IV.—PLEISTOCENE SHELLS FROM THE RAISED BEACH DEPOSITS OF THE RED SEA.

By R. BULLEN NEWTON, F.G.S., of the British Museum (Natural History).

(PLATES XX-XXII.)¹

A N interesting collection of shells, numbering more than fifteen hundred specimens, obtained by the officers of the Geological Survey of Egypt from the raised beach deposits of the Red Sea, has recently been examined by the writer at the request of Captain Lyons, R.E., the Director-General of the Survey.

With the exception of certain specimens collected by Dr. Hume from the western shore of the Gulf of Akaba, this important collection was acquired by Mr. Thomas Barron, F.G.S., from various localities situated on the western side of the Red Sea and the Gulf of Suez during the survey of that region in the years 1897-1898.

The majority of the shells belong to modern species and are well preserved, many of them retaining their original colour-markings and other characteristic features. The species exhibit the true Red Sea or Indo-Pacific facies, with a very slight commingling of Mediterranean forms, a fact which confirms the work of most previous observers, who recognize marked differences in the two faunas. A few of the specimens are quite unknown in present seas, whilst others date their origin from Miocene times, but as all are accompanied by undoubted modern species they must be admitted as their contemporaries in time. Among such may be mentioned *Alectryonia Virleti*, *Chlamys latissima*, *Chlamys Reissi*, *Pecten Vasseli*, *Lithophaga Avitensis*, *Cassis lavigata*, etc. This association of modern and extinct forms has already been observed by Professor Mayer-Eymar, Dr. Theodore Fuchs, and others in deposits of similar age near Cairo (Wadi Mellaha, etc.) and to the north of Suez (Bitter Lakes, etc.).

The marine portion of the terrace beds surrounding the Bitter Lakes resembles the raised beaches of the Red Sea in possessing a fauna of Indo-Pacific character, whereas the Cairo deposits contain an assemblage of species bearing a large percentage of Mediterranean or Atlantic forms: facts which indicate that in former times the Mediterranean extended further southwards and the Red Sea further northwards than now obtains.

In dealing with the age of these deposits it seems apparent that they should be regarded as Pleistocene on account of the large number of recent species they contain, and the comparative scarcity of extinct forms. This is in agreement with the views of most authors, who, although under different designations, acknowledge the same horizon, as, for instance, "Saharian" of Mayer-Eymar; "Recente Ablagerungen (Pseudo-Sarmatischen Ablagerungen)" of Fuchs; and "Jüngere Meeresbildungen" of Fraas. It should be mentioned, however, that Fraas only uses his term in connection

¹ These plates will appear with Part II in the December number.

with the Red Sea beach deposits, recognizing the Wadi Mellaha beds as of Miocene age, whilst Neumayr and Beyrich both regard them as Pliocene.

Some importance may be attached to the identification of *Pecten Vasseli*, a species originally described by Fuchs from the terrace formation of the Bitter Lakes, and which is doubtless the same shell referred to by Fraas under the name of *Pecten radula*, var. *subfossilis*, found in the beach deposits near Kosseir. Examples of this species, with its peculiar dichotomizing ribs and minute striated sculpture, are represented from the following localities in this collection: (a) Raised beach, Northern Wadi Gueh, Camp 6, 240 feet above sea; (b) raised beach north of Kosseir; (c) Upper Coral terrace (*Pecten*-bed) between Nebk and Sherm, South-East Sinai. At (c) *Pecten Vasseli* is associated with *Chlamys latissima*; at (a) with a fragment of *Chlamys opercularis*; and at (b) with modern Red Sea forms, *Codakia exasperata*, etc., and some extinct ones, such as *Lithophaga Lyellanus*. In its typical locality this shell is found with *Circe pectinata* and other familiar Red Sea species (see Fischer post "Literature"), although not known in the living state.

Among the more abundant shells of modern species in this collection, and which occur repeatedly at various localities, are: *Conus nussatella*, *Natica melanostoma*, *Strombus fasciatus*, *Turbo radiatus*, *Anadara antiquata* and *radiata*, *Chama nivalis*, *Circe pectinata*, *Codakia exasperata*, etc.

List of the Pleistocene Mollusca from the Raised Beach Deposits of the Red Sea, collected by Mr. Thomas Barron, F.G.S.

The identification of the following species has been carried out after careful comparison with the finely arranged series of modern shells in the Zoological Department of the British Museum. To Mr. Edgar Smith, the Assistant Keeper of that section of the Museum, the writer records his indebtedness for much help, especially with regard to some of the more difficult determinations that have arisen during the progress of this work. The classification of the families is that adopted at the British Museum, and originally suggested by Pelseneer in his "Introduction à l'étude des Mollusques" (Ann. Soc. Roy. Malac. Belgique, 1894, vol. xxvii, pp. 31-243).

The following explanation of bracketed names, etc., quoted under "Distribution," should be noted:—(B.M.) = British Museum (Recent Shell Department); (Barron) = a small collection of unnumbered specimens from Ras Gharib and Jebel Zeit, sent separately by Mr. Barron in August, 1898; (Tryon, Issel, etc.) = authorities for distribution of the species, *vide* "Literature" appended.

Class GASTEROPODA.

Family PATELLIDÆ.

Helcioniscus variabilis, Krauss.

Patella variabilis, Krauss: Die Südafrikanischen Mollusken, 1848, p. 35, pl. iii, fig. 12.

DISTRIBUTION.—Natal (Tryon); Red Sea (B.M.). Coll. Geol. Surv. Egypt: 50 foot beach deposit at Gernah (No. 2,043, Box No. 63j).

Family HALIOTIDÆ.

Haliotis cruenta, Reeve.

Haliotis cruenta, Reeve: Conchologia Iconica, vol. iii (1846), pl. xv, fig. 56.

DISTRIBUTION.—Gulf of Suez and New Zealand (B.M.). Coll. Geol. Surv. Egypt: Ras Gharib (Barron); raised beach 20 feet above sea at Gharib lighthouse (Nos. 2,058–2,098, Box No. 18j).

Family FISSURELLIDÆ.

Capiluna ¹ *Ruppelli*, G. B. Sowerby.

Fissurella Ruppelli, G. B. Sowerby: Proc. Zool. Soc. London, 1834, pt. ii, p. 128; Conchological Illustrations, 1841, pl. lxxviii, fig. 65, and pl. lxxx, fig. 76.

DISTRIBUTION.—Near Suez and beach deposits of Red Sea (Issel); Red Sea to Cape of Good Hope (Tryon); Aden, Red Sea, Mauritius, East Africa, Mergui (E. A. Smith). Coll. Geol. Surv. Egypt: Ras Gharib (Barron); raised beach 20 feet above sea at Gharib lighthouse (Nos. 2,058–2,098, Box No. 18j); beach against old island west of Camp 51, south of Gharib lighthouse (Nos. 2,021–2,030, Box No. 57j).

Capiluna Ruppelli, var. *Barroni*, var. nov. (Pl. XXII, Figs. 1–4.)

The above varietal designation is applied to a number of forms which are nearly circular in outline, besides being more conical and elevated than the typical species. Sculpture characters, however, are identical; the numerous raised beaded ribs and riblets exhibiting the usual beautiful structure of this shell. The oblong perforation is also normal, and shows a slight enlargement at the posterior end. The basal margin is denticulated and laterally excavated. Size variable. Dimensions of largest specimen: height, 15 mm.; length and width, 18 mm.

This variety is represented by about a dozen specimens which were found associated with the true *C. Ruppelli*. It is to be seen in an unnamed condition in the Recent shell section of the British Museum, labelled as from the Red Sea, although the specimens have all the appearance of coming from the beach deposits of that area. Probably the form is extinct.

DISTRIBUTION.—Coll. Geol. Surv. Egypt: Ras Gharib (Barron); raised beach 20 feet above sea at Gharib lighthouse (Nos. 2,058–2,098, Box No. 18j).

Emarginula incisura, A. Adams.

Emarginula incisura, A. Adams: Proc. Zool. Soc. London, 1851, p. 84.

DISTRIBUTION.—Apparently unknown. Coll. Geol. Surv. Egypt: Ras Gharib (Barron); raised beach 20 feet above sea at Gharib lighthouse (Nos. 2,058–2,098, Box No. 18j).

¹ *Capiluna*, Gray, 1857 = *Glyphis*, Carpenter, 1856, non Agassiz, 1843; vide Harris & Burrows, Paris Basin Eocene Mollusca (Geol. Assoc.), 1891, p. 111.

Scutum unguis, Linnaeus.

Patella unguis, Linnaeus: *Systema Naturæ*, 10th ed. (1758), p. 783 (= *Parmaphorus granulatus*, Blainville, *vide* Issel).

DISTRIBUTION.—Red Sea to Cape of Good Hope, Australia, Philippines, etc. (Tryon); Gulf of Suez, south of Réunion, and Red Sea deposits (Issel). Coll. Geol. Surv. Egypt: Ras Gharib (Barron); raised beach 20 feet above sea at Gharib lighthouse (Nos. 2,098–2,105, Box No. 20j).

Family TROCHIDÆ.

***Trochus (Cardinalia) virgatus*, Gmelin.**

Trochus virgatus, Gmelin: *Systema Naturæ*, 13th ed. (1790), p. 3,580.

DISTRIBUTION.—Beach deposits on western borders of Red Sea (Gray & Frembley); Red Sea and Indian Ocean (Tryon). Coll. Geol. Surv. Egypt: Ras Gharib (Barron); raised beach 20 feet above sea at Gharib lighthouse (Nos. 2,058–2,098, Box No. 18j).

***Trochus (Infundibulops) erythræus*, Brocchi.**

Trochus erythræus, Brocchi: *Catalog. una ser. Conchiglie Africana*, etc., 1819–1823 (*vide* Tryon).

DISTRIBUTION.—Beach deposits of Red Sea and in the Gulfs of Akaba and Suez (Issel); Red Sea (Tryon); Aden, Red Sea, Gulf of Suez (E. A. Smith). Coll. Geol. Surv. Egypt: Jebel Zeit (Barron).

***Trochus (Lamprostoma) maculatus*, Linnaeus.**

Trochus maculatus, Linnaeus: *Systema Naturæ*, 10th ed. (1758), p. 756.

DISTRIBUTION.—Beach deposits of the Red Sea (Gray & Frembley and Issel); recent forms from the Red Sea (Issel); Indian Ocean to the Philippines (Tryon). Coll. Geol. Surv. Egypt: Jebel Zeit (Barron); raised beach 80 feet above sea at Camp 6, north of Wadi Gueh, west of Kosseir (Nos. 1,649 and 1,650, Box No. 78j).

***Clanculus Pharaonius*, Linnaeus. (Pl. XX, Figs. 4, 5.)**

Trochus Pharaonius, Linnaeus: *Systema Naturæ*, 10th ed. (1758), p. 757.

DISTRIBUTION.—Beach deposits of the western borders of Red Sea (Gray & Frembley); Red Sea, Gulfs of Akaba and Suez (Issel); Red Sea (Tryon); Red Sea, Aden, Gulfs of Suez and Akaba (E. A. Smith). Coll. Geol. Surv. Egypt: Ras Gharib and Jebel Zeit (Barron).

***Priotrochus obscurus*, Wood.**

Trochus obscurus, W. Wood: *Index Testaceologicus*, 1828, Suppl. pl. v, fig. 26.

DISTRIBUTION.—Indian Ocean (Fischer); South Africa (B.M.). Coll. Geol. Surv. Egypt: raised beach east of Jebel Esh (Nos. 2,172–2,190, Box No. 64j).

Family TURBINIDÆ.

***Turbo radiatus*, Gmelin. (Pl. XX, Fig. 1.)**

Turbo radiatus, Gmelin: *Systema Naturæ*, 13th ed. (1790), vol. i, pt. 6, p. 3,594 (= *Chemnitzianus*, Reeve).

DISTRIBUTION.—Red Sea, Madagascar, and Philippines (Tryon); Red Sea, Persian Gulf, and Madagascar (E. A. Smith). Coll. Geol. Surv. Egypt: Ras Gharib (Barron); raised beach 80 feet above sea

at Camp 6, north of Wadi Gueh, west of Kosseir (Nos. 1,655–1,657, Box No. 81j); beach east of Gharib (Nos. 2,227–2,254, Box No. 17j); raised beach 20 feet above sea at Gharib lighthouse (Nos. 2,058–2,098, Box No. 18j; Nos. 2,090–2,105, Box No. 20j); raised beach, Camp 6, Wadi Gueh (No. 1,594, Box No. 28k; No. 1,587, Box No. 49k; Nos. 1,559 and 1,561, Box No. 60k; Nos. 1,574, etc., Box No. 62k).

Family NERITIDÆ.

***Nerita albicilla*, Linnæus.**

Nerita albicilla, Linnæus: Systema Naturæ, 10th ed. (1758), p. 778.

According to Tryon this species includes *sanguinolenta*, Menke; *marmorata*, Reeve; and *crassilabrum*, E. A. Smith.

DISTRIBUTION.—Beach deposits of Red Sea (Issel); Red Sea to Philippines (Tryon); Aden, Red Sea, Indian and Pacific Oceans (E. A. Smith). Coll. Geol. Surv. Egypt: beach south of Gharib (Nos. 2,227–2,254, Box No. 17j); beach against old island west of Camp 51, south of Gharib lighthouse (Nos. 2,021–2,030, Box No. 57j); raised beach 80 feet above sea, Camp 6, Wadi Gueh (No. 1,569, Box No. 31k; No. 1,612, Box No. 58k); raised beach, Camp 6, Wadi Gueh (Nos. 1,574, etc., Box No. 62k).

Family HIPPONYCIDÆ.

***Hipponyx barbatus*, G. B. Sowerby.**

Hipponyx barbatus, G. B. Sowerby: Proc. Zool. Soc. London, 1835, p. 5.

DISTRIBUTION.—Mazatlan, Galapagos Islands, Polynesia, Japan, Cape of Good Hope (Tryon); Society Islands (B.M.). Coll. Geol. Surv. Egypt: Ras Gharib (Barron); raised beach 20 feet above sea at Gharib lighthouse (Nos. 2,058–2,098, Box No. 18j).

Family CYPRÆIDÆ.

***Cypræa annulus*, Linnæus.**

Cypræa annulus, Linnæus: Systema Naturæ, 10th ed. (1758), p. 723.

DISTRIBUTION.—Gulf of Akaba, Mediterranean and beach deposits of Red Sea (Issel); Indian and Pacific Oceans, and fossil in Southern Europe (Tryon); Aden (E. A. Smith). Coll. Geol. Surv. Egypt: raised beach, Wadi Gueh, Camp 6 (No. 1,568, Box No. 29k); raised beach east of Jebel Esh (Nos. 2,172–2,190, Box No. 64j).

***Cypræa Arabica*, Linnæus.**

Cypræa Arabica, Linnæus: Systema Naturæ, 10th ed. (1758), p. 718.

DISTRIBUTION.—Beach deposits of Red Sea (Gray & Frembley, Issel); Gulf of Akaba and Ras Benass (Issel); Indian and Pacific Oceans (Tryon); Aden (E. A. Smith). Coll. Geol. Surv. Egypt: beach east of Gharib (Nos. 2,227–2,254, Box No. 17j).

***Cypræa caurica*, Linnæus.**

Cypræa caurica, Linnæus: Systema Naturæ, 10th ed. (1758), p. 723.

DISTRIBUTION.—Beach deposits of Red Sea (Gray & Frembley); Gulf of Akaba (Issel); Indian and Pacific Oceans (Tryon); Aden (E. A. Smith). Coll. Geol. Surv. Egypt: east of Gharib (Nos. 2,227–2,254, Box No. 17j).

***Cypræa cylindrica*, Born.**

Cypræa cylindrica, Born: Testacea Mus. Casarei Vindobonensis, 1780, pl. viii, fig. 10.

DISTRIBUTION.—Amboina, etc. (B.M.); Ceylon, Australia, New Caledonia (Tryon). Coll. Geol. Surv. Egypt: raised beach, Camp 6, Wadi Gueh (Nos. 1,591 and 1,567, Box No. 30k).

***Cypræa erosa*, Linnæus.**

Cypræa erosa, Linnæus: Systema Naturæ, 10th ed. (1758), p. 723.

DISTRIBUTION.—Beach deposits of Red Sea (Gray & Frembley, Issel); Gulf of Akaba (Issel); Indian and Pacific Oceans (Tryon); Aden (E. A. Smith). Coll. Geol. Surv. Egypt: raised beach 80 feet above sea, Camp 6, north of Wadi Gueh, west of Kosseir (Nos. 1,649 and 1,650, Box No. 78j; Nos. 1,591 and 1,567, Box No. 30k); 50 foot beach, Gamsah (No. 2,038, Box No. 62j).

***Cypræa fimbriata*, Gmelin.**

Cypræa fimbriata, Gmelin: Systema Naturæ, 13th ed. (1790), vol. i, pt. 6, p. 3,420.

DISTRIBUTION.—Indian Ocean to Australia (Tryon); Aden (E. A. Smith). Coll. Geol. Surv. Egypt: raised beach 20 feet above sea at Gharib lighthouse (Nos. 2,058–2,098, Box No. 18j).

***Cypræa isabella*, Linnæus.**

Cypræa isabella, Linnæus: Systema Naturæ, 10th ed. (1758), p. 722.

DISTRIBUTION.—Beach deposits and recent forms in Red Sea (Issel); Indian and Pacific Oceans (Tryon); Aden (E. A. Smith). Coll. Geol. Surv. Egypt: Ras Gharib (Barron); raised beach 20 feet above sea at Gharib lighthouse (Nos. 2,058–2,098, Box No. 18j); raised beach, Camp 6, Wadi Gueh (Nos. 1,591 and 1,567, Box No. 30k).

***Cypræa turdus*, Lamarck.**

Cypræa turdus, Lamarck: Hist. Nat. Anim. sans Vert., vol. vii (1822), p. 392.

DISTRIBUTION.—Beach deposits on the western borders of the Red Sea (Gray & Frembley); Gulf of Akaba and Indian Ocean (Issel); Aden (E. A. Smith); Persian Gulf (Tryon). Coll. Geol. Surv. Egypt: beach east of Gharib (Nos. 2,227–2,254, Box No. 17j); raised beach 20 feet above sea at Gharib lighthouse (Nos. 2,058–2,098, Box No. 18j); 50 foot beach at Gamsah (Nos. 2,031–2,057, Box No. 58j).

***Cypræa vitellus*, Linnæus.**

Cypræa vitellus, Linnæus: Systema Naturæ, 10th ed. (1758), p. 721.

DISTRIBUTION.—Aden (E. A. Smith); beach deposits, western shores of Red Sea (Gray & Frembley); Indian Ocean, Australia, New Caledonia (Tryon). Coll. Geol. Surv. Egypt: raised beach, Camp 6, Wadi Gueh (Nos. 1,574, etc., Box No. 62k).

Family NATICIDÆ.

***Natica (Mammilla) melanostoma*, Gmelin.**

Nerita melanostoma, Gmelin: Systema Naturæ, 13th ed. (1790), vol. i, pt. 6, p. 3,674.

DISTRIBUTION.—Beach deposits of Red Sea (Fraas, Gray & Frembley); Red Sea and Indian Ocean (Issel); Mauritius,

Madagascar, East Indies, Polynesia (Tryon); Aden, Red Sea, Indian Ocean, and parts of the Pacific (E. A. Smith). Coll. Geol. Surv. Egypt: Jebel Zeit (Barron); raised beach 20 feet above sea at Gharib lighthouse (Nos. 2,058–2,098, Box No. 18j); recent beach south of Gharib lighthouse (Nos. 2,198–2,216, Box No. 53j); 50 foot beach at Gamsah (Nos. 2,031–2,057, Box No. 58j).

Family CERITHIIDÆ.

Cerithium cæruleum, G. B. Sowerby.

Cerithium cæruleum, G. B. Sowerby: Thesaurus Conchyliorum, vol. ii (1855), p. 866, pl. clxxix, figs. 61, 62.

DISTRIBUTION.—Red Sea (Issel); Red Sea and Indian Ocean (Tryon); Aden, Red Sea, Indian Ocean, China, Tonga Islands (E. A. Smith). Coll. Geol. Surv. Egypt: Jebel Zeit (Barron); recent beach south of Gharib lighthouse (Nos. 2,198–2,216, Box No. 53j); raised beach, Camp 6, Wadi Gueh (Nos. 1,559 and 1,561, Box No. 60k; Nos. 1,574, etc., Box No. 62k).

Cerithium columna, G. B. Sowerby.

Cerithium columna, G. B. Sowerby: Genera of Shells, 1834, No. 42, fig. 7.

DISTRIBUTION.—Mauritius, Philippines to Central Polynesia (Tryon); Aden, Red Sea, Indian Ocean, Philippines, etc. (E. A. Smith). Coll. Geol. Surv. Egypt: Ras Gharib (Barron).

Cerithium erythræonense, Lamarck.

Cerithium erythræonense, Lamarck: Hist. Nat. Anim. sans Vert., vol. vii (1822), p. 70 (= *tuberosum*, Reeve, and *omissum*, Bayle).

DISTRIBUTION.—Desert of Attaka, Suez, Gulf of Akaba, Red Sea, Madagascar (Issel); Red Sea (Tryon). Coll. Geol. Surv. Egypt: Ras Gharib (Barron); beach east of Gharib (Nos. 2,227–2,254, Box No. 17j); raised beach 20 feet above sea at Gharib lighthouse (Nos. 2,090–2,105, Box No. 20j); recent beach south of Gharib lighthouse (No. 2,204, Box No. 24j); raised beach, Camp 6, Wadi Gueh (Nos. 1,559 and 1,561, Box No. 60k).

Cerithium Ruppelli, Philippi.

Cerithium Ruppelli, Philippi: Zeitsch. Malakozoologie, 1848, p. 22.

DISTRIBUTION.—Gulf of Suez (Issel); Red Sea (Tryon); Red Sea, Aden, Seychelles (E. A. Smith). Coll. Geol. Surv. Egypt: Recent beach between Jebel Mellaha and Jebel Zeit (Nos. 2,162–2,167, Box No. 21j); 50 foot beach at Gamsah (Nos. 2,031–2,057, Box No. 58j); beach against old island west of Camp 51, south of Gharib lighthouse (Nos. 2,021–2,030, Box No. 57j).

Vertagus asperum, Linnæus (var.).

Murex asper, Linnæus: Systema Naturæ, 10th ed. (1758), p. 766.

DISTRIBUTION.—I. of France (B.M.); beach deposits of the Red Sea (Issel). Coll. Geol. Surv. Egypt: raised beach, Camp 6, Wadi Gueh (Nos. 1,574, etc., Box No. 62k).

Vertagus fasciatus, Bruguière.

Cerithium fasciatum, Bruguière: Encyclop. Méthodique, 1792, vol. i (vers.), p. 474.

DISTRIBUTION.—Red Sea, Gulf of Akaba, Indian Ocean, Philippines (Issel, Tryon). Coll. Geol. Surv. Egypt: Jebel Zeit (Barron);

50 foot beach at Gernah (Nos. 2,031–2,057, Box No. 58j); raised beach east of Jebel Esh (Nos. 2,172–2,190, Box No. 64j).

Vertagus Kochi, Philippi.

Cerithium Kochi, Philippi: Zeitsch. Malakozoologie, 1848, p. 21.

DISTRIBUTION.—East coast of Africa (Tryon); Aden, Red Sea, Indian Ocean, Japan (E. A. Smith). Coll. Geol. Surv. Egypt: Jebel Zeit (Barron); raised beach east of Jebel Esh (Nos. 2,172–2,190, Box No. 64j).

Vertagus recurvus, G. B. Sowerby.

Cerithium recurvum, G. B. Sowerby: Thesaurus Conchyliorum, vol. ii (1855), p. 854, pl. clxxvi, figs. 16–18.

DISTRIBUTION.—Red Sea (Tryon). Coll. Geol. Surv. Egypt: beach east of Gharib (Nos. 2,227–2,254, Box No. 17j); raised beach 20 feet above sea at Gharib lighthouse (Nos. 2,058–2,098, Box No. 18j); 50 foot beach at Gernah (Nos. 2,031–2,057, Box No. 58j); raised beach east of Jebel Esh (Nos. 2,172–2,190, Box No. 64j).

Pirenella mammillata, Risso.

Cerithium mammillatum, Risso: Hist. Nat. Europe Méridionale, vol. iv (1826), p. 158.

Tryon includes in this species *conica* of Blainville, *cinerascens* of Pallas, *Cailliaudi* of Pot. & Mich.

DISTRIBUTION.—Mediterranean and Red Sea (Tryon); Alexandria, Suez, Egypt (B.M.). Coll. Geol. Surv. Egypt: Recent beach south of Gharib lighthouse (No. 2,217, Box No. 52j; Nos. 2,198–2,216, Box No. 53j); beach against old island west of Camp 51, south of Gharib lighthouse (Nos. 2,021–2,030, Box No. 57j).

Family MODULIDÆ.

Modulus tectum, Gmelin.

Trochus tectum, Gmelin: Systema Naturæ, 13th ed. (1790), vol. i, pt. 6, p. 3,569.

DISTRIBUTION.—Red Sea, Mauritius, Indian Ocean, Sandwich and Viti Islands (Tryon). Coll. Geol. Surv. Egypt: east of Gharib (Nos. 2,227–2,254, Box No. 17j).

Family VERMETIDÆ.

Vermetus, sp. indet.

DISTRIBUTION.—Coll. Geol. Surv. Egypt: raised beach 20 feet above sea at Gharib lighthouse (Nos. 2,058–2,098, Box No. 18j).

Family TURRITELLIDÆ.

Turritella trisulcata, Lamarck.

Turritella trisulcata, Lamarck: Hist. Nat. Anim. sans Vert., vol. vii (1822), p. 58.

DISTRIBUTION.—Gulf of Suez and in the beach deposits of the Red Sea (Issel); Red Sea (Tryon). Coll. Geol. Surv. Egypt: Gernah, 50 foot beach (Nos. 2,031–2,057, Box No. 58j); east of Jebel Esh (Nos. 2,172–2,190, Box No. 64j).

Family STROMBIDÆ.

Strombus fasciatus, Born. (Pl. XX, Fig. 3.)

Strombus fasciatus, Born: Testacea Mus. Cæsarei Vindobonensis, 1780, p. 278
(= *lineatus*, Lam.).

DISTRIBUTION.—Red Sea, Gulf of Akaba, and beach deposits of the Red Sea (Issel); Red Sea to Philippines (Tryon). Coll. Geol. Surv. Egypt: Recent beach between Jebel Mellaha and Jebel Zeit (No. 2,159, Box No. 10j, and Nos. 2,162–2,167, Box No. 21j); east of Gharib (Nos. 2,227–2,254, Box No. 17j); south of Gharib light-house (Nos. 2,198–2,216, Box No. 53j); Gernsah, 50 foot beach (Nos. 2,031–2,057, Box No. 58j); east of Jebel Esh (Nos. 2,172–2,190, Box No. 64j); camp north of Wadi Gueh, west of Kosseir, 80 feet above sea (Nos. 1,655–1,657, Box No. 81j); Ras Gharib and Jebel Zeit (Barron); raised beach 80 feet above sea, Camp 6, Wadi Gueh (No. 1,571, Box No. 38k); raised beach, Camp 6, Wadi Gueh (No. 1,572, Box No. 52k, and Nos. 1,574, etc., Box No. 62k).

Strombus floridus, Lamarck.

Strombus floridus, Lamarck: Hist. Nat. Anim. sans Vert., vol. vii (1822), p. 211.

DISTRIBUTION.—Beach deposits near Kosseir (Fraas); Kosseir and Akaba Gulf (Issel); Zanzibar, Japan, Australia to Viti Islands (Tryon); Red Sea, Indian Ocean, Philippines (E. A. Smith). Coll. Geol. Surv. Egypt: raised beach 80 feet above sea, Camp 6, Wadi Gueh (No. 1,871, Box No. 38k); raised beach, Camp 6, Wadi Gueh (Nos. 1,574, etc., Box No. 62k).

Strombus fusiformis, G. B. Sowerby.

Strombus fusiformis, G. B. Sowerby: Thesaurus Conchyliorum, vol. i (1847), pl. ix, figs. 91, 92.

DISTRIBUTION.—Gulf of Akaba and beach deposits of the Red Sea (Issel); Aden, Red Sea, Indian Ocean, North Australia (E. A. Smith). Coll. Geol. Surv. Egypt: Gernsah, 50 foot beach (Nos. 2,031–2,057, Box No. 58j); Ras Gharib and Jebel Zeit (Barron).

Strombus tricornis, Lamarck.

Strombus tricornis, Lamarck: Hist. Nat. Anim. sans Vert., vol. vii (1822), p. 201.

DISTRIBUTION.—Red Sea, Kosseir, East Indies, etc. (Issel); Red Sea, Bourbon, Seychelles, Philippines (E. A. Smith). Coll. Geol. Surv. Egypt: raised beach 80 feet above sea at Wadi Gueh, Camp 5 (No. 1,607, Box No. 84j). A large cast in sandstone of most probably this species from raised beach north of Kosseir (No. 2,137, Box No. 30j); another cast which may have belonged to this species or to *S. Bonelli*, Brongniart, from raised beach 380 feet above sea near Camp 7, Wadi Shigeleh (No. 1,613, Box No. 65k).

Canarium dentatum, Linnæus, var. **erythrum**, Chemnitz.

Strombus dentatus, Linnæus: Systema Naturæ, 10th ed. (1758), p. 745.

Strombus erythrum, Chemnitz: Conchylien-Cabinet, vol. xi (1795), p. 146, pl. xciv, figs. 1,874, 1,875.

DISTRIBUTION.—Red Sea to Australia (Tryon); Red Sea, Indian Ocean, etc. (E. A. Smith). Coll. Geol. Surv. Egypt: east of Gharib (Nos. 2,227–2,254, Box No. 17j); raised beach 20 feet

above sea at Gharib lighthouse (Nos. 2,058–2098, Box No. 18*j*); Ras Gharib (Barron); 50 foot beach, Gamsah (No. 1,626, Box No. 65*k*).

Canarium gibberulum, Linnæus. (Pl. XX, Fig. 2.)

Strombus gibberulus, Linnæus: Systema Naturæ, 10th ed. (1758), p. 744.

DISTRIBUTION.—Beach deposits near Kosseir (Fraas, Gray & Frembley); Red Sea (Issel); Red Sea, Zanzibar to Philippines (Tryon); Aden, Red Sea, Indian Ocean, etc. (E. A. Smith). Coll. Geol. Surv. Egypt: raised beach 80 feet above sea, Camp 6, Wadi Gueh (Nos. 1,655–1,657, Box No. 81*j*, and No. 1,571, Box No. 38*k*); raised beach, Camp 6, Wadi Gueh (No. 1,598, Box No. 59*k*, and No. 1,574, etc., Box No. 62*k*); Jebel Zeit (Barron).

Pterocera millepeda, Linnæus.

Strombus millepeda, Linnæus: Systema Naturæ, 10th ed. (1758), p. 743.

DISTRIBUTION.—Red Sea and Indian Ocean (Issel); Indian Ocean to Philippines (Tryon). Coll. Geol. Surv. Egypt: 50 foot beach at Gamsah, south of Jebel Zeit (No. 1,819, Box No. 54*j*).

Family LAMPUSIIDÆ (= TRITONIDÆ).

Lampusia pilearis, Lamarck.

Triton pileare, Lamarck: Hist. Nat. Anim. sans Vert., vol. vii (1822), p. 182.

DISTRIBUTION.—Beach deposits of the Red Sea (Gray & Frembley, Issel); Red Sea to Philippines (Tryon); Aden, Red Sea, Indian and Pacific Oceans, etc. (E. A. Smith). Coll. Geol. Surv. Egypt: 50 foot beach at Gamsah, south of Jebel Zeit (Nos. 2,031–2,057, Box No. 58*j*).

Apollon tuberculatum, Broderip.

Ranella tuberculata, Broderip: Proc. Zool. Soc. London, 1832, p. 179.

DISTRIBUTION.—Red Sea, Indian Ocean, etc. (Tryon). Coll. Geol. Surv. Egypt: Recent beach between Jebel Mellaha and Jebel Zeit (Nos. 2,162–2,167, Box No. 21*j*); raised beach, Wadi Gueh, Camp 6 (No. 1,587, Box No. 49*k*).

Family CASSIDIDÆ.

Cassis (Casmaria) nodulosa, Gmelin.

Buccinum nodulosum, Gmelin: Systema Naturæ, 13th ed. (1790), vol. i, pt. 6, p. 3,479.

(Vars. = *torquata*, Reeve, *vide* Tryon.)

DISTRIBUTION.—Red Sea (Issel); Port Jackson, Australia (Tryon); Aden, Red Sea, Mozambique, Andaman Islands (E. A. Smith). Coll. Geol. Surv. Egypt: raised beach 20 feet above sea at Gharib lighthouse (Nos. 2,090–2,105, Box No. 20*j*).

Cassis (Semicassis) lævigata? Defrance.

Cassis lævigata, Defrance: Dict. Sci. Nat. (Paris), 1817, p. 210 (= *saburon*, Hörnes, *non* Lamarck).

This species is represented by casts only, hence its identification is a little doubtful.

DISTRIBUTION.—Miocene: Vienna Basin. Pliocene: Italian Basin. Coll. Geol. Surv. Egypt: raised beach east of Jebel Esh (Nos.

2,172–2,190, Box No. 64*j*); raised beach 380 feet above sea near Camp 7, Wadi Shigeleh (No. 1,642, Box No. 42*k*).

Family DOLIIDÆ.

Dolium variegatum, Lamarck.

Dolium variegatum, Lamarck: Hist. Nat. Anim. sans Vert., vol. vii (1822), p. 261.

DISTRIBUTION.—Gulfs of Suez and Akaba (Issel); North Australia (Tryon). Coll. Geol. Surv. Egypt: raised beach 2 or 3 feet above sea-level at Gernsah Bay, near Jebel Zeit, collected by Dr. Hume.

Dolium (Perdix) perdix, Linnæus.

Buccinum perdix, Linnæus: Systema Naturæ, 10th ed. (1758), p. 734.

DISTRIBUTION.—Beach deposits on the western shores of the Red Sea (Gray & Frembley); Indian Ocean to Polynesia (Tryon); West Indies, West Africa, Indian and Pacific Oceans (E. A. Smith). Coll. Geol. Surv. Egypt: beach near Dahab, Sinai (No. 4,325, Box No. 48*l*).

Family FASCIOLARIIDÆ.

Fusus polygonoides, Lamarck.

Fusus polygonoides, Lamarck: Hist. Nat. Anim. sans Vert., vol. vii (1822), p. 129.

DISTRIBUTION.—Red Sea (Issel); Eastern seas (B.M.); East Indies (Tryon). Coll. Geol. Surv. Egypt: Ras Gharib (Barron); Recent beach south of Gharib lighthouse (No. 2,203, Box No. 23*j*); beach against old island west of Camp 51, south of Gharib lighthouse (Nos. 2,021–2,030, Box No. 57*j*); raised beach 380 feet above sea near Camp 7, Wadi Shigeleh (No. 1,642, Box No. 42*k*).

Latirus turritus, Gmelin.

Voluta turrita, Gmelin: Systema Naturæ, 13th ed. (1790), vol. i, pt. 6, p. 3,456.

DISTRIBUTION.—Red Sea, Philippines, Australia, Polynesia (Tryon). Coll. Geol. Surv. Egypt: raised beach, Camp 6, Wadi Gueh (No. 1,597, Box No. 55*k*).

Family TURBINELLIDÆ.

Melongena (Volema) paradisiaca, Reeve.

Pyrula paradisiaca, Reeve: Conchologia Iconica, vol. iv (1847), fig. 17 (= *Pyrula nodosa*, Lamarck).

DISTRIBUTION.—Desert of Attaka and Red Sea (Issel); Red Sea and Ceylon (Tryon); Aden, Red Sea, Mozambique, Natal, Ceylon, Bourbon (E. A. Smith). Coll. Geol. Surv. Egypt: Recent beach between Jebel Mellaha and Jebel Zeit (No. 2,159, Box No. 10*j*); 50 foot beach at Gernsah (Nos. 2,031–2,057, Box No. 58*j*).

Vasum cornigerum, Lamarck. (Pl. XX, Fig. 12.)

Turbinella cornigera, Lamarck: Hist. Nat. Anim. sans Vert., vol. vii (1822), p. 105.

DISTRIBUTION.—Beach deposits near Kosseir (Fraas); Red Sea and Indian Ocean (Issel); Philippines (Tryon). Coll. Geol. Surv. Egypt: raised beach 80 feet above sea, Camp 6, north of Wadi Gueh, west of Kosseir (Nos. 1,653, 1,654, Box No. 80*j*); raised beach, Camp 6, Wadi Gueh (No. 1,595, Box No. 32*k*).

Family MITRIDÆ.

Mitra Bovei, Kiener.

Mitra Bovei, Kiener: *Spécies Général Icon. Coq. Vivantes*, monograph *Mitra*, p. 9, pl. ii, fig. 5.

DISTRIBUTION.—Red Sea (Issel, Tryon); beach deposits of the Red Sea (Issel). Coll. Geol. Surv. Egypt: raised beach 20 feet above sea at Gharib lighthouse (Nos. 2,058–2,098, Box No. 18j).

Mitra (Chrysame) rubiginea, A. Adams.

Mitra rubiginea, A. Adams: *Proc. Zool. Soc. London*, 1854, p. 134.

DISTRIBUTION.—Mauritius and New Caledonia (Tryon). Coll. Geol. Surv. Egypt: Recent beach between Jebel Mellaha and Jebel Zeit (Nos. 2,162–2,167, Box No. 21j).

Mitra (Chrysame) Ruppelli, Reeve.

Mitra Ruppelli, Reeve: *Conchologia Iconica*, vol. ii (1844), pl. xxiii, fig. 179.

DISTRIBUTION.—Beach deposits of the Red Sea (Issel); Gulf of Akaba (Issel); Red Sea (Tryon). Coll. Geol. Surv. Egypt: raised beach 20 feet above sea, Gharib lighthouse (Nos. 2,058–2,098, Box No. 18j).

Family BUCCINIDÆ.

Pisania ignea, Gmelin.

Buccinum igneum, Gmelin: *Systema Naturæ*, 13th ed. (1790), vol. i, pt. 6, p. 3,494.

DISTRIBUTION.—Red Sea to Philippines (Tryon). Coll. Geol. Surv. Egypt: raised beach 20 feet above sea, Gharib lighthouse (Nos. 2,058–2,098, Box No. 18j).

Columbella fasciata, G. B. Sowerby.

Columbella fasciata, G. B. Sowerby: *Cat. Shells Coll. Tankerville*, Appendix, 1829, p. 25.

DISTRIBUTION.—Java (Tryon). Coll. Geol. Surv. Egypt: 50 foot beach, Gemsah (Nos. 2,031–2,057, Box No. 58j); raised beach 20 feet above sea at Gharib lighthouse (Nos. 2,058–2,098, Box No. 18j).

Nassa pulla, Linnæus.

Buccinum pullus, Linnæus: *Systema Naturæ*, 10th ed. (1758), p. 737.

DISTRIBUTION.—Red Sea (Issel); Red Sea to Philippines (Tryon); Aden, Red Sea, Java, Philippines (E. A. Smith). Coll. Geol. Surv. Egypt: east of Gharib (Nos. 2,227–2,254, Box No. 17j); raised beach, Camp 6, Wadi Gueh (No. 1,587, Box No. 49k).

Nassa (Alectryon) glans, Linnæus.

Buccinum glans, Linnæus: *Systema Naturæ*, 10th ed. (1758), p. 737.

DISTRIBUTION.—Japan, Philippines, Australia (Tryon). Coll. Geol. Surv. Egypt: Ras Gharib (Barron).

Family MURICIDÆ.

Murex ternispina, Lamarck.

Murex ternispina, Lamarck: *Hist. Nat. Anim. sans Vert.*, vol. vii (1822), p. 158.

DISTRIBUTION.—Red Sea to Philippines (Issel, Tryon); Red Sea, Indian Ocean, China, Philippines, Japan (E. A. Smith). Coll.

Geol. Surv. Egypt: beach against old island west of Camp 51, south of Gharib lighthouse (Nos. 2,021-2,030, Box No. 57j).

Chicoreus anguliferus, Lamarck. (Pl. XX, Fig. 11.)

Murex anguliferus, Lamarck: Hist. Nat. Anim. sans Vert., vol. vii (1822), p. 171.

DISTRIBUTION.—Gulf of Akaba and beach deposits of the Red Sea (Issel); Red Sea and Indian Ocean (Tryon); Aden, Red Sea, Persian Gulf, Indian Ocean, Seychelles, Ceylon (E. A. Smith). Coll. Geol. Surv. Egypt: Recent beach south of Gharib lighthouse (No. 2,201, Box No. 22j).

Sistrum cancellatum, Quoy & Gaimard.

Murex cancellata, Quoy & Gaimard: Dumont d'Urville's "Voyage l'Astrolabe," vol. ii (1832), p. 563, pl. xxxvii, figs. 15, 16.

DISTRIBUTION.—Philippines to Sandwich Islands (Tryon). Coll. Geol. Surv. Egypt: beach east of Gharib (Nos. 2,227-2,254, Box No. 17j).

Sistrum elatum, Blainville.

Purpura elata, Blainville: Nouv. Ann. Mus. (Paris), vol. i (1832), p. 207, pl. xi, fig. 1.

DISTRIBUTION.—Philippines, etc. (Tryon); Red Sea, New Holland, Philippines (E. A. Smith). Coll. Geol. Surv. Egypt: Ras Gharib (Barron); beach east of Gharib (Nos. 2,227-2,254, Box No. 17j); raised beach 20 feet above sea at Gharib lighthouse (Nos. 2,058-2,098, Box No. 18j); recent beach between Jebel Mellaha and Jebel Zeit (Nos. 2,162-2,167, Box No. 21j); 50 foot beach, Gemsah (Nos. 2,031-2,057, Box No. 58j).

Family CORALLIOPHILIDÆ.

Magilus antiquus, De Montfort.

Magilus antiquus, De Montfort: Conchyliologie Systématique, vol. ii (1810), p. 42.

Piercing a coral, *Cæloria Arabica*.

DISTRIBUTION.—Red Sea (Issel, Tryon). Coll. Geol. Surv. Egypt: Jebel Zeit (No. 780, Box No. 49j); beach east of Gharib (Nos. 2,227-2,254, Box No. 17j).

Family OLIVIDÆ.

Oliva (Carmione) inflata, Lamarck.

Oliva inflata, Lamarck: Hist. Nat. Anim. sans Vert., vol. vii (1822), p. 429.

DISTRIBUTION.—Beach deposits of the Red Sea (Issel); Red Sea, East Africa, Madagascar, Seychelles (Tryon); Red Sea, Persian Gulf, Madagascar, Zanzibar, Mauritius, Ceylon, etc. (E. A. Smith). Coll. Geol. Surv. Egypt: Recent beach between Jebel Mellaha and Jebel Zeit (Nos. 2,162-2,167, Box No. 21j); shore and raised beach, Ras Mohamed, Sinai (No. 3,530, Box No. 45l).

Oliva (Ispidula) ispidula, Linnæus.

Voluta ispidula, Linnæus: Systema Naturæ, 10th ed. (1758), p. 730.

DISTRIBUTION.—Indian Ocean, Philippines (Tryon). Coll. Geol. Surv. Egypt: raised beach east of Jebel Esh (No. 2,172-2,190, Box No. 64j).

Ancilla cinnamomea, Lamarck.

Ancillaria cinnamomea, Lamarck: Hist. Nat. Anim. sans Vert., vol. vii (1822), p. 413 (= *crassa* and *albisulcata*, G. B. Sowerby, *vide* Tryon).

DISTRIBUTION.—Red Sea (Issel); Red Sea, Persian Gulf, Zanzibar (Tryon); Aden (E. A. Smith). Coll. Geol. Surv. Egypt: raised beach 20 feet above sea at Gharib lighthouse (Nos. 2,090–2,105, Box No. 20j).

Ancilla (Sparella) acuminata, G. B. Sowerby.

Ancillaria acuminata, G. B. Sowerby: Thesaurus Conchylorum, vol. iii (1866), pl. ccxiv, figs. 66, 67.

DISTRIBUTION.—Red Sea, Aden, Indian Ocean (E. A. Smith); Red Sea, Zanzibar (Tryon). Coll. Geol. Surv. Egypt: raised beach, Camp 6, Wadi Gueh (Nos. 1,574, etc., Box No. 62k).

Family PLEUROTOMIDÆ.

Pleurotoma Garnonsi, Reeve. (Pl. XX, Fig. 10.)

Pleurotoma Garnonsi, Reeve: Conchologia Iconica, vol. i (1843), pl. i, fig. 4.

DISTRIBUTION.—Red Sea to Java (Tryon). Coll. Geol. Surv. Egypt: Gemsah, 50 foot beach (Nos. 2,031–2,057, Box No. 58j).

Family TEREBRIDÆ.

Terebra Babylonica, Lamarck.

Terebra Babylonica, Lamarck: Hist. Nat. Anim. sans Vert., vol. vii (1822), p. 287.

DISTRIBUTION.—China, Viti Islands (Tryon). Coll. Geol. Surv. Egypt: Jebel Zeit (Barron).

Terebra cancellata, var. columellaris, Hinds.

Terebra cancellata, Quoy & Gaimard: Dumont d'Urville's "Voyage l'Astrolabe," vol. ii (1832), p. 471, pl. xxxvi, figs. 27, 28.

Terebra columellaris, Hinds: Proc. Zool. Soc. London, 1843, p. 151.

DISTRIBUTION.—Moluccas, Philippines, Viti Islands, Sandwich Islands (Tryon). Coll. Geol. Surv. Egypt: Jebel Zeit (Barron).

Terebra consobrina, Deshayes.

Terebra consobrina, Deshayes: Proc. Zool. Soc. London, 1859, p. 305.

DISTRIBUTION.—Red Sea (Issel, Tryon). Coll. Geol. Surv. Egypt: Recent beach between Jebel Mellaha and Jebel Zeit (Nos. 2,162–2,167, Box No. 21j); Gemsah, 50 foot beach (Nos. 2,031–2,057, Box No. 58j); Sinai (Box No. 3,516l).

Terebra crenifera, Deshayes.

Terebra crenifera, Deshayes: Proc. Zool. Soc. London, 1859, p. 298 (= *cingulifera*, Lamarck, *vide* Tryon).

DISTRIBUTION.—Philippines, New Ireland, Viti Islands, China (Tryon); China Sea (B.M.). Coll. Geol. Surv. Egypt: 50 foot beach at Gemsah (Nos. 2,031–2,057, Box No. 58j).

Terebra duplicata, Linnæus. (Pl. XX, Fig. 6.)

Buccinum duplicatum, Linnæus: Systema Naturæ, 10th ed. (1758), p. 742.

DISTRIBUTION.—Beach deposits of the Red Sea (Gray & Frembley, Issel); Gulf of Akaba, Zanzibar, China, Madagascar, Moluccas (Issel, Tryon). Coll. Geol. Surv. Egypt: east of Gharib (Nos. 2,227–2,254, Box No. 17j); Gharib lighthouse, 20 feet above sea (Nos. 2,090–2,105, Box No. 20j); Gemsah, 50 foot beach (Nos. 2,031–2,057, Box No. 58j); Jebel Zeit (Barron).

Terebra (Subula) maculata, Linnæus. (Pl. XX, Fig. 7.)

Buccinum maculatum, Linnæus: *Systema Naturæ*, 10th ed. (1758), p. 741.

DISTRIBUTION.—Gulf of Suez, Gulf of Akaba, Society Islands, Moluccas, Australia (Issel, Tryon). Coll. Geol. Surv. Egypt: lower coral reef north of Ras Mohamed or Ghazlandi Bay (No. 3,502, Box No. 411).

(To be concluded in our next Number.)

V.—NOTE ON THE HORIZON AND LOCALITY OF SOWERBY'S TYPE-SPECIMEN OF *NAUTILUS TRUNCATUS*.

By G. C. CRICK, F.G.S., of the British Museum (Natural History).

NAUTILUS TRUNCATUS was described and figured by J. Sowerby in the "Mineral Conchology," vol. ii, p. 49, pl. cxxiii, April, 1816, his description and remarks being as follows:—

"*Spec. char.* Thick, flattened, plain, umbilicate; back flat, mouth elongated, four-angled: siphuncle nearest to the inner margin of the septum.

"*Syn.* Lister, 1048.

"Thickness rather less than half the diameter; the sides are rather conical and even. Mouth above half the diameter of the shell, long, narrowest towards the back, siphuncle oval. Septa very numerous, not recurved towards the umbilicus.

"A fine specimen of this species is figured by Lister, measuring ten inches in the longest diameter; no doubt, when perfect it is sometimes much larger: mine is eight inches, I figure a part of it, as sufficient; the remainder is a broken continuation of it. I have never seen the last chamber. This is composed of a mixture of dark lias limestone and pyrites, found at Keynsham, S.E. of Bristol. It is also said to be found in the blue lias of Bath, etc. Lister does not say where his specimen was found; his figure shows about three whorls, mine did not expose them; possibly when the shell is removed the whorls may be uncovered. Mine has fragments of the shell of considerable thickness about it, indicating that it was smooth when perfect."

Sowerby's type-specimen, of which only a portion was figured, is now in the British Museum collection (register No. 44,117a). In his remarks, Sowerby says he had never seen the last chamber, by which statement he must mean that he had not seen the *whole* of the last chamber, for half of the unfigured portion of the specimen is an internal cast of a portion of the body-chamber, the rest being composed of internal casts of the last four loculi¹ or cameræ. The umbilicus was evidently closed.²

In his "Supplemental Index" (p. 251) to vol. ii of Sowerby's "Mineral Conchology," Farey gives for this species the localities "Bath W, and Keynsham."

¹ Usually called 'air-chambers.'

² The specimen figured by Lister evidently had an open umbilicus, and, judging by the figure, it was, I believe, from the Calcareous grit, and is referable to J. de C. Sowerby's *Nautilus hexagonus* (Min. Conch., vol. vi, 1826, p. 55, pl. dxxix, fig. 2).