not common.
94. *Cyclostrema serpuloides*, 1808, Montagu (as *Helix*), Test. Brit. Suppl. p. 147, xxi. 3; Gwyn Jeffreys, B. C. III. 290, vii. 3; & v. 201, lxi. 3. *Hab.* From Great Britain to Mediterranean. (W.) From east of Funchal to Punta de São Lourenço, and Porto Santo. Common.
95. *Cylichna cylindracea*, 1767, Pennant (as *Bulla*), Brit. Zool. iv. 117, lxxvii. 85; Gwyn Jeffreys, B. C. iv. 415, viii. 1; & v. xciii. 4. *Hab.* From Finmark to Mediterranean and Canaries and St. Helena. (M., Jn., W.) Everywhere; very common.
96. *Cylichna spreta*, 1897, Watson, *antea*, p. 234.
97. *Cylichna umbilicata*, 1803, Montagu (as *Bulla*), Test. Brit. i. 222, vii. 4; Gwyn Jeffreys, B. C. iv. 413; & v. 223, xciii. 3. *Hab.* From the Lofotens to the Mediterranean. (W.) Santa Cruz, Machico, Caniçal; down to 50 fms. Rare.—These specimens from Madeira were identified as above by Dr. Gwyn Jeffreys: after much hesitation I at length, despairing to mend the instruction, have accepted his determination, which the Marquis of Monterosato still rejects.
98. *Cylindrobulla fragilis*, 1856, Gwyn Jeffreys (as *Cylichna*), Mar. Test. Pied., Ann. & Mag. Feb. 1856, p. 188, ii. 16, 17, & 'Washington' Ital. Exped. Notes, Ann. & Mag. July 1882, p. 34 (as *Cylindrobulla*). *Hab.* Mediterranean, 10 to 1536 fms. (W.) Porto Santo, 50 fms. One specimen.
99. *Cypræa (Trivia) candidula*, 1835, Gaskoin, P. Z. S. p. 200; Kiener, Iconog. p. 150. no. 136, lii. 1; Reeve, Conch. Icon., Cypræa, sp. 151, 154; Sowerby, Thesaurus, iv. p. 50, pl. xxxvi. ff. 508-9. *Hab.* From Portugal to W. Mediterranean; Canaries and Bight of Benin. (M., L., Jn., W.) Everywhere; very common.
100. *Cypræa (Trivia) europæa*, 1803, Montagu, Test. Brit. Suppl. p. 88; Gwyn Jeffreys, B. C. iv. 403, vii. 4; & v. 222, xcii. 2. *Hab.* From Norway to Mediterranean. (W.) Punta de São Lourenço. 2 specimens.

101. *Cypræa lurida*, 1767, Linné, Syst. Nat. p. 1175; Kiener, Iconog. p. 82. no. 71, pl. xxiii. 1; Sowerby, Thes. iv. 6, sp. 7, x. 64-5; Reeve, Conch. Icon., Cypræa, sp. 32, pl. ix. 32. *Hab.* Mediterranean to the Cape Verd Is., Guinea Coast, and St. Helena. (W.) Porto Santo. 2 specimens.
102. *Cypræa (Trivia) pulex*, 1827, Solander, Zool. Jour. III. 368; Kiener, Iconog. p. 142, liii. 1; Reeve, Conch. Icon. sp. 144, pl. xxv.; Sowerby, Thes. iv. 44, pl. xxxvi. 492-4. *Hab.* From Portugal to Mediterranean. (M., L., N., Jn., W.) Everywhere; common.
103. *Cypræa pyrum*, 1790, Gmelin, Syst. Nat. p. 3411; Reeve, Conch. Icon. sp. 26, pl. viii.; Sowerby, Thes. iv. p. 25, pl. xxiv. 202-5. *Hab.* From Portugal to the Canaries. (L., Jn., W.) Porto Santo. Not very common.
104. *Cypræa spurca*, 1767, Linné, Syst. Nat. p. 1179; Kiener, Iconog. p. 61, xxx. 1, 1a; Reeve, Conch. Icon., Cypræa, sp. 68, pl. xiv.; Sowerby, Thes. iv. p. 38. no. 131, pl. xviii. 118-122 & xxxvi. 516. *Hab.* From West Indies to Portugal, Mediterranean, Canaries, Mogador, and St. Helena. (L., N., Jn., W.) Ponta de São Lourenço and Porto Santo. Plentiful.
- Cytheræa*, see *Venus*.
Defrancia, see *Pleurotoma*.
105. *Diplodonta rotundata*, 1803, Montagu (as *Tellina*), Test. Brit. p. 71, ii. 3; Gwyn Jeffreys, B. C. II. 254, v. 7; & v. 180, xxxiii. 4. *Hab.* From English Channel to Mediterranean and Canaries. (M., L., N., Jn., W.) Everywhere; very common.
106. *Diplodonta trigonula*, 1831; Bronn, Ital. Tertiär-Geb. p. 96, iii. 2; Philippi, Enumeratio, I. 31, iv. 6, & II. 24 (where he gives both *D. trigonula*, Bronn, and also his own *D. apicalis* as if different); Wood, Crag Moll. II. 146, xii. 2 a, b; Hörnes, Foss. Moll. Wiener, p. 218, xxxii. 4 a, b. *Hab.* Mediterranean to Canaries. (M., L., Jn., W.) Everywhere; very common.
107. *Dolium galea*, 1767, Linné (as *Buccinum*), Syst. Nat. p. 1197; Woodward, Man. p. 115, vi. 12. *Hab.* From Portugal to Mediterranean and Canaries. (L., W.) Funchal, Ponta de São Lourenço, Porto Santo; 10 to 50 fms. Not uncommon, but the specimens mostly young or in fragments.

108. *Donax trunculus*, 1767, Linné, Syst. Nat. p. 1127: Gwyn Jeffreys, B. C. II. 407; & v. 188, xlii. 7. *Hab.* From Channel Islands to Mediterranean, and (*me ipso teste*) both Canaries and Mogador. (Jn., W.) Porto Santo, &c. Not unfrequent as single valves.
109. *Donax venustus*, 1791, Poli, Test. Sicil. II. xix. 23, 24; Römer in Mart. & Chemn. Conch.-Cab. 2nd ed. x. pt. 3, p. 31, vi. 10-20. *Hab.* Mediterranean. (Jn., W.) From Funchal along South coast, also Porto Santo. Common.
110. *Doridium laurentianum*, 1897, Watson, *antea*, p. 237.
111. *Doridium maderense*, 1897, Watson, *antea*, p. 238.
112. *Emarginula fissura*, 1767, Linné (as *Patella*), Syst. Nat. p. 1261: Gwyn Jeffreys, B. C. III. 259, vi. 3; & v. 200, lix. 2. *Hab.* From Finmark to Mediterranean and Canaries. (M., L., Jn., W.) Everywhere; very common, in every form of transition to *Semperia Paivana*, Crosse, Jour. de Conch. 1867, p. 76, ii. 2.
113. *Emarginula Huzardi*, 1826, Payraudeau, Moll. Cors. p. 92, pl. v. 1, 2; Lamarck ed. Desh. VII. 587. no. 11; Reeve, Conch. Icon. sp. 4; Gwyn Jeffreys, Lightn. & Porcup. Moll., P. Z. S. 1882, p. 679. no. 5. *Hab.* Mediterranean. (L., W.) Funchal, Punta de São Lourenço, Porto Santo. Not common.
114. *Emarginula tenera*, 1878, Monterosato, Enum. & Synon. p. 19 (the name alone); id. Nomenclatura, p. 36; Locard, Malac. Franç. p. 337; Watson MS., *E. alba*.—This species stands much in need of description and figure. It is small, translucent, white, high, well-rounded, with about 30 strong ribs and occasional weaker intermediate ones, with small sharp cross-bars and deep lattice-like depressions, having a long, narrow, square-cut, sharply bordered slit; the top is incurved and a little depressed, and directly overhangs the extreme front edge. L. 0.11. B. 0.065. H. 0.05. *Hab.* Bay of Biscay, Mediterranean. (W.) Almost everywhere; not rare.
115. *Eulima badia*, 1897, Watson, *antea*, p. 258.
116. *Eulima fulva*, 1897, Watson, *antea*, p. 256.
117. *Eulima inconspicua*, 1897, Watson, *antea*, p. 260.
118. *Eulina intermedia*, 1842, Cantraine, Malac. Méd. Suppl. (p. 40 ?), Bull. Bruxelles, p. 14 (?): Gwyn Jeffreys, B. C. IV. 203; & v. 214, lxxvii. 5. (*Note.*—Sars's shell, Moll. Norv.

- p. 210, pl. xi. 20, is *not* Cantraine's species, though very near.) *Hab.* Atlantic, East and West, and Mediterranean. (M. [as *E. nitida*], W.) Shore at Gorgulho rock E. of Funchal, Ponta de São Lourenço. Not common.
119. *Eulima Jeff. eysiana*, 1869, Brusina, Jour. de Conch. 1869, xvii. 245 (as *Leiostraca*); Gwyn Jeffreys, Lightn. & Porc. dredg., P. Z. S. 1884, p. 366, xxviii. 1. *Hab.* Mediterranean.—Gwyn Jeffreys says that McAndrew got it at the Canaries, Rochebrune from the Cape Verd Is.; and that Verrill identified it from New England. (Jn., W.) From Funchal to the island's east extremity. Not rare.
120. *Eulima microstoma*, 1869, Brusina, Jour. de Conch. xvii. 244; Monterosato, Enum. p. 35; Locard, Malac. Franç. p. 208; Kobelt, Prodromus, p. 115. *Hab.* Mediterranean. (W.) Ponta de São Lourenço. 2 specimens.
121. *Eulima paivensis*, 1873, Watson, P. Z. S. p. 364, pl. xxxvi. 29; Tryon, Manual, viii. 277, lix. 58. *Hab.* Madeira and the Selvagens. Not common; but both Mr. Lowe and I got a good many specimens.
122. *Eulima Philippii*, 1868, Weinkauff, Conch. Mittheil. ii. 228; Philippi, Enumeratio, i. 158, & ii. 130, ix. 10 (as *E. distorta*, but not of DeFrance): Gwyn Jeffreys, B. C. iv. 205; & v. 214, lxxvii. 5. *Hab.* From the Lofotens to the Mediterranean and Canaries. (M., L., W.) Extremely common everywhere.—Locard, Prodrôme, p. 205, gives *E. incurva*, Renier's name, priority, but that author's name-list confers no priority, and the changes rung on the name of this species create mere confusion in the midst of which no private rights of nomenclature avail. Names are for public profit, not for individual glorification.
123. *Eulima rhapsium*, 1897, Watson, *antea*, p. 258.
124. *Eulima sordida*, 1897, Watson, *antea*, p. 257.
125. *Eulima subulata*, 1802, Donovan, Brit. Shells, v. pl. clxxii.: Gwyn Jeffreys, B. C. iv. 208; & v. 215, lxxvii. 7. *Hab.* From Britain to the Mediterranean. (M., Jn., W.) Everywhere; common.
126. *Eulima trunca*, 1897, Watson, *antea*, p. 259.
Eulimella, see *Ostostomia*.
127. *Fasciolaria armata*, 1854, A. Adams (as *Latirus*), P. Z. S. p. 314. no. 11; Watson, 'Challenger' Moll. p. 243, xiii. 1.

- Hab.* Madeira; Tenerife; N.W. Africa. (L., W.) Ponta de S. Lourenço and Porto Santo. Not common.
128. *Fissurella græca*, 1767, Linné (as *Patella*), Syst. Nat. p. 1261: Gwyn Jeffreys, B. C. III. 266, vi. 4; & v. 200, lix. 5. *Hab.* From the Færoes to Mediterranean and Canaries. (M., L., N., Jn., W.) Everywhere; common.
129. *Fossarus ambiguus*, 1767, Linné (as *Helix*), Syst. Nat. p. 1251; Adanson, Sénégal, p. 173, xiii. 1; Philippi, Enumeratio, II. 147, xxv. 1. *Hab.* From Bay of Biscay to Mediterranean, Canaries, and St. Helena. (L., Jn., W.) Everywhere; common.
130. *Gastrochaena dubia*, 1777, Pennant (as *Mya*), Brit. Moll. IV. 82, xlv. 19; Gwyn Jeffreys, B. C. III. 91, iii. 5; & v. 193, li. 6. *Hab.* From the Brit. Channel to Mediterranean, Canaries, Mogador, and St. Helena. (M., L., Jn., W.) Ponta de São Lourenço to 50 fms., Magdalena shore. Very rare.
131. *Haliotis tuberculata*, 1767, Linné, Syst. Nat. p. 1256: Gwyn Jeffreys, B. C. III. 279, vii. 1; & v. lx. 2. *Hab.* From the Channel to Mediterranean, Canaries, and Mogador. (M., L., N., W.) All along the coast; common.
- Hemiaclis*, see *Aclis*.
132. *Homalogyra atomus*, 1841, Philippi (as *Truncatella*) in Wieg. Archiv, VII. pt. 1, p. 54, v. 4; Enum. II. 134, xxiv. 5; Gwyn Jeffreys, B. C. IV. 69, i. 5; & v. lxx. 2. *Hab.* From North Norway to Mediterranean. (Jn., W.) Everywhere; common.
133. *Homalogyra rota*, 1853, Forbes & Hanley (as *Skenea*), Brit. Moll. III. 160, lxxiii. 10 & lxxviii. 1, 2; Gwyn Jeffreys, B. C. IV. 71; & v. 209, lxx. 3. *Hab.* From North Scotland to Mediterranean. (W.) Everywhere; common.
- Hydrobia confusa*, v. Frauenfeld, erroneously identified as *Bythinia similis*, Drap., lives entirely in the freshwater runnels, quite remote from the sea.
134. *Ianthina communis*, 1822, Lamarck, An. s. Vert. VI. (2) 206; Gwyn Jeffreys, B. C. (as *I. rotundata*, Leach) IV. 186, iii. 1 & frontispiece; & v. 214, lxxvii. 1. *Hab.* Oceanic. (M., L., Jn., W.) From Funchal to East point and Porto Santo. Common.
135. *Ianthina exigua*, 1822, Lamarck, An. s. Vert. VI. (2) 206; Forbes & Hanley, Brit. Moll. II. 555, lxix. 8, 9; Sowerby,

- Ill. Index, xii. 4. *Hab.* Ocean. (M., W.) From Funchal to East point. Rare.
136. *Ianthina pallida*, 1841 (?), Harvey in Thompson's Brit. Mar. Conch. p. 152, & Ann. & Mag. v. 96, ii. 2; Philippi, Enumeratio, II. 224, xxviii. 14; Forbes & Hanley, Brit. Moll. II. 553, lxxix. 10, 11. *Hab.* Ocean.—This species is given by McAndrew, and by him alone, as from Madeira, and the specimens in his collection at the British Museum are correctly identified; but his collection at Cambridge, which is more to be trusted, has no specimens, unless, as the Rev. A. H. Cook suggests, 7 fine specimens of "*I. prolongata*, Madeira," in the McAndrew collection be so regarded.
137. *Jeffreysia glabra*, 1844, Alder (as *Rissoa* ?), Ann. & Mag. XIII. 325, viii. 1-4; Gwyn Jeffreys, B. C. (as *Jeffreysia diaphana*) IV. 59, i. 3; & v. lxxix. 5. *Hab.* Shetland to the Mediterranean. (W.) Funchal to East point and Porto Santo. Common.
138. *Jeffreysia globularis*, 1853, Gwyn Jeffreys in Forb. & Hanl. Brit. Moll. IV. 268, cxxxiii. 5; Gwyn Jeffreys, B. C. IV. 62; & v. lxxix. 7. *Hab.* Scotland. (W.) Funchal to East point of Island. Rare.
139. *Jeffreysia opalina*, 1849, Gwyn Jeffreys, Ann. & Mag. 2nd ser. II. 351; Forb. & Hanl. B. Moll. IV. 267, cxxxiii. 10 & M.M. 2; Gwyn Jeffreys, B. C. IV. 60; & v. 209, lxxix. 6. *Hab.* From Shetland to Mediterranean. (W.) From Funchal to East point and Porto Santo.
140. *Lachesis minima*, 1803, Montagu (as *Buccinum*), Test. Brit. p. 247, viii. 2; Gwyn Jeffreys, B. C. IV. 313, vi. 1; & v. 218, lxxxiv. 3. *Hab.* From Channel Islands to Mediterranean and Canaries. (M., L., Jn., W.) Everywhere; very common.
141. *Lamellaria perspicua*, 1767, Linné (as *Helix*), Syst. Nat. p. 1250; Gwyn Jeffreys, B. C. IV. 235, iii. 6; & v. 216, lxxix. 2. *Hab.* From Labrador to United States, and from Norway to Mediterranean and Canaries. (M., L., Jn., W.) Everywhere, but not common.
142. *Lasæa rubra*, 1803, Montagu (as *Cardium*), Test. Brit. p. 83, xxvii. 4; Gwyn Jeffreys, B. C. II. 219, v. 2; & v. 179, xxxii. 1. *Hab.* From Iceland to Mediterranean and Canaries. (M., L., Jn., W.) Everywhere; common.
- Leda pygmæa*, Münster.—I noticed this species in Mr. Yate Johnson's collection, but its presence there seemed to me accidental.

143. *Lima hians*, Gmelin (as *Ostrea*), Syst. Nat. p. 3332: Gwyn Jeffreys, B. C. II. 87, ii. 2^a; & v. 170, xxv. 5. *Hab.* From Northern Norway to the Mediterranean and Canaries. (M., N., Jn., W.) Everywhere; common.
144. *Lima squamosa*, 1818, Lamarck, An. s. Vert. vi. (1) 156; Sowerby, Thes. I. 84, xxi. 1 & 18 (?). *Hab.* Japan (*f.* Dunker); N. Zealand (*f.* v. Martens); Mediterranean. (M., L., N., Jn., W.) Everywhere; common.
145. *Lima subauriculata*, 1808, Montagu (as *Pecten*), Test. Brit. Suppl. p. 63, xxiv. 2: Gwyn Jeffreys, B. C. II. 82; & v. 169, xxv. 3. *Hab.* From N. America and Greenland to Mediterranean and Canaries. (L., Jn., W.) Everywhere; very common.
146. *Limacina bulimoides*, 1836, d'Orbigny (as *Atlanta*), Voy. Amér. Mérid. v. 179, xii. 36, 38; Souleyet, Rev. Zool. p. 138; Voy. 'Bonite,' II. 224, xiii. 35-42; Ptéropodes (as *Spirialis*), p. 65, xv. 3, 4; Woodward, Manual, p. 207, pl. xiv. 42; Pelseneer, 'Challenger' Report, p. 30. *Hab.* Pelagic. (W.) Everywhere; abundant.
147. *Limacina inflata*, 1836, d'Orbigny (as *Atlanta*), Voy. Amér. Mérid. v. 174, xii. 16-19; Souleyet (as *Spirialis rostralis*), Ptérop. p. 62, xiv. 7-12; Pelseneer, 'Challenger' Report, p. 17. *Hab.* Pelagic. (Jn. "from 30 fms.," W.) Everywhere; very common.
148. *Limacina Lesueurii*, 1836, d'Orbigny (as *Atlanta*), Voy. Amér. Mérid. v. 177, xx. 12-15; Souleyet, Rev. Zool. 1840, p. 236, & Voy. 'Bonite,' II. 216, xiii. 11-16 (as *Spirialis ventricosa*); Pelseneer, 'Challenger' Report, p. 24. *Hab.* Pelagic. (Jn., W.) Everywhere; abundant.
149. *Limacina (Peracle) reticulata*, 1840, d'Orbigny, Voy. Amér. Mérid. v. 178, xii. 32-35, 39; Souleyet, Rev. Zool. 1840, p. 138, & Voy. 'Bonite,' II. 220, xiii. 17-19 (as *Spirialis clathrata*); Pelseneer, 'Challenger' Report, p. 34, pl. i. 7, 8. *Hab.* Pelagic. (W.) Funchal and Caniçal. 4 specimens.
150. *Limacina trochiformis*, 1840, d'Orbigny (as *Atlanta*), Voy. Amér. Mérid. v. 177, xii. 29-31; Souleyet, Rev. Zool. 1840, p. 237, & Voy. 'Bonite,' II. 223, xiii. 27-34 (as *Spirialis*); Pelseneer, 'Challenger' Report, p. 29. *Hab.* Pelagic. (W.) From Funchal, east coast. Not common.
- Liriola*, see *Siphonaria*.
151. *Litorina neritoides* 1767, Linné (as *Turbo*), Syst. Nat.

- p. 1232: Gwyn Jeffreys, B. C. III. 361; & v. 206, lxxv. 2. *Hab.* From Norway to Mediterranean and Canaries. (M., L., Jn., W.) All along the coast. Very common.
152. *Litorina punctata*, 1789, Gmelin, Syst. Nat. p. 3597; Adanson ("Le Marnat"), Sénégal, p. 168, pl. xii. 1; Philippi, Abb. & Beschr. II. 198, iv. 11. *Hab.* From the Mediterranean to Cape of Good Hope. (N., Jn., W.) I accept the species as Madeiran on the authority of Sen. Nobre. The specimens of Mr. Johnson and myself from the East end of the Island and from Porto Santo are too young and in too bad condition for independent recognition.
153. *Litorina striata*, 1831, King, Zool. Jour. v. 345. no. 51; d'Orbigny, Moll. Canar. (as *L. canariensis*) p. 78, vi. 8-10, & (*L. affinis*) p. 79, vi. 11-13.—the young tubercled shell. *Hab.* From Açores to St. Helena. (M., L., N., W.) Everywhere; very common.
154. *Lucina borealis*, 1767, Linné (as *Venus*), Syst. Nat. p. 1134: Gwyn Jeffreys, B. C. II. 242, v. 2; & v. 179, xxxii. 7. *Hab.* From America and Iceland to Mediterranean and Mogador. (L., Jn., W.) Funchal. Rare.
155. *Lucina divaricata*, 1767, Linné (as *Tellina*), Syst. Nat. p. 1120: Gwyn Jeffreys, B. C. (as *Loripes*) II. 235, v. 4; & v. 179, xxxii. 5. *Hab.* English Channel to Mediterranean and Canaries. (M., L., Jn., W.) Everywhere; very common.
156. *Lucina lactea*, 1767, Linné (as *Tellina*), Syst. Nat. p. 1119: Gwyn Jeffreys, B. C. (as *Loripes*) II. 233, v. 4; & v. 179, xxxii. 4. *Hab.* Southern Britain to Mediterranean and Canaries. (Jn., W.) Funchal. Very rare.
157. *Lucina reticulata*, 1791, Poli (as *Tellina*), Test. Sic. I. 48, xx. 12; Philippi, Enumeratio, I. 31, iii. 14. Everywhere; very common.
158. *Lucina spinifera*, 1803, Montagu (as *Venus*), Test. Brit. p. 577, xviii. 1: Gwyn Jeffreys, B. C. II. 240; & v. 179, xxxii. 6. *Hab.* From Norway to Mediterranean and Canaries. (M., L., N., Jn., W.) Everywhere; very common.
159. *Lyonsia norvegica*, 1788, Chemnitz (as *Mya*), Conch.-Cab. x. 345, clxx. 1647-8: Gwyn Jeffreys, B. C. II. 29, ii. 1; & v. 190, xlviii. 2. *Hab.* From Lofotens to Mediterranean. (M., L., Jn., W.) Everywhere; common.
160. *Maetra subtruncata*, 1778, da Costa, Brit. Conch. p. 198: Gwyn Jeffreys, B. C. II. 419; & v. 188, xliii. 3. *Hab.* From North Norway to Black Sea and Mogador. (Jn., W.) Porto

Santo, 40 to 50 fms. One stained valve.—The locality whence my specimen came is not a place where ballast is thrown out, and the presence of the species in Mr. Johnson's collection, as also at the Canaries and Mogador, compels me unwillingly to admit it as Madeiran. I do not believe, but cannot disprove.

Mangelia, see *Pleurotoma*.

161. *Marginella guancha*, 1839, d'Orbigny, Moll. Canaries, p. 88, vi. 32–34. *Hab.* Canaries. (Jn., W.) From the North coast.—McAndrew gives it as "frequent" in Madeira, but his specimens, both in his best collection at Cambridge and in that at the British Museum as well as those he sent me, are all marked as from "Canaries." The solitary specimen I got from Madeira was in sand from deep water on the north coast; probably, therefore, not a wanderer, but it remains solitary. In Mr. Johnson's collection also only one specimen presented itself.
162. *Marginella miliaria*, 1767, Linné (as *Voluta*), Syst. Nat. p. 1189; Sowerby, Thes. Conch. i. 399, lxxviii. 227–230. *Hab.* From Portugal to Mediterranean and Mogador. (M., L., Jn., W.) Everywhere; common.
- M. Philippi* (sic), a species given by Sen. Nobre as of Monterosato, who says that it is the *M. minuta*, Phil. Enum. ii. 197, xxvii. 23 (but not of Pfeiffer), is one which I am quite unable to identify among any I know as Madeiran. *M. celata*, which Monterosato gives in his 'Nomenclatura,' p. 139, as Madeiran from me, is a species I have been accustomed to reckon as *M. miliaria*, L., differing only in colour. Some confusion seems to exist here.
163. *Marginella secalina*, 1844, Philippi, Enumeratio, ii. 197, xii. 15 & xxviii. 19; Weinkauff, Conch.-Cab. ed. 2, v. pt. 4, p. 29, iv. 21–23. *Hab.* Mediterranean to Canaries (teste McAndrew's List corrected *propria manu* and his specimens in the Cambridge Museum). (L., Jn., W.) From Funchal to Punta de São Lourenço. Plentiful.
164. *Mathilda quadricarinata*, 1814*, Brocchi (as *Turbo*), Conch. Foss. p. 375, vii. 6; Kobelt, Jahrb. i. 226, xi. 2. *Hab.* Western Mediterranean and St. Helena. (W.) Funchal, Punta de São Lourenço, and Porto Santo. Not rare.

Megathyris, see *Argiope*.

* A five years' priority over the *Mathilda* of Semper has been claimed for the name *Cingulina* of Adams, but no sinistral-tipped shell can pass under Adams's definition. See 'Challenger' Gasteropoda, p. 499.

165. *Melampus exiguus*, 1832-4, Lowe, Zool. Journ. v. 291, xiii. 6, 7; Pfeiffer, Monog. Auric. Viv. p. 56; id. *ibid.* Suppl. p. 326; id. Auric. Mad., Malak. Blätter, 1866, p. 142; Paiva, Mal. Mad. p. 150. *Hab.* Madeira. (L., W.) North shore, Punta de São Lourenço; Selvagens. Rare.
166. *Mesodesma cornea*, 1791, Poli, Test. Sic. I. 73, & II. xix. 8 to 11. *Hab.* Mediterranean.—I give this species on the authority of Sen. Nobre, who got it in dredgings from Caniçal. I have never met with it.
- Mesalia*, see *Scalaria*.
167. *Mitra cornicula*, 1767, Linné (as *Voluta*), Syst. Nat. p. 1191; Kiener (as *M. lutescens*, Lam.), Iconog. Coq. Viv. III. 31, xi. 32, xii. 36, &c. *Hab.* Portugal and Mediterranean to Mogador. (M., L., N., Jn., W.) Everywhere; excessively common.
168. *Mitra Zebrina*, 1839, d'Orbigny, Moll. Canar. p. 86, vi. 29-31 (not *M. Zebra*, Leach); Sowerby, Thes. IV. 23, sp. 300, pl. xxii. 481. *Hab.* Canaries. (M., L., N., Jn., W.) Everywhere. Alive on the shore-rocks, and there dark green; but in deep water dead and discoloured brown by passage through fish's stomach. Extremely variable, with proclivities towards *M. tricolor*, Gd.
169. *Modiolaria discors*, 1767, Linné (as *Mytilus*), Syst. Nat. p. 1159; Gwyn Jeffreys, B. C. II. 126; & v. 171, xxviii. 3. *Hab.* From the U.S. coast to N. Greenland, Canada, Norway, and Mediterranean. (Jn., W.) One young valve alone in each collection. The range of the species alone justifies its introduction into this list.
170. *Modiolaria subclavata*, 1859, Libassi, Atti Panorm. III. 13. fig. 7; Gwyn Jeffreys, Moll. Lightn. & Porc., P. Z. S. 1879, p. 568. *Hab.* From Brittany to Canaries. (L., Jn., W.) From Magdalena, Cabo Girão, Funchal to East end of Island. Very abundant.
- Monodonta*, see *Trochus*.
171. *Montacuta bidentata*, 1803, Montagu (as *Mya*), Test. Brit. p. 44, xxvi. 5; Gwyn Jeffreys, B. C. II. 208; & v. 177, xxxi. 8. *Hab.* Norway to Mediterranean. (Jn., W.) Funchal. 15 to 20 valves.
172. *Montacuta ferruginosa* (?), 1808, Montagu (as *Mya*), Test. Brit. Suppl. I. pp. 22 & 166, xxvi. 2; Gwyn Jeffreys, B. C. II. 210; & v. 178, xxxi. 9. *Hab.* From New England to Greenland, North Norway, Mediterranean, Canaries, and Mogador. 3 fms. to 733 fms. (L., W.) Coast from

Funchal eastward, and Porto Santo. Very abundant.—McAndrew's List does not give the species, but in his own copy at the Cambridge Natural History Museum it is entered and initialled by himself for Madeira, Canaries, and Mogador. The query I have suffixed to the name expresses the grave doubts I feel, more than shared by Dr. Gwyn Jeffreys, of the correctness of this identification; but as he has taken the responsibility of publishing it as Madeiran on the strength of my specimens, I am content to follow him. With more reason than in many like cases elsewhere the shell might pass for new; but the species is a variable one.

173. *Montacuta triangularis*, 1897, Watson, *antea*, p. 264.
174. *Murex (Ocinebra) aciculatus*, 1822, Lamarck, An. s. Vert. vii. 176: Gwyn Jeffreys, B. C. iv. 310; & v. 218, lxxxiv. 2. *Hab.* From the English Channel to Mediterranean and Mogador. (M., L., Jn., W.) From Magdalena to island's East point and Porto Santo. Very abundant.
175. *Murex (Coralliophila) brevis*, 1832, de Blainville (as *Purpura*), Ann. Sc. Nat. i. 233, xi. 10; Philippi (as *Pyrula squamulata*), Enumeratio, i. 207, xi. 21 (not 31), ii. 180. *Hab.* Mediterranean. (L., Jn., W.) Porto Santo. One specimen each.—Mr. Lowe has left no record of locality for his one very young specimen. In the face of confusion in the identification of this species I have unwillingly gone behind Philippi, whose figure and description are unmistakable.
- Murex cristatus*, Broc.—McAndrew, Report, p. 40, gives this as "rare;" for the Canaries he does not mention it: neither at Cambridge nor in the British Museum does his collection contain specimens, but Bellardi (vol. i. p. 87) gives it from Upper Miocene.
176. *Murex (Ocinebra) Edwardsii*, 1826, Payraudeau (as *Purpura*), Moll. Cors. p. 155, vii. 17, 18; de Blainville, Faune frang. p. 129, v. (B) 5. It exists from the Upper Miocene onwards. *Hab.* From Bay of Biscay to Mediterranean and Canaries. (M., L., N., Jn., W.) From Funchal westwards. Very abundant.
177. *Murex (Ocinebra) erinaceus*, 1767, Linné, Syst. Nat. p. 1216: Gwyn Jeffreys, B. C. iv. 306, v. 5; & v. 218, lxxxiv. 1. In existence from Middle Miocene onwards. *Hab.* From Cattegat to Black Sea and Mogador. (M., L., N., Jn., W.) From Funchal to East point and Porto Santo. Abundant. *Murex fusulus*, see *Trophon*.

178. *Murex (Ocinebra) medicago*, 1897, Watson, *antea*, p. 242.
179. *Murex (Pseudomurex) Meyendorffi*, 1845, Calcara, Cenno, p. 38, iv. 32; Kobelt, *Jahrb. Mal. Ges.* i. 1874, p. 222, ix. 1. *Hab.* Mediterranean. (L., N., Jn., W.) From Funchal to East point and Porto Santo. Abundant.
- Mytilus*, see *Avicula*.
- Mytilus edulis*, L.—This is a species which Senhor Nobre gives under var. *M. galloprovincialis*. Johnson's collection contains two valves. I have several, chiefly young, but all got in circumstances and with the appearances of having been brought in ballast. Belonging to the North Pacific, probably, and under diverse forms and names from Baffin's Bay to the Mediterranean, its presence in Madeira is not improbable, but I am not sure that Senhor Nobre, on review of its claims, still supports them.
180. *Nassa antiquata*, 1897, Watson, *antea*, p. 241.
181. *Nassa costulata*, 1804, Renieri (as *Buccinum*), *Tav. Conch. Adr.*; Philippi (as *B. variabile*), *Enum.* i. 221, xii. 6; Payraudeau (as *B. Cuvieri*), *Moll. Corse*, p. 163, viii. 17, 18. *Hab.* From Portugal to Mediterranean. (L., Jn., W.) Everywhere; very common.
182. *Nassa incrassata*, 1777, Ström (as *Buccinum*), *Norsk. Selskab. Vid.* iv. 369, xvi. 25; Gwyn Jeffreys, *B. C.* iv. 351; & v. 219, lxxxviii. 1. *Hab.* From Iceland to Mediterranean and Mogador. (M., L., N., Jn., W.) Everywhere; very common.
183. *Nassa limata*, 1808, Chemnitz (as *Buccinum*), *Conch.-Cab.* xi. 87, clxxxviii. 1808-9; Philippi, *Enumeratio* (as *B. prismaticum*), i. 219; Brocchi (as *B. prismaticum*), *Subappenn.* ii. 337, v. 5-7. Dates from Upper Pliocene onwards. *Hab.* Mediterranean to Canaries. (M., L., N., Jn., W.) Everywhere; very common.
184. *Nassa reticulata*, 1767, Linné (as *Buccinum*), *Syst. Nat.* p. 1204; Gwyn Jeffreys, *B. C.* iv. 346, vi. 4; & v. lxxvii. 3. Dates from Lower Pliocene. *Hab.* From North Norway to Black Sea and Mogador. (L., Jn., W.) Porto Santo, Porto Moniz. Not common.
185. *Nassa Watsoni*, 1877, Kobelt, *Iconog. europ. Meeres-conch.* Heft 7, p. 151, xxvi. 5, 6. "Madeira," Canaries. *Hab.* The Selvagens (not in Madeira proper). At the Canaries it is common. (L., W.)
186. *Natica Dillwynii*, 1826, Payraudeau, *Cat. Moll. Corse*, p. 120, pl. v. ff. 27, 28; Philippi, *Conch.-Cab.* 2nd ed. ii. pt. 1, p. 69,

- pl. ii. f. 4. (L., Jn., W.) Punta de São Lourenço, Porto Santo, Punta da Cruz, Funchal, Gorgulho, &c. Abundant.
187. *Natica fanel*, 1843, Récluz, P. Z. S. p. 207; Philippi in Mart. & Chem. Conch.-Cab. 2nd ed. II. pt. 1, p. 16, ii. 7, 8 (not 6); Adanson, Sénégal, 1757, p. 174, xiii. 3 ("le Fanel"). *Hab.* Senegal. (L., Jn., W.) Punta de São Lourenço and Labra, also Porto Santo. Not common.
188. *Natica furva*, 1897, Watson, *antea*, p. 248.
189. *Natica porcellana*, 1839, d'Orbigny, Moll. Canar. p. 84, vi. 27, 28; Philippi in Mart. & Chem. Conch.-Cab. 2nd ed. II. pt. 1, p. 62, x. 4. *Hab.* Canaries to St. Helena. (M., L., Jn., W.) Everywhere, but nearly always dead, and lacking the operculum, which is thin, horny, and reddish.
190. *Natica variabilis*, Recluz, MS.; Reeve, Conch. Icon. IX. xxiii. 104; Philippi in Mart. & Chem. Conch.-Cab. 2nd ed. II. pl. xi. f. 3, as *N. labrella*, but not that of Lamarck, not the description on p. 68 nor fig. pl. xi. 17, nor pl. xix. f. 1; H. Adams, P. Z. S. 1869, p. 274, xix. 8 (as *N. marmorata*). See Watson, 'Challenger' Report, p. 435, for discussion of the species. *Hab.* Canaries. (L., Jn., W.) From the Gorgulho bay to Punta de São Lourenço, at the East point of the Island. Common.
- Neera*, see *Cuspidaria*.
- Ocinebra*, see *Murex*.
191. *Octopus vulgaris*, 1798, Lamarck, Mém. Soc. Hist. Nat. Paris, vol. I. p. 18; Gwyn Jeffreys, B. C. v. 144, frontispiece & pl. vii. 1. *Hab.* West Indies, and from Scotland to Mediterranean and Canaries, and Indian Ocean, &c. (Jn., W.) Not rare.
192. *Odostomia acuta*, 1848, Gwyn Jeffreys, Ann. & Mag. 2nd ser. II. 338; id., B. C. IV. 130, & v. 211, lxxiii. 8. *Hab.* From Lofotens to Mediterranean. (Jn., W.) Along S. shore from Funchal eastwards and Porto Santo. Common.
193. *Odostomia albella*, 1846, Lovén, Ind. Moll. Scand. p. 19; Gwyn Jeffreys, B. C. IV. 121; & v. 211, lxxiii. 3. *Hab.* From Norway to Mediterranean. (L., Jn., W.) Funchal eastwards to East point. Very abundant.
194. *Odostomia (Turbonilla) bulinea*, 1840, Lowe, P. Z. S. p. 40; Brocchi, Conch. Foss. Subap. p. 383, vi. 7 (as *Turbo striatus*, but not that of Mont.). *Hab.* Mediterranean. (L., Jn., W.) Funchal to Punta de São Lourenço and Porto Santo.

Very abundant but always dead, the shell bored and the animal eaten.

195. *Odostomia (Turbonilla) clathrata*, 1848, Gwyn Jeffreys, Ann. & Mag. 2nd ser. II. 345; id. B. C. IV. 148, & V. 212, lxxiv. 9. *Hab.* From Portugal to Mediterranean; Ireland (?). (W.) Punta de São Lourenço. Not rare.—Dr. Gwyn Jeffreys says that McAndrew got it at Orotava in the Canaries; and if so it is probably the unnamed one in his Madeiran list, but I have no note of having seen it in his collection.
196. *Odostomia conoïdea*, 1814, Brocchi (as *Turbo*), Conch. Foss. Subap. 659, 2nd ed. vol. II. p. 495, xvi. 2: Gwyn Jeffreys, B. C. IV. 127; & V. 211, lxxiii. 6. *Hab.* From North Norway to Mediterranean. (Jn., W.) Funchal, Porto Santo. Not rare.
197. *Odostomia conspicua*, 1850, Alder, Trans. Tyne Club, I. 359: Gwyn Jeffreys, B. C. IV. 132; & V. 211, lxxiii. 9. *Hab.* From Lofotens to Mediterranean. (Jn., W.) Funchal to Punta de São Lourenço. Rare.
198. *Odostomia (Turbonilla) indistincta*, 1803, Montagu (as *Turbo*), Test. Brit. Suppl. p. 129: Gwyn Jeffreys, B. C. IV. 149; & V. 213, lxxv. 1. *Hab.* From Norway to Mediterranean and Canaries. (Jn., W.) Everywhere; common.
199. *Odostomia (Turbonilla) interstincta*, 1803, Montagu (as *Turbo*), Test. Brit. II. 324, xii. 10: Gwyn Jeffreys, B. C. IV. 151; & V. 219, lxxv. 12. *Hab.* From Lofotens to Mediterranean and Canaries. (M., L., Jn., W.) Everywhere; very common.
200. *Odostomia (Turbonilla) lactea*, 1767, Linné (as *Turbo*), Syst. Nat. p. 1238; Gwyn Jeffreys, B. C. IV. 164; & V. 213, lxxvi. 3. *Hab.* From Finmark to Mediterranean and Canaries. (M., L., W.) Everywhere; common.
201. *Odostomia (Turbonilla) nitidissima*, 1803, Montagu (as *Turbo*), Test. Brit. II. 299, xii. 1: Gwyn Jeffreys, B. C. IV. 173; & V. 214, lxxvi. 8. *Hab.* From Finmark to Mediterranean. (W.) Caniçal and Punta de São Lourenço and Porto Santo. Not rare.
202. *Odostomia omphaloessa*, 1897, Watson, *antea*, p. 261.
203. *Odostomia (Turbonilla) Pointeli*, 1867, de Folin, Fonds de Mer, p. 100, xi. 4; Monterosato, Nomenclatura (as *Anisocycla*), p. 99. *Hab.* Mediterranean. (W.) Caniçal, Punta de São Lourenço, Porto Santo. Not rare.

204. *Odostomia (Turbonilla) pusilla*, 1844, Philippi, Enumeratio, II. 224, xxviii. 21: Gwyn Jeffreys, B. C. IV. 167; & v. 213, lxxvi. 4. *Hab.* From English Channel to Mediterranean. (W.) Two specimens.
205. *Odostomia rissoides*, 1844, Hanley, P. Z. S. p. 18: Gwyn Jeffreys, B. C. IV. 122; & v. 211, lxxiii. 4. *Hab.* From Norway to Mediterranean. (W.) From the Gorgulho and Funchal to Punta de São Lourenço and Porto Santo. Very rare.
206. *Odostomia (Turbonilla) rufa*, 1836, Philippi (as *Melania*), Enumeratio, I. 156, ix. 7: Gwyn Jeffreys, B. C. IV. 162; & v. 212, lxxvi. 1. *Hab.* From Norway to Mediterranean and Canaries. (M., W.) Funchal to East point and Porto Santo. Not uncommon.
207. *Odostomia (Turbonilla) scalaris*, Philippi (as *Melania*), Enum. Moll. Sic. I. 157, ix. 9; & II. 137: (as *Chemnitzia*) Gwyn Jeffreys, B. C. IV. 160; & v. 213, lxxv. 7. *Hab.* From Massachusetts and New England to Finmark and the Mediterranean. (W.) Funchal, two broken specimens.
208. *Odostomia (Eulimella) scillæ*, 1836, Scacchi (as *Melania*), Notiz. Conchyl. p. 51: Gwyn Jeffreys, B. C. IV. 169; & v. 213, lxxvi. 5. *Hab.* From Finmark to Mediterranean and Canaries. (M., Jn., W.) One specimen alone fell to Mr. Johnson and one to myself.
209. *Odostomia tricineta*, 1856, Gwyn Jeffreys, Ann. & Mag. p. 185, II. 12, 13. *Hab.* North-west of France to Mediterranean and Madeira. (W.) From Funchal to East point. Frequent.
210. *Odostomia turrita*, 1844, Hanley, P. Z. S. p. 18: Gwyn Jeffreys, B. C. IV. 135; & v. 211, lxxiv. 2. *Hab.* From the Cattegat to Mediterranean. (Jn., W.) Funchal to East point and Porto Santo. Common.
211. *Odostomia (Turbonilla) undata*, 1897, Watson, *antea*, p. 262.
212. *Odostomia unidentata*, 1803, Montagu (as *Turbo*), Test. Brit. III. 324, xxi. 2: Gwyn Jeffreys B. C. IV. 134; & v. 211, lxxiv. 1. *Hab.* From North Norway to Mediterranean. (W.) From Funchal to East point and Porto Santo. Common.
213. *Odostomia (Eulimella) ventricosa*, 1843, Forbes (as *Parthenia*), Brit. Assoc. Ægean Rep. p. 188; G. O. Sars, Moll. Arct. Norv. p. 209, xi. 19, & xxii. 16. *Hab.* From Norway to Mediterranean. (W.) One specimen.
214. *Oliva (Olivella) leucozonias*, 1839, Gray, Zool. of 'Blossom,'

p. 130, xxxvi. 24; Marrat, in Sowerby's Thesaurus, iv. sp. 213, pl. cccl. (bis) fig. 446. Neither of these authorities gives any habitat for the species. Weinkauff, who identifies it with *O. pulchella*, Duclos (see his Monog. pl. v. f. 11, 12), gives Senegal as its habitat. Not knowing it from Madeira, I quote it here simply as given "from Funchal" in Senhor Nobre's list, and with extreme hesitation.

Omalaxis, see *Difrontia*.

215. *Ostrea cochlear*, 1795, Poli, Test. Sic. II. 179, xxviii. 28. *Hab.* From Bay of Biscay to Mediterranean. (Jn., W.) Funchal, &c. Common.
216. *Ostrea cristata*, 1780, Born, Mus. Cæs. p. 112, vii. 3; Poli, Test. Sic. II. 177, xxviii. 25-27. *Hab.* Mediterranean. (L., Jn., W.) Magdalena, Funchal, &c. Common.
217. *Ovula carnea*, 1789, J. L. M. Poiret (as *Bulla*), Voyage, II. p. 21; Bruguière, Encycl. III. 685, sp. 5, pl. ccclxvii. 2; Kiener, Icon. Coq. Viv. I. 10, vi. 2. *Hab.* Mediterranean. (W.) Magdalena. One specimen brought up from 100 fathoms in a jar accidentally entangled in a fisherman's line.
218. *Oxygyrus Keraudrenii*, 1817, Lesueur (as *Atlanta*), Jour. de Phys. LXXXV. 391, ii.; Woodward, Man. Moll. pl. xiv. 24, 25. *Hab.* Pelagic. (Jn., W.) From Funchal to East point, &c.

Panopea, see *Saxicava*.

PATELLA.—The confusion both in the classification and nomenclature of this genus is very great. I touch on no disputed points when I state that no one at work on the shore of Madeira can doubt that there are four, and only four, very distinct and very easily differentiated species, and under the law of priority their names fall to them without difficulty. Alphabetically arranged they are:—

219. *Patella aspera*, 1819, Lamarek, An. s. Vert. VI. (1) 328; 2nd ed. by Deshayes, VII. 529; d'Orbigny, Moll. Canar. p. 98, vii. 9, 10 (as *P. Loweii*). [Hanley, see Wood, Ind. Test. p. 185, xxxvii. 19, says that this is Dillwyn's *P. repanda* of Gmel. Syst. Nat. ed. Linn. Syst. Nat. 13^a; but both the locality "*freto Magellanico*," and the description "*testa tenui . . . margine repando*," remove Gmelin's species very far from that found in Madeira. Dillwyn, indeed, ascribes Gmelin's *P. repanda* to "Island of Cerigo," but gives no authority for this assertion of Favanne.]

- Hab.* From the Bay of Biscay to Mediterranean and Canaries. (M., L., N., Jn., W.) Very common everywhere.
220. *Patella cœrulea*, 1767, Linné, Syst. Nat. p. 1259 (*see* Hanley, Ips. Linn. Conch. p. 421); Philippi, Enum. i. 110, ii. 84, vii. 5; Hidalgo, Moll. Mar. Esp. pl. l. 1-8, li. 1, 2; d'Orbigny (as *P. crenata*), Moll. Canar. p. 97, pl. vii. 1-8. *Hab.* Bay of Biscay to Mediterranean and Canaries. (M., L., N., Jn., W.) Very common everywhere.
221. *Patella rustica*, 1767, Linné, Syst. Nat. p. 1261; Wood (as *P. lusitanica*, Gmel., *see* Syst. Nat. p. 3715), Index Test. p. 188, pl. xxxvi. 66; Lamarck (as *P. punctata*), An. s. Vert. vi. (1) 333; ed. 2^{da} Deshayes, vii. 537. no. 34; Delessert, pl. xxiii. 4; Reeve (as *P. nigropunctata*), Conch. Icon. pl. xxxiii. 57; d'Orbigny, Moll. Canar. p. 97, pl. vii. b. 13-15. *Hab.* Bay of Biscay to Canaries. (M., L., N., Jn., W.) Very common everywhere.
222. *Patella vulgata*, 1767, Linné, Syst. Nat. p. 1258; d'Orbigny (as *P. Candei*), Moll. Canar. p. 98, pl. vii. b. 11, 12; Gwyn Jeffreys (as *P. vulgata*), B. C. iii. 236, v. 3; & v. lvii. 1-4. *Hab.* From north of Norway to Mediterranean and Canaries. (M., L., N., Jn., W.) Very common everywhere.
- Patella Gussonii*, *see* *Siphonaria*.
223. *Pecten corallinoides*, 1839, d'Orbigny, Moll. Canar. p. 102, pl. vii. b. 20-22; Sowerby, Thes. Conch. i. 65, xii. 3, 4; Küster, in Mart. & Chemn. Conch.-Cab. 2nd ed. vii. pt. 2, p. 58, pl. xv. 7-9 (who denies the correctness of Sowerby's identification, which may however pass). *Hab.* Canaries and Madeira. (M., L., N., Jn., W.) Everywhere; very common.
224. *Pecten fenestratus*, 1843, Forbes, Brit. Assoc. Report, p. 192; Gwyn Jeffreys (as *Pleuronectia*), Med. Moll., Ann. & Mag. July 1870, p. 40, and (as *Amussium*) in Report on the Lightn. & Porc. Exped., P. Z. S. 1879, p. 561 (identifying Forbes' sp., however, with *Pecten Philippii*, Acton, Ricerche Conch. fig. 1 = *P. Actoni*, v. Martens, Malak. Blätter, 1857, p. 194, iii. 1-3, but mentioning at the same time some remarkable features of the species which made him hesitate in the identification). Kobelt, Prodrusus, p. 440, extends this synonymy, and in his Monograph in the Conch.-Cab. 2nd ed. p. 268, pl. lxx. ff. 7, 8 (a copy of Acton's figure), quotes Verrill, Proc. U. S. Nat. Mus. 1880, p. 403, and also Trans. Connect. Acad. 1882, v. p. 582, for

- this species as found on the East coast of America; but this identification Verrill (1884, Proc. Conn. Acad. vi. 261) now rejects. *Hab.* North Atlantic and Mediterranean. (Jn., W.) Punta de São Lourenço. Very rare.
225. *Pecten flexuosus*, 1795, Poli (as *Ostrea*), Test. Sicil. II. 159-161, xxviii. 1-3, and (as *O. plicata*) fig. 11; Philippi (as *P. polymorphus*), Enumeratio, I. 79, & II. 57, pl. v. 18-21. *Hab.* Mediterranean. (M., L., Jn., W.) Everywhere; common.
226. *Pecten Jacobæus*, 1767, Linné (as *Ostrea*), Syst. Nat. p. 1149; Pennant, Brit. Zool. IV. 100, xl. 1. *Hab.* Mediterranean to Canaries. (M., L., N., Jn., W.) Everywhere; common.—The *P. maximus* of McAndrew's collection in Cambridge, from the Canaries is a young specimen of *P. Jacobæus*. The same is probably the case in other instances.
227. *Pecten Loveni*, 1853, Dunker, Index Moll. Guin. p. 44. no. 115, ix. 31. *Hab.* The Guinea coast. (N.) Dunker got two separate valves from Loanda. Nobre, besides adding Sierra Leone, gives it as dredged in Funchal Bay.—The species is one I have never seen. Dunker's authority is of course of great weight; his figure, but less so his description, suggests the young form of *P. fenestratus*, Forbes.
228. *Pecten pes felis*, 1758, Linné (as *Ostrea*), Syst. Nat. ed. 10. vol. I. 697, & 1767, do. do. ed. 12. p. 1146; Sowerby, Thes. Conch. I. 67, xvii. 162, xx. 134. *Hab.* From Bay of Biscay to Mediterranean and Mogador. (M., L., N., Jn., W.) From Magdalena to Punta de São Lourenço. Not common, and the valves never joined.
229. *Pecten pusio*, 1767, Linné (as *Ostrea*), Syst. Nat. p. 1146: Gwyn Jeffreys, B. C. II. 51; & v. 166, xxii. 1. *Hab.* From Norway to Mediterranean and Cape of Good Hope. (M., L., N., Jn., W.) Everywhere; very abundant.
230. *Pecten similis*, 1811, Laskey, Mem. Werner. Soc. I. 387, viii. 8: Gwyn Jeffreys, B. C. II. 71; & v. 168, xxiii. 5. *Hab.* From Finmark to Mediterranean (and Jamaica, *f.* Barrett). (M., L., Jn., W.) Everywhere, from Magdalena to Punta de São Lourenço and Porto Santo. Very abundant.
231. *Pecten solidulus*, 1853, Reeve, Conch. Icon. VIII. pl. xxxiii. 155; Philippi (as *P. gibbus*, Lam.), Enumeratio, I. 83; Récluz (as *P. Philippi*, Michel.), Jour. de Conch. IV. 52, II. 15; Monterosato, Coq. Maroc., Jour. de Conch. 1889,

- p. 20. *Hab.* Mediterranean to Canaries. (M., L., N., Jn., W.) Everywhere; very abundant.—The Marquis of Monterosato has done a great service in showing that this species is not the *P. gibbus*, Lam., nor the fossil *P. Philippi*, Michelotti of 1839, and that his own name of *P. commutatus* for the species is later than Reeve's. After following him "*per tot discrimina nominum*," we may hope that this unfortunate species will rest under Reeve's shelter.
232. *Pecten varius*, 1767, Linné (as *Ostrea*), Syst. Nat. p. 1146. *Hab.* From Norway to Mediterranean.—This species enters here as one given in Senhor Nobre's list, supported, however, by an entry in Mr. Lowe's List (Journ. Linn. Soc. 1860, p. 173) of shells observed at Mogador in which *Pecten varius* occurs. Mr. Lowe's own copy, however, of that paper, along with the three separate valves sent him from Mogador, is in my possession, and a note appended by himself states that he had not found the species, but received it along with fourteen others (and probably several more, see *l. c.* p. 172) "from Mrs. Elton."
233. *Pectunculus glycimeris*, 1767, Linné (as *Arca*), Syst. Nat. p. 1143; Gwyn Jeffreys, B. C. II. 166, iv. 4; & v. 175, xxx. 2. *Hab.* From the Lofotens to Mediterranean, Mogador, and Canaries. (M., L., N., Jn., W.) Funchal, Labra, Punta de São Lourenço, Porto Santo. Abundant.
Pectunculus siculus, 1843, Reeve, Conch. Icon. vol. i. Monog. 5, pl. vii, fig. 41.—McAndrew alone gives this species (a syn. of *P. bimaculatus*, Poli), and he has added to it "frequent," but no one else has found it. In the British Museum shells ticketed "*P. siculus*, presented by Mr. McAndrew," are marked "Canarian." The locality whence the Cambridge Museum specimens belonging to his own more special collection were derived is not noted, but the name attached indicates that he held the species to be distinct from *Pecten glycimeris*.
234. *Pedipes afra*, 1790, Gmelin (as *Helix*), Syst. Nat. p. 3795, no. 194; Lowe, Zool. Jour. v. 296, xiii. 8-12, and P. Z. S. 1864, p. 217 (note under *Truncatella*), & p. 218; Deshayes, Lamarck, An. s. Vert. 2nd ed. ix. 42; Pfeiffer, Monog. Auric. i. 68; H. & A. Adams, Genera, III. pl. lxxxiii. 4, 4^a. The whole credit of this species really belongs to Adanson (Hist. Sénégal, p. 11, pl. i. 4), who carefully, minutely, and most accurately described and figured the animal and the shell under the name of "Le piéton—Pedipes." *Hab.* From Lisbon (see Wollaston, Test. Atlant. pp. 50, 265, 293) to Senegal and St. Helena. (Jn., W.) Very common

under stones and large shingle between high- and low-water mark.

Peplidea, see *Plocamophorus*.

235. *Phasianella pulla*, 1767, Linné (as *Turbo*), p. 1233: Gwyn Jeffreys, B. C. III. 338, viii. 1; & v. 204, lxiv. 1. *Hab.* From Great Britain to Mediterranean, Mogador and Canaries. (M., L., N., Jn., W.) Everywhere; very common.
236. *Philine aperta*, 1767, Linné (as *Bulla*), Syst. Nat. p. 1183: Gwyn Jeffreys, B. C. IV. 457, viii. 7; & v. xcvi. 1. *Hab.* From North Norway to Mediterranean and Cape of Good Hope. (M., L., Jn., W.) Everywhere; common.
237. *Philine complanata*, 1897, Watson, *antea*, p. 235.
238. *Philine desmotis*, 1897, Watson, *antea*, p. 236.
239. *Philine scabra*, 1776, Müller (as *Bulla*), Zool. Dan. Prod. II. 41, lxxi. 11, 12; Wood, Crag Moll., Gasterop. p. 181, xxi. 12 (as *Bulla*); Philippi, Enum. I. 121, vii. 17 (as *Bulla anqustata*); Forbes & Hanley, Brit. Moll. III. 543, cxiv E. 4, 5: Gwyn Jeffreys, B. C. IV. 447; & v. 224, xcvi. 1; G. Sars, Moll. Norv. p. 294, xviii. 13. *Hab.* From Greenland to Mediterranean. Fossil in English Coralline Crag and the older glacial clay beds of Norway. (W.) Funchal, 50 fms. —I think it just possible that my specimens may belong to Müller's species (which finds representation under somewhat diverse figures), and cannot take the responsibility of describing the Madeira species as new on the strength of merely two specimens, obviously of one species, but of which one is little more than embryonic and the other is slightly chipped. At the same time I greatly doubt whether they can be left under this name: their spire is too high, the corner of the outer lip droops too far below the plane of the apex, and the sculpture is too fine, too uniform, and too sparse to suit Müller's species.
240. *Philine trachyostraca*, 1897, Watson, *antea*, p. 236.
241. *Pinna rudis*, 1767, Linné, Syst. Nat. p. 1159: Gwyn Jeffreys, B. C. IV. 99, frontispiece & iii. 1; & v. 170, xxvi. *Hab.* From Great Britain to Mediterranean and Canaries. (M., L., Jn., W.) Everywhere; common.
242. *Pleurobranchus Dautzenbergi*, 1897, Watson, *antea*, p. 239.
243. *Pleurobranchus Loweii*, 1897, Watson, *antea*, p. 240.
244. *Pleurobranchus plumula*, 1803, Montagu, Test. Brit. I. 214, xv. 9, vignette ii. 5; Gwyn Jeffreys, B. C. V. 11, xcvi. 4. *Hab.* From Bohuslän, Sweden, to the Ægean. (Jn., W.)—

This species is poorly represented by two small rather damaged shells and a somewhat broken but well-grown specimen whose dorsal margin-line is straighter than usual, and in that respect resembles *P. brevifrons*, Phil., which, however (*f.* Monterosato), cannot reckon as a species.

245. *Pleurotoma (Mangelia) anceps*, 1830, Eichwald, Naturhist. Skiz. Lithauen &c. p. 225; Gwyn Jeffreys, B. C. (as *Defrancia teres*) iv. 362, & v. 219, lxxxviii. 5. *Hab.* From Lofotens to Mediterranean and Canaries. (M., Jn., W.) Funchal, Punta de São Lourenço, 30 to 40 fms. Not common.
246. *Pleurotoma (Mangelia) gracilis*, 1803, Montagu (as *Murex*), Test. Brit. p. 267, xv. 5; Gwyn Jeffreys, B. C. iv. 363, v. 219, lxxxviii. 6. *Hab.* Gt. Britain to Mediterranean and Canaries. (M., L., N., Jn., W.) From Magdalena to Punta de São Lourenço. Common.
247. *Pleurotoma (Clathurella) histrix*, 1832, Cristofori & Jan, Catalogus Conch. Foss. p. 10; Gwyn Jeffreys, Ann. & Mag. Nat. Hist. ser. 4, vi. 82; Brugnone, Pleur. Foss. Palerm. p. 28, i. 21; Bellardi, Moll. Terz. Piemonte, vol. II. 266; Monterosato, Enumeratio, p. 46. *Hab.* Mediterranean. (Jn., W.) Funchal, Punta de São Lourenço. Very abundant.
248. *Pleurotoma (Mangelia) incrassata*, 1837, Dujardin, Mém. Tour. p. 292, xx. 28; Philippi, Enumeratio, II. 168, xxvi. 6. *Hab.* Mediterranean. (Jn., W.) Funchal, Punta de São Lourenço. Rare.
249. *Pleurotoma (Clathurella) Leufroyi*, 1828, Michaud, Bull. Soc. Linn. Bord. II. 121, i. 5, 6; Gwyn Jeffreys, B. C. iv. 366; & v. 219, lxxxix. 1. *Hab.* From Norway to Mediterranean and Canaries. (Jn., W.) Funchal, Punta de São Lourenço, Porto Santo. Very abundant.
250. *Pleurotoma (Clathurella) linearis*, 1803, Montagu (as *Murex*), Test. Brit. i. 261, ix. 4; Gwyn Jeffreys, B. C. iv. 368, vii. 1; & v. 220, lxxxix. 2. *Hab.* From Iceland and Northern Norway to Mediterranean and the Canaries, (M., L., W.) From Funchal to Punta de São Lourenço and Porto Santo. Very abundant.
251. *Pleurotoma (Mangelia) nebula*, 1803, Montagu (as *Murex*), Test. Brit. p. 267, xv. 6; Jeffreys, B. C. iv. 384; & v. 220, xci. 1. *Hab.* From North Norway to Mediterranean and

- Canaries. (M., L., N., Jn., W.) Everywhere; very abundant. Mr. Johnson mentions having got it from 30 fms.
252. *Pleurotoma (Clathurella) purpurea*, 1803, Montagu (as *Murex*), Test. Brit. p. 260, ix. 3: Gwyn Jeffreys, B. C. iv. 373; & v. 220, lxxxix. 5, 6. *Hab.* From Gt. Britain to Mediterranean and Canaries. (M., L., W.) Everywhere; abundant.
253. *Pleurotoma (Clathurella) reticulata*, 1804, Renieri (as *Murex*), Tav. Alfab. p. 2: Gwyn Jeffreys, B. C. iv. 370, & v. 220, lxxxix. 3, 4. *Hab.* From Norway to Mediterranean. Everywhere; common.
254. *Pleurotoma (Mangelia) rugulosa*, 1844, Philippi, Enumeratio, II. 169, xxvi. 8: Gwyn Jeffreys, B. C. iv. 381; & v. 220, xc. 4. *Hab.* S.W. England to Mediterranean. (L., Jn., W.) Very abundant.—This is the species which Monterosato (*Nomenclatura*, p. 130) identifies as *Mangelia Stosiciana*, Brus., Jour. de Conch. 1869, p. 235.
255. *Pleurotoma (Mangelia) septangularis*, 1803, Montagu (as *Murex*), Test. Brit. p. 260, ix. 5: Gwyn Jeffreys, B. C. iv. 390; & v. 222, cxi. 5. *Hab.* From South Norway to Madeira and Canaries. (M., L., Jn., W.) Everywhere; very abundant.
256. *Pleurotoma (Mangelia) striolata*, 1836, Scacchi, Catalogus, p. 12; Philippi, Enumeratio, II. 168, xxvi. 7: Gwyn Jeffreys, B. C. iv. 376; & v. 220, xc. 1. *Hab.* From Norway to Mediterranean and Canaries. (M., L., N., Jn., W.) Everywhere; extremely abundant. Johnson mentions having got it in 30 fms.
257. *Pleurotoma (Mangelia) Vauquelinii*, 1826, Payraudeau, Moll. Corse, p. 145, vii. 14, 15; Kiener, Iconog. vol. v. Pleurot. p. 76, xxvi. 2; Weinkauff, Conch. Mittelm. II. 166; Kobelt, Prodröm. Moll. Mar. Europ. p. 141. *Hab.* Mediterranean. (M., L., Jn., W.) Everywhere; abundant.
- Poromya granulata*.—This species, as represented by a single valve, appears in McAndrew's List, p. 37, but it is not to be found in his collection either at the British Museum or at Cambridge, and no one else has met with it in Madeira.
258. *Plocamophorus maderæ*, 1842, Lowe (as *Peplidea*), P. Z. S. p. 51. (L.) Gorgulho Bay.
259. *Psammobia costulata*, 1822, Turton (as *Tellina*), Conch. Dic. p. 87, vi. 8: Gwyn Jeffreys, B. C. II. 394; & v. 187, xlii. 2.

- Hab.* From Norway to Mediterranean and Canaries. (M., L., W.) Everywhere; very common.
260. *Psammobia ferroensis*, 1782, Chemnitz (as *Tellina*), Conch.-Cab. VI. 99, x. 91: Gwyn Jeffreys, B. C. II. 396; & v. xlii. 3. *Hab.* From Iceland to Mediterranean and Canaries, and fossil from the later Italian Tertiaries. (N.) Senhor Nobre alone has been fortunate enough to secure this species: "Dredged at Caniçal."
- Pseudomurex*, see *Murex*.
261. *Purpura hæmastoma*, 1767, Linné (as *Buccinum*), Syst. Nat. p. 1202; Philippi, Enumeratio, I. 218, & II. 187, xxvii. 2. Mediterranean to Senegal (see Adanson, as *Purpura Sakem*, p. 100, vii. 1), Cape de Verdes (Bowditch, p. 242), Lagos (E. A. Smith, P. Z. S. 1871, p. 732). (L., N., Jn., W.) Everywhere; very common.
- Pyrula*, see *Murex*.
262. *Ranella (Aspa) marginata*, 1788, Gmelin (as *Buccinum*), Syst. Nat. p. 3486. no. 63; Martini (as *Utriculus fimbriatus-dentatus*), Conch.-Cab. III. 425, pl. cxx. 1101-2; Sowerby, Genera, II. pl. cciii. f. 2; Kiener (as *R. lævigata*), Iconog. VII. p. 34, xiii. 2; Deshayes (*R. lævigata*), Encycl. III. 882; Lamarck (*R. lævigata*), An. s. Vert. VII. 154, 2nd edit. (Deshayes) IX. 550; Küster (*R. lævigata*), Conch.-Cab. 2nd edit., III. pt. 2, p. 154, xxxix a. 8; Hörnes (*R. lævigata*), Foss. Moll. Wien. Bass. I. 214, xxi. 7-11; Seguenza (*R. marginata*), Formazioni Terz. p. 108. *Hab.* Canaries and N.W. Africa, but best known as a fossil. (L., W.) Funchal, Porto Santo. Living, but rather rare.
263. *Ranella reticularis*, 1780, Born (as *Murex*), Mus. Vind. p. 300, pl. xi. 5; Lamarck (as *R. gigantea*), An. s. Vert. VII. 150, 2nd ed. (Deshayes) IX. 540; Reeve, Conch. Icon. vol. II. sp. 3; Philippi, Enumeratio, I. 211, & II. 183. *Hab.* From Bay of Biscay to Mediterranean. (L., N., Jn., W.) Porto Santo, Funchal. Rare.—This is *Murex olearium* of Linné's 10th, but not of his 12th edition.
264. *Ranella scrobiculator*, 1767, Linné (as *Murex*), Syst. Nat. p. 1218; Adanson, Sénégal (as "Jabik"), p. 121, pl. viii. 13; Deshayes (as *Triton*), Encycl. III. 1056, pl. cccciv. 3; d'Orbigny (as *R. abbreviata*), Moll. Canar. p. 94. *Hab.* Mediterranean to Senegal. (L., N., Jn., W.) From Gorulho Bay to Punta de São Lourenço. Abundant.

265. *Ranella Thomæ*, 1853, d'Orbigny, Moll. Cuba, II. 164, xxiii. 23. *Hab.* Island of St. Thomas, W. Indies. (Jn., W.) Ponta de São Lourenço and Porto Santo; 5 full-grown (3 living) and 4 young shells. There are 2 specimens in the Brit. Mus. from the Cape Verd Is.—I have failed to trace this species to 1846, to which year d'Orbigny ascribes it. It does not occur in his Amér. Méridion. For note on the species, see Watson, 'Challenger' Report, p. 400.
266. *Ringicula auriculata*, 1811, Ménard (as *Marginella*), Ann. Mus. XVII. 331; Philippi, Enumeratio, I. 231, II. 198, xxviii. 13; Morelet, Jour. de Conch. 1878, p. 275, v. 14; Watson, Jour. de Conch. 1878, p. 312, x. 4. *Hab.* Bay of Biscay to Mediterranean. (M., L., N., Jn., W.) Everywhere; extremely abundant.
267. *Ringicula Someri*, 1867-71, de Folin, Fonds d. l. Mer, I. pt. 1, p. 14, i. 7; Morelet, Monog. Ringicula, Jour. de Conch. 1878, p. 128, v. 8. *Hab.* Cape Verd Is. (N.)—I give this species entirely on the authority of Senhor Nobre. It is one I have not seen, and of which I cannot judge. Among the very great number of specimens of *Ringicula* collected in Madeira I have never seen any variety on which to found a species, and indeed the peculiarities obvious in the figures of *R. Someri* are exactly those of the immature shell of *R. auriculata*.
268. *Rissoa (Onoba) abjecta*, 1873, Watson, Mad. Moll., P. Z. S. p. 385, xxxvi. 23; Weinkauff, Conch.-Cab. 2nd ed. I. pt. 22, p. 164, xx. 15. *Hab.* Madeira. (W.) Funchal. One specimen, now lost.
269. *Rissoa (Cingula) albugo*, 1873, Watson, P. Z. S. p. 379, xxxv. 17; Wienkauff, Conch.-Cab. 2nd ed. I. pt. 22, p. 150, xviii. 9. (Jn., W.) Everywhere; abundant.
270. *Rissoa (Alvania) aurantiaca*, 1873, Watson, P. Z. S. p. 367, xxxiv. 3; Weinkauff, Conch.-Cab. 2nd ed. I. pt. 22, p. 145, xviii. 1. (Jn., W.) Everywhere abundant.—The *R. aurantiaca* of Brusina is (*f.* Monterosato) *Barleeia rubra*, Mont.
271. *Rissoa (Cingula) callosa*, 1868, Manzoni, Jour. de Conch. pp. 166 & 214, x. 3; Weinkauff, Conch.-Cab. 2nd ed. I. pt. 22, p. 153, xviii. 14, 15. (Jn., W.) Funchal eastwards to Ponta de São Lourenço and at Porto Santo. From 30 fms. upwards to the shore.—The identification of this species is

- that of Mr. McAndrew. He was kind enough to send me specimens of Manzoni's species, but they were too much rubbed to render independent estimate possible. The figures of the species in the 'Journal de Conchyliologie' (*l. c.*) are not good, and as reproduced in the 'Conchylien-Cabinet' (*l. c.*) and in Tryon's 'Manual' (ix. 350, lxxv. 6) have still less character.
272. *Rissoa (Alvania) canariensis*, 1839, d'Orbigny, Moll. Canar. p. 78, vi. 5-7; Watson, P. Z. S. 1873, p. 376, xxxv. 13; Weinkauff, Conch.-Cab. 2nd ed. i. pt. 22, p. 118, iii. 19, 20. *Hab.* Mediterranean to Canaries. (L., Jn., W.) Everywhere; very abundant. Semifossil in the Canigal beds.
273. *Rissoa (Alvania) cancellata*, 1778, da Costa (as *Turbo*), Brit. Conch. p. 104, viii. 6-9; Gwyn Jeffreys, B. C. iv. 8; & v. 207, lxiv. 3; Watson, P. Z. S. 1873, p. 367, xxxiv. 2. *Hab.* From Gt. Britain to Mediterranean, Mogador, and Canaries. (M., L., N., Jn., W.) Everywhere; very abundant.
274. *Rissoa coriacea*, 1868, Manzoni, Jour. de Conch. pp. 166 & 242, x. 6; Watson, P. Z. S. 1873, p. 369, xxxvi. 27; Weinkauff, Conch.-Cab. 2nd ed. i. pt. 22, p. 141, xvi. 11. *Hab.* Mediterranean. (Jn., W.) From Funchal to Punta de São Lourenço, in 30 to 50 fms. Not common.
275. *Rissoa (Alvania) costata*, 1796, John Adams (as *Turbo*), Trans. Linn. Soc. III. 65, xiii. 13, 14; Gwyn Jeffreys, B. C. iv. 22; & v. 207, lxviii. 2; Watson, P. Z. S. 1873, p. 369, xxxiv. 5. *Hab.* From Norway to Mediterranean and Canaries. (Jn., W.) Everywhere; abundant.
276. *Rissoa (Alvania) costulata*, 1844, Alder, Ann. & Mag. vol. XIII. p. 324, viii. 8, 9; Gwyn Jeffreys, B. C. iv. 35; & v. 208, lxviii. 1; Watson, P. Z. S. 1873, p. 378, xxxv. 15. *Hab.* From Gt. Britain to Mediterranean. (L., Jn., W.) Everywhere; very abundant.
277. *Rissoa (Alvania) crispa*, 1873, Watson, P. Z. S. p. 369, xxxiv. 6; Weinkauff, Conch.-Cab. 2nd ed. i. pt. 22, p. 157, xix. 9, 10. (Jn., W.) From Funchal to Punta de São Lourenço and Porto Santo. Abundant.
278. *Rissoa (Cingilla) cristallinula*, 1868, Manzoni, Jour. de Conch. p. 5, x. 2; Weinkauff, Conch.-Cab. 2nd ed. i. pt. 22, p. 153, xviii. 13, 16. *Hab.* Canaries. (W.) Porto Santo. Two specimens.

279. *Rissoa (Cingula) depicta*, 1868, Manzoni, Jour. de Conch. p. 168, x. 4; Watson, P. Z. S. 1873, p. 382, xxxv. 20; Weinkauff, Conch.-Cab. 2nd ed. i. pt. 22, p. 152, xviii. 12. *Hab.* Canaries and Madeira. (Jn., W.) From Funchal to Punta de São Lourenço. Abundant.—This Madeiran species is quite obviously distinct from *R. semistriata*, Mont., and from *R. Galvagnæ*, Arad.; probably it is distinct from Manzoni's species and would be better called *R. punctifera*, as the Monog. of 1873 (*l. c.*) suggests, but satisfactory specimens of Manzoni's Canarian *R. depicta* are wanting for present revision. I leave it therefore as given in the P. Z. S. of 1873.
280. *Rissoa (Alvania) euchila*, 1886, Watson, P. Z. S. 1873, p. 377, pl. xxxv. 13 (as *R. novarensis*, but not that of von Frauenfeld as stated on the authority of Baron Schwarz v. Mohrenstern; the error was corrected in the 'Challenger' Report, and frequently since); Weinkauff, Conch.-Cab. 2nd ed. i. pt. 22, p. 147, xviii. 14. (Jn., W.) From Funchal to Punta de São Lourenço, at various depths. Abundant.
281. *Rissoa (Crossea) gibbera*, 1873, Watson, P. Z. S. p. 371, xxxiv. 7; Weinkauff, Conch.-Cab. 2nd ed, i. pt. 22, p. 158, xix. 11, 12. (Jn., W.) From Funchal to Punta de São Lourenço and Porto Santo. Abundant.—I do not believe this species to be a *Rissoa*, and doubt the claim of *Crossea* to be there admitted; but with entire ignorance of the animal, it is better *quieta non movere*.
282. *Rissoa (Pisinna) glabrata*, 1824, von Mühlfeldt (as *Helix*), Verhand. naturhist. Gesellsch. i. 218, iii. 10; Philippi (as *R. punctulum*), Enumeratio, i. 154, x. 11, & ii. 130; Watson, P. Z. S. 1873, p. 386, xxxvi. 24. *Hab.* From Bay of Biscay to Mediterranean and Canaries. (L., Jn., W.) From Funchal to Punta de São Lourenço. Abundant.
283. *Rissoa (Cingula) innominata*, 1897, Watson (1873 as *R. concinna*, Monterosato), P. Z. S. 1873, p. 381, xxxv. 19. (Jn., W.) Everywhere; abundant.—There is difficulty over both the differentiation and the name of this species. In 1869 the Marquis of Monterosato published a Mediterranean species as *R. concinna* (see Test. Nuov. Sicil. p. 8. no. 2). In 1875 (Nuov. Revista, p. 26) he ranked it as a var. of *R. Galvagni*, Arad.; but in 1878 (Enumerazione &c. p. 26) restored it to specific rank, but marked that the name

of *R. concinna* he had given it was preoccupied by Searles Wood for a different species; and in that belief in his 'Nomenclatura,' 1884, p. 66, he changed the name of his Mediterranean species to *R. beniamina*. But *R. concinna* was a mere catalogue-name which Searles Wood, when he came for the first time to describe the species, replaced by a true specific name, viz. *R. punctura*. *R. concinna* thus remains as the name of Monterosato's Mediterranean species. That name therefore I should have adopted here for the Madeiran species now in view but for the fact that Monterosato rejects my identification of the Madeiran species with his from the Mediterranean. The material for a thorough independent opinion I do not possess, and I am content to accept the judgment of an authority in every way so trustworthy—compelled, however, in these circumstances to propose for the Madeiran species the new name I have given above.

284. *Rissoa (Alvania) Leacocki*, 1873, Watson, P. Z. S. p. 367, xxxiv. 1; Weinkauff, Conch.-Cab. 2nd ed. i. pt. 22, p. 157, xix. 8. (L., Jn., W.) Gorgulho shore, Ponta de São Lourenço down to 45 fms., Porto Santo to 50 fms., Selvagens. Abundant.
285. *Rissoa (Pisinna) lincta*, 1873, Watson, P. Z. S. p. 387, xxxvi. 26; Tryon, Manual of Conch. ix. 341, lxix. 47. *Hab.* Madeira, Canaries. (W.) Funchal and Santa Cruz. Five specimens from Madeira, one from Tenerife.
286. *Rissoa (Alvania) Macandrewi*, 1868, Manzoni, Jour. de Conch. pp. 164 & 237, x. 1; Watson, P. Z. S. 1873, p. 372, xxxiv. 8; Weinkauff, Conch.-Cab. 2nd ed. i. pt. 22, p. 159, xix. 13-15. (Jn., W.) Funchal, Cruz Point. Very abundant.
287. *Rissoa (Onoba) Moniziana*, 1873, Watson, P. Z. S. p. 373, xxxiv. 10; Weinkauff, Conch.-Cab. 2nd ed. i. pt. 22, p. 146, xviii. 2, 3. (Jn., W.) From Funchal to Ponta de São Lourenço and Porto Santo. Abundant.

Rissoa (Alvania) Montagui, 1826, Payraudeau, Moll. Corse.—One specimen which I got in Funchal Bay, 50 fms., the ordinary anchorage and discharge for ballast, is, so far as I know, the only representative of this species found in Madeira; and I stated in P. Z. S. 1873, p. 390, that I did not on such evidence regard it as Madeiran. Weinkauff, however (Conch.-Cab. 2nd ed. i. pt. 22, p. 114), gives it as Madeiran, but without quoting any authority. It ought not without further evidence to reckon as Madeiran.

- Rissoa parva*, 1778, da Costa (as *Turbo*), Brit. Conch. (W.) Funchal, 50 fms. Two rubbed and broken specimens, doubtless not Madeiran, but brought in ballast.
288. *Rissoa (Cingilla) picta*, 1867, Gwyn Jeffreys, Ann. & Mag. p. 435; Watson, P. Z. S. 1873, p. 381, xxxv. 18; Weinkauff, Conch.-Cab. 2nd ed. i. pt. 22, p. 151, xviii. 10. (L., Jn., W.) Everywhere in shallow water. Very abundant.
- Rissoa (Setia) pulcherrima*, Gwyn Jeffreys; Watson, P. Z. S. 1873, p. 383, is now suppressed.
289. *Rissoa (Pisinna) sabulum*, 1842, Cantraine, Bull. Acad. Brux. ix. pt. 2, p. 348; Watson, P. Z. S. 1873, p. 387, xxxvi. 25. *Hab.* Mediterranean. (L., Jn., W.) In shallow water from Funchal to Punta de São Lourenço, Porto Santo, and the Selvagens. Abundant, but local. —It seems strange that both this species and *R. glabrata*, v. Mühl., should be identified with *R. punctulum*, Phil.
290. *Rissoa similis*, 1836, Scacchi, Cat. Reg. Neap. p. 14; Watson, P. Z. S. 1873, p. 379, xxxiv. 16, 16a (given then, as now, in utter disbelief in the whole group into which *R. parva* has been split, but given here because work such as Baron Schwarz v. Mohrenstern's great Monograph on the group cannot without impertinence be gainsaid except by work of equal fulness and care. The species, as well as the others of the group, is given here from his identification of specimens from Madeira). Mediterranean. (L., Jn., W.) Everywhere, including the Selvagens. Very abundant.
291. *Rissoa (Setia) spadix*, Watson, P. Z. S. 1873, p. 383, xxxvi. 22 (as *R. perminima*, Manzoni).—Weinkauff, Conch.-Cab. 2nd ed. i. pt. 22, p. 149, quotes my paper &c. under *R. perminima*, Manzoni, whose description he follows, but his figure 8, pl. xviii., is a copy of the Madeiran species now published (see Reeve, Conch. Icon. as, on my suggestion (*l. c.*), distinct); that is, the description refers to a different species from that of the figure. I adopted in the P. Z. S. paper of 1873 Dr. Gwyn Jeffreys's identification of my Madeiran species. I am still, as then, unfortunately without any specimens of Manzoni's Canarian species; but on fresh and very careful review I am satisfied that Manzoni's description will not cover the Madeiran species, and Mr. Edgar A. Smith's opinion confirmatory of my own is adverse to Dr. Jeffreys's identification.—(Jn., W.) From Funchal to Punta de São Lourenço and Porto Santo. Not abundant.

292. *Rissoa (Alvania) spreta*, 1873, Watson, P. Z. S. p. 373, xxxiv. 9. (Jn., W.) Santa Cruz, Machico, Labra, Punta de São Lourenço, Porto Santo; 20 to 50 fms. Excessively abundant.—This species was named, described, and figured as a possible variety of *R. Macandrewi*, but that opinion is really not tenable.
293. *Rissoa (Onoba) striata*, 1797–1800, John Adams (as *Turbo*), Tr. Linn. Soc. III. 66, xiii. 25, 26 : Gwyn Jeffreys, B. C. IV. 37; & v. 208, lxxviii. 2; Watson, P. Z. S. 1873, p. 368 (the var. *lirata*, Wats. l. c. pl. xxxiv. fig. 3). (Jn., W.) Everywhere, but never abundant.
294. *Rissoa* (?) *tenuisculpta*, 1873, Watson, P. Z. S. p. 389, xxxv. 28; Weinkauff, Conch.-Cab. 2nd ed. I. pt. 22, p. 148, xviii. 6, 7. *Hab.* From Bay of Biscay to Mediterranean, in very deep water. (W.) Funchal, Punta de São Lourenço. Very rare.
295. *Rissoa violacea*, 1814, Desmarest, Bull. Soc. Phil. p. 8, pl. i. 8; Watson, P. Z. S. 1873, p. 378, xxxv. 14; Weinkauff, Conch.-Cab. 2nd ed. I. pt. 22, p. 110, ii. 17–19, xvii. 4–6. *Hab.* From Norway to Mediterranean and Canaries. (M., Jn., W.) Porto Santo. There alone, but in abundance.—By a slip of the pen McAndrew gives this species both for the Canaries and for Madeira as *R. purpurea*.
296. *Rissoa Watsoni*, 1873, Schwarz v. Mohrenstern *in litt.*; Watson, P. Z. S. 1873, p. 375, pl. xxxv. fig. 11; Weinkauff, Conch.-Cab. 2nd ed. I. pt. 22, p. 174, xxii. 10, 11. (Jn., W.) Everywhere; abundant.
- Roxaniella*, see *Atys*.
297. *Saxicava (Saxicavella) carinata*, 1811, Brocchi (as *Mytilus*), Conch. Foss. Subappen. 1st ed. p. 585, & 2nd ed. II. 406, xiv. 16; Searles Wood, Crag Moll. II. 289, xxix. 5 a–e. *Hab.* Mediterranean, but existing from the later Tertiary period. (Jn., W.) Funchal, Cruz Point. Very local, but not rare.
298. *Saxicava (Saxicavella) plicata*, 1809, Montagu (as *Mytilus*), Test. Brit., Suppl. p. 70: Gwyn Jeffreys, B. C. III. 75, iii. 2; & v. li. 1 (as *Panopæa*). *Hab.* From the Shetlands to the Mediterranean. (L., Jn., W.) Everywhere; very abundant.
299. *Saxicava rugosa*, 1767, Linné (as *Mytilus*), Syst. Nat. p. 1156: Gwyn Jeffreys, B. C. III. 81, iii. 3; & v. 192, li. 3.

- Hab.* Nearly all seas. (M., L., Jn., W.) Everywhere; very abundant.
300. *Scalaria aspera*, 1897, Watson, *antea*, p. 251.
301. *Scalaria clathratula*, 1798, G. Adams, *Micr.* xiv. 19: Gwyn Jeffreys, B. C. iv. 96; & v. 210, lxxi. 5.—McAndrew gives this species from the Canaries, but not as, Dr. Jeffreys (*cf. ref.*) says, from Madeira, nor does any other collector seem to have found it. I got only ten young specimens from deepish water at five stations along the South-east coast from Funchal to Punta de São Lourenço and from Porto Santo.
302. *Scalaria cochlea*, 1844, G. B. Sowerby, *Thes. Conch.* i. pt. 4, p. 103 bis, xxxv. 142; Dunker, *Moll. Guinea*, p. 18, ii. 46-48. (M., L., Jn., W.) Paül do Mar, Funchal; Punta de São Lourenço; Porto Santo. Rare.
303. *Scalaria communis*, 1819, Lamarck, *An. s. Vert.* vi. 2nd pt. p. 225; Deshayes, *Encycl. Méthod.* iii. 951, pl. ccccli. 3; Gwyn Jeffreys, B. C. iv. 91, ii. 3; & v. lxxi. 3. *Hab.* From North Norway to the Mediterranean and the Canaries. (N., W.) Two bought specimens; having these, and considering the distribution of the species, I give it here on the authority of Senhor Nobre.
304. *Scalaria commutata*, 1877, Monterosato, *Ann. Mus. Genov.* ix. 420; Kiener, *Coq. Viv.* ix. pt. 2, pl. iii. 9 (as *S. monocycla*, but not that of Lamarck); Philippi, *Enum.* i. 167, x. 2, ii. 145 (as *S. pseudoscalaris*, but not that of Brocchi); Sowerby, *Thes.* i. pt. 4, p. 101, xxxvi. 131, 132, 134 (as *S. clathrus*, but not of Linné). *Hab.* From Normandy to Mediterranean. (L., N., Jn., W.) Porto da Cruz, Porto Santo. Neither common nor abundant.—The separation of this species from *S. pseudoscalaris*, Broc., is hardly justified by the absence of spines at the top of the longitudinal ribs; there is an indication, though weak, of such a development in the Madeiran form.
305. *Scalaria Fischeri*, 1897, Watson, *antea*, p. 252.
306. *Scalaria formosissima*, 1884, Jeffreys, 'Lightning' and 'Porcupine' *Moll.*, P. Z. S. p. 140, x. 10; Dautzenberg, *Moll. Açores Dragages 'Hirondelle'*, p. 56; Tryon, *Man. Conch.* ix. 62, xvii. 34. *Hab.* Porcupine Bank and Açores; North Atlantic, 340 to 1514 fms. (L.) Two specimens, without record of locality.

307. *Scalaria frondosa*, 1829, J. Sow. Min. Conch. vi. 149, dlxxvii. 1; Searles Wood, Crag Moll. i. 92, viii. 15; Tiberi (as *S. soluta*), Jour. de Conch. 1863, p. 159, vi. 3, & 1868, p. 84, v. 2.—I got this species in from 10 to 50 fms. on the whole S.E. coast of Madeira, from Funchal to Punta de São Lourenço, and also from Porto Santo; but the specimens were few and were all young shells. It did not occur in any other collection.

Shell pure ivory-white, glossy, hunchy, that is very broad in proportion to height, with well-rounded rather depressed whorls, a broad very fine pointed spire, distant strongish oblique ribs spiralled, without an umbilicus. *Sculpture*—*Longitudinals*: each whorl is obliquely crossed by about 14 strongish but not thick, projecting reverted ribs, which with a very marked sinistral twist run continuously from whorl to whorl down the spire; each rib runs out near the suture into a well-marked but generally bluntish tooth; besides the ribs the whole surface is finely scored, not roughened, by striæ, strong at the base of each rib. *Spirals*: the whole polished surface of the shell, including, but more faintly, the ribs themselves, is marked somewhat feebly by flatly rounded spiral threads, which, somewhat crowded on the earlier whorls, are on the later whorls parted by interspaces about as broad as the threads. *Colour* ivory-white, but a little translucent. *Whorls* probably 6 or 6½, but of full-grown shells only fragments presented themselves—the largest as measured below has 4½, exclusive of those of the embryo. *Suture* somewhat oblique, deeply impressed. *Apex* a very perfect small sharp cone of 4 complete whorls which are barely convex, with a linear suture: they are polished but microscopically cancellated by longitudinal and spiral scratches. *Mouth* a very little elliptical, rather small. *Outer lip* broadly expanded into a thin lamina, which is continued all round, leaving a kind of furrow, but no chink between it and the body-whorl. L. 0·21. B. 0·11.

I have described this species because the existing descriptions are so vague that identification is extremely difficult, as is proved by the ten synonyms quoted by Jeffreys, P. Z. S. 1884, p. 136. My own identification is somewhat of a guess, but if wrong can be checked from

the description and from the presence of the living form; and the presence of the species not only in the Mediterranean but in 547 fms. out in the Atlantic "off Madeira" (see Jeffreys, as quoted above) may justify what is at least better than the addition of still one other erroneous synonym.

308. *Scalaria (Cirsostrema) hellenica*, 1843, Forbes, *Ægean Invert.*, Brit. Assoc. Rep. p. 189; Philippi (as *Rissoa coronata*), Enum. Moll. Sic. II. 172, xxiii. 7. *Hab.* Mediterranean. (Jn., W.) Funchal, Ponta de São Lourenço, Porto Santo. Rather rare.—Dr. Gwyn Jeffreys quotes Hürnes as authority for this as a fossil of the Vienna basin; but I doubt the identification.
309. *Scalaria pulchella*, 1832, Bivona, Nuov. Moll. p. 11, i. 3; Philippi, Enumeratio, I. 158, x. 1; & II. 145. *Hab.* Mediterranean. (W.) Funchal, Santa Cruz, Caniçal. Rare, but fragments and young shells common.
310. *Scalaria rhips*, 1897, Watson, *antea*, p. 250.
311. *Scalaria Schulzii* (1868, but then the name alone was given by Weinkauff). 1844, Philippi (*Zeits. Malakol.* p. 108) gave this species, in error, as *S. multistriata*, Say. This error of identification on the part of Philippi, Weinkauff (after further error in the *Jour. de Conch.* 1862, p. 348) corrected in his *Conch. d. Mittelm.* 1868, vol. II. 239. *Hab.* Mediterranean. (Jn., W.) Funchal, Ponta de São Lourenço, Porto Santo. Not rare.—I here give this species on the authority of Dr. Gwyn Jeffreys. I feel doubtful of the identification, but have not material for an independent opinion on the Madeiran form.
312. *Scalaria Smithii*, 1897, Watson, *antea*, p. 253.
313. *Scalaria (Acirsa) subdecussata*, 1835, Cantraine, Bull. Acad. Brux. vol. II. 388; do. Malac. Médit. pl. vi. 24. *Hab.* Mediterranean to Madeira. (M., L., Jn., W.) From Magdalena to Ponta de São Lourenço and Porto Santo. Not abundant.
314. *Scalaria Turtonæ*, 1819, Turton (as *T. Turtonis*), *Conch. Dic.* p. 208, xxvii. 97: Gwyn Jeffreys, B. C. IV. 8, 9; & v. lxxi. 2. *Hab.* From Scotland to Mediterranean (not Norway). (M., L., Jn., W.) From Funchal to Ponta de São Lourenço and Porto Santo, but not abundant.
315. *Scaphander (Weinkauffia) diaphana*, 1839, Aradas and

- Maggiore (as *Bulla*), Cat. Conch. Sicil. p. 40; Forbes (as *Bulla turgidula*), Ægean Invert., Brit. Assoc. Rept. 1843, p. 188; Gwyn Jeffreys (as *Scaphander gibbulus*), Ann. & Mag. Feb. 1856, Mar. Tert. Piedm. p. 188, pl. ii. 20, 21; Vayssièrè (as *Weinkauffia diaphana*), Jour. de Conch. 1893, p. 90, iv. 1-8. *Hab.* Mediterranean. (W.) From Funchal to Punta de São Lourenço and Porto Santo. Rather rare.
316. *Schismope depressa*, 1897, Watson, *antea*, p. 263.
317. *Sepia officinalis*, 1767, Linné, Syst. Nat. p. 1095; Gwyn Jeffreys, B. C. v. 138, vi. 3. *Hab.* From Norway to Mediterranean. (Jn., W.) Rare.
318. *Siphonaria (Liriola) Gussonii*, 1829, O. G. Costa (as *Ancylus*), Oss. Is. Pant. &c. p. 20. no. 25; Philippi (as *Patella pellucida*), I. p. 111, vii. 7, & (as *P. Gussonii*) p. 255; & vol. II. p. 84. Cf. Dall, Jour. de Conch. 1878, p. 68, & 1879, p. 285, with many other valuable references given by the Marquis of Monterosato in his 'Nomenclatura,' p. 150. *Hab.* California, West Indies, and Mediterranean. (M., L., Jn., W.) Everywhere abundant.
319. *Skenea planorbis*, 1780, Fabricius (as *Turbo*), Faun. Grönl. p. 384; Gwyn Jeffreys, B. C. IV. 65, i. 4; & v. 202, lxx. 1. *Hab.* From Spitzbergen to Greenland and Florida and to the Mediterranean. (Jn., W.) All along the S.E. shore and Porto Santo. Very abundant.
320. *Solarium Architæ*, 1830, O. G. Costa, Cat. Test. Taranto, Acad. Sc. III. 40, & Fauna Napoli, p. 5, i. 1; Monterosato, Notiz. Solar. Medit. p. 10, figs. 21-23. *Hab.* From Bay of Biscay to St. Helena and Mediterranean. (Jn., W.) Funchal. Very rare.
321. *Solarium fallaciosum*, 1872, Tiberi, Bull. Mal. Ital. v. 35; Monterosato, Solarii Medit. p. 8, figs. 12-20. (= *Sol. siculum*, Cantr., probably, and to *S. stramineum*, auct. nec Lam.) *Hab.* Mediterranean. (Jn., W.) Very rare.—McAndrew's List gives this sp. (as *S. stramineum*) for Vigo, but not for Madeira, nor for the Canaries; and represented so poorly as are both this species and the preceding one, they must be held as a little doubtfully indigenous to Madeira.
322. *Solarium hybridum*, 1767, Linné (as *Trochus*), Syst. Nat. p. 1228; Lamarck, An. s. Vert. VII. 4; & 2nd ed. IX. 99; Philippi, Enumeratio (as *S. luteum*), I. 74, x. 127; Monterosato, Solarii Medit. p. 7, figs. 10, 11. *Hab.* Mediterranean

and St. Helena. (Jn., W.) Funchal to Punta de São Lourenço and Porto Santo.—Hanley (Ips. Lin. Conch. p. 315), whose opinion I forsake with extreme reluctance, so uniformly is he wise and right, regards Linné's *S. hybridum* as the "New Holland" species, which, though like, is quite distinct; but when Linné says expressly for *S. hybridum*, "habitat in mare Mediterraneo," the other identification, even though it were by Linné himself, must be dropped.

323. *Solarium mediterraneum*, 1872, Monterosato, Notiz. Foss. Mte. Pellegrino &c. p. 31, but without description, which followed in 1873, in Solar. Med. p. 6, figs. 8, 9. *Hab.* Mediterranean. (L., Jn., W.) Magdalena from 100 fms., living; Funchal; Labra. Rare.—This is the *S. simplex* of Tiberi, but not of Brown, which is a Pliocene fossil not found living in the Mediterranean. It is the *S. pseudoperspectivum* of Philippi but not of Brocchi, which also is a Pliocene fossil not now alive in the Mediterranean. It is the *S. sulcatum* of Costa but not of Lamarck, which (*teste* DeFrance) is a Grignon fossil = *S. patulum*, Lam. It is the *S. pulchellum* of Tiberi but not of Michelotti (*see* Trans. Royal Soc. Edin. xv. pt. 1, p. 215), a Miocene fossil. When one so endowed as Hörnes (Foss. Moll. Wien, i. 464), corroborated by the opinion of one possessing the opportunities and abilities of Monterosato, and followed by so capable a judge as Sacco (Moll. terz. Piemonte &c. pt. 12, p. 48), pronounces a definite judgment on this *Solarium* as being distinct from *S. pseudoperspectivum* of Brocchi, it would be an impertinence for an ordinary observer to set up an opposite opinion; but the two species have very much in common.
324. *Solecurtus antiquatus*, 1799, Pulteney (as *Solen*), Cat. Dors. p. 28, iv. 5; Gwyn Jeffreys, B. C. III. 6, i. 1; & v. 190, xlvi. 2. *Hab.* From Great Britain to the Mediterranean and Canaries. (M., L., Jn., W.) Everywhere; abundant. Johnson's specimens got at Funchal came from 30 fms.
325. *Solecurtus candidus*, 1804, Renieri (as *Solen*), Tav. Alf. Conch. Adr. p. 1; Gwyn Jeffreys, B. C. III. 3; & v. 190, xlvi. 1. *Hab.* From Shetland to the Mediterranean and Canaries. (M., L., Jn., W.) Not abundant, but found everywhere.
326. *Solemya togata*, 1793, Poli (as *Tellina*), Test. Sicil. II. 42, xv. 20; Philippi, Enumeratio, i. 15, i. 17; & II. 12 (as

Solenomya mediterranea, Lam.). *Hab.* From the Lusitanian coast to Mediterranean and Canaries. (W.) A fragment of a full-grown living specimen and some very young shells; but there are in the British Museum Madeiran specimens of McAndrew's dredging not enumerated in his List.

Spiralis, see *Limacina* and *Peracelis*.

327. *Spirula Peronii*, 1822, Lamarck, An. s. Vert. VII. 601; & 2nd ed. by Deshayes, XI. 280; Woodward, Manual, pp. 13 & 77, pl. i. 9. *Hab.* Oceanic. (L., W.) Caniçal, Porto Santo.—Linné (Syst. Nat. p. 279) called the species *Nautilus spirula*. By a mistake on their respective plates, but corrected in the text by both authors, de Blainville (Manuel de Mal. p. 381, pl. iv. 1 a, b) and Deshayes (Encyclop. Méthod. III. 975, pl. cccclxv. 5) introduced a good deal of confusion by calling the species *S. australis*.
328. *Spondylus Powellii*, 1892, E. A. Smith, Journal of Conchol. vol. VII. p. 70; McAndrew, Brit. Assoc. Rept. 1850 *passim* as *S. gædaropus*. *Hab.* From Madeira to Cape Verd. (M., L., N., W.) Funchal, Ponta de São Lourenço.—I assume that McAndrew and Nobre refer to this species under the name *S. gædaropus*, as certainly did both Mr. Lowe and myself till Mr. Smith brought better counsel.
- Tectura*, see *Acmaea*.
329. *Tellina balaustina*, 1767, Linné, Syst. Nat. p. 1119: Gwyn Jeffreys, B. C. II. 371; & v. 186, xl. 3. *Hab.* From Shetland to Canaries. (M., L., Jn., W.) From Magdalena to Ponta de São Lourenço. Very abundant.
330. *Tellina balthica*, 1767, Linné, Syst. Nat. p. 1120: Gwyn Jeffreys, B. C. II. 375, vii. 3; & v. 186, xl. 5. *Hab.* From Japan, Behring Sts., and N.W. America to Massachusetts; the Black Sea and Mogador. (W.) Porto Santo. Very rare and really admissible only on the ground of its distribution, my Madeiran acquaintance with it extending only to one valve.
331. *Tellina (Oudardia) compressa*, 1814, Brocchi, Conch. Foss. Subappen. II. 323, xii. 9; Hörnes, Foss. Moll. Wien, II. 89, xiii. 6; Cantraine, Bull. Acad. Brux. 1835, II. 398 (as *T. Brocchii*). *Hab.* N.W. coast of Africa. (L., N., Jn., W.) Everywhere; very abundant.
332. *Tellina donacina*, 1767, Linné, Syst. Nat. p. 1118: Gwyn Jeffreys, B. C. II. 386; & v. 187, xli. 4. *Hab.* Shetland to

- Mediterranean and Canaries. (M., L., N. Jn., W.) Very abundant everywhere. Johnson, from 30 fms., I from 100 fms.
333. *Tellina fabula*, 1781, Gronovius, Zoophyl. III. 263, xviii. 9: Gwyn Jeffreys, B. C. II. 382; & v. 186, xli. 2. *Hab.* From North Norway to Black Sea and Cape of Good Hope. (Jn., W.) Porto Santo. Rare. At Mogador it is very common.
334. *Tellina incarnata*, 1767, Linné, Syst. Nat. p. 1118; Hanley, Ipsa Linn. Conch. p. 39: Gwyn Jeffreys (as *T. squalida*, Pult.), B. C. II. 384, xli. 3. *Hab.* From Scotland to Mediterranean and Canaries. (M., L., N., Jn., W.) Everywhere; abundant.—This is the *T. incarnata* of Linné, Poli, Forbes & Hanley, and Römer, but not of Born nor Chemnitz nor Schröter &c.
- Tellina serrata*, 1814, Brocchi, Conch. Foss. Subappen. p. 510, xii. 1; Römer, Conch.-Cab. 2nd ed. x. pt. 4, p. 39, xii. 1-4. A species published by Senr. Nobre as Madeiran, but got there by no one else, would be entitled on the score of its distribution (from Portugal to Mediterranean, Canaries, and Mogador) to a place here had Senr. Nobre either got it himself or supplied information regarding it; but an exceptional species merely forwarded by a friend as "dredged at Funchal" really lacks certification.—I have just learned at the last moment from Canon Norman that he dredged this species in Madeira this spring.
335. *Tellina tenuis*, 1778, da Costa, Brit. Conch. p. 210: Gwyn Jeffreys, B. C. II. 379; & v. 186, xli. 1. *Hab.* From North Norway to Mediterranean, the Black Sea, and Mogador. (Jn., W.) Machico and Porto Santo. Not rare, but very local.
336. *Teredo bipennata*, 1819, Turton, Conch. Dic. p. 184, figs. 38-40; Forbes and Hanley, Brit. Moll. I. 80, i. 9-11: Gwyn Jeffreys, B. C. III. 182; & v. 194. *Hab.* From the Færoes to Mediterranean, also Vancouver Island and California. (L., Jn., W.) From Punta Delgada to Punta de São Lourenço and met with in floating timber.
337. *Teredo Dallii*, 1897, Watson, *antea*, p. 266.
338. *Teredo malleolus*, 1819, Turton, Conch. Dic. p. 255; also Dithyr. Brit. pl. ii. 19; Forbes & Hanley, Brit. Moll. I. 84, i. 12-14: Gwyn Jeffreys, B. C. III. 181; & v. 194. *Hab.* From W. Indies to Western Europe. (W.) Funchal, Porto Santo.
339. *Teredo megotara*, 1853, Hanley, in Forb. & Hanl. Brit. Moll. I. 77, i. 6, xviii. 1, 2: Gwyn Jeffreys, B. C. III. 176; & v.

- 194, liv. 4. *Hab.* North Atlantic on both sides from Spitzbergen and Greenland southward. (L., Jn., W.) From the Gorgulho and the Desertas (Bugio) to Punta de São Lourenço and Porto Santo.
340. *Teredo Stutchburii*, 1828, de Blainville, Dic. Scien. Nat. III. 268; G. B. Sowerby, Thes. Conch. v. 124, sp. 18, pl. ccclxix. 8; Fischer, Jour. de Conch. 1856, p. 255. *Hab.* Sumatra (*f.* Fischer, but it does not appear in v. Martens's &c. List). (W.) From Funchal to Punta de São Lourenço. Not common.
341. *Thracia papyracea*, 1791, Poli (as *Tellina*), Test. Sic. I. 43, xv. 14 & 18; Gwyn Jeffreys, B. C. III. 36, ii. 2; & v. 191, xlviii. 4, 4^a. *Hab.* From Iceland to Mediterranean and Canaries. (M., L., Jn., W.) From Magdalena (100 fms.) to Punta de São Lourenço and Porto Santo. Not abundant.
342. *Thracia pubescens*, 1799, Pulteney (as *Mya*), Cat. Dors. p. 27, iv. 6; Gwyn Jeffreys, B. C. III. 38; & v. 191, xlviii. 5. *Hab.* From English Channel to Mediterranean. (L., Jn., W.) From Funchal to Punta de São Lourenço. Not abundant.
- Tornatina*, see *Utriculus*.
343. *Triforis perversa*, 1767, Linné (as *Trochus*), Syst. Nat. p. 1231; Gwyn Jeffreys, B. C. (as *Cerithium*), IV. 261; & v. 217, lxxx. 5. *Hab.* From Norway to Mediterranean, the Canaries, Mogador, St. Helena, and California (*teste* E. A. Smith). (M., L., Jn., W.) Everywhere; enormously abundant.
- Triptera*, see *Cuwieria*.
344. *Triton chlorostoma*, 1822, Lamarck, An. s. Vert. VII. 185; & ed. 2, Desh. IX. 636; Quoy & Gaim. Astrol. II. 541, XI. 16, 17; Kiener, Iconog. vol. VIII. p. 19, XII. 2; Reeve, Icon. vol. II. VIII. 25; Kobelt, Conch.-Cab. 2nd ed. III. pt. 2, p. 161, XLII. 1, 2, 5, 6; Tryon, Manual, III. 13, VII. 47, 48. *Hab.* Red Sea (?); Isle de Bourbon (*teste* Deshayes and also Quoy & Gaimard); New Caledonia (?); Philippines (?); Central Pacific (?); Sandwich Islands (?); West Indies, Bermuda (*teste* Tristram). [*Note.*—Of these localities, two at least besides Madeira are trustworthy and establish a very remarkable habitat.] (L., Jn., W.) Paül do Mar, Magdalena (100 fms.), Punta de São Lourenço. Not common.
345. *Triton corrugatus*, 1822, Lamarck, An. s. Vert. VII. 181 & 2nd ed. Desh. IX. 628; Deshayes, Encycl. Méthod. III.

- 1056, ccccxvi. 3 *a*, *b*; Kiener, Iconog. vol. VIII. p. 14, viii. 1; Reeve, Iconog. II. pl. v. 15. *Hab.* From the Bay of Biscay to Mediterranean and Grand Canary. (L., N., Jn., W.) From Funchal to Punta de São Lourenço and Porto Santo. Not rare.
346. *Triton cutaceus*, 1767, Linné (as *Murex*), Syst. Nat. p. 1217: Gwyn Jeffreys, B. C. IV. 303, v. 4; & v. 218, lxxxiii. 4. *Hab.* From English Channel to Mediterranean, Mogador, and Canaries. (W.) Funchal, Porto Santo. Rare.
347. *Triton nodifer*, 1822, Lamarck, An. s. Vert. VII. 178; & 2nd ed. Desh. IX. 624: Gwyn Jeffreys, B. C. IV. 301; & v. 218, lxxxiii. 3. *Hab.* From English Channel to Mediterranean. (L., N., W.) Funchal and eastwards. Not uncommon.
348. *Triton olearium*, 1767, Linné (as *Murex*), Syst. Nat. ed. 12 (not ed. 10), p. 1216; Adanson (Le "Vojet"), Sénégal, p. 118, viii. 12; Chemnitz, Conch.-Cab. (as *Buccinum quinquantulare*), IV. 96, 97, cxxxi. 1052, 1053, 1054, 1056, and also XI. 115, xcxi. 1837-8; Deshayes (as *T. succinctus*), Encycl. Méthod. III. 1057, ccccxvi. 2; also in Lamarck, An. s. Vert. 2nd ed. IX. 628; Kiener, Iconog. (as *T. succinctus*), vol. VIII. 33, vi. 1; Reeve (*T. olearium*), Conch. Icon. II. Monog. pl. ix. 32. *Hab.* South America, Cuba, Mediterranean, Cape of Good Hope, Australia, New Zealand, Japan, and the Pacific; but v. Martens does not give it in the Indian Ocean. (M., L., N., Jn., W.) Funchal to Punta de São Lourenço. One specimen from Porto Santo presents the exact features of *T. martinianum*, d'Orb., from the West Indies. Not uncommon. [Note.—The *T. olearium* (*Murex*) of Linné's 10th ed. = *Ranella gigantea*, Lam., is *Murex reticularis*, Born.]
349. *Triton reticulatus*, 1826, de Blainville, Faun. franç. p. 118, iv. D. 5; Kiener, Iconog. VIII. 26, xviii. 3; Reeve, Conch. Icon. II. xvii. 72; Kobelt, Conch.-Cab. 2nd ed. III. pt. 2, p. 237, lxxv. 6, 7; Philippi, Enumeratio (as *Ranella lanceolata*), I. 211; & II. 183, xi. 28. *Hab.* Mediterranean and Senegal. (L.) One specimen dredged in Labra. Very doubtful.
350. *Triton tritonis*, 1767, Linné (as *Murex*), Syst. Nat. p. 1222; Born (as *Murex*), Index Mus. p. 315; Chemnitz (as *Buccinum*), Conch.-Cab. IV. 112, cxxxiv. 1277, cxxxv. 1282-3; Wood (as *Murex*), Ind. Test. pl. xxvii. 95; Fab. Columna

- (as *B. variegatum*), Aquat. Obs. p. 53, f. 4; Lamarck (as *T. variegatum*), An. s. Vert. VII. 178; & 2nd ed. Desh. IX. 623; Deshayes (as *T. variegatum*), Encycl. Méthod. III. 1054, plates vol. III. cccxxi. 2 a, b (the nomenclature of the plates being by Bory de St. Vincent, Aug. 1, 1824, the text by Deshayes in 1832); Philippi (as *T. tritonis*), Enumeratio, I. 212, & II. 183; Kiener, Iconog. (do.) vol. VIII. 28, ii.; Reeve, Conch. Icon. (do.) vol. II. i. 3 & ii. 3. (L., N., W.) Funchal, Piedade. Not very uncommon.
351. *Trochus (Clanculus) Bertheloti*, 1839, d'Orbigny (as *Monodonta*), Moll. Canaries, p. 81, vi. 17-20; Philippi, Conch.-Cab. 2nd ed. vol. II. pt. 3, p. 271, xxxix. 17; Fischer in Kiener, Iconog. vol. XI. p. 295, xcv. 1. *Hab.* Madeira. (M., L., N., Jn., W.) From the Gorgulho to Punta de São Lourenço and Porto Santo. Not abundant.—For the original definition of *Clanculus* by de Montfort see Conch. Syst. I. 191. Adams's definition I am unable to understand. The umbilicus in the *T. Bertheloti* is a true, not a "false" one, and though turreted like a corkscrew is perforated to the very apex. The one most prominent feature by which de Montfort differentiates the group is the umbilicus, and to alter his definition to "perforée ou non ombiliquée" is impossible.
352. *Trochus (Gibbula) Candei*, 1839, d'Orbigny, Moll. Canar. p. 82, vi. 21-23; Philippi, Conch.-Cab. 2nd ed. vol. II. pt. 3, p. 227, xxxiv. 15. *Hab.* Canaries. (L., N., Jn., W.) Everywhere; extremely common both in its typical form and in that of the umbilicated var. of *T. Saulcyi*, of which d'Orbigny made a separate species.
353. *Trochus (Trochocochlea) colubrinus*, 1849, Gould, Bost. Soc. Nat. Hist. III. 107; Exploring Exped., Shells, p. 183, fig. 223; Watson, 'Challenger' Report, p. 63. *Hab.* Canaries and Madeira. (L., N., Jn., W.) Everywhere; excessively common.—The name *T. Sauciatius*, Koch, as of earlier date, has been suggested for this species, but for Gould's species there is certainty, while for Koch's the habitat is unknown and the description—"centrum" of the base "vertieft und schwarz-rothgefleckt"—is quite inapplicable. Does any one know what Koch's species was? My lamented friend Dr. Fischer, whose knowledge and judgment were equally trustworthy, regarded (see

- Kiener, Iconog. p. 180) it as a variety of the variable and widespread *T. sagittiferus*, Lam. That is where I would place *T. colubrinus*; but abandoning Gould's species, of which we are certain, we drift into the *mare magnum* of mere opinion, and dealing here with the local fauna alone, I feel it best to rest on Gould's nomenclature.
354. *Trochus (Ziziphinus) conulus*, 1767, Linné, Syst. Nat. p. 1230; Philippi, Conch.-Cab. 2nd ed. II. pt. 3, p. 64, xiii. 8, 9; Fischer in Kiener's Iconog. vol. XI. p. 121, xl. 1, xlix. 1. *Hab.* From the Açores to Mediterranean and Canaries. (M., L., N., Jn., W.) Pretty common.
355. *Trochus (Ziziphinus) exasperatus*, 1777, Pennant, Brit. Zool. IV. 126; Gwyn Jeffreys, B. C. III. 324; & v. 203, lxiii. 3. *Hab.* From Scotland to Black Sea and Canaries. (M., L., N. Jn., W.) Everywhere; very abundant.
356. *Trochus (Ziziphinus) granulatus*, 1778, Born, Index Mus. p. 337, xii. 9, 10; Gwyn Jeffreys, B. C. III. 327; & v. 204, lxiii. 5. *Hab.* From the extreme S.W. of Scotland to Mediterranean and Canaries. (M., L., Jn., W.) From Funchal to Labra. Not uncommon.
357. *Trochus (Gibbula) magus*, 1767, Linné, Syst. Nat. p. 1228; Gwyn Jeffreys, B. C. III. 305; & v. 203, lxii. 1. *Hab.* From S.W. Sweden to Mediterranean and Canaries. (M., L., N., Jn., W.) From Funchal to Ponta de São Lourenço. Abundant.
358. *Trochus (Ziziphinus) striatus*, 1767, Linné, Syst. Nat. p. 1230; Hanley, Ipsa Lin. Conch. p. 321, pl. v. 7; Gwyn Jeffreys, B. C. III. 322; & v. 203, lxiii. 2. *Hab.* From Scotland to Mediterranean and Canaries. (M., L., N., Jn., W.) Everywhere; very abundant.
359. *Trochus (Ziziphinus) zizyphinus*, 1767, Linné, Syst. Nat. p. 1231; Gwyn Jeffreys, B. C. III. 330, vii. 4; & v. 204, lxiii. 6. *Hab.* From South Norway to Mediterranean and Canaries. (M., L., N., Jn., W.) Everywhere; pretty abundant.
360. *Trophon fusulus*, 1814, Brocchi (as *Murex*), Conch. Foss. Subap. 1st ed. p. 209, & 2nd ed. II. 199, viii. 9; Libassi (as *Murex Spadæ*), 1859, Conch. Foss. Palermo, p. 43, i. 29; Bellardi (as *Pollia*), Moll. terz. Pied. I. 169, xii. 4; Watson (as *Murex*), 'Challenger' Rep. p. 160; Kobelt (as *Trophon*), Jahrb. 1887, p. 120, v. 1. In existence from the Upper Miocene onwards. *Hab.* From the Bay of Biscay and

Açores to Mediterranean. (L., Jn., W.) *Labra* &c. Not rare.—The dentition of this mollusc excludes it, as Kobelt (*l. c.*) shows, from the genus *Pollia* as well as from *Murex*. With *Trophon* it is further connected by its longish, narrowish, bluntly-pointed, oval operculum, which, when seen in its place within the upturned mouth of the shell, has its apex in front towards the point of the mouth, a little incurved towards the pillar-lip, along which the later edge-layers of growth successively lie. In this connection it should be observed that in Adams's 'Genera' the opercula, when diversely ended, are turned upside down, and the consequent reversal of right and left side is sometimes corrected by the figure presenting the internal, not the external surface. This mistake is avoided in Woodward's most accurate 'Manual,' but it is widespread and sometimes very perplexing, even Philippi has not escaped it. Dr. Brot is nearly always right, as are also Dr. Kobelt and Dr. Fischer, though in the 'Manual' of the latter the different position of shells and opercula adopted in the "gravures" and in the "planches" is somewhat confusing.

361. *Trophon Loweii*, 1897, Watson, *supra*, p. 244.
362. *Truncatella subcylindrica*, 1767, Linné (as *Helix*), Syst. Nat. p. 1248. no. 696 (see Hanley, Ips. Lin. Conch. p. 579); Draparnaud (as *Cyclostoma truncatulum*), Moll. p. 40, i. 28–31; Risso (as *T. truncatula*), Hist. iv. 125, fig. 5; Lowe (as *T. truncatula*), Zool. Journ. v. 280, xiii. 13–18; Philippi (as *Rissoa*), Enumeratio, i. 151. 1, & (as *Truncatella*) vol. II. 133, xxiv. 3; Deshayes (as *Truncatella truncatula*) in Lamarek, An. s. Vert. 2nd ed. VIII. 362 (note); Pfeiffer, Monog. Auric. pp. 186 & 188; Gwyn Jeffreys, B. C. iv. 85, ii. 2; & v. 209, lxxi. 1. *Hab.* From Scotland to Mediterranean and Canaries. (L., Jn., W.) Wherever the shore is shingly, even at the Selvagens.
363. *Truncatella Loweii*, 1852, Shuttleworth, Diag. New Moll. p. 12; Pfeiffer, Monog. Pneumonopomorum, Suppl. 1, p. 7, do. 2, p. 5, do. 3, p. 11, no. 14. *Hab.* Tenerife. (W.) Madeira.
- Turbo* and *Turbonilla*, see *Odostomia*.
364. *Turbo (Bolina) rugosus*, 1767, Linné, Syst. Nat. p. 1234; Fischer in Kiener, Iconog. vol. xi. p. 41, xv. 1. *Hab.* From Bay of Biscay to Mediterranean, Mogador, and

- Canaries. (M., L., N., Jn., W.) Everywhere very abundant. The subgeneric name is given above as Rafinesque (Ann. Nat. p. 144) wrote it in 1815. Risso, following, also wrote it thus in 1826. The form *Bolma* was a mistake of Gray.
365. *Turritella terebra*, 1767, Linné (as *Turbo*), Syst. Nat. p. 1239: Gwyn Jeffreys, B. C. iv. 80, ii. 1; & v. 209, lxx. 6-11. *Hab.* From the Lofotens to the Mediterranean. (W.) Funchal; two specimens.—I give this species with a good deal of hesitation, but I cannot admit either *T. triplicata*, Broc., or *T. bicingulata*, Lam., both of which have been brought to me as Madeiran: the former is very common at the Canaries.
366. *Tyrodina citrina*, 1833-4, Joannis in Guérin's Mag. de Zool. t. pl. xxxvi. 1; Vayssière, Moll. Opisth. Marseille, Ann. Musée, 1885, p. 151, v. 130-136. *Hab.* Mediterranean to St. Helena. (Jn., W.) Gorgulho, Funchal, Ponta de São Lourenço. A good many young shells. One full-grown specimen I secured in a rock-pool near the Gorgulho fort, west of Funchal, after watching it for a considerable time. As Philippi remarked, its rapid movements are extremely unlike those of *Patella*. The broad membranaceous edge of the shell flaps about in the moving water like a light cloak in a breeze. The bright yellow colour of the animal and of the integument of the shell (which suggested its very graphic name) turns to deep brown in drying or even when preserved in spirit. Rubbed specimens are white with a yellow tint. Adams's (Genera, II. 42, lxi. 4) description and figure are both inadequate and incorrect. Vayssière's description in all its details, as well as his figure of the animal and of the egg-ribbon, are admirable; although the last when I examined it, freshly deposited, seemed flatter than is suggested by his term "demi-cylindrique."
367. *Tyrodina Rafinesquii*, 1836, Philippi, Enumeratio, t. 114, vii. 8, & II. 89; Cantraine, Mal. Méd. p. 94. *Hab.* Mediterranean. (W.) One specimen.—The form of the shell in this species is so distinct from that in *T. citrina*, that I find it impossible to accept Vayssière's suggestion and unite the two. I do not gather from his remarks that he has ever seen Philippi's species, whose figure, however, markedly shows the difference.

Tornatina, see *Utriculus*.

Among the shells of Mr. Johnson's collection there occurred a specimen

- of *Ungulina oblonga*, Lam. An. s. Vert. v. 487, & 2nd ed. vi. 122, also Sowerby's Genera, pl. xiv.; "from Porto Santo," but as he had marked the specimen "very doubtful," I have not put it in the List.
- Utriculus mammillatus*, Phil. (as *Bulla*). — I exclude this species. McAndrew does not give it from Madeira, and in his own copy of his Brit. Assoc. List for the Canaries he corrects and initials the correction from *Cylichna mammillata* to *C. truncata* (which = *U. truncatulus*). Dr. Gwyn Jeffreys has indeed published it (B. C. v. 223) as Madeiran on the strength of shells I sent him, but the identification of these as *U. mammillatus* was not mine.
368. *Utriculus nitidulus*, 1846, Lovén (as *Cylichna*), Index Moll. Scand. p. 16: Gwyn Jeffreys (as *Cylichna*), B. C. iv. 412; & v. 222, xciii. 2; G. O. Sars, Moll. Norv. p. 286, xvii. 19 & xxvi. 3. *Hab.* From north of Norway to Mediterranean. (W.) Three specimens.
369. *Utriculus tornatus*, 1883, Watson, Moll. 'Challenger,' Linn. Journ., Zool. vol. xvii. 335; 'Challenger' Mollusca Report, xv. 651, xlviii. 10. *Hab.* Tenerife and Madeira. (W.) Everywhere in great numbers.
370. *Utriculus truncatulus*, 1792, Bruguière (as *Bulla*), Encycl. Méthodique, I. 377. no. 10: Gwyn Jeffreys, B. C. iv. 421; & v. 223, xciv. 2: G. O. Sars, Moll. Norv. p. 285, xvii. 18, xxvi. 2. *Hab.* From North Norway to Mediterranean and Canaries. (Jn., W.) Funchal, Porto da Cruz, Porto Santo. Rather abundant; the var. *pellucida*, Brown, Ill. p. 4, xix. 45, 46, mixed up with the type form.
371. *Umbrella mediterranea*, 1819, Lamarck, An. s. Vert. vi. 1st part, p. 343, 2nd ed. Desh. vii. 574; Delle Chiaje, Mem. iv. 200. no. A. lxix. 5 & 19; Delessert, pl. xxiii. 12: Philippi, Enumeratio, I. 113, vii. 11; & II. 88: Vayssièrè, Moll. Opisthobr. p. 133-4 &c. pl. vi. 137-150. *Hab.* Mediterranean, Canaries, and St. Helena (?). (L., W.) Gorgulho, Funchal, Ponta de São Lourenço, 30 to 40 fms., and Caniçal shore. Rare.
372. *Venerupis irus*, 1767, Linné (as *Donax*), Syst. Nat. p. 1128: Gwyn Jeffreys, B. C. III. 86, iii. 4; & v. li. 5. *Hab.* From South England to Mediterranean, Mogador, and Canaries. (M., L. N., Jn., W.) Everywhere; abundant.
373. *Venus casina*, 1767, Linné, Syst. Nat. p. 1130: Gwyn Jeffreys, B. C. II. 337; & v. 184, xxxviii. 5. *Hab.* From Norway to Mediterranean and Canaries. (M., L., N., Jn., W.) Everywhere; very abundant.
374. *Venus (Cytherea) chione*, 1767, Linné, Syst. Nat. p. 1131:

- Gwyn Jeffreys, B. C. II. 332; & v. 184, xxxviii. 3. *Hab.* From South England and Ireland to Mediterranean. (M., L., N., Jn., W.) Everywhere; very abundant.
375. *Venus effossa*, 1836, Bivona in Philippi's Enumeratio, I. 43, iii. 20; Pfeiffer, Conch.-Cab. 2nd ed. XI. 197, xxxii. 1-4; Weinkauff, Conch. Mittelm. I. 115. *Hab.* Mediterranean and St. Helena. (L., Jn., W.) Magdalena, Ponta de São Lourenço, Porto Santo. Not rare, but very local.
376. *Venus fasciata*, 1778, da Costa (as *Pectunculus*), Brit. Conch. p. 188, xiii. 3; Gwyn Jeffreys, B. C. II. 334, vi. 5; & v. 184, xxxviii. 4. *Hab.* From the North Cape, Norway, to the Ægean, and existing since the later Tertiary period. (N.) For its right of citizenship in Madeira, see Watson, Journ. of Conch. 1890, pp. 374 & 376.
377. *Venus (Cythrea) rudis*, 1791, Poli, Test. Sicil. II. 94. 15, 16; Philippi (as *Cytherea venetiana*), Enum. I. 40, iv. 8; & II. 32. *Hab.* From Bay of Biscay and Mediterranean to Black Sea, Canaries, and St. Helena. (L., Jn., W.) Everywhere; very abundant.
378. *Venus verrucosa*, 1767, Linné, Syst. Nat. p. 1130; Gwyn Jeffreys, B. C. II. 339; & v. 186, xxxviii. 6. *Hab.* From Scotland to the Mediterranean, the Cape of Good Hope, and the Indian Ocean. Extant since the later Tertiary period. (M., L., Jn., W.) Gorgulho to Ponta de São Lourenço, and Porto Santo. Abundant.
379. *Vermetus gigas*, 1832, Bivona, Effem. Scient. & Lett. p. 5, ii. 1, 2; Philippi, Enumeratio, I. 170, ix. 18 a & b; Monterosato, Monog. Vermet. Medit. p. 30, iii. 1-3. *Hab.* Mediterranean. (L., Jn., W.) Madeira.
380. *Vermetus rugulosus*, 1878, Monterosato, Enumeraz. & Synon. p. 29; id. Monogr. Vermet. Medit. p. 22, pl. i. 8. *Hab.* Mediterranean. (Jn., W.) Madeira.
381. *Vermetus triquetter*, 1832, Bivona, Effem. Scient. & Lett. p. 6; Philippi, Enumeratio, I. 170, ix. 21; Monterosato, Vermet. Medit. p. 26, ii. 4-9. *Hab.* Mediterranean. (L., Jn., W.) Madeira.
Weinkauffia, see *Scaphander*.
382. *Xylophaga dorsalis*, 1819, Turton (as *Pholas*, but in 1822 amended to *Xylophaga*), Conch. Dic. p. 185; Gwyn Jeffreys, Brit. Conch. III. 120, iv. 3; & v. 193, liii. 4. *Hab.* From North Norway to Mediterranean. (W.) Funchal, Cruz Point, Ponta de São Lourenço. Abundant.

The following species, of which I dredged shells in Madeira, have no claim to be included in the above list:—

Off Funchal, even to 50 fms.

Madeiran Land-shells.

Achatina acicula.
Helix pulchella.
Limnæa truncatula.
Planorbis glaber.
Pupa anconostoma.

Foreign Land-shells
not found in Madeira.

Assiminea Grayana.
Bythinia tentaculata.
Limnæa peregra.
Neritina fluviatilis.—A species also
obtained by Johnson.
Pisidium sp.
Planorbis carinatus.
— *intermedius* = *submarginatus*.
— sp.
Valvata piscinalis.

Off Santa Cruz, 15 to 20 fms.

Achatina acicula.
Ancyclus fluviatilis.
Craspedopoma Lyonnettianum.
Helix cellaria.
— *crystallina*.

Helix madeirensis.
— *pulchella*.
— *pusilla*.
— *vulgata*.
Hydrobia similis.
Limnæa truncatula.
Pupa anconostoma.

Off Machico, 15 to 20 fms.

Ancyclus fluviatilis.
Helix vulgata.
Hydrobia similis.
Limnæa truncatula.
Pupa anconostoma.

Off Caniçal, 20 fms.

Achatina acicula.
Bulimus ventricosus.
Helix compacta.
— *paupercola*.
— *pisana*.
Pupa sp.

Off Ponta de São Lourenço.

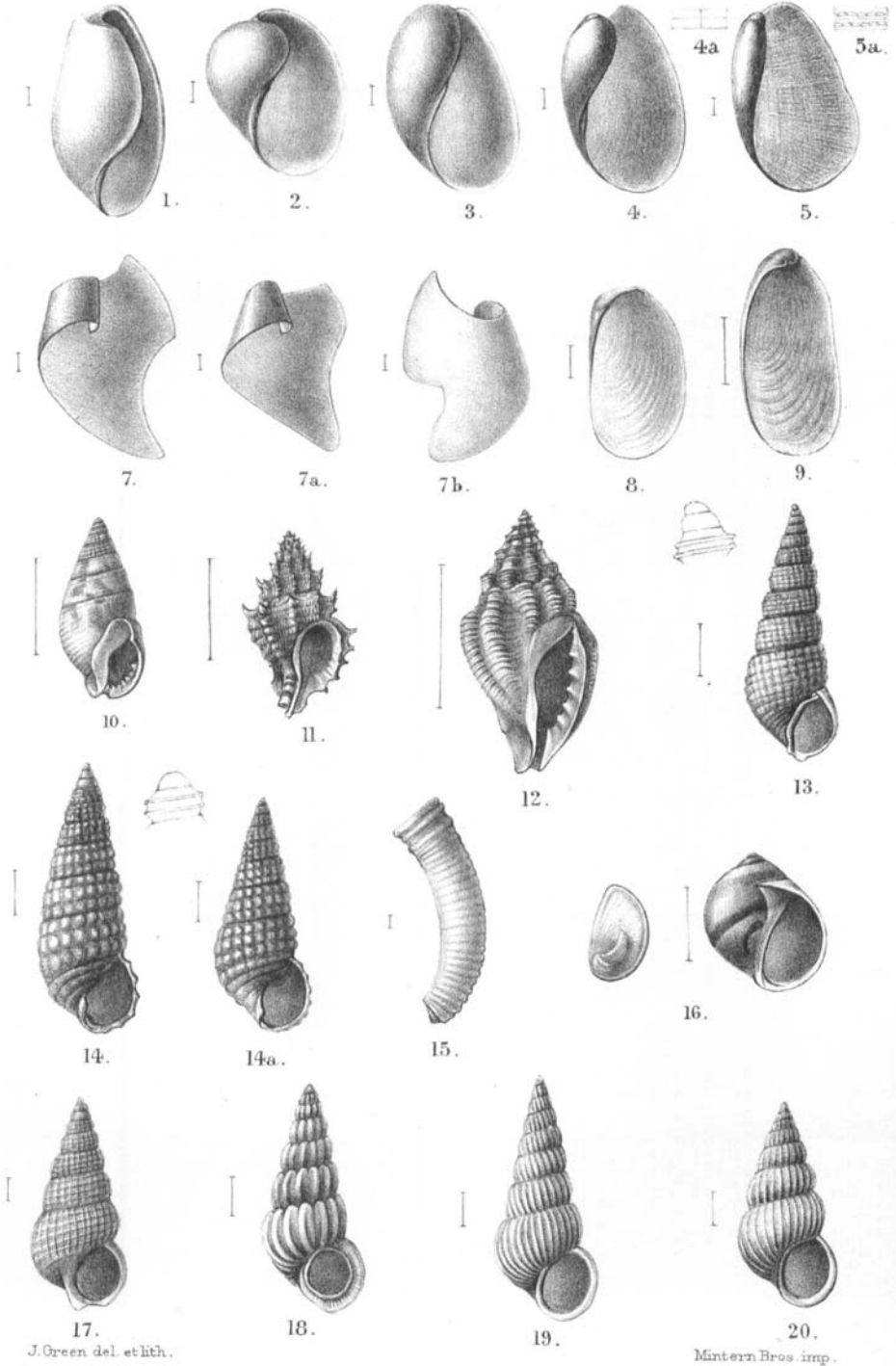
Clausilia exigua.
Helix compacta.
— *paupercola*.

Marine species dredged by me or brought to me as Madeiran, but which I reject:—

Actæon tornatilis.
Arca incongrua.
— *lactea*.
Bouchardia rosea.
Bulla striata.
Cardium edule.
— *magnum*.
— *medium*.
Cerithium vulgatum.
Conus mediterraneus.
Corbula gibba.
Crania anomala.
Crenella discors.
Crepidula gibbosa.
Cypræa lynx.
Eulima Staloi.—See Jeffreys, P. Z. S.
1884, p. 368.
Hydrobia ulva.

Litorina litorea.
— *obtusata*.
Lucina Adansonii.
Modiolaria discors.
Murex brandaria.
Nucula nucleus.
Purpura lapillus.
Rissoa Montagui.
Terebra favat.
Trochus Eltonæ.
— *umbilicatus*.
Turritella bicingulata.
— *triplicata*.
Venus cancellata.
— *exspinata*.
— *gallina*.
— *striatula*.

Such a list as is here presented suggests the caution which should be exercised in working out the Molluscan fauna of this island.



NEW MOLLUSCA FROM MADEIRA.



21.



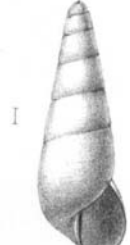
22.



23.



24.



25.



26.



27.



28.



29.



31.



32a.



32b.



32c.



34.



30.



33.



35a.



35b.



35c.

J. Green del. et lith.

Mintern Bros. imp.

NEW MOLLUSCA FROM MADEIRA.

EXPLANATION OF THE PLATES.

[The numbers beneath the figures correspond to those of the order of description in the text and of enumeration in the list on p. 233.]

PLATE 19.

- Fig. 1. *Cylichna spreta*.
 2. *Amphisphyræ flava*.
 3. *Philine complanata*.
 4. *Philine trachyostraca*.
 4 a. The same. Small portion of shell, highly magnified, showing sculpture.
 5. *Philine desmotis*.
 5 a. The same. Small portion of shell, highly magnified, showing sculpture.
 7, 7 a, 7 b. *Doridium maderense*.
 8. *Pleurobranchus Dautzenbergi*.
 9. *Pleurobranchus Lowei*.
 10. *Nassa antiquata*.
 11. *Murex (Ocinebra) medicago*.
 12. *Trophon Lowei*.
 13. *Bittium depauperatum*.
 14, 14 a. *Bittium incile*.
 15. *Cæcum atlantidis*.
 16. *Natica (Nacca) furva*.
 17. *Scalaria rhips*.
 18. *Scalaria aspera*.
 19. *Scalaria Fischeri*.
 20. *Scalaria Smithii*.

PLATE 20.

- Fig. 21. *Aclis vitrea*.
 22. *Aclis trilineata*.
 23. *Aclis tricarinata*.
 24. *Eulima fulva*.
 25. *Eulima sordida*.
 26. *Eulima badia*.
 27. *Eulima rhapsium*.
 28. *Eulima trunca*.
 29. *Eulima inconspicua*.
 30. *Odostomia omphaloessa*.
 31. *Odostomia (Turbonilla) undata*.
 32a, 32b, 32c. *Schismope depressa*.
 33. *Montacuta triangularis*.
 34. *Coralliophaga Johnsoni*.
 35. *Teredo Dallii*.