Art. XLIII.—*Notes on the Family Pyramidellidæ;* by K. J. Bush, Ph.D.

[Brief Contributions to Zoology from the Museum of Yale Univ.—lxix.]

There has recently been published by the Boston Society of Natural History an article on the very interesting family of Pyramidellidæ, written by Mr. Paul Bartsch,* Assistant Curator in the Department of Mollusks of the U. S. National Museum at Washington City, D. C.

In his introduction the author carefully reviews all of the literature relating to this family from the northeast coast of America, naming the species in each work, from Thomas Say, in 1821, to George W. Tryon, in 1886. He states that his paper is largely based on the U. S. National Museum collections; that he had also for study the collection from the Philadelphia Academy of Sciences and the large private collection of Rev. H. W. Winkley, etc. etc. Quoting, as regards the synonymy: "In the present paper we have confined ourselves to the specimens at hand and to citations of literature necessary to a complete understanding of the nomenclature." A further review of the work on this family, undertaken since 1886, and overlooked by Mr. Bartsch, may prove of interest to those studying this group.

The Pyramidellidæ† belonging to the fauna of the east Atlantic have never been studied as a whole, but several students of Malacology had described a comparatively few species, those of special interest in this connection being from different localities along the coast of New England, West Indies, and Florida; in many instances without figures and, most unfortunately, if figures were attempted, they are at the present time considered too poor for accuracy in determining the species.

About 1896 the entire, very large collection of the Pyramidellidæ made by the U. S. Fish Commission during the years from 1872 to 1887, from the Bay of Fundy and the Banks of Newfoundland, south to Cape Hatteras, N. C., as well as many collections made by others at Labrador, Florida, and the Bermudas, in the Museum at Yale University were given into my charge to prepare for publication. In this connection a card catalogue of between 250 and 300 specific names referred to about 75 genera or subgenera was made.

* Pyramidellidæ of New England and the adjacent region. Proceedings Boston Society of Natural History, vol. xxxiv, pp. 67–113, plates 11–14, 1909.

† This group as given by Tryon (Manual of Conchology, vol. viii, parts 32 and 33, pp. 294 to 413, pls. 72 to 79, 1886) is a compilation of all known species with their descriptions and figures; a new name is proposed where a former one proves preoccupied.

There were in existence at that time three or rather four small collections of species belonging to the genera *Turbonilla* and *Odostomia* of special interest; one at the Museum at Amherst College; one at the State Museum at Albany, New York; one at the Academy of Sciences of Philadelphia; and the fourth in the National Museum at Washington. The first contained the types of C. B. Adams;* the second the specimens used in W. G. Binney's Gould;† the third those who by G. W. Tryon in his Manual of Conchology; and the last the species described by Dr. Dall‡ from Florida.

On visiting Amherst College I found that the C. B. Adams' specimens had been misplaced, and for the time lost track of, (I understand they were subsequently studied at the National Museum). Professor John W. Clarke, then in charge of the Albany Museum, failed to find the specimens belonging to this group in the Gould collection. On request, those at Philadelphia were loaned me for study and proved of so great interest that I published a short report on them with one plate in the Proceedings of the Philadelphia Academy, in 1899.§ Cotypes and other specimens were also sent me by Dr. Dall.

After several months of arduous work I had the collection ready for the descriptions of the numerous new species, fine figures of which had been prepared and arranged in plates. This work was then laid aside for other of more importance on different groups of mollusks; and most unfortunately has never been completed and published; although an attempt was being made to do so in the near future.

In 1900, jointly with Professor Verrill,‖ I published a report on the mollusks from the Bermudas, in which we described some new species of *Turbonilla* and *Odostomia* and in several instances reëstablished some of the genera or subgenera described by A. Adams, restricting them to definite types for the first time.¶

* Descriptions of Supposed New Species of Marine Shells which Inhabit Jamaica. Contributions to Conchology, No. 5, pp. 72-75, 1850.

† Report on the Invertebrata of Massachusetts, pp. 324-333, text figures, Boston, 1870.

‡ On a Collection of Shells sent from Florida by Mr. Henry Hemphill. Proceedings U. S. National Museum, vol. vi, p. 332, Washington, D. C., 1883.

§ Descriptions of new species of *Turbonilla* of the western Atlantic Fauna, with notes on those previously known. Proceedings Academy Natural Sciences of Philadelphia, pp. 145-177, pl. viii, 1899.

‖ Additions to the Marine Mollusca of the Bermudas. Transactions of the Connecticut Academy of Sciences, vol. x, pp. 528-535, pls. lxiv-lxv. New Haven, Conn., 1900.

¶ *Pyrgostelis* Monterosato, 1884 : type—*P. rufa* (Philippi). V. & B., 1900 + D. & B., 1904. *Mumiola* A. Adams, 1864 : type—*M. spirata* A. Adams, 1860. V. & B., 1900 + D. & B., 1904 (not *Mumiola* Monterosato, 1884 = *Odostomiella* B. D. & D., 1883). *Mormula* A. Adams, 1864; type—*M. rissoina* A. Adams. V. & B., 1900 + D. & B., 1904. *Cyclodostomia* Sacco, 1892;

In 1902, I visited the National Museum and found that Dr. Dall had given the species from the west coast of America, belonging to this group, to his assistant, Mr. Bartsch, to work up, as I had those of the east coast. In this connection rare species and types, both fossil and recent, were loaned by foreign museums,* (especially the Berlin Museum, in which were the collections of H. and A. Adams, Pætel, Dunker, and Hilgendorf; and the British Museum, where are the collection of D'Orbigny and many others having species belonging to this group; as well as the Museum at Copenhagen.) Figures were being made so that in the future there could, or rather would, be but small chance for errors in the identification of species.

In 1903, an extensive report on fossils of California was published by Mr. Arnold, in the California Academy of Sciences. In this, Dr. Dall and Mr. Bartsch furnished the part on mollusks, and the senior author credited the work on the family Pyramidellidæ to Mr. Bartsch.

Also, in 1904, a "Synopsis of the Genera, Subgenera, and Sections of the Family Pyramidellidæ" was published by these authors in the Bulletin of the Biological Society of Washington.† Quoting from the introductory remarks, "The synonymy, which is very involved, is reserved for another paper in which the species of the west coast of America will be monographically treated. It was thought best to put on record the classification adopted, so that before the paper referred to appears the authors may have the benefit of criticism from other students."

Since the publication of my article in 1899, collectors of mollusks from California, Florida, and various places along the coast of New England have sent or brought their specimens to me for the identification of the species. This has been a source of great pleasure, as well as profit, as it enabled me, not only to become acquainted with rare species, as there was often but one specimen of a kind, but in instances where there were several, duplicates were given me, which were placed in our museum collection. When new forms appeared from the west coast they were referred to Mr. Bartsch; and those from

type—*C. mutinensis* Sacco. V. & B., 1900+D. & B., 1904. *Exalea* A. Adams, 1860; type—*E. elegans* A. Adams. V. & B., 1900+D. & B., 1904. *Cingulina* A. Adams, 1860; type—*C. circinata* A. Adams. V. & B., 1900+D. & B., 1904. *Miralda* A. Adams, 1864; type—*M. diadema* A. Adams. V. & B., 1900+D. & B., 1904. In three instances (*Mumiola*, *Mormula*, and *Cingulina*), although citing the same type, these authors differ in the interpretation of the generic relations of these subgenera.

* Dall, in Dall and Bartsch. Notes on Japanese, Indopacific, and American Pyramidellidæ. Proceedings U. S. National Museum, vol. xxx, pp. 221–269, pls. xvii–xxvi. Washington, 1906.

† Vol. xvii, pp. 1–16.

Florida to Dr. Dall; those from the New England localities were given an initial letter, as it was not considered advisable to give out manuscript names. In one instance, as a report on a collection from Coldspring Harbor, L. I., by Mr. Balch* of Boston, these initial letters were published and full credit given me.

Among the most frequent visitors at the Museum was Rev. Henry W. Winkley, then of Branford, Connecticut, who is a most enthusiastic student and collector of New England mollusks; principally at Prince Edward Island, N. S., Casco Bay, Woods Holl, Mass. and Branford, Conn. His collection is unique in having numerous perfect specimens of the various species, and was of inestimable value in enabling me to decide many difficult questions of the correct identification in this puzzling group. To Mr. Winkley I also refused to give my new unpublished names, but used the same initial letters as for Mr. Balch. There were in his collection representatives of many of the new forms found in that of the U. S. F. C. as well as a few unique ones, not among the U. S. F. C. specimens.

These specimens from Mr. Winkley's collection are cited by Mr. Bartsch (p. 475), but no mention whatever is made of the fact that any student had seen the specimens or determined them.

Among the thirty-eight (38) species cited and described in his report, and in most cases figured, there are seven (7) which he has never seen (*E. ventricosa* V. (not Forbes), *T. polita* V., *T. æqualis* (Say) V., *O. bruneri* V., *O. morseana* B. for *O. sulcata* V. (not *A.* Adams). *O. dealbata* (St.) Binney-Gould, *O. eburnea* (Stimpson) V.); six (6) from Winkley's collection, as types, with two (2) (*P. producta* (C. B. Adams) and *T. mighelsi* B. for *T. costulata* V. (not Risso). Fifteen (15) are represented in the Winkley collection, as well as in that of the U. S. F. C. in the National Museum; and eight (8) are from the U. S. F. C. collection alone. Of these, three (3), *T. cascoensis*, *T. verrilli*, and *O. bushiana* are described as new. The new subspecies or varieties, *T. abyssicola*, *T. branfordensis*, *T. senilis*, *O. bedequensis*, and *O. ovilensis*, are not included in this enumeration.

The two specimens identified as *Eulimella ventricosa* Verrill, 1880 (not Forbes, 1843), have proved to be two distinct species. The worn one from Eastport, Me., is now considered identical with *Eulimella polita*, Verrill, 1872, and the one from Station 873 is an *Aclis tenuis* Verrill, 1882. Therefore the name *Pyramidella* (*Eulimella*) *ventricosa* Bartsch (p. 70) is superfluous.

* Proceedings Boston Society of Natural History, vol. xxix, pp. 145–146, 1899.

The referring in 1884, of the three species *chariessa*, *nitida*, and *lucida* to the genus *Eulimella*, instead of *Eulima*, was probably an accidental error overlooked in reading the proof. This correction, noted on p. 71, has long stood on our distribution sheets, but never having been published was a MS. name. As *lucida* is a true *Eulima*, the name does not now conflict with *Eulimella* (*Syrnola*) *lucida* A. Adams, 1870; but the name *nitida* Verrill, 1884, is preoccupied by *Melania nitida* Philippi, 1844=*E. intermedia* Cantraine, 1835, and by *Eulima nitida* A. Adams, 1866=*E. nitidula* A. Adams, 1861; also by *Leiostraca nitida* A. Adams, 1861=*Eulima* Tryon, 1886, and will therefore take the new name, *Eulima verrilliana*.*

There seems to be no reason for dropping the final *i* used in the original spelling of *smithii* Verrill (p. 71), nor for placing the species in the subgenus *Syrnola*, rather than in the subgenus *Eulimella*, used by Verrill in 1882. The use of *Turbonilla* for *Syrnola tryoni* is a typographical error for *Eulimella*.

The referring of *fusca* C. B. Adams from New Bedford, Mass. (p. 73) to *Pyramidella* (*Syrnola* ?) seems unnecessary. The species, although brown in color, has the form of a typical *Odostomia*, and should be reëstablished in that genus, as given by Gould, 1840. Adams' figure is poor and is like our *bisuturalis* without sculpture. Gould's two figures 1840 and 1870 are larger with more flattened whorls and more gradually tapered spire.

There is great variation in the relative stoutness among the many specimens of *Turbonilla bushiana* Verrill (p. 79), as well as in the relative strength of the axial ribs; those having well-developed ribs received the subspecific name, *abyssicola* suggested as a variety by Verrill and Bush in MS. There are comparatively few specimens which differ from both the typical and subspecific forms, going to the opposite extreme, in being entirely destitute of definite axial ribs, the surface smooth and shining, often iridescent; for these we propose the new subspecific or varietal name *inornata*. All the specimens which I have studied are destitute of spiral lines,

* *Eulima distorta* Verrill, 1881=*Eulima perversa*, new name. It is similar to *E. arcuata* C. B. Adams, 1850=new name ?, not *E. arcuata* Sowerby, 1866=*E. major* Sowerby, 1834; Dall, 1889; not *Odostomia arcuata* A. Adams, 1860.

Like *E. distorta* G. O. Sars, pl. 11, fig. 23, 1878, not *E. distorta* Deshayes (Compared with typical specimens from Monterosato). not *Melania distorta* Philippi, 1836=*E. incurva* Renieri, 1804; not *Melania distorta* Defrance, 1824=new name ?, not *Leiostraca distorta* Pease, 1860=*Eulima*, new name ?

Eulima intermedia Verrill, 1881=*Eulima Sarsi*, new name; not *E. intermedia* Cantraine, 1835; not *Dunkeria intermedia* Carpenter, 1857=*Odostomia* (*Dunkeria*); not *Odostomia intermedia* Brusina, 1869=*Odostomia canaliculata* Philippi, 1844.

as the exceedingly fine microscopic striæ, always discernible under high power objectives, are not taken into consideration. Therefore its relation to the subgenus *Strioturbonilla* (p. 79) seems imaginary. This subgenus is described by Sacco, "Testa sicut in *Turbonilla* (stricta sensu) sed transversin striolæ parvillimæ (sub lente vix visibiles)," etc., etc., and his figure of *S. apicina* shows many very fine, distinct, incised spirals between the ribs and on the base, similar to the sculpturing found in the true *T. interrupta* (p. 481).

The *Turbonilla polita* Verrill, 1882 (p. 75) does not conflict with *Odostomia polita* Bivona, 1832; nor Pease, 1867.

For discussion of the genus *Turbonilla* (p. 76) and type see p. 483. The name *nivea* is extensively used in this group, but *Turbonilla nivea* (Stimpson, 1851 and 1853) from 40 fms. off Grand Menan, N. B., has priority. The shallow water species described and figured as *nivea* by Bartsch (p. 77) is not like the typical specimen from U. S. F. C. Station 871, off Newport, R. I. in 115 fms., 1880, described by Verrill* in 1881, (the specimen cited from Station 949 is the true *nivea*). The axial ribs end just above the deep suture; the intercostal spaces showing a basal curve, thus leaving a very narrow, smooth, sutural area. The whorls are less rounded than indicated in the figure, p. 484, f. 1. The *nivea* Bartsch is a typical *T. stricta* Verrill. In a lot of over 20 specimens, from Vineyard Sound, there is great variation in the number and width of the axial ribs. The largest specimen, having 10 postnuclear whorls, is like Bartsch's figure 9, Plate II, but is not the *T. stricta* Bartsch, figure 6, which is a typical *T. æqualis* Say (p. 78). [See p. 484, f. 5, from Woods Holl, Mass., 1882.]

The *Triptychus niveus* Mörch, 1875 (type and only species of the genus) is described as having a few spiral liræ; the liræ extending into the aperture forming three plications on the columella. Aperture subemarginate anteriorly, somewhat excavated below the liræ. Nucleus reversed.

The nucleus is the only character showing any relation to the Pyramidellidæ. The aperture would exclude it, as it shows nearer affinity to the genus *Cerithiopsis*. Dr. Dall, 1889 (also Dall and Guppy, 1896), suggested its being synonymous with *Oscilla*, which seems hardly possible; *indiscreta* Guppy, 1896, is described and figured as *Triptychus* (*Oscilla*). The *Pyramidellida vincta* Dall is placed as a synonym of *T. niveus* Mörch by Tryon, 1886. Although stating that "The shell is scarcely a *Pyramidella*—the sculpture and plications are different," Tryon uses *Triptychus* as a section of the Pyramidellidæ, and Dall and Bartsch, 1904, p. 5. as a subgenus. The *Dunkeria falcifera* Watson, 1885, from Bermuda may prove to have affinity to this group.

* Proceedings U. S. National Museum, vol. iii, 1881, p. 379.

The genus *Peristichia* Dall, 1889 (type *P. toreta* Dall, 1889), used as a subgenus of *Turbonilla*, 1904, p. 9, seems to have more affinity to *Rissoina* than to any genus among the Pyramidellidæ.

The name *Turbonilla areolata* Verrill is not preoccupied by *Turritella areolata* St., 1851, nor *Chemnitzia areolata* Rayneval, 18—, which is equal to *Turbonilla indistincta* Montagu (teste Jeffreys, 1884). This rare species, p. 484, f. 4 (type from New Haven, Conn.), described by Verrill, 1874, has flattened whorls, giving it an obelisk-like form. The axial ribs are narrow, with wide, shallow, intercostal spaces, crossed by five distinct, incised lines or series of pits. In some specimens the axial ribs appear only as interruptions of the spiral sculpture. The *areolata* of Bartsch (p. 86, pl. 12, figs. 19, 24) is another species similar to *Turbonilla* (*Pyrgiscus*) *vineæ* Bartsch (p. 83).

TURBONILLA INTERRUPTA (Totten) Bush, 1899, pp. 148–151.

Turritella interrupta Totten, 1835, p. 352, fig. 7. Type locality,—Newport Harbor, R. I.
Not *Chemnitzia interrupta* A. Adams, 1853.
Not *Turbonilla interrupta* C. B. Adams in Amherst collection.
Not *Turbonilla* (*Pyrgiscus*) *interrupta* Bartsch, 1909.
Not *Eulima interrupta* Sowerby, 1834. =*Niso* Sowerby, 1854.
Not *Eulima interrupta* A. Adams, 1884, =*Eulima secunda*, new name.

An historical sketch of this species was given by me in 1899. Figure 9, produced here for the first time, is from an U. S. F. C. specimen dredged in 1880, at station 770, Narragansett Bay, in 8 fathoms. The specimen measures about 5^{mm} in height and about 1·5^{mm} in breadth. Figure 10 is a piece of the shell greatly enlarged to show the character of the microscopic sculpture, especially the incised or impressed spiral lines. These incised lines, varying in width, produce an alternating series of apparently raised ones, often arranged indistinctly in pairs, and agree well with the description given by Totten.

The specimen described (p. 87) and figured by Bartsch, unfortunately does not agree with this, therefore I would distinguish it as *Turbonilla pseudointerrupta*, new name.

The shells, as a rule, are of a lustrous white color, semitransparent when fresh, often with one, sometimes two, delicate median, or sutural and median bands of rufous; in some of the most mature specimens this color entirely covers the whorls, especially the upper ones.

Turbonilla (*Pyrgiscus*) *buteonis* Bartsch (p. 89) is the same as sp. f′ in our U. S. F. C. collection.

Turbonilla (*Pyrgiscus*) *sumneri* Bartsch (p. 92), type and only specimen, is probably the young of a more common species. The young often appear disproportionately stouter than the adult forms.

Odostomia (*Chryssalida*) *bushiana* Bartsch (p. 99) is like specimens in our U. S. F. C. collection from shallow water off Cape Hatteras, N. C. There is also a small lot from Vineyard Sound, Mass. (Not *Odostomia bushiana* Jeffreys, 1884.)

The *Odostomia* (*Iolæa*) *hendersoni* Bartsch (p. 101) is identical with specimens from Woods Holl, Mass., in our own collection, identified as an immature *Aclis striata* Verrill, 1880. Its generic affinity needs further study, as it is very doubtful whether it can be related to the Pyramidellidæ. As *Iolæa* (p. 101) is described as having spiral cords and axial riblets, this species is erroneously referred to this subgenus, for it has but a few very fine spiral incised lines.

Odostomia (*Menestho*) *bruneri* Verrill, 1882 (p. 102). Type and only specimen is lost.

Odostomia (*Menestho*) *sulcata* Verrill, 1880 and 1882 (p. 484, f. 2, from Georges Bank, in 45 fms.), is *O. sulcosa* Mighels, 1843 (*Phasianella* Mighels and *Rissoella* Stimpson ; Binney-Gould, 1870). The name *morseana* Bartsch (p. 104) is, therefore, not needed.

There is so great variation found among a large series of specimens of *Odostomia bisuturalis* Say and *O. trifida* Totten (pp. 104–108) that it seems desirable to unite the two forms under *bisuturalis*, with subspecies *trifida ;* the *exigua* Couthouy, 1838 (p. 106) also being a possible subspecies. The subspecies *ovilensis* Bartsch (p. 107) is simply a very large form. The subspecies *bedequensis* Bartsch (p. 106) is much more nearly related to *O. impressa* Say (p. 103). In fourth line of the description, axial is undoubtedly intended for "spiral." In a marginal note p. 328 in Binney–Gould, 1870, Prof. Verrill has written : "Have seen shell figured (597). It is a genuine *O. trifida.*" Below, under *O. trifida*, he adds "*Pasithea sordida* Lea (this Journal, vol. xlii, p. 110, pl. i, fig. 6) to the synonymy.

Odostomia (*Odostomia*) *modesta* Bartsch (p. 108, pl. 13, fig. 50) is distinct from the *O. modesta* Verrill, from Eastport, Me. (p. 484, f. 8), which has flattened whorls and a somewhat angular body whorl, and much more prominent nucleus. Therefore it requires the new name *Odostomia gibbosa*, not preoccupied by the *Chemnitzia gibbosa* Carpenter, 1857, which is a *Turbonilla*.

The *Odostomia* (*Liostomia*) *eburnea* (*Rissoa* and *Rissoella* Stimpson), 1851 (p. 109) is not the same as that in Binney-Gould, 1870, p. 297. Specimen, p. 484, f. 7, is from Mt. Desert, Me., collected by W. E. Cleaveland, 1862.

Odostomia (*Odostomia*) *dealbata* (Stimpson) (p. 108) is not the same as fig. 595 given in Binney-Gould, p. 327. This, as indicated in a marginal note, represents a "much larger and different species" which may be called *O. Gouldii*, new name. F. 6 is a typical form from Vineyard Sound, Mass., 1875.

Odostomia producta (C. B. Adams) Gould, 1840 (p. 72) from Wood's Holl, Mass., is shown on p. 484, f. 11.

Turbonilla elegantula Verrill (p. 84). The type is from Vineyard Sound, Mass., 1875 (f. 12, p. 484).

Turbonilla costulata Verrill, 1874. The type from New Haven, Conn. (p. 484, f. 3), is not the *Turbonilla* (*Pyrgiscus*) *mighelsi* (Bartsch), p. 88. It is a very stout form of *Turbonilla interrupta* (Totten) and may be designated as variety *obesa*, new name.

At the time of defining the genus *Turbonilla* Risso, 1826, (1899, p. 147), I had failed to notice that the genus had been proposed for three fossil species, as stated by Jeffreys in his British Conchology, vol. iv, p. 108. "In 1862 [for 1826] Risso (Hist. Nat. l'Em. Mer., iv, p. 224) formed the genus *Turbonilla*, on the MS. authority of Leach, for three fossil species;" etc., etc. Although I may have erred in naming the recent species, *T. lactea* (Linné) = *T. elegantissima* (Montagu) for the type species, I did not in any way interfere with the correct interpretation of the genus.

I also divided and subdivided it (pp. 172–174), according as the species had not, or had, spiral sculpture; the second division according to the character of these markings. Clearly defined these and designated them by initial letters, as I did not feel competent to make use of the names which had been proposed by Adams and others. In no case had Adams designated a type species, as such, and in many instances he had grouped several dissimilar forms. The difficulty of correctly interpretating these was greatly increased by the lack of good figures. Lists of the species, which had been discussed in the foregoing pages, were given under each division, so that it was hardly possible for any one to misunderstand my meaning. In 1900, Professor Verrill and I did adopt some of Adams' names, restricting them to definite types for the first time, as well as the names proposed by Monterosato, Sacco, and others (p. 476).

As no complete synonymy was given by Messrs. Dall and Bartsch in 1903 and 1904, these facts were not mentioned, but why Mr. Bartsch in 1909 should fail to note them, as they seriously affect the correct authorities for the combination of names, does not appear.

There seems to be no reason for the new name *T. typica* Dall and Bartsch, 1903 and 1904 (Bartsch, 1909, p. 76) for *T. plicatula* Risso not Scacchi, for not only should my type of 1899 stand, having priority and also being the first one designated for the genus, but some authors, followed by Tryon, 1886, make *plicatula* Risso, *elegantissima* Montagu, and *lactea* Linné synonymous. Sacco, 1892 (p. 654) gives *lactea* as his first species under *Turbonilla*, with sixteen (16) named varieties; *Chemnitzia elegantissima* (Montagu) as a synonym of the first, *var. Campanellæ*.

Zoological Department, Yale University Museum, May, 1909.

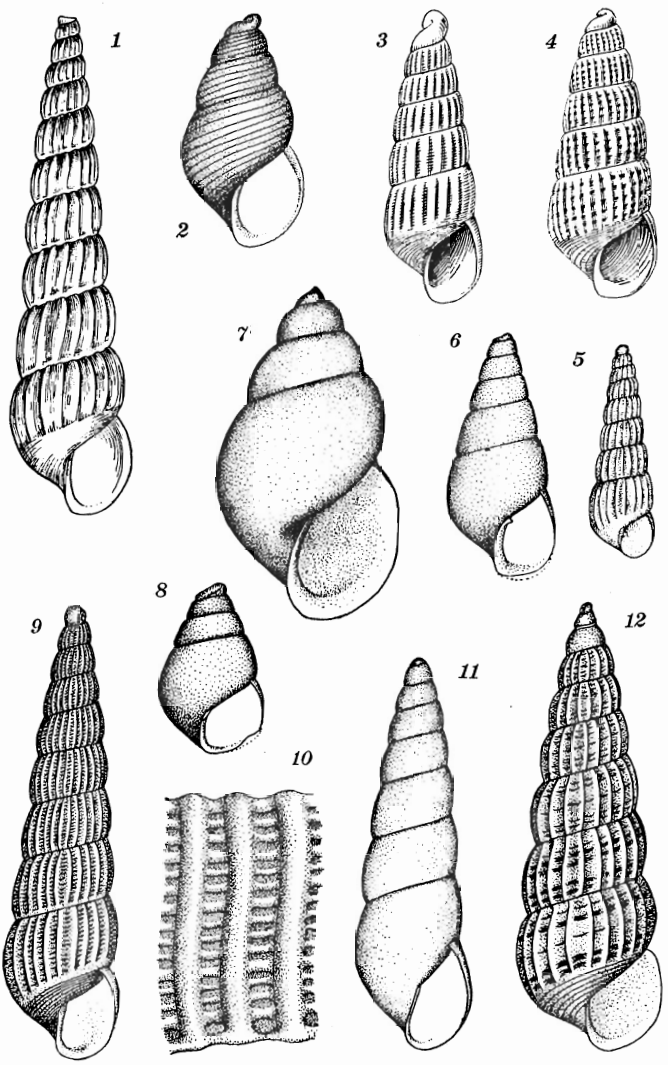

Fig. 1.—*Turbonilla nivea* (St.) V., × 10, p. 480.
Fig. 2.—*Odostomia sulcosa* (M.), × 10, p. 482.
Fig. 3.—*Turbonilla interrupta* (T.) var. *obesa* n. n., × 10, p. 483.
Fig. 4.—*Turbonilla areolata* V., × 10, p. 481.
Fig. 5.—*Turbonilla æqualis* (Say) V., × 8, p. 480.
Fig. 6.—*Odostomia dealbata* (St.) Gld., × 9, p. 483.
Fig. 7.—*Odostomia eburnea* (St.) Gld., × 13, p. 483.
Fig. 8.—*Odostomia modesta* St., × 9, p. 482.
Fig. 9.—*Turbonilla interrupta* (T.) Bush, × 12, p. 481.
Fig. 10.—The same. Sculpture, much enlarged.
Fig. 11.—*Odostomia producta* (C. B. Ad.) Gld., × 9, p. 483.
Fig. 12.—*Turbonilla elegantula* V., × 13, p. 483.