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SYNOPSIS OF THE GENERA, SUBGENERA AND SECTIONS OF THE FAMILY PYRAMIDELLIDÆ.

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The Pyramidellidæ, a family of Mollusks mostly of small size and world-wide distribution, occur fossil first in the Cretaceous, are numerous in the Tertiary, but perhaps are most fully developed in the existing faunas. Very numerous names have been applied to them, sometimes under the impression that the pillar is not plicated in a particular group, a mistake which, by grinding down the whorls, can be corrected; the missing plications being present but falling a little short of reaching a point in the aperture where they are visible externally. In all the forms of which the soft parts are known the external anatomy is very similar. In examining a large series of forms, as noted by Fischer, intermediate types appear until it becomes a matter of great difficulty to decide where, if anywhere, the generic lines can be drawn, and it is not surprising that some authors have fallen back on the expedient of regarding most of the species, notwithstanding the contrasting extremes, as belonging to a single genus. Where a group is composed of such a multitude of species it seems more convenient in practice and leads more efficiently to clear thinking, to take the other view, and subdi-

vide the groups sufficiently to make it reasonably clear where a given species belongs in the series.

In the absence of anatomical characters it has been necessary to fall back in large part on the form, ornamentation, and plications of the pillar, as distinctive characters, even while we admit that between the different sections some intermediate forms may occur. So many names have been applied to members of the group that in most cases it has not been necessary to coin new denominations. 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. Many of the specific names given in the past have been repeatedly used for different species, rendering it necessary in many cases to give new ones. In all cases the synonymy adopted has been based on researches which have begun with the typical species of the original authors, which in some of the most anciently named forms has involved no little labor. Wherever any doubt existed in regard to the characters the specimens have been ground down until the pillar has been made visible over a great part of its extent, and in all cases the characters recorded are the result of microscopic study. Only a few of the many named forms have been inaccessible, as the collection of the U. S. National Museum is remarkably rich in species of this group.

The senior author thinks it only just to state that by far the greater part of the work is due to his associate, who has for several years given unwearied attention to these minute and difficult objects of study. The facilities of the National Museum have been constantly at the disposition of the writers, and most of the types are contained in its collection, though thanks for material lent for study are due to the Academy of Natural Sciences of Philadelphia, the authorities of Amherst College, the Zoological Museum of Copenhagen, and numerous private students to whom a fuller acknowledgment will be made in the monograph already alluded to, which is nearing its completion.

The name *Obeliscus* appeared in the *Museum Calonnianum* in 1797, without a diagnosis or figure. This work is anonymous,

and this has been regarded as a sufficient reason for rejecting this and other names contained in it, as it is known that Humphrey, who was an auctioneer and dealer, usually credited with the authorship, is not the author, and the work itself is of no scientific value.

Family Pyramidellidæ.

Gastropods with the radula absent or obsolete; the operculum ovoid, paucispiral, with the apex anterior, a thread-like arcuate ridge on the proximal side, the inner margin notched in harmony with the plaits of the pillar when prominent; foot short, moderately pointed behind, with a small operculigerous lobe above and sometimes a small tentacular appendix on each side, in front feebly auriculate or undulate; mantle feebly canaliferous on the right upper margin; a single branchia; verge sub-cylindric, elongate; head with two flattened subtriangular or elongate tentacles, connate, grooved or auriform in the larger forms, the funicles with a ciliated area; below the tentacles an oral orifice from which extends a long retractile subcylindric proboscis, but there is no muzzle like that of *Scala*; below the oral orifice is an organ named by Lovèn the *mentum*, which is usually more or less medially grooved or fissured, and hence, at its anterior end, more or less bilobate, and extensible or retractile before or behind the front margin of the foot. The shell is turritid, with a plicate axis; the outer lip frequently internally lirate; in the larger forms the aperture is obscurely channelled in front; the larval shell is sinistral the adult dextral, the former frequently set at an angle to the adult axis, or more or less immersed in the adult apical whorls; it is usually helicoid and smooth; the sculpture varies from nothing to ribbed, spirally sulcate or reticulate; the coloration when present usually reddish, brownish or yellow. The eggs are numerous and deposited in a lenticular mass. The distribution is worldwide, but the larger forms are mostly tropical.

SYNOPSIS OF THE GENERA OF PYRAMIDELLIDÆ.

Pyramidella Lamarck.

Shell elongate-conic, whorls usually inflated and regularly increasing; the pillar with from one to three folds; the outer lip entire; the shell usually larger than in *Turbonilla*. Type, *Trochus dolabratus* Linné.

Turbonilla Risso.

Shell cylindro-conic, many whorled, generally slender; columellar fold single, varying in strength, outer lip entire; shell usually smaller

than in *Pyramidella* and larger than in *Odostomia*. Type, *Turbonilla typica* D. & B.=*Turbonilla plicatula* Risso not *Turbo plicatulus* Scacchi.

Odostomia Fleming.

Shell usually short, few whorled, subconic or ovate; columellar fold single, varying in strength, outer lip entire. Type, *Turbo plicata* Mont.

Murchisonella Mörch.

Shell minute, cylindro-conic; outer lip with an anal sinus behind the periphery of the whorl; pillar with the plait obsolete or internal, whorls numerous and inflated. Type, *Murchisonella spectrum* Mörch.

SYNOPSIS OF THE SUBGENERA OF PYRAMIDELLA.

A¹ Columellar folds three

Shell umbilicated

Basal fasciole absent, surface polished, marked by extremely faint lines of growth and microscopic spiral striations

Subg. **Pyramidella** Lamarck. s. s., 1799.

Type, *Trochus dolabratus* L.

Basal fasciole present, surface less polished than in *Pyramidella* s. s., marked by lines of growth and microscopic spiral striations

Milda subg. nov.

Type, *Obeliscus ventricosus* Quoy.

Shell not umbilicated.

Surface polished, marked only by fine lines of growth and microscopic spiral striations

Periphery sulcate

Subg. **Longchæus** Mörch, 1875.

Type, *Pyramidella punctata* Chem.

Periphery not sulcate

Voluspa subg. nov.

Type, *Pyramidella auricoma* Dall.

Surface sculptured

Basal cords absent

Periphery sulcate

Shell marked by strong axial ribs which terminate at the periphery, and microscopic spiral striations

Subg. **Pharcidella** Dall, 1889.

Type, *Pharcidella folinii* Dall.

Shell marked by strong spiral keels and weak axial riblets

Callolongchæus subg. nov.

Type, *Pyramidella jamaicensis* Dall.

Periphery not sulcate

Shell marked by strong axial ribs, intercostal spaces strongly spirally striated, aperture auricular

Subg. **Otoleura** Fischer, 1885.

Type, *Pyramidella auris-cati* Chem.

Basal cords present

Shell marked by strong spiral ridges, moderately strong axial ribs and two basal cords

Subg. **Triptychus** Mörch, 1875.

Type, *Triptychus niveus* Mörch.

A² Columellar folds two

Shell umbilicated

Surface polished, marked by very fine lines of growth and microscopic spiral striations

Subg. **Tiberia** Monterosato, 1875.

Type, *Pyramidella nitidula* A. Ads.

Surface polished, marked by fine lines of growth and strong spiral striations

Ulfa subg. nov.

Type, *Pyramidella (Ulfa) cossmanni* nom. nov. = *Syrnola striata* Cossmann.

Surface marked by strong axial ribs, intercostal spaces spirally pitted; early post-nuclear whorls sculptured differently from the later ones

Tropæas subg. nov.

Type, *Pyramidella subulata* A. Ads.

Shell not umbilicated

Surface polished, marked by very faint lines of growth and microscopic spiral striations

Basal fasciole present

Vagna subg. nov.

Type, *Pyramidella paumotensis* Tryon.

Basal fasciole absent

Subg. **Eulimella** Forbes, 1846.

Type, *Eulimella crassula* Fbs., = *E. scilla* Scacchi.

Aperture subquadrate

Sect. **Eulimella** Fbs, ss.

Aperture suboval

Cossmannica sect. nov.

Type, *Pyramidella clandestina* Desh.

A³ Columellar fold one

Shell umbilicated

Surface polished, or with fine lines of growth and microscopic spiral striations

Peripheral sulcus absent

Subg. **Orinella** nom. nov.

Type, *Orina pinguicula* A. Ads.

Peripheral sulcus present

Sulcorinella subg. nov.

Type, *Pyramidella (Sulcorinella) dodona*,
sp. nov.

Shell not umbilicated

Large, heavy, elongated shells

Surface spirally lirated

Subg. **Actæopyramis** Fischer, 1885.

Type, *Monoptygma striata* Gray.

Slender, medium sized shells

Surface polished, marked by fine lines of growth and microscopic spiral striations

Postnuclear whorls increasing slowly in size at first, then rapidly, lending the shell a mucronate appearance

Subg. **Styloptygma** A. Adams, 1860.

Type, *Monoptygma stylina* A. Ads.

Postnuclear whorls increasing regularly in size

Subg. **Syrnola** A. Adams, 1860.

Type, *Syrnola gracillima* A. Ads.

Aperture suboval

Sect. **Syrnola** A. Adams, s. s.

Aperture subquadrate

Sect. **Styloopsis** A. Adams, 1860.

Type, *Styloopsis typica* A. Ads.

Surface spirally striated

Iphiana subg. nov.

Type, *Syrnola densistriata* Garrett.

Surface axially and spirally striated with a strong spiral keel at the summit of the whorls

Syrnolina subg. nov.

Type, *Syrnola rubra* Pse.

The status of *Agatha virgo* A. Adams 1860, [*Menestho*, 1861, *Myonia*, 1861, *Amathis* 1861], is not known to us. From the meager description we are inclined to believe that it is allied to *Actæopyramis* Fischer.

SYNOPSIS OF THE SUBGENERA OF TURBONILLA.

A¹ Shell without basal keel

B¹ Varices absent

Spiral sculpture absent, or if present consisting of microscopic striations only

Surface of the early post-nuclear whorls marked by feeble axial ribs, later ones smooth

Subg. **Ptycheulimella** Sacco, 1892.

Type, *Pyramidella pyramidata* Desh.

Surface marked by strong axial ribs which terminate at the periphery of the whorls, intercostal spaces excavated between the sutures.

Subg. **Chemnitzia** Orbigny, 1839.

Type, *Melania campanellæ* Phil.

Surface marked by strong axial ribs and intercostal spaces which extend over the periphery to the umbilical region

Subg. **Turbonilla** Risso, 1826.

Type, *Turbonilla* } *typica* D. & B. =
 } *plicatula* Risso.

Spiral sculpture present, always stronger than microscopic striations

C¹ Axial sculpture consisting of well developed ribs

Spiral markings consisting of many very fine spiral striations

Aperture subquadrate

Subg. **Strioturbonilla** Sacco, 1892.

Type, *Strioturbonilla alpina* Sacco.

Aperture suboval

Subg. **Pyrgolampros** Sacco, 1892.

Type, *Pyrgolampros mioperplicatulus*
Sacco.

Spiral marking absent between the sutures, base strongly spirally lirated

Subg. **Sulcoturbonilla** Sacco, 1892.

Type, *Tornatella turricula* Eichw.

Spiral markings consisting of strong striations
Summits of the whorls strongly shouldered
Subg. **Pyrgisculus** Monterosato, 1884.
Type, *Melania scalaris* Phil.

Summits of the whorls not strongly shouldered
Subg. **Pyrgiscus** Philippi, 1841.
Type, *Melania rufa* Phil.

Spiral markings consisting of one or two strong
punctate cords in the intercostal spaces be-
tween the sutures; whorls slightly shouldered
Subg. **Pyrgolidium** Monterosato, 1884.
Type, *Pyrgolidium roseum* Mont.

Spiral markings consisting of one or two strong
cords; whorls somewhat overhanging
Subg. **Tragula** Monterosato, 1884.
Type, *Odostomia fenestrata* Fbs.

Spiral markings consisting of three to six raised
threads between the sutures and lirations on the
base; whorls strongly shouldered
Subg. **Dunkeria** Carpenter, 1857.
Type, *Dunkeria paucilirata* Cpr.

C² Axial sculpture consisting of faint riblets
Spiral markings consisting of strong raised threads
Subg. **Cingulina** A. Adams, 1860.
Type, *Cingulina circinata* A. Ads.

Spiral sculpture consisting of depressed lirations,
sculpture granulose
Subg. **Saccoina** nom. nov.
Type, *Spica monterosatoi* Sacco.

C³ Axial sculpture consisting of lines of growth only
Spiral markings consisting of many subequally
spaced striations; sculpture finely reticulated
Subg. **Careliopsis** Mörch, 1874.
Type, *Monoptygma (Careliopsis) sty-
lifformis* Mörch.

C⁴ Axial sculpture absent
Spiral markings consisting of a broad strong fold
at the summit of the whorls, separated from the
rest of the whorl by a deep, broad, rounded sulcus
Visma subg. nov.
Type, *Eulimella tenuis* Sby.

B² Varices present

Surface marked by axial ribs and strong spiral striations

Subg. **Mormula** A. Adams, 1864.

Type, *Mormula rissoina* A. Ads.

Surface marked by axial ribs and strong spiral striations, sculpture granulose

Subg. **Lancellata** nom. nov.

Type, *Turbonilla (Lancea) elongata*

Pse.

A² Shell with basal keel

Axial sculpture consisting of strong ribs

Spiral sculpture absent

Asmunda subg. nov.

Type. *Chemnitzia turrita* C. B. Ads.

Spiral sculpture present

Spiral sculpture consisting of strong ridges

Subg. **Peristichia** Dall, 1889.

Type, *Peristichia toreta* Dall.

Spiral sculpture consisting of two tumid ridges one at the periphery the other at the summit of the whorls and many fine striations in the intercostal spaces

Baldra subg. nov.

Type. *Turbonilla (Baldra) archeri*

sp. nov.

Axial sculpture consisting of lines of growth only

Spiral sculpture consisting of faint striations

Discobasis Cossmann, 1888.

Type, *Aciculina demissa* Desh.

SYNOPSIS OF THE SUBGENERA OF ODOSTOMIA.

A¹ Postnuclear whorls sculptured similarly throughout**B¹** Varices absent**C¹** Axial ribs present, rounded

Spiral markings, when present, consisting of mere microscopic striations

Shell inflated

Summit of the whorls slightly shouldered

Subg. **Elodiamea** De Folin, 1884.

Type, *Elodia elegans* De Fol.

Shell not inflated

Summit of the whorls not shouldered

Subg. **Odostomiella** Bucquoy, Dautzenberg
and Dollfus, 1883.

Type, *Rissoa doliohum* Phil.

Summit of the whorls tabulated

Subg. **Salassia** De Folin, 1885.

Type, *Salassia carinata* De Fol.

Spiral markings consisting of a strong, broad, raised cord at the summit of the whorls, separated from the remaining part by a strongly impressed spiral groove

Vilia subg. nov.

Type, *Odostomia (Vilia) pilsbryi*

sp. nov.

Spiral markings consisting of two tumid ridges, one at the periphery and one at the summit of the whorls; with many striations on the base

Folinella subg. nov.

Type, *Amoura anguliferens* De Fol.

Spiral markings consisting of several to many raised threads in the intercostal spaces, always less strongly developed than the axial ribs

Intercostal spaces crossed by equally spaced, raised spiral threads, sculpture reticulated

Subg. **Trabecula** Monterosato 1884.

Type, *Odostomia jeffreysiana* Monter.

Intercostal spaces crossed by several raised spiral threads, base not spirally marked

Subg. **Parthenina** Bucquoy, Dautzenberg
and Dollfus, 1883.

Type, *Turbo interstinctus* Montagu.

Intercostal spaces crossed by several spiral threads, base spirally striated

Bes'ia subg. nov.

Type, *Chrysallida convexa* Cpr.

Spiral markings consisting of strong, raised threads or cords, equal to, or even stronger than axial ribs

Spiral cords equally spaced, and equally well developed between the sutures and on the base; sculpture nodulose throughout

Subg. **Mumiola** A. Adams, 1864.

Type, *Monoptygma spirata* A. Ads.

Spiral cords subequally spaced between the sutures, where the sculpture is nodulose; base spirally lirated and axially striated

Subg. **Chrysallida** Carpenter, 1856.

Type, *Chemnitzia communis*

C. B. Ads.

Spiral markings consisting of impressed lines

Spiral striations subequally spaced, present between the sutures and on the base of the whorls

Subg. **Pyrgulina** A. Adams, 1864.

Type, *Chrysallida casta* A. Ads.

Spiral striations on the base only, periphery deeply sulcated, axial ribs extending to the umbilical region

Egila subg. nov.

Type, *Chrysallida lacunata* Cpr.

Spiral striations on the base only, axial ribs terminating at the periphery, which is not sulcated

Subg. **Spiralinella** Chaster, 1901.

Type, *Turbo spiralis* Montagu.

C² Axial ribs present, lamellar

Spiral markings lamellar

Ribs and spiral lamellæ moderately strong, subequally spaced between the sutures and on the base; sculpture cuspidate

Haldra subg. nov.

Type, *Chrysallida photis* Cpr.

Ribs and spiral lamellæ few, very strong

Ividia subg. nov.

Type, *Parthenia armata* Cpr.

C³ Axial ribs present but very feeble, usually only indicated near the summit of the whorls

Spiral markings consisting of several strong, broad, tumid cords, one or more of the posterior cords crenulated

Subg. **Miralda** A. Adams, 1864.

Type, *Parthenia diadema* A. Ads.

Spiral markings consisting of many subequally spaced lirations

Whorls tabulated at the summit

Subg. **Ivara** Dall and Bartsch, 1903.

Type, *Odostomia (Ivara) turricula* D. & B.

Whorls not tabulated

Evalina subg. nov.

Type, *Odostomia (Evalina) americana*
sp. nov.

C⁴ Axial ribs usually reduced to mere lirations, frequently only present between the spiral ridges

Spiral markings consisting of moderately well developed cords usually equally spaced and present between the sutures and on the base; axial ribs indicated by faint threads between the spiral sculpture

Shell umbilicated

Subg. **Iolæa** A. Adams, 1867.

Type, *Iole scitula* A. Ads.

Shell not umbilicated

Subg. **Menestho** Möller, 1842.

Type, *Turbo albulus* Fabr.

Spiral markings consisting of strongly raised lamellæ; axial ribs indicated by raised threads

Subg. **Odetta** De Folin, 1870.

Type, *Odostomia (Odetta) callipyrga*
nom. nov. = *Odetta elegans* De Fol.

C⁵ Axial ribs absent; axial sculpture represented by lines of growth only

Spiral markings consisting of many, usually subequally and universally distributed impressed lines

Shell elongate-conic

Subg. **Evalea** A. Adams, 1860.

Type, *Evalea elegans* A. Ads.

Shell short, subglobose

Subg. **Oda** Monterosato, 1901.

Type, *Odostomia dolioliformis* Jeffr.

C⁶ Axial sculpture absent, shell polished

Spiral markings consisting of two tumid ridges, one at the periphery and the other at the summit of the whorls

Subg. **Cyclodostomia** Sacco, 1892.

Type, *Cyclodostomia mutinensis* Sacco.

Spiral markings consisting of a more or less conspicuous tumid ridge on the summit of the whorls

Subg. **Doliella** Monterosato, 1880.

Type, *Odostomia nitens* Jeffr.

- Spiral markings consisting of a strong peripheral keel
Subg. **Scalenostoma** Deshayes, 1863.
Type, *Scalenostoma carinata* Desh.
- Spiral markings consisting of a peripheral sulcus
Subg. **Jordaniella** Chaster, 1898.
Type, *Turbo nivosa* Montagu.
- Spiral sculpture absent or indicated only by extremely fine
microscopic lines of growth or striæ; surface polished
Summits of the whorls with a strongly tabulated
shoulder
Subg. **Spiroclimax** Mörch, 1874.
Type, *Spiroclimax scalaris* Mörch.
- Summits of the whorls not tabulated
Columellar fold present
Peritreme discontinuous, aperture not rissoid
Shell inflated, very large
Subg. **Amaura** Möller, 1842.
Type, *Amaura candida* Möller.
- Shell not inflated
Subg. **Odostomia** Fleming, 1817.
Shell of medium size
Sect. **Odostomia** Fleming, s. s.
Type, *Turbo plicata* Mont.
- Shell rather large
Sect. **Stomega** nom. nov.
Type, *Odostomia conspicua* Ald.
- Shell small
Sect. **Brachystomia** Monterosato,
1884.
Type, *Odostomia rissoidea* Hanl.
- Peritreme continuous, aperture rissoid
Heida subg. nov.
Type, *Syrnola caloosaensis* Dall.
- Columellar fold obsolete
Shell umbilicated
Subg. **Myxa** Hedley, 1903.
Type, *Myxa exesa* Hedley.
- Shell not umbilicated
Peritreme continuous, aperture rissoid
Subg. **Pseudorissoina** Tate and May,
1900.
Type, *Stilifer tasmanica* Ten-Wood.

Peritreme not continuous, aperture not
rissoid

Subg. **Liostomia** Ö. Sars., 1878.

Type, *Rissoella? eburnea*

Stimpson.

B² Varices present

Shell smooth, axial sculpture indicated by a few varices, spiral
sculpture wanting

Subg. **Oceanida** De Folin, 1870.

Type, *Oceanida gradata* De Fol.

A² Early postnuclear whorls sculptured differently from the later ones
Early post nuclear whorls loosely coiled, plain; later ones closely
coiled with a spiral keel at the periphery and one at the summit
of the whorls; base spirally lirate

Lysacme subg. nov.

Type, *Chrysallida clausiliformis* Cpr.

Early post nuclear whorls axially ribbed, succeeded by one or
two strongly spirally and faintly axially lirate whorls; the rest
of the whorls are marked by a reticulated sculpture consist-
ing of raised axial and spiral cords

Subg. **Obtortio** Hedley, 1899.

Type, *Rissoa pyrrhacme* Melville

and Standen, 1899.

DESCRIPTIONS OF NEW SPECIES THAT ARE TYPES OF SUBGENERA DEFINED IN FOREGOING SYNOPSIS.

Pyramidella (Sulcorinella) dodona sp. nov.

Shell small, elongate-conic, milk-white. Nuclear whorls one and one-
half, smooth, obliquely immersed in the first postnuclear whorl. Post-
nuclear whorls flattened, moderately shouldered at the summit, having
a strong spiral sulcus at the periphery. Base of the last whorl well
rounded and strongly umbilicated. The summits of the whorls fall a
little anterior to the peripheral sulcus of the preceding whorl and cause
the part of this, exposed between the sulcus and the summit of the
next whorl, to appear as a narrow raised spiral band. Entire surface of
the shell crossed by many axial lines of growth and numerous subequal-
ly and closely spaced spiral striations. Sutures subchannelled. Aper-
ture ovate, posterior angle obtuse, outer lip thin, columella somewhat
curved and reflected having a strong oblique fold a little anterior to its
insertion; parietal wall covered by a thin callus.

The type, number 136,023 U. S. National Museum collection, is a fossil, coming from the Oligocene deposit at Oak Grove, Sta. Rosa Co., Florida. It has six and one-half postnuclear whorls which measure: long., 3.1 mm.; diam., 1.4 mm.

Turbonilla (Baldra) archeri sp. nov.

Shell small, elongate-conic, turricated, milk-white. Nuclear whorls two and one-half, helicoid, about one-fourth immersed in the first postnuclear whorl, having their axis at a right angle to the axis of the later whorls. Postnuclear whorls moderately well rounded, having cuspidated tabulated shoulders and a spiral ridge at the summit and the periphery. Axial ribs prominent, narrow, flexuose, about one-third as wide as the intercostal spaces, sixteen occur upon the first, eighteen upon the fourth and the penultimate whorls. Intercostal spaces decidedly depressed between the spiral ridges, crossed by many subequally spaced microscopic spiral striations. Suture channelled. Periphery of the last whorl angulated, rendered somewhat crenulated by the axial ribs which extend feebly over the base to the umbilical region. A broad, depressed tumid ridge extends across the anterior half of the base, and the space between the posterior termination of this ridge and the peripheral ridge appears somewhat concave. Entire base finely and closely spirally striated. Aperture suboval, posterior angle obtuse, outer lip thin, angulated at the shoulder and periphery; columella straight, slightly reflected; columellar fold obsolete or internal; parietal wall covered by a thin callus.

The type and another specimen are registered as number 58,016 in the collection of the Academy of Natural Sciences, Philadelphia. They were collected by S. Archer, at Singapore. The type has seven postnuclear whorls and measures: long., 3.3 mm.; diam., 1.3 mm.

Odostomia (Vilia) pilsbryi sp. nov.

Shell slender, milk white. Nuclear whorls two and one half, helicoid, a little more than one-third immersed in the first postnuclear whorl, having their axis almost at a right angle to the axis of the later whorls. Postnuclear whorls flattened, or even slightly concave in the middle, between the sutures; contracted near the summit, the posterior portion appearing as a strong, rounded, spiral keel, separated from the rest of the whorl by a spiral groove. Axial ribs prominent, scarcely indicated on the spiral keel but beginning strong at the groove in front of the keel and extending to the umbilical region, gradually diminishing in strength from the periphery to the anterior termination. These ribs are broadest and strongest at this posterior boundary, just anterior to the groove and lend the shell a coronated appearance at this place. About sixteen of them appear on the second and twenty upon the penultimate whorl. Periphery and base well rounded. Sutures well impressed.

Aperture subovate, outer lip [fractured], showing five internal, spiral lirations the middle one of which is stronger than the rest; columella short, twisted and revolute, having a strong oblique fold near its insertion.

The type is number 58,015 of the collection of the Academy of Natural Sciences of Philadelphia and was collected by S. Archer at Singapore. It has six and one half postnuclear whorls and measures: long., 2.7 mm.; diam., 1.1 mm.

Odostomia (Evalina) americana sp. nov.

Shell elongate-conic, subdiaphanous to milk-white. Nuclear whorls quite large, at least two, about three-fourths obliquely immersed. Postnuclear whorls rather broad between the sutures, well rounded, faintly shouldered at the summit, ornamented with depressed, rounded, rather broad axial ribs about eighteen of which occur upon the second, twenty on the third and eighteen upon the penultimate whorl. The ribs are best developed near the summits of the whorls and scarcely extend to the periphery. Spiral lirations low, rounded, subequal, about twelve occur between the sutures upon the third and the penultimate whorls. These spiral lirations like the axial ribs appear strongest near the summits of the whorls. Periphery and base of the last whorl well rounded, the latter ornamented by about eleven lirations which are similar in character to those between the sutures but much less strongly expressed. Aperture rather broad, suboval, somewhat effuse anteriorly, posterior angle acute; outer lip thin; columella short, somewhat curved, strongly revolute anteriorly, having a weak oblique fold near its insertion.

The type, No. 168,718 U. S. National Museum collection, and nine specimens come from San Pedro, California. It has five postnuclear whorls and measures: long., 2.9 mm.; diam., 1.3 mm. Another specimen, 168,719, comes from San Diego, and two others, No. 168,720, from Sta. Catalina Id., California. Ten were determined for Mrs. Oldroyd from San Pedro.



Dall, William Healey and Bartsch, Paul. 1904. "Synopsis of the genera, subgenera and sections of the family Pyramidellidae." *Proceedings of the Biological Society of Washington* 17, 1–16.

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