

ON THE MOLLUSCA PROCURED DURING THE "PORCUPINE"  
EXPEDITIONS, 1869-1870. SUPPLEMENTAL NOTES, PART II.<sup>1</sup>

By E. R. SYKES, B.A., F.L.S.

Read 16th June, 1905.

IN the following pages I have dealt with the residue of the Tectibranchs, including the Pteropods, and also with the Heteropods. No new forms have been described, but some figures are given of little-known species. The next part will contain the Pleurotomidæ, of which there are a considerable number of deep-sea forms of interest.

The following addendum should be made to the list of stations of the 1869 cruise given *ante*. p. 25 :

23*b*. 56° 9' N. lat., 14° 10' W. long., 664 fath., 41° 7' Fahr. bottom temp.

There is also a slight confusion on p. 37; students are requested to transfer the entry of "Pl. III, Fig. 3" from the beginning of line 4 to the end of line 5.

## RINGICULA, Deshayes.

*Ringicula*, Deshayes: Anim. sans Vert., 2nd ed., vol. viii (1838), p. 323.

The species of this group are exceedingly difficult to separate, and will, I think, prove to have a greater range of specific variation than is generally attributed to them.

The figures given by authors, including those of Morlet's monograph, are drawn on so small a scale that the characters are obscured, and, without a long series of specimens, it is impossible to be sure of the real status of many of the described forms.

In his manuscripts Jeffreys lists *R. Schlumbergeri*, Morlet,<sup>2</sup> but the specimens so labelled certainly do not belong to that species.

Only one specimen in the collection appears to be referable to *R. buccinea* (Br.); it is from "Cartagena," and is mentioned here owing to Jeffreys' identification. Personally, I attribute it to *R. auriculata*, and have doubts as to the specific distinction of the two forms. The following note relating to *R. buccinea*, from Jeffreys' MSS., seems of interest:—"Nothing is said in the short description about sculpture, but the figure evidently represents *R. ventricosa*, J. Sby., from the Crag. The latter is transversely striated, as in Seguenza's specimen from the Calabrian or Sicilian Pliocene, named *R. buccinea*. It appears to be distinct as a variety only from *R. auriculata* of Ménard, which is the common recent or living species. The shape, size, and sculpture are exceedingly variable. Examined a large series, recent and fossil, 11th Nov., 1872, J. G. J."

## RINGICULA ADMIRABILIS, Morlet.

*Ringicula admirabilis*, Morlet: Journ. Conchyl., vol. xxx (1882), p. 203, pl. ix, fig. 3; Pilsbry, Man. Conch., vol. xv, p. 397.

"Porcupine" Expedition, 1870, "Atlantic" and "Mediterranean."

<sup>1</sup> For Part I, see *ante*. p. 23.

<sup>2</sup> Journ. Conchyl., 1882, p. 204 (not 1878, as given in Man. Conch.).

*Distribution*.—Mediterranean.

I have followed Jeffreys' identification, but the species is only known to me from the original figure and description. Unfortunately the boxes have upon them no exact localities.

RINGICULA AURICULATA, Ménéard.

*Marginella auriculata*, Ménéard: Ann. Mus., vol. xvii (1811), p. 331.

*Ringicula auriculata*, Ménéard: Pilsbry, Man. Conch., vol. xv, p. 395.

*Ringicula auriculata*, var. *conformis*, Monterosato: Nuova Revista, 1875, p. 45.

*Ringicula conformis*, Monterosato: Journ. Conchyl., vol. xxv (1877), p. 44, pl. ii, fig. 4; Pilsbry, Man. Conch., vol. xv, p. 396; Locard, Expéd. Scient. Trav. Talisman, vol. i, p. 90.

"Porcupine" Expedition, 1870, Stations 40, 50; Vigo Bay; Setubal Bay; off Cape Sagres; Tangier Bay; Gulf of Tunis; Adventure Bank.

*Distribution*.—Throughout the Mediterranean, to Atlantic coasts of Spain, Madeira, Canaries. A Tertiary fossil (cf. Locard, loc. cit.).

The *Ringicula conformis* of Monterosato appears to me to be, as originally surmised by him, a variety of this species.

RINGICULA NITIDA, Verrill.

*Ringicula nitida*, Verrill: Amer. Journ. Sci., ser. III, vol. v, p. 16; Pilsbry, Man. Conch., vol. xv, p. 399.

*Ringicula leptochila*, Brugnone.

"Porcupine" Expedition, 1870, Stations 3, 17, 56; Adventure Bank, 92 fathoms.

*Distribution*.—Coast of France, Spain, and Portugal; North America; Gulf of Mexico; Mediterranean.

I have followed the identification made by Dr. Dall and Mr. Pilsbry; see for a contrary opinion, Locard, Expéd. Scient. Trav. Talisman, vol. i.

RINGICULA PULCHELLA (Jeffreys), Morlet.

*Ringicula pulchella*, Jeffreys: Morlet, Journ. Conchyl., vol. xxviii, p. 158, pl. v, fig. 6; Pilsbry, Man. Conch., vol. xv, p. 398.

"Porcupine" Expedition, 1869, Station 28; 1870, Station 17, off Cape Espichel, 740 fathoms.

I believe nothing further is known as to the distribution of this species. According to Jeffreys, it was taken both by the "Talisman" and "Travailleur"; I do not, however, trace it in Locard's work, unless it be the shell he described as *R. minutula*, which appears to bear a close resemblance to the present form.

PHILINE, Ascanius.

PHILINE APERTA (L.).

*Bulla aperta*, L.: Syst. Nat., 12th ed., p. 1183.

*Philine aperta*, L.: Pilsbry, Man. Conch., vol. xvi, p. 10.

"Porcupine" Expedition, 1869, Donegal Bay, 25-40 fathoms (live); 1870, Tangier Bay, 35 fathoms; Gulf of Bona, 25 fathoms; Benzert Road, 40-65 fathoms; Adventure Bank, 92 fathoms.

*Distribution*.—From Norway to the Cape of Good Hope, also East Africa, and Mediterranean.

Mr. Pilsbry's note as to the difficulty of separating from this species the forms described from Eastern seas appears to be thoroughly justified. Jeffreys states that he has been unable to find conchological distinctions between the present species, that recorded from the "Challenger" as *P. orientalis*, Ad., the *P. Angasi* of Crosse, and the *P. Vaillanti* of Issel. In specimens from the Baltic he also notes that the spire is visible.

Live specimens are in the museum from "Station 9," but without any indication as to which cruise they are from.

PHILINE CATENA (Mont.).

*Bulla catena*, Montagu: Test. Brit., p. 215.

*Philine catena*, Montagu: Pilsbry, Man. Conch., vol. xvi, p. 13.

"Porcupine" Expedition, 1869, Dingle Bay, 30–40 fathoms; 1870, Vigo Bay, 20 fathoms; Adventure Bank, 92 fathoms.

*Distribution*.—Norway to Canaries, and Mediterranean. Fossil in Coralline Crag.

PHILINE INTRICATA, Monterosato.

*Philine intricata*, Monterosato: Ennm. e Sinon., p. 81; Nomencl. Gen. Spec. Medit., p. 147.

"Porcupine" Expedition, 1870, Adventure Bank, 92 fathoms.

*Distribution*.—Mediterranean.

My specimens, identified by the author, are not in sufficiently good condition to warrant an endeavour to describe and figure the form, which seems to rest only on the published name, and is not mentioned by Mr. Pilsbry in the "Manual."

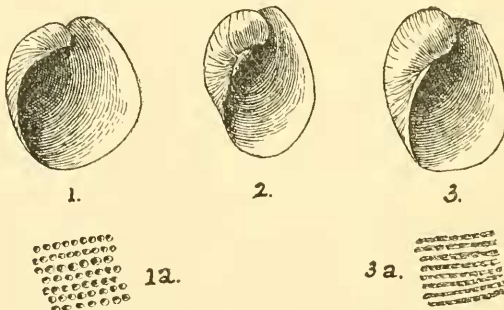


FIG. 1.—*Philine Monterosatoi* (Jeff.), Monts. x 4.  
 ,, 1a. ,, ,, sculpture. x 25.  
 ,, 2. ,, *membranacea*, Monts. x 6.  
 ,, 3. ,, *striatula* (Jeff.), Monts. x 8.  
 ,, 3a. ,, ,, sculpture. x 30.

PHILINE MEMBRANACEA, Monterosato. Fig. 2.

*Philine membranacea*, Monterosato: Bull. Soc. Mal. Ital., vol. vi, p. 78 [nom. nud.]; Pilsbry, Man. Conch., vol. xvi, p. 22.

"Porcupine" Expedition, 1870, Station 45.

*Distribution*.—Mediterranean. Figured from the single specimen in the Museum.

PHILINE MONTEROSATOI (Jeffreys MS.), Monts. Fig. 1.

*Philine Monterosati* (Jeffreys MS.), Monterosato: Journ. Conchyl., vol. xxii, p. 281; Pilsbry, Man. Conch., vol. xvi, p. 20.

"Porcupine" Expedition, 1870, off Cape Espichel, 740 fathoms; off Cape Sagres, 45–58 fathoms; Adventure Bank, 92 fathoms.

*Distribution*.—Mediterranean and off the Portuguese coast.

In shape somewhat resembling *P. aperta*, but noteworthy for the fine, irregular, closely set spirals. Figured from one of the Museum specimens.

PHILINE NITIDA, Jeffreys.

*Philine nitida*, Jeffreys: Brit. Conch., vol. iv, p. 456; Pilsbry, Man. Conch., vol. xvi, p. 18.

"Porcupine" Expedition, 1869, Donegal Bay, 25–40 fathoms; 1870, Adventure Bank, 92 fathoms.

*Distribution*.—Norway to British seas, and Mediterranean.

PHILINE PRUINOSA (Clark).

*Bullæa pruinosa*, Clark: Zool. Journ., vol. iii, p. 339.

*Philine pruinosa*, Clark: Pilsbry, Man. Conch., vol. xvi, p. 26.

"Porcupine" Expedition, 1869, Dingle Bay, 30–40 fathoms (live); 1870, Adventure Bank, 92 fathoms.

*Distribution*.—From Norway, south to the Mediterranean.

PHILINE QUADRATA (Wood).

*Bulla quadrata*, S. Wood: Mag. Nat. Hist., n.s., vol. iii, p. 461.

*Philine quadrata*, Wood: Pilsbry, Man. Conch., vol. xvi, p. 19; Locard, Expéd. Scient. Trav. Talisman, vol. i, p. 39.

"Porcupine" Expedition, 1869, Station 28 (?live); 1870, Stations 3, 17.

*Distribution*.—Both sides of North Atlantic, and on eastern side south to St. Helena (for details see Pilsbry and Locard). A Tertiary fossil.

Jeffreys gives in his notes the following description of the animal taken from a specimen captured in "sandy mud in 43½ fathoms off Dogger Bank, Wednesday, 5th May, 1875":—

"Body whitish, with a greyish tint in front, microscopically of a parenchymatous appearance. Mantle large and covering the shell, resembling an open sack with two flaps behind, where it is deeply notched at each side. Tentacles broad, bilobed, and forming in front, with the edge of the foot, an elongated snout. Eyes none. Gizzard pink, observable through the tissues of the body, not calcareous. Liver yellow, occupying the shell. Foot very broad and flexible, occasionally folded at the sides on the back, wedge-shaped in front and truncated behind. Very sluggish, like other animals which inhabit mud."

## PHILINE SCABRA (Müll.).

*Bulla scabra*, Müller: Zool. Danica, vol. ii, p. 41.

*Philine scabra*, Müller: Pilsbry, Man. Conch., vol. xvi, p. 12; Locard, Expéd. Scient. Trav. Talisman, vol. i, p. 37.

"Porcupine" Expedition, 1870, Stations 3, 17, 50; Vigo Bay, 20 fathoms; Adventure Bank, 92 fathoms.

*Distribution*.—Iceland to the coast of Spain, Mediterranean, and West Africa. A Tertiary fossil.

By a process of conjecture it might be possible to settle to which cruise and what stations the Museum specimens, some of which are 'live,' belong, but the result would probably be more injurious than helpful. Jeffreys suggests that *P. Loveni*, Malm., may be only a variety.

PHILINE STRIATULA (Jeffreys), Monterosato. Fig. 3 (p. 324).

*Philine striatula*, Jeffreys: Monterosato, Not. Conch. Med., 1872, p. 55 [nom. nud.]; Journ. Conchyl., vol. xxii (1874), p. 281; Jeffreys, Ann. Nat. Hist., ser. v, vol. vi, p. 318; Rep. Brit. Assoc., 1880, p. 387; Pilsbry, Man. Conch., vol. xvi, p. 22.

*Utriculus striatulus*, Jeffreys: Rep. Brit. Assoc., 1873, pp. 113, 114. Not *Philine striatula*, Jeffreys: Locard, Expéd. Talisman et Travailleur, vol. i, p. 41, pl. i.

"Porcupine" Expedition, 1869, Station 23a; 1870, Station 45; Adventure Bank, 92 fathoms.

*Distribution*.—Bay of Biscay (Jeffreys); Palermo and St. Vito, 90–200 metres (Monterosato).

Only two fragmentary specimens from Adventure Bank, named by the Marquis de Monterosato.

This species, like so many briefly diagnosed and unfigured forms, has an unfortunate history. Mons. Locard has identified, from two specimens which he states were named by Jeffreys, quite a different form to that preserved in the British Museum from the "Porcupine" collection. The latter is now figured from the small specimen from Station 45, referred to by Jeffreys. Under these circumstances the shell figured and described by Mons. Locard requires a new name, and I propose that of *P. Talismani* (nom. nov.).

Another box in the Museum is labelled "27, 28, 28a, Falm. to Gib."

## AGLAJA, Renier.

*Aglaja*, Renier: Tavola Alphabetica, 1807, p. xvi. (For *A. depicta*, *tricarinata*, *granosa*, all of Renier.)

## AGLAJA DEPICTA, Renier. 3

*Aglaja depicta*, Renier: Pilsbry, Man. Conch., vol. xvi, p. 46.

"Porcupine" Expedition, 1870, Adventure Bank, 92 fathoms.

*Distribution*.—Mediterranean Sea.

Two small shells, damaged. Better known as *Doridium membranaceum*, Meckel, with which the two specimens were identified by the Marquis de Monterosato.

## TETHYS, L., 1758.

## TETHYS PUNCTATA (Cuvier).

*Laplysia punctata*, Cuvier: Ann. Mus., ii, p. 295.

*Tethys punctata*, Cuvier: Pilsbry, Man. Conch., vol. xvi, p. 70.

"Porcupine" Expedition, 1870, Vigo Bay, 20 fathoms.

*Distribution*.—Norway to the Canaries, and Mediterranean.

A single immature shell, just over 2 mm. in length.

## TYLODINA, Rafinesque.

## TYLODINA DEUBENII, Lovén.

*Tyrodina Deubenii*, Lovén: Ind. Moll. Scand., p. 19; Pilsbry, Man. Conch., vol. xvi, p. 187; Jeffreys, Proc. Zool. Soc., 1882, p. 673.

"Porcupine" Expedition, 1870, Stations 24, 27.

*Distribution*.—Norway, Bergen coast, 150–300 fathoms; near Elsinore, 12–14 fathoms (Jeffreys).

## LIMACINA, Cuvier.

## LIMACINA BULIMOIDES (D'Orbigny).

*Atlanta bulimoides*, D'Orbigny: Voy. Amér. Mérid., vol. v, p. 179.

*Limacina bulimoides*, D'Orbigny: Pelseneer, "Challenger" Report, Pteropoda, pt. ii, p. 30; Locard, Expéd. Scient. Trav. Talisman, vol. i, p. 26; Tesch, Thecosomata, etc., Siboga Exped., p. 13.

"Porcupine" Expedition, 1870, Stations 16, 17, 56.

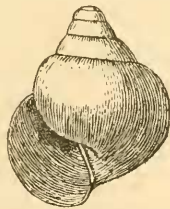
*Distribution*.—Widely scattered over the Atlantic and Pacific Oceans; dead shells in the Mediterranean.

Jeffreys notes, "Roundstone Bay, Connemara (Dr. Alcock)," but he does not mention whether live or dead shells.

## LIMACINA CONTORTA (Monterosato).

*Spirialis contorta*, Monterosato: Nuova Rev. Conch. Medit., p. 50.

"Porcupine" Expedition, 1870, Station 56.



*Distribution*.—Mediterranean.

Though referred to on various occasions both by the author and others, this minute species seems never to have been described or figured. I now give a figure, taken from a specimen in my collection, so that those more competent than I may be able to judge of its validity. It seems nearly related to *L. trochiformis*.

## LIMACINA HELICOIDES, Jeffreys.

*Limacina helicoides*, Jeffreys: Ann. Nat. Hist., ser. iv, vol. xix (1877), p. 338; Pelseneer, "Challenger" Rep., Pteropoda, pt. ii, p. 23, pl. i, fig. 5.

"Porcupine" Expedition, 1869, Station 28; 1870, Stations 16, 17.

*Distribution*.—Several stations in the Atlantic, from off the British Isles to the Azores, always dead and at considerable depths.

Locard<sup>1</sup> has, erroneously, placed this name in the synonymy of *L. Helicina*, Phipps; but he seems to have been unaware of Jeffreys' description and Pelseneer's figure.

## LIMACINA INFLATA (D'Orbigny).

*Atlanta inflata*, D'Orbigny: Voy. Amér. Mérid., vol. v, p. 174.

*Limacina inflata*, D'Orbigny: Pelseneer, "Challenger" Rep., Pteropoda, pt. ii, p. 17; Locard, Expéd. Scient. Trav. Talisman, vol. i, p. 22; Tesch, Thecosomata, etc., Siboga Exped., p. 11.

"Porcupine" Expedition, 1870, Stations 16, 17, 56.

*Distribution*.—Atlantic, Indian, and Pacific Oceans, etc. Fossil in South Europe.

## LIMACINA RETROVERSA (Fleming).

*Heterofusus retroversus*, Fleming: Mem. Wernerian Soc., vol. iv, p. 498.

*Limacina retroversa*, Fleming: Pelseneer, "Challenger" Rep., Pteropoda, pt. ii, p. 27; Locard, Expéd. Scient. Trav. Talisman, vol. i, p. 23.

"Porcupine" Expedition, 1869, Station 23b; 1870, Stations 3, 16, 17, 30, 56.

*Distribution*.—Both sides of North Atlantic.

At Stations 17 and 56 the series included the variety *Macandrea*. Despite the careful details given in the "Challenger" Report to show that this form is not found in the Mediterranean, but is there replaced by *L. trochiformis*, D'Orb., I have been unable to sever any of my specimens from *L. retroversus*. See, for an interesting note on the occurrence of the form in British seas, Proc. Soc. Glasgow, vol. iv, p. 230.

## LIMACINA TRIACANTHA (Fischer).

*Embolus triacantha*, Fischer: Journ. Conchyl., vol. xxx (1882), p. 49.

*Limacina triacantha*. Fischer: Pelseneer, "Challenger" Rep., Pteropoda, pt. ii, p. 20, pl. i, figs. 1, 2; Dall, Bull. U.S. Mus., vol. xxxvii, p. 80.

*Protomedea triacantha*, Fischer: Locard, Expéd. Scient. Trav. Talisman, vol. i, p. 27.

*Limacina carinata*, Jeffreys: Ann. Nat. Hist., ser. v, vol. vi (1880), p. 375; Folin, Les Fonds de la Mer, vol. iv, p. 143.

"Porcupine" Expedition, 1870, Station 17.

*Distribution*.—Both sides of Atlantic (*vide* Locard, Dall, etc.).

If *Embolus elatus*, Seguenza, be identical, the species is also found in the Pliocene.

<sup>1</sup> Expéd. Scient. Trav. Talisman, vol. i, p. 21.

## PERACLE, Forbes.

## PERACLE RETICULATA, D'Orbigny.

*Atlanta reticulata*, D'Orbigny: Voy. Amér. Mérid., vol. v, p. 178.

*Peracelis reticulata*, D'Orbigny: Pelseener, "Challenger" Rep., Pteropoda, pt. ii, p. 34; Tesch, Thecosomata, etc., Siboga Exped., p. 15.

"Porcupine" Expedition, 1870, Station 56; off Jijeli, 40-80 fathoms.

*Distribution*.—Atlantic and Pacific Oceans.

## PERACLE DIVERSA (Monterosato).

*Spirialis diversa*, Monterosato: Atti Acc. Palermo, vol. v (1875), p. 50.

*Peracle diversa*, Monterosato: Nomencl. Conch. Médit., 1884, p. 152; Locard, Expéd. Scient. Trav. Talisman, vol. i, p. 29, pl. i, figs. 4-6.

*Peracelis bispinosa*, Pelseener: "Challenger" Rep., Pteropoda, pt. ii, p. 36, pl. i, figs. 9, 10.

"Porcupine" Expedition, 1869, Station 23*b*; 1870, Stations 16, 17, 24.

*Distribution*.—Atlantic and Mediterranean.

I am unable to separate the form described by Mons. Pelseener from specimens of *P. diversa*, identified by the author.

## CLIO, L.

One or two single specimens have proved to be unidentifiable.

## CLIO CONICA (Eschscholtz).

*Creseis conica*, Eschscholtz: Zool. Atlas, Heft iii, p. 17.

*Clio conica*, Eschscholtz: Pelseener, "Challenger" Rep., Pteropoda, pt. ii, p. 50.

"Porcupine" Expedition, 1870, Station 56.

*Distribution*.—Atlantic and Pacific Oceans, and Mediterranean Sea.

Five specimens, identified by Mr. Marshall.

## CLIO CUSPIDATA (Bosc).

*Hyalæa cuspidata*, Bosc: Hist. Nat. Coquilles, vol. ii, p. 241.

*Clio cuspidata*, Bosc: Pelseener, "Challenger" Rep., Pteropoda, pt. ii, p. 66; Tesch, Thecosomata, etc., Siboga Exped., p. 30.

*Cleodora cuspidata*, Bosc: Locard, Expéd. Scient. Trav. Talisman, vol. i, p. 16.

"Porcupine" Expedition, 1869, Stations 23*b*, 28; 1870, Station 15 (at surface, live).

*Distribution*.—Atlantic and Indian Oceans, and Mediterranean Sea. Tertiary of South Europe.

Jeffreys notes under Station 15: "Dredge came up quite empty; the scoop captured some live specimens of *Clio cuspidata*." He also gives the following notes on the animal, which seem of interest: "Body milk-white, except the mouth and viscera, which are of a purplish-brown colour. No eyes. Foot-lobes large, leaf-like, and palmated, of a parenchymous texture. The head is protected by



another lobe or flap, which resembles a hood; the foot-lobes being lateral, and apparently used for locomotion only. This third flap, however, forms part of the foot, and is merely a connecting membrane between the two side lobes. The foot-lobes are very flexible, curling inwards as well as flapping. Head triangular. The upper part (which represents the are of a circle) is thickly studded with short tentacles. Heart bag-shaped, transparent, double, placed at the extremity of the body, and beating with a regular action like a pulse." Compare Souleyet, Voy. Bonite, Zool., vol. ii, p. 176.

#### CLIO PYRAMIDATA, L.

*Clio pyramidata*, L.: Syst. Nat., 12th ed., p. 1094; Pelseneer, "Challenger" Rep., Pteropoda, pt. ii, p. 63; Tesch, Thecosomata, etc., Siboga Exped., p. 29.

*Cleodora pyramidata*, L.: Locard, Expéd. Scient. Trav. Talisman, vol. i, p. 14.

"Porcupine" Expedition, 1869, Stations 13 (live), 15, 16, 19, 20 (live), 28, 40; 1870, Stations 14, 16, 17, 30, 54; Vigo Bay, 20 fathoms; off Rinaldo's Chair, 60-160 fathoms; Rasel Amoush, 45 fathoms.

*Distribution*.—Almost worldwide. Tertiary of South Europe.

Several records on the boxes in the Museum have been omitted, as they appear either erroneous or not to refer to the "Porcupine."

#### CLIO STRIATA (Rang).

*Creseis striata*, Rang: Ann. Sci. Nat., ser. i, vol. xiii, p. 315.

*Clio striata*, Rang: Pelseneer, "Challenger" Rep., Pteropoda, pt. ii, p. 54; Tesch, Thecosomata, etc., Siboga Exped., p. 27.

"Porcupine" Expedition, 1870, Station 56.

*Distribution*.—Atlantic, Indian, and Pacific Oceans. Tertiary of South Europe.

#### CLIO SUBULA (Quoy & Gaimard).

*Cleodora subula*, Quoy & Gaimard: Ann. Sci. Nat., ser. i, vol. x, p. 233.

*Clio subula*, Quoy & Gaimard: Pelseneer, "Challenger" Rep., Pteropoda, pt. ii, p. 57; Tesch, Thecosomata, etc., Siboga Exped., p. 28.

*Styliola subulata*, Quoy & Gaimard: Locard, Expéd. Scient. Trav. Talisman, vol. i, p. 18.

"Porcupine" Expedition, 1870, Stations 16, 17, 56; Adventure Bank, 92 fathoms.

*Distribution*.—Atlantic, Indian, and Pacific Oceans. Tertiary of South Europe.

#### CUVIERINA, Boas, 1886.

##### CUVIERINA COLUMNELLA (Rang).

*Cuvieria columnella*, Rang: Ann. Sci. Nat., ser. i, vol. xiii, p. 323.

*Cuvierina columnella*, Rang: Pelseneer, "Challenger" Rep., Pteropoda, pt. ii, p. 66; Tesch, Thecosomata, etc., Siboga Exped., p. 32.

"Porcupine" Expedition, 1870, Stations 16, 17, 22.

*Distribution*.—Atlantic, Pacific, and Indian Oceans.

## CAVOLINIA, Abilgaard, emend.

## CAVOLINIA GIBBOSA (Rang).

*Hyalæa gibbosa* (Rang), D'Orbigny: Voy. Amér. Mérid., vol. v, p. 495.

*Cavolinia gibbosa*, Rang: Pelseneer, "Challenger" Rep., Pteropoda, pt. ii, p. 82; Tesch, Thecosomata, etc., Siboga Exped., p. 40.

"Porcupine" Expedition, 1870, Station 56.

*Distribution*.—Atlantic, Pacific, and Indian Oceans.

A fragment from Station 16 of the cruise of 1870 may belong here; several other station numbers also appear on a box in the Museum.

## CAVOLINIA GLOBULOSA (Rang), Gray.

*Cavolina globulosa*, Rang: Gray, Cat. Brit. Mus., pt. ii, Pteropoda, p. 8.

*Cavolinia globulosa*, Rang: Pelseneer, "Challenger" Rep., Pteropoda, pt. ii, p. 81; Tesch, Thecosomata, etc., Siboga Exped., p. 41.

Jeffreys notes in his manuscript that this form was taken in the cruise of 1870; the only box I can trace so named is labelled "No. 55, N.L. 37.30; W.L. 6.51, 1456 f." If we read W.L. as a slip for E.L. this agrees with Station 55, but probably the shells really come from Station 56 (see *ante*, vol. vi, p. 24).

## CAVOLINIA INFLEXA (Lesueur).

*Hyalæa inflexa*, Lesueur: Bull. Soc. Philom., vol. iii, p. 285.

*Cavolinia inflexa*, Lesueur: Pelseneer, "Challenger" Rep., Pteropoda, pt. ii, p. 85; Tesch, Thecosomata, etc., Siboga Exped., p. 43.

"Porcupine" Expedition, 1870, Stations 16, 17, 30, 56; Adventure Bank, 92 fathoms.

*Distribution*.—Atlantic, Indian, and Pacific Oceans. Italian and Sicilian Tertiaries.

Nineteen numbers appear on one box, but I have discarded them, as I expect they mostly or all refer to stations whence Jeffreys considered he had seen the species, and one cannot be sure to which cruise they refer.

## CAVOLINIA TRISPINOSA (Lesueur), Blainville.

*Hyalæa trispinosa*, Lesueur: Blainville, Dict. Sci. Nat., vol. xxii, p. 82.

*Cavolinia trispinosa*, Lesueur: Pelseneer, "Challenger" Rep., Pteropoda, pt. ii, p. 76; Tesch, Thecosomata, etc., Siboga Exped., p. 35.

"Porcupine" Expedition, 1869, Station 20; 1870, Stations 16, 17, 17a; Tangier Bay, 35 fathoms; Adventure Bank, 92 fathoms.

*Distribution*.—Atlantic, Indian, and Pacific Oceans. Fossil in European Tertiary.

## CAVOLINIA TRIDENTATA (Forskål).

*Anomia tridentata*, Forskål: Descr. Anim. Orient., p. 124.

*Cavolinia tridentata*, Forskål: Pelseneer, "Challenger" Rep., Pteropoda, pt. ii, p. 83; Tesch, Thecosomata, etc., Siboga Exped., p. 37.

"Porcupine" Expedition, 1870, Station 17; Tangier Bay, 35 fathoms; Adventure Bank, 92 fathoms.

*Distribution*.—Atlantic, Indian, and Pacific Oceans. Fossil in European Tertiary.

## CARINARIA, Lamarek, 1801.

CARINARIA LAMARCKII (Pér. &amp; Les.), Blainville.

*Carinaria Lamarckii* (Péron & Lesueur), Blainville: Diet. Sci. Nat., vol. vii, p. 107; Smith, "Challenger" Rep., Heteropoda, p. 35.

*Carinaria Mediterranea*, Péron & Lesueur: Vayssière, Camp. Scient. Albert I<sup>er</sup> Monaco, fasc. xxvi, p. 11.

"Poreupine" Expedition, 1870, Stations 17, 54, 56.

*Distribution*.—Mediterranean, and Atlantic coast of Portugal.

Considering the condition of the specimens, I have felt it best to refer them here rather than to endeavour to doubtfully identify them with other described forms; one specimen, from Station 54, recalls the little known *C. atlantica*, Ad. & Reeve. From Station 56 come a large number of specimens, consisting only of the embryonic whorls.

## ATLANTA, Lesueur, 1817.

ATLANTA PERONII, LESUEUR.

*Atlanta Peronii*, Lesueur: Journ. de Phys., vol. lxxv, p. 390; Smith, "Challenger" Rep., Heteropoda, p. 39; Vayssière, Camp. Scient. Albert I<sup>er</sup> Monaco, fasc. xxvi, p. 49.

"Poreupine" Expedition, 1870, Stations 16, 17, 17a, 30, 51, 54, 56; Adventure Bank, 92 fathoms.

*Distribution*.—Atlantic, Pacific, and Indian Oceans (Smith).

Several other suggested station numbers on the Museum boxes are omitted.

ATLANTA FUSCA, EYDOUX &amp; SOULEYET.

*Atlanta fusca*, Eydoux & Souleyet: Voy. Bonite, Zool., vol. ii, p. 39; Smith, "Challenger" Rep., Heteropoda, p. 42.

"Poreupine" Expedition, 1870, Station 56; Adventure Bank, 92 fathoms.

*Distribution*.—"All seas" (Eydoux & Souleyet).

ATLANTA SOULEYETI, SMITH.

*Atlanta Souleyeti*, Smith: "Challenger" Rep., Heteropoda, p. 43.

*Atlanta Lamanonii*, Eydoux & Souleyet, non Eeschscholtz.

"Poreupine" Expedition, 1870, Stations 17, 30.

*Distribution*.—Atlantic Ocean.

## OXYGYRUS, Benson, 1835.

OXYGYRUS KERAUDRENI (LESUEUR).

*Atlanta Keraudrenii*, Lesueur: Journ. de Phys., vol. lxxxv, p. 391.

*Oxygyrus Keraudrenii*, Lesueur: Smith, "Challenger" Rep., Heteropoda, p. 46; Vayssière, Camp. Scient. Albert I<sup>er</sup> Monaco, fasc. xxvi, p. 56.

"Poreupine" Expedition, 1870, Stations 54, 56; Tangier Bay, 35 fathoms; Adventure Bank, 92 fathoms.

*Distribution*.—Atlantic Ocean and Mediterranean Sea.