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CATALOGUE OF THE GENERA MELONGENA AND SEMIFUSUS

by

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Melongena Schumacher, 1817 (= *Galeodes* Röding)

Thiele (1931, p. 320) gives the name *Galeodes* (Bolten) Röding, 1798, to this genus. This name, however, was already used by Olivier in the *Encyclopédie méthodique, Insectes* (1791, vol. 6, p. 578) for a genus of the Solifugidae. The author gave a detailed diagnosis and, moreover, described two species of the genus. *Galeodes* Olivier, 1791, obtains therefore priority in respect to *Galeodes* Röding, 1798, and this last name must thus be dropped as a homonym. *Cassidula* "Humphrey" (1797, p. 32), which is sometimes used, is not valid, as according to Opinion 51 the anonymous catalogue "Museum Calonnianum" "is not to be accepted as basis for any nomenclatorial work".

The next name to be considered for this genus is *Melongena* Schumacher, 1817. This author (1817, p. 212) gives a clear diagnosis of the genus and mentions as genotype *M. fasciata* [= *M. melongena* (L.)].

As in my previous catalogues I have, besides the species present in our collection, as far as possible, included here all the species of *Melongena* that are mentioned in literature. All the specimens from one collector in a certain locality, as far as they are kept dry, bear the same letter, whilst of the material preserved in liquor the number of the jar is given. In the list of species dealt with below, I have inserted these letters or numbers, followed by a number indicating how many specimens we possess from that locality. After the locality the name of the collector is mentioned; when the locality or the name of the collector is unknown I have placed a note of interrogation.

I. Sect. **Melongena** s.s.**M. corona** (Gmelin)

Corona Mexicana Chemnitz, Syst. Conch. Cab., vol. 10, p. 243, pl. 161, figs. 1526, 1527; 1788.

Murex Corona Gmelin, Linné, Syst. nat., ed. 13, p. 3552, No. 161; (1790) 1791.

Neptunea Corona Mexicana Röding, Bolten, Mus. boltenianum, p. 116, No. 1492; 1798.

Fusus corona, Lamarck, Tableau encycl. et méth., vol. 21, Moll. testac., pl. 430, fig. 2; 1816.

Murex corona, Dillwyn, Descr. catal. recent shells, vol. 2, p. 732, No. 102; 1817.

Fusus corona, Lamarck, Anim. s. Vert., vol. 7, p. 128, No. 19; 1822.

(juv.) *Fusus bicolor* Say, Journ. Acad. Nat. Sci. Philadelphia, vol. 5, p. 215 (123); 1826. (f. Pilsbry & Vanatta).

Murex Corona, Wood, Index Testac., 2nd ed., p. 128, No. 105, pl. 27, fig. 105; 1828.

Fusus corona, Deshayes, Encycl. méth., Vers, vol. 2, p. 156, No. 25; 1830.

Fusus corona, Kiener, Icon. coq. viv., Fusus, p. 58, No. 47, pl. 24, fig. 1; 1840.

Fusus corona, Deshayes, Lamarck, Anim. s. Vert., 2nd ed., vol. 9, p. 453, No. 19; 1843.

(?) *Fusus pyruloides* De Kay, Zool. N. York, Part 5, Mollusca, p. 147, pl. 9, fig. 191; 1843 (f. Tryon).

Pyrula corona, Reeve, Conch. Icon., Pyrula, sp. 7, pl. 2, fig. 7; 1847.

Fusus corona, Jay, Catal. shells, p. 321; 1852. [Cites: Ency. Méth., pl. 430, f. 4 (errore pro f. 2)].

Fusus corona var., Jay, Catal. shells, p. 321; 1852.

Melongena Belknapii Petit de la Saussaye, Journ. de Conch., vol. 3, pp. 65 & 145, pl. 2, No. 2, fig. 5; 1852.

Melongena corona, Petit de la Saussaye, Journ. de Conch., vol. 3, p. 146, No. 3; 1852.

Murex corona, Hanley, Wood, Index Testac., rev. ed., p. 133, No. 105, pl. 27, fig. 105; 1856.

Fusus corona, Chenu, Manuel de Conchyl., vol. 1, p. 142, fig. 613; 1859.

Pyrula corona, Sowerby, Thesaurus Conchyl., vol. 4, p. 103, No. 20, pl. 2 (419), figs. 15, 16; 1880.

Pyrula corona, Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 25, No. 3, pl. 4, figs. 3, 4; (1874) 1881.

Melongena corona, Tryon, Manual of Conch., vol. 3, p. 108, pl. 41, figs. 199, 200; 1881.

Pyrula (Melongena) corona, Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.

Melongena corona, Dall, Bull. U.S. Nat. Mus., No. 37, p. 112, No. 371; 1889.

Melongena corona, Pilsbry & Vanatta, Nautilus, vol. 47, p. 117, pl. 12, figs. 3, 4; 1934.

Type locality: "Habitat in sinu mexicano"; "Habite dans le golfe du Mexique" (Lamarck); "Mexico" (Reeve).

The locality "Newfoundland" mentioned on the label of our specimen c (G. van Roon) seems to me dubious as this locality is situated outside the area of dispersion of the species.

a. I. ?, G. Sootweg. — b. 3. Gulf of Mexico, from Dalen's collection. — c. I. Newfoundland, G. van Roon. — d. I. Mexico, J. Mulder.

subsp. **bispinosa** (Philippi)

Pyrula bispinosa Philippi, Abbild. u. Beschreib. Conch., vol. 1, Pyrula, p. 2, No. 3, pl. 1, figs. 7, 8; 1844 (1845).

- Pyrula bispinosa*, Reeve, Conch. Icon., *Pyrula*, sp. 19, pl. 6, fig. 19; 1847.
Melongena bispinosa, Petit de la Saussaye, Journ. de Conch., vol. 3, p. 146, No. 7 & p. 157, pl. 8, fig. 3; 1852.
 (non) *Pyrula bispinosa* Sowerby, Thesaurus Conchyl., vol. 4, 107; 1880.
Pyrula squamosa Sowerby (non Lamarck), Thesaurus Conchyl., vol. 4, pl. 2 (419), figs. 13, 14; 1880.
Pyrula bispinosa, Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 29, No. 6, pl. 3, figs. 2, 3; (1874) 1881.
Melongena bispinosa, Tryon, Manual of Conch., vol. 3, p. 108, pl. 41, fig. 203; 1881.
Pyrula (Melongena) bispinosa, Paetel, Cat. Conch. Samml., vol. 1, p. 35; 1887.
Melongena corona bispinosa, Pilsbry & Vanatta, Nautilus, vol. 47, p. 120, pl. 12, fig. 8; 1934.

Type locality: ?; ? (Reeve); "Le golfe du Mexique" (Petit).

Sowerby gives a beautiful figure of this subspecies, from the oral as well as from the aboral surface. He names it, however, "*Pyrula squamosa*, Lamk." which is a quite different shell.

a. 3. ?, Geological Mus. Wageningen.

subsp. **bispinosa** (Philippi) forma **martiniana** (Philippi)

- Pyrula Martiniana* Philippi, Abbild. u. Beschreib. Conch., vol. 1, *Pyrula*, p. 2, No. 4, pl. 1, fig. 9; 1844 (1845).
Pyrula Martiniana, Petit de la Saussaye, Journ. de Conch., vol. 3, p. 152; 1852.
Pyrula bispinosa Philippi. Varietas: *Pyrula Martiniana*, Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 30, No. 6; (1874) 1881.
Melongena Martiniana, Tryon, Manual of Conch., vol. 3, p. 108, pl. 41, fig. 202; 1881.
Melongena coronata bispinosa form *martiniana*, Pilsbry & Vanatta, Nautilus, vol. 47, p. 121, pl. 12, fig. 7; 1934.

Type locality: ?; "unbekannt" (Kobelt); "Silam and Progreso, Yucatan" (Pilsbry & Vanatta).

var. **altispira** (Pilsbry & Vanatta)

Melongena corona form *altispira* Pilsbry & Vanatta, Nautilus, vol. 47, p. 119, pl. 12, fig. 5; 1934.

Type locality: "Oceanus, Brevard Co."

"An extremely long, narrow form." (Pilsbry & Vanatta, l.c.).

var. **inspinata** Richards

Melongena corona inspinata Richards, Nautilus, vol. 47, p. 57, pl. 6, fig. 1; 1933.
Melongena corona form *inspinata*, Pilsbry & Vanatta, Nautilus, vol. 47, p. 118; 1934.

Type locality: "Gulf of Mexico near Sarasota, Florida".

var. **minor** (Sowerby)

Hemifusus corona, var. *minor* Sowerby, Proc. Zool. Soc. London, pp. 798 & 796, pl. 48, fig. 13; 1878.

Melongena corona form *minor*, Pilsbry & Vanatta, Nautilus, vol. 47, p. 119, pl. 12, fig. 6; 1934.

Type locality: "Key West (south of Florida)".

"It is apparently an ecologic form, often found constant in the small size, but in other places running up to the size of small *corona* proper." (Pilsbry & Vanatta, l.c.).

var. **perspinosa** Pilsbry & Vanatta

Melongena corona perspinosa Pilsbry & Vanatta, Nautilus, vol. 47, p. 120, pl. 12, fig. 1; 1934.

Type locality: "West coast from Tampa Bay south to Marco Pass and Lossman's key".

Though our specimen c (Florida, J. Mulder) at the superior part of the whorl bears a double row of scales, it does not wholly resemble the var. *perspinosa*. The second row of scales, namely, is not placed below the first, that is situated at the angle, but is formed, from the radiating plaits, above the latter.

a. 1. Florida, Geological Mus. Wageningen. — b. 1. Florida, J. Mulder. — c. 1. Florida, J. Mulder.

M. melongena (Linné)

Murex Melongena Linné, Syst. nat., ed. 10, p. 751, No. 472; 1758.

Murex Melongena, Linné, Mus. Ulricaе, p. 637, No. 313; 1764.

Murex Melongena, Linné, Syst. nat., ed. 12, p. 1220, No. 547; 1767.

Galeodes pyriformis ... Martini, Syst. Conch. Cab., vol. 2, p. 18, pl. 39, fig. 390; 1773.

Cochlis volutata, pyriformis, aculeata Martini, Syst. Conch. Cab., vol. 2, p. 71, pl. 39, figs. 389, 390, 391, 392 & pl. 40, fig. 394; 1773.

Cochlis volutata, pyriformis, laevis Martini, Syst. Conch. Cab., vol. 2, p. 76, pl. 39, fig. 393 & pl. 40, figs. 395, 396, 397; 1773.

Murex melongena, Born, Testac. Mus. Caes. Vindob., p. 306; 1780.

Favanne, Conchyl., pl. 24, fig. E 2 & pl. 66, fig. I 8; 1780.

Murex melongena, Schröter, Einl. Conchylienkenntn., vol. 1, p. 509, No. 30; 1783.

Murex Melongena Linnaei Chemnitz, Syst. Conch. Cab., vol. 10, p. 271, pl. 164, fig. 1568; 1788.

Murex Melongena, Gmelin (var. exclus.), Linné, Syst. nat., ed. 13, p. 3540, No. 50; (1790) 1791.

Galeodes Melongena, Röding, Bolten, Mus. boltenianum, p. 53, No. 673; 1798.

Pyrula melongena, Lamarck, Tableau encycl. et méth., vol. 21, Moll. testac., pl. 435, figs. 3, a, b, c, d, e; 1816.

Melongena fasciata Schumacher, Essai nouv. système, p. 212; 1817.

Murex melongena, Dillwyn, Descr. catal. recent shells, vol. 2, p. 710, No. 57; 1817.

Pyrula melongena, Lamarck, Anim. s. Vert., vol. 7, p. 140, No. 8; 1822.

Pyrula Melongena, Blainville, Manuel Malac., p. 397, pl. 17, fig. 3; 1825 (1827).

Murex Melongena, Wood, Index Testac., 2nd ed., p. 124, No. 59, pl. 26, fig. 59; 1828.

Pyrula melongena, Deshayes, Encycl. méth., Vers, vol. 3, p. 871, No. 17; 1832.

- Pyrula melongena*, Kiener, Icon. coq. viv., *Pyrula*, p. 13, No. 8, pl. 1, figs. 1, 2 & pl. 2, fig. 3; 1840.
- Pyrula melongena*, Deshayes, Lamarck, Anim. s. Vert., 2nd ed., vol. 9, p. 509, No. 8; 1843.
- Pyrula melongena*, Reeve, Conch. Icon., *Pyrula*, sp. 18, pl. 6, fig. 18; 1847.
- Melongena fasciata*, Petit de la Saussaye, Journ. de Conch., vol. 3, p. 145; 1852.
- Cassidulus melongena*, Mörch, Catal. conch. Yoldi, Cephalophora, p. 103, No. 1940; 1852.
- Cyrtulus melongena*, Jay, Catal. shells, p. 323; 1852.
- Murex melongena*, Hanley, Ipsa Linnaei conch., p. 298; 1855.
- Murex melongena*, Hanley, Wood, Index Testac., rev. ed., p. 129, No. 59, pl. 26, fig. 59; 1856.
- Cassidulus melongena*, Adams, Genera rec. Moll., vol. 1, p. 81, pl. 9, fig. 1c; 1858.
- Pyrula melongena*, Chenu, Manuel de Conchyl., vol. 1, p. 141, fig. 608; 1859.
- Pyrula melongena*, Sowerby, Thesaurus Conchyl., vol. 4, p. 103, No. 21, pl. 3 (420), figs. 21, 22; 1880.
- Pyrula melongena*, Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 23, No. 1, pl. 20, fig. 3, pl. 21, figs. 6, 7, 8, 9, pl. 22, figs. 1, 2, 3, 4, 5; (1874) 1881.
- Melongena melongena*, Tryon, Manual of Conch., vol. 3, p. 107, pl. 41, figs. 197, 198; 1881.
- Pyrula (Melongena) melongena*, Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.

Type locality: "Habitat in America"; "Ihr gewöhnliches Vaterland ist Ostindien. Sloane hat sie an den Ufern von Jamaika häufig ... gefunden" (Martini); "Linné giebt America zu ihrem Vaterlande an, sie werden aber sonst auch in Jamaica und auf Amboina von verschiedener Grösse gefunden" (Schröter); "Habitat in Oceano indico & Americam australem insulasque obversas alluente" (Gmelin).

In old times this species was called in Dutch "Schildpad-staert" (tortoise-tail) or "Beddetijk" (bed-tick). In this connexion Martini (1773, p. 75) observes: "Im Regenfuss wird behauptet, dass diese Schnecken, um des bunten Sterzes willen, vom Schijnvöt den Namen der Schildkrötenschwänze (Schildpad-Staerten) erhalten. Bettzügen, Bettzeug, (Beddetijk) heissen sie wegen der bunten Streifen, die sie mit dem gewöhnlichen gestreiften Bettzeug gemein haben".

Many of the older authors, e.g., Bonannus, Rumphius, Martini, Reeve, Hanley in Wood (1856) thought that this species inhabited the Indian Ocean. A favourable exception is, amongst others, made by Lister and Valentyn, who mention the West Indies as its habitat. The last named author (1754, p. 6) writes: "De Schilpads-staart of de Beddetijk [*M. melongena* (L.)], zijnde een West-Indische Hoorn, van welke 'er een a twee paaren bezitte".

Gmelin mentions as localities in the first place the Indian Ocean, and in the second place South America and the adjoining islands: "Habitat in Oceano indico & Americam australem insulasque obversas alluente". This is somewhat surprising as Linné gave America only as its habitat. All the

authors of later years, however, mention the West Indies as habitat of the species.

- a. 15. Surinam, from the Old Collection & from Dalen's collection. —
 b. 7. West Indies, Geological Mus. Wageningen. — c. 3. ?, ? & J. Mulder. —
 d. 2. ?, from Tobias' collection. — e. 3. Sa. Cruz, St. Thomas, St. John,
 C. F. Kraepelin & H. Holm. — f. 3. Curaçao, A. J. van Koolwijk & Epp. —
 g. 10. ? Indian Ocean, from Cosijn's collection. — h. 2. Haïti, ? — i. 2.
 Monte Christi, N. of Santo Domingo, Mus. Comp. Zoöl. Cambridge Mass. —
 j. 2. Bay of Jibara (Gibara), N.E. of Cuba, L. M. R. Rutten. — k. 1. West
 point of Curaçao, A. J. van Koolwijk. — l. 1. Trinidad, J. Mulder. — m. 1.
 Puerto Barrios, N.E. Guatemala, H. v. d. Maaden. — n. 1. Puerto Cabello
 (Venezuela), L. de Priester. — o. 1. Galibi, E. of Surinam, H. ten Kate. —
 p. 1. Beach of Matappica (Surinam), D. C. Geyskes.

M. patula (Broderip & Sowerby)

- Pyrula patula* Broderip & Sowerby, Zool. Journ., vol. 4, p. 377; 1829.
Pyrula patula, Gray, Zool. Beechey's Voy., Moll. anim., p. 115, pl. 34, fig. 10, &
 pl. 35, figs. 1, 3; 1839.
Pyrula patula, Kiener, Icon. coq. viv., *Pyrula*, p. 14, No. 9, pl. 2, figs. 1, 2; 1840.
Pyrula patula, Deshayes, Lamarck, Anim. s. Vert., 2nd ed., vol. 9, p. 522, No. 31; 1843.
Pyrula patula, Reeve, Conch. Icon., *Pyrula*, sp. 20, pl. 6, fig. 20; 1847.
Pyrula patula, Menke, Zeitschr. f. Malakozool., vol. 8, p. 18, No. 84; 1851 (1852).
Pyrula patula, Adams, Catal. shells Panama, p. 127, No. 145; 1852.
Melongena patula, Petit de la Saussaye, Journ. de Conch., vol. 3, p. 146, No. 6; 1852.
Cassidulus patula, Mörch, Catal. conch. Yoldi, Cephalophora, p. 103, No. 1939; 1852.
Cyrtulus patula, Jay, Catal. shells, p. 323; 1852.
Cassidulus patulus, Adams, Genera rec. Moll., vol. 1, p. 81; 1858.
Pyrula patula, Sowerby, Thesaurus Conchyl., vol. 4, p. 104, No. 22, pl. 3 (420),
 fig. 28; 1880.
Pyrula patula, Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Pur-
 puracea, p. 24, No. 2, pl. 3, fig. 1; (1874) 1881.
Melongena patula, Tryon, Manual of Conch., vol. 3, p. 107, pl. 41, figs. 194, 195, 196;
 1881.
Pyrula (Melongena) patula, Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.
Galeodes patulus, Zetek, Revista Nueva Panama, vol. 5, p. 527; 1918.

Type locality: "Hab. ad littora Oceani Pacifici"; "Habite la mer Pacifique, les côtes du Mexique" (Kiener).

This species from the West coast of tropical America strongly resembles *M. melongena* from the East coast; when the locality is not noted on the label in some cases it is very difficult to decide to which of the two species a specimen belongs.

Kiener (1840, p. 15) even suggests that *M. patula* and *M. melongena* ought to be united: "Je pense que cette Pyrule doit être réunie à la *Pyrula melongena*; ayant pu en examiner un grand nombre d'individus, je me suis

convaincu de l'analogie de ces deux espèces. L'une et l'autre présentent les mêmes variétés".

According to Deshayes (1843, p. 523) the two species can be more easily distinguished in their juvenile state: "c'est principalement par la jeune âge qu'elle (sc. *M. patula*) diffère le plus constamment du *Melongena* (sc. *M. melongena*)".

Carpenter (1857, p. 501), however, writes: "one of the young specimens marked by D'Orbigny '*P. melongena*' in the Sagra Col. B. M. would certainly be called *P. patula* if the locality were unknown, as it agrees with this species in form, markings, and even in the remarkable epidermis: while another specimen in the same collection is of the true melongena type? It can scarcely be supposed that Sagra had obtained a West-coast shell".

An explanation for the great similarity of the two species that inhabit two different oceans, may be found in the fact that the isthmus of Panama was formed as late as in the Tertiary, at the end of the Miocene. Before this time a strong circumaequatorial current moved from the East to the West that must have favoured the transport of the molluscs from the Caribbean Sea to the west. Dall (1913, p. 1) observed that though the Pleistocene remains of the fauna in the Canal Zone on the Atlantic side are mainly composed of common recent species of the Caribbean Sea, there is also, mixed with the former, a certain number of species of Pacific origin, such as *Northia northiae* Gray and *Pecten (Plagiocentrum) ventricosus* Sow. He concluded that "their presence shows that after the complete separation of the two seas a few of the Pacific species lingered on the Atlantic side nearly to the present epoch".

Also in the present time at least 8 species of molluscs are found on the West coast as well as on the East coast of Central America, as I wrote already in relation to *Solarium nobile* (Roed.) (1940, p. 232).

In the following list I give the most constant characters that distinguish *M. patula* from *M. melongena*.

	<i>M. patula</i> (Brod. & Sow.)	<i>M. melongena</i> (L.)
Outline:	Turbinata, rather slender. Concavely depressed on the upper part of the body whorl and with a distinct angle.	Pyriform, ventricose. Swollen on the upper part of the rounded body whorl.
Tubercles:	At the most one row of tubercles on the shoulder of the body whorl.	Although sometimes deprived of tubercles the full-grown specimens on the upper part of the body whorl generally are armed with 1-3 rows of tubercles and 1 row near the base.

Columella:	Arched, sinuous towards the base.	Almost straight.
Parietal callosity:	Slender and thin.	Broad and thick.
Colour:	Deep chestnut brown, with white spiral bands and lines.	Reddish brown or bluish, with numerous yellowish or whitish spiral bands and lines.
Periostracum:	Coarse and thick.	Thin.
Dimensions:	To 210 mm.	To 120-230 mm.
Weight of shells of the same length:	Lighter.	Heavier.
Habitat:	Gulf of California, West coast of Mexico, Mazatlan, Acapulco, Panama, Bay of Carac(c)as (Ecuador), Peru.	West Indies.

Carpenter (1857, p. 50) observes that: "Of two shells of almost exactly the same length, namely 5.3 inches, the breadth of *P. melongena* (without the spines) is 4.4, of *P. patula* only 3.9: also *P. melongena* weighs 16 ounces, while the specimen of *P. patula* only reaches 5.5."

a. 1. Caráques (= Caraccas) Ecuador, Turner. — b. 1. California, Verrey. — c. 1. North coast of Central America, Geological Mus. Wage-ningen. — d. 1. ?, J. Mulder. — e. 2. ?, ?. — f. 1. West coast of Central America, J. Mulder.

2. Sect. **Volema** Röding, 1798

M. galeodes (Lamarck)

Galeodes pyriformis striata Martini (pars), Conch. Cab., vol. 2, p. 18, pl. 40, fig. 398; 1773.

Galeodes aspera Martini, Conch. Cab., vol. 2, p. 78, pl. 40, fig. 398; 1773.

Buccinum bezoar (non Linné) Born (syn. plur. exclus.), Testac. Mus. Caes. Vindob., p. 259; 1780.

Murex hippocastanum (non Linné) Born (syn. nonnul. exclus.), Testac. Mus. Caes. Vindob., p. 304; 1780.

Schröter (syn. nonnul. exclus.), Einl. Conchylienkenntn., vol. 1, p. 543, Murex, No. 1; 1783.

Murex Melongena var. ϵ Gmelin (fig. nonnul. exclus.), Linné, Syst. nat., ed. 13, p. 3540, No. 50; (1790) 1791.

Pyrula hippocastanum (non Linné) Lamarck, Tableau encycl. et méth., vol. 21, Moll. testac., pl. 432, fig. 4; 1816.

Murex calcaratus Variety A. Dillwyn, Descr. catal. recent shells, vol. 2, p. 710, No. 58; 1817.

Pyrula galeodes Lamarck (fig. nonnul. exclus.), Anim. s. Vert., vol. 7, p. 144, No. 19; 1822.

Murex calcaratus, Wood, Index Testac., 2nd ed., p. 124, No. 60, (non pl. 26, fig. 60); 1828.

- Pyrula galeodes*, Kiener, Icon. coq. viv., *Pyrula*, p. 21, No. 14, pl. 5, fig. 2; 1840.
Pyrula galeodes, Deshayes, Lamarck, Anim. s. Vert., vol. 9, p. 517, No. 19; 1843.
Pyrula galeodes, Reeve (pars), Conch. Icon., *Pyrula*, sp. 22; 1847.
Melongena galeodes, Petit de la Saussaye, Journ. de Conch., vol. 3, p. 146, No. 8; 1852.
Cassidulus asper Mörch, Catal. conch. Yoldi, Cephalophora, p. 103; 1852.
(non) *Murex calcaratus*, Hanley, Wood, Index Testac., rev. ed., p. 130, No. 60, pl. 26, fig. 60; 1856.
Pyrula galeodes, Sowerby, Thesaurus Conchyl., vol. 4, p. 100, No. 4; 1880.
Pyrula galeodes Lamarck Var. b Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 27, No. 5, pl. 21, fig. 1; (1874) 1881.
Melongena galeodes, Tryon, Manual of Conch., vol. 3, p. 108, pl. 42, fig. 204; 1881.
Pyrula galeodes, Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.

Type locality: "Habite l'Océan des Moluques"; "sie kommen hauptsächlich aus Ostindien" (Schröter).

Born in his "Museum" calls this *Melongena*, amongst other names, "*Buccinum bezoar*"; he refers to Linné "S.N.Sp. 473" where a "*Buccinum bezoar*" is described. This "*Buccinum bezoar*", however, is no *Melongena* but it is considered by all authors as a *Rapana* s.s.

In a similar manner, Born names *M. galeodes* "*Murex hippocastanum*", in this connection he cites: "Linn. S. N. Sp. 545" and "Mus. L. U. pag. 636". This author commits, once more, a mistake when considering his "*Murex hippocastanum*" identical with that of Linné. It is difficult to decide with certainty what species Linné meant under this name, as Deshayes (1844, p. 64) showed already, but it certainly is not *Melongena galeodes* auct., as this species occurs but once under the five figures mentioned by Linné, namely in the citation: "Gualt. test. t. 31. f. F.". Lamarck also quotes this figure of Gualtieri under his synonyms, in his description of *M. galeodes*. Of the four other figures mentioned by Linné, none represents *M. galeodes*, and his diagnosis: "M. testa ecaudata ovata striata quadrifariam subspinosa, apertura transversim striata" fits *M. galeodes* as well as *Drupa hystrix* or *Thais hippocastanum*.

These two names of Born therefore are of no value.

- a. 3. Moluccas, C. G. C. Reinwardt. — b. 7. Amboyna, D. J. Hoedt. — c. 4. Madoera, from Jochim's collection. — d. 2. between P. Moena & P. Kabaëna (S. of Celebes), Zool. Laboratory Groningen. — e. 1. Boeton Isl. (S. of Celebes), J. Knock. — f. 1. Banda Is., L. de Priester. — g. 1. Tampoënable (Boeton Isl.), J. Knock. — h. 2. Raha (P. Moena), J. Knock. — i. 10. Bay of Batavia (W. Java), W. C. van Heurn. — j. 1. Biliton (E. of Sumatra), J. Knock. — k. 2. Poeloe Maranai (W. of Biliton), from Jochim's collection. — l. 1. Poeloe Rotan (S.E. of Biliton), from Jochim's collection. — m. 1. Madjene, Gulf of Mandar (Celebes), Mrs. Ver-

schoor van Nisse. — n. 1. Obi Major (Moluccas), Geological Mus. Wageningen. — o. 2. Poeloe Kelapa, Duizend Eilanden (N. of Batavia), H. Boschma. — p. 1. Poeloe Abang Ketjil, Riouw-arch. (E. of Sumatra), L. de Priester. — q. 2. Philippines, J. Mulder. — r. 1. Red Sea, Frank & Drieling. — s. 7. ?, from Dalen's collection. — t. 5. Amboyna, Zool. Laboratory Groningen.

var. **lineata** (Lamarck)

Galeodes pyriformis striata Martini (pars), Conch. Cab., vol. 2, p. 18, pl. 40, figs. 400, 401; 1773.

Galeodes aspera Martini (pars), Conch. Cab., vol. 2, pp. 78, 79, pl. 40, figs. 400, 401; 1773.

Schröter, Einl. Conchylienkenntn., vol. 1, p. 596, Murex, No. 165; 1783.

(?) *Murex Melongena* var. β Gmelin, Linné, Syst. nat., ed. 13, p. 3540, No. 50; (1790) 1791.

Volema Myristica Röding (pars), Bolten, Mus. boltenianum, p. 57, No. 718; 1798.

Pyrula lineata Lamarck, Tableau encycl. et méth., vol. 21, Moll. testac., pl. 432, fig. 5; 1816.

Murex calcaratus Variety B Dillwyn (pars), Descr. catal. recent shells, vol. 2, p. 711, No. 58; 1817.

Pyrula angulata Lamarck (fig. nonnul. exclus.), Anim. s. Vert., vol. 7, p. 145, No. 20; 1822.

(non) *Pyrula lineata* Lamarck, Anim. s. Vert., vol. 7, p. 147, No. 27; 1822.

Pyrula angulata, Kiener, Icon. coq. viv., Pyrula, p. 20, No. 13, pl. 7, fig. 2; 1840.

Pyrula angulata, Deshayes, Lamarck, Anim. s. Vert., 2nd ed., vol. 9, p. 517, No. 20; 1843.

Pyrula galeodes, Reeve (pars), Conch. Icon., Pyrula, sp. 22, pl. 7, fig. 22; 1847.

Melongena squamosa, Petit de la Saussaye (pars), Journ. de Conch., vol. 3, p. 146, No. 9; 1852.

Pyrula angulata, Sowerby, Thesaurus Conchyl., vol. 4, p. 100, No. 5, pl. 2 (419), fig. 19; 1880.

Pyrula galeodes Lamarck Var. c Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 28, No. 5, pl. 6, figs. 2, 3 & pl. 21, figs. 4, 5; (1874) 1881.

Melongena galeodes, Tryon (pars), Manual of Conch., vol. 3, p. 108, pl. 42, figs. 206, 208; 1881.

Type locality: "Habite la mer Rouge" (Lamarck); "Red Sea" (Sowerby).

Sowerby (1880, p. 100, No. 5), in his diagnosis of this species, records, amongst other characters: "ad suturam haud squamata", and in his description he writes: "the want of spinelike scales at the suture". Lamarck, however, does not at all mention this character in his diagnosis, and the figures to which he refers partly show a squamate suture, and partly do not. Other authors, viz., Reeve, Kiener, Kobelt, etc., also have figured specimens with squamae at the suture as well as shells without these.

All the adult specimens I examined were provided with squamae at the suture. The spine-like scales are formed at the suture of the inferior whorls only, so that young specimens possess a smooth suture.

a. 2. Red Sea, Frank & Drieling. — b. 3. Moluccas, Geological Mus. Wageningen. — c. 1. Indo-Pacific, J. Mulder. — d. 4. Raha (P. Moena), J. Knock. — e. 1. ?, Sec. school, Stadhoudersl., The Hague. — 1669. 1. Indian Ocean, C. G. C. Reinwardt.

var. **myristica** (Lamarck)

Galeodes pyriformis striata Martini, Conch. Cab., vol. 2, p. 18, pl. 40, fig. 402; 1773.
Galeodes aspera Martini (pars), Conch. Cab., vol. 2, pp. 78, 79, pl. 40, fig. 402 (tantum); 1773.

Galeodes albida Martini, Conch. Cab., vol. 2, p. 81, pl. 40, fig. 402; 1773.

Schröter, Einl. Conchylienkenntn., vol. 1, p. 543, Murex, No. 2; 1783.

Murex Melongena var. ζ Gmelin, Linné, Syst. nat., ed. 13, p. 3540, No. 50; (1790) 1791.

Pyrula myristica Lamarck, Tableau encycl. et méth., vol. 21, Moll. testac., pl. 432, figs. 3a, 3b; 1816.

Murex calcaratus Variety D Dillwyn, Descr. catal. recent shells, vol. 2, p. 711, No. 58; 1817.

Pyrula squamosa Lamarck, Anim. s. Vert., vol. 7, p. 145, No. 21; 1822.

Pyrula squamosa, Deshayes, Encycl. méth., Vers, vol. 3, p. 870, No. 14; 1832.

Pyrula squamosa, Kiener, Icon. coq. viv., Pyrula, p. 19, No. 12, pl. 4, fig. 2; 1840.

Pyrula squamosa, Deshayes, Lamarck, Anim. s. Vert., 2nd ed., vol. 9, p. 518, No. 21; 1843.

Pyrula galeodes, Reeve (pars), Conch. Icon., Pyrula, sp. 22, pl. 7, fig. 23; 1847.

Melongena squamosa, Petit de la Saussaye (pars), Journ. de Conch., vol. 3, p. 146, No. 9; 1852.

Cassidulus myristica, Mörch, Catal. conch. Yoldi, Cephalophora, p. 103, No. 1938; 1852.

Cassidulus asper, Adams, Genera rec. Moll., vol. 1, p. 81, pl. 9, figs. 1, 1a, 1b; 1853.

Pyrula galeodes, Sowerby, Thesaurus Conchyl., vol. 4, p. 100, No. 4, pl. 2 (419), figs. 18, 20; 1880.

(non) *Pyrula squamosa*, Sowerby, Thesaurus Conchyl., vol. 4, p. 100, No. 6, pl. 2 (419), figs. 13, 14; 1880.

Pyrula galeodes Lamarck Var. a Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 27, No. 5, pl. 21, fig. 3; (1874) 1881.

Melongena galeodes, Tryon, Manual of Conch., vol. 3, p. 108, pl. 42, figs. 205, 207; 1881.

Type locality: ?; "von Kurakao" (Martini); "Habite la mer Rouge, les côtes de Sincapour et la mer de Chine" (Kiener).

a. 1. Indo-Pacific, J. Mulder. — b. 1. Biliton (E. of Sumatra), ?. — c. 3. Bay of Batavia (W. Java), W. C. van Heurn. — d. 1. Singapore, P. Buitendijk.

M. pallida (Broderip & Sowerby)

Fusus pallidus Broderip & Sowerby, Zool. Journ., vol. 4, p. 378; 1829.

Pyrula lignaria Reeve, Conch. Icon., Pyrula, sp. 12, pl. 9, figs. 13a, 13b; 1847.

Fusus Turbinelloides Reeve, Conch. Icon., Fusus, sp. 56, pl. 15, fig. 56; 1848 (f. Kobelt).

Pyrula pallida, Sowerby, Thesaurus Conchyl., vol. 4, p. 100, No. 3*, pl. 5 (422), figs. 37, 38; 1880.

Pyrula pallida, Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 32, No. 8, pl. 7, fig. 3; (1874) 1881.

Melongena pallida, Tryon (pars una), Manual of Conch., vol. 3, p. 109, pl. 42, figs. 210, 211, 214, 215; 1881.

Pyrula (Melongena) pallida, Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.

Type locality: "ad littora Oceani Pacifici", "From Mazatlan"; "Africa?" (Reeve);? (Sowerby); "Mazatlan, W. Coast of Central America?" (Tryon).

a. 5. Gulf of California, H. ten Kate. — b. 1. Gulf of California, H. A. Ward. — c. 1. La Paz, Lower California, H. ten Kate. — d. 1. Isl. Espiritu Santo, N. of La Paz (Lower California), H. ten Kate.

var. **anomala** (Reeve)

(non) *Buccinum anomalum* Reeve, Conch. Icon., Buccinum, sp. 54, pl. 8, fig. 54 & pl. 11, fig. 82; 1846.

Pyrula anomala Reeve, Conch. Icon., Pyrula, sp. 9, pl. 3, figs. 9, 12; 1847.

Pyrula anomala, Menke, Zeitschr. f. Malakozool., vol. 8, p. 18; 1851 (1852).

Pyrula lignaria (non Reeve) Petit de la Saussaye, Journ. de Conch., vol. 3, p. 152; 1852.

Neptunea anceps Adams, Genera rec. Moll., vol. 1, p. 80; (1853) 1858.

Fusus anceps, Sowerby, Thesaurus Conchyl., vol. 4, Fusus, p. 86, No. 95, pl. 12 (416), fig. 131; 1880.

Pyrula anomala, Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 31, No. 7, pl. 4, fig. 5; (1874) 1881.

Melongena pallida, Tryon (pars altera), Manual of Conch., vol. 3, p. 109, pl. 42, figs. 212, 213; 1881.

Pyrula (Melongena) pallida Brod. et S. Vr. *anomala* Rv., Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.

Type locality: ? (Reeve); "Mazatlan" (Menke).

M. pirum (Gmelin)

Pyrum paradisiacum Martini, Syst. Conch. Cab., vol. 3, p. 202, p. 198 vign. 32, fig. 1 & pl. 94, figs. 909, 910; 1777.

Schröter, Einl. Conchylienkenntn., vol. 1, p. 358, Buccinum, No. 7; 1783.

Buccinum Pyrum Gmelin, Linné, Syst. nat., ed. 13, p. 3484, No. 56; (1790) 1791.

Murex Ficus junior Chemnitz, Syst. Conch. Cab., vol. 11, p. 126, pl. 193, figs. 1854, 1855; 1795.

Volema Paradisiaca Röding (pars una), Bolten, Mus. Boltenianum, p. 58, No. 725; 1798.

Buccinum pyrum, Dillwyn, Descr. catal. recent shells, vol. 2, p. 616, No. 68; 1817.

Pugilina laevis Schumacher, Essai nouv. système, p. 216; 1817.

Pyrula citrina Lamarck, Anim. s. Vert., vol. 7, p. 146, No. 23; 1822.

Buccinum Pyrum, Wood, Index Testac., 2nd ed., p. 108, No. 69, pl. 23, fig. 69; 1828.

Pyrula citrina, Deshayes, Encycl. méth., Vers, vol. 3, p. 869, No. 13; 1832.

Pyrula citrina, Kiener, Icon. coq. viv., Pyrula, p. 17, No. 11, pl. 3, fig. 2; 1840.

Pyrula citrina, Deshayes, Lamarck, Anim. s. Vert., 2nd ed., vol. 9, p. 518, No. 23; 1843.

Pyrula Paradisiaca, Reeve (pars), Conch. Icon., Pyrula, sp. 17, pl. 5, fig. 17b; 1847.

- Pyrula paradisiaca*, Krauss, Südafr. Moll., p. 111; 1848.
Melongena Paradisiaca, Petit de la Saussaye (pars), Journ. de Conch., vol. 3, p. 146, No. 10; 1852.
Buccinum pyrum, Hanley, Wood, Index Testac., rev. ed., p. 115, No. 69, pl. 23, fig. 69; 1856.
Murex calcaratus, Hanley, Wood, Index Testac., rev. ed., p. 130, No. 60, pl. 26, fig. 60; 1856.
Pyrula paradisiaca, Vaillant, Journ. de Conch., vol. 13, p. 105; 1865.
Cassidulus paradisiacus, Tapparone Canefri, Ann. Mus. storia nat. Genova, vol. 7, p. 618; 1875.
Pyrula paradisiaca, Sowerby, Thesaurus Conchyl., vol. 4, *Pyrula*, p. 101, No. 8, pl. 3 (420), fig. 24; 1880.
Pyrula paradisiaca, Kobelt (pars), Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 38, No. 13, pl. 6, figs. 4, 5, pl. 15, figs. 3, 4; (1874) 1881.
Melongena paradisiaca, Tryon (pars), Manual of Conch., vol. 3, p. 110, pl. 43, fig. 224; 1881.
Pyrula (Melongena) citrina, Paetel, Cat. Conch. Samml., vol. 1, p. 35; 1887.
Pyrula (Melongena) paradisiaca Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.
Pyrula paradisiaca, Sowerby, Marine shells S. Africa, p. 4; 1892.
Melongena (Pugilina) pyrum, Dautzenberg, Journ. de Conch., vol. 68, p. 34; 1923.
Melongena (Pugilina) pirum, Dautzenberg, Faune colon. françaises, vol. 3, p. 402; 1929.

Type locality: "Habitat rarissimum in India & mari rubro"; "rubri maris" "Küste Koromandel" (Martini); "Ostindien und das rothe Meer liefert sie, aber sehr selten" (Schröter); "Ceylon, Mozambique, &c." (Reeve).

a. 12. Indian Ocean, from Dalen's collection & Geological Mus. Wagingen. — b. 8. Nossi Falli near Madagascar, Pollen & Van Dam. — c. 6. Nossi Bé, N.W. of Madagascar, Pollen & Van Dam. — d. 7. Portuguese East Africa, J. Mulder. — e. 1. Zanzibar, L. de Priester. — f. 3. Lorenzo Marquez (Mozambique), F. P. Koumans. — g. 1. South Africa, C. L. Buling. — h. 3. Salisbury Isl., Durban Bay, L. D. Brongersma. — i. 2. Coast of Natal, F. Krauss. — j. 5. Ceylon, J. Mulder. — k. 2. between Oedjoeng Dato (S. Madura) & Banjoewangi (E. Java), from Jochim's collection. — l. 8. Port Reitz (Mombasa), R. A. Maas Geesteranus. — m. 6. Mozambique, R. A. Maas Geesteranus.

var. ex col. **undata** Dautzenberg

- Cochlis pyriformis laevis* Martini, Syst. Conch. Cab., vol. 3, p. 203, pl. 94, fig. 911; 1777.
Buccinum spadiceum Gmelin, Linné, Syst. nat., ed. 13, p. 3485, No. 57; (1790) 1791.
Murex Ficus junior Maris Erythraei Chemnitz, Syst. Conch. Cab., vol. 11, p. 126, pl. 193, figs. 1854, 1855; 1795.
Buccinum spadiceum, Wood, Index Testac., p. 109, No. 71, pl. 23, fig. 71; 1828.
Cassidulus paradisiacus, Martini. Var. β . Tapparone Canefri, Ann. Mus. storia nat. Genova, vol. 7, p. 619; 1875.
Melongena (Pugilina) pyrum Gmelin var. *undata* Martini, Dautzenberg, Journ. de Conch., vol. 68, p. 34; 1923.

Melongena (Pugilina) pyrum Gmelin Var. *undata* (Martini), Dautzenberg, Faune colon. françaises, vol. 3, p. 403; 1929.

Type locality: "Westindien ist eigentlich das Vaterland dieser Schaaalen" (Martini); "Es ist diese Schnecke ... im rothen Meere gefunden werden" (Chemnitz); "Nosy-Bé" (Dautzenberg).

a. 1. ?, Sec. school, Stadhoudersl., The Hague. — b. 1. Red Sea, from J. Raye van Breukelerwaert's collection. — c. 3. Suez, W. Vervoort. — d. 1. Lorenzo Marquez (Mozambique), F. P. Koumans. — e. 1. Durban (Natal), P. Buitendijk. — f. 1. Indian Ocean, Geological Mus. Wageningen.

subsp. **nodosa** (Lamarck)

Murex Ficus nodosa Chemnitz, Syst. Conch. Cab., vol. 10, p. 269, pl. 163, figs. 1564, 1565; 1788.

Murex Ficus var. β & γ Gmelin, Linné, Syst. nat., ed. 13, p. 3545, No. 66; (1790) 1791.

Volema Pyrum Röding (pars), Bolten, Mus. boltenianum, p. 57, No. 724; 1798.

Murex ficus, Dillwyn, Descr. catal. recent shells, vol. 2, p. 722, No. 82; 1817.

Pyrula nodosa Lamarck, Anim. s. Vert., vol. 7, p. 145, No. 22; 1822.

Murex Ficus, Wood, Index Testac., 2nd ed., p. 126, No. 85, pl. 26, fig. 85; 1828.

Pyrula nodosa, Deshayes, Encycl. méth., Vers, vol. 3, p. 870, No. 15; 1832.

Pyrula nodosa, Kiener, Icon. coq. viv., Pyrula, p. 16, No. 10, pl. 6, fig. 1; 1840.

Pyrula nodosa, Deshayes, Lamarck, Anim. s. Vert., 2nd ed., vol. 9, p. 518, No. 22; 1843.

Pyrula Paradisiaca, Reeve (pars), Conch. Icon., Pyrula, sp. 17, pl. 5, fig. 17c; 1847.

Melongena Paradisiaca, Petit de la Saussaye (pars), Journ. de Conch., vol. 3, p. 146, No. 10; 1852.

Cassidulus paradisiacus, Mörch, Catal. conch. Yoldi, Cephalophora, p. 103, No. 1936; 1852.

Murex ficus, Hanley, Wood, Index Testac., rev. ed., p. 131, No. 85, pl. 26, fig. 85; 1856.

Cassidulus paradisiacus, Martini. Var. α . *nodosa* Tapparone Canefri, Ann. Mus. stor. nat. Genova, vol. 7, p. 619; 1875.

Pyrula nodosa, Sowerby, Thesaurus Conchyl., vol. 4, Pyrula, p. 100, No. 7, pl. 3 (420), figs. 25, 26; 1880.

Pyrula paradisiaca, Kobelt (pars), Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 38, No. 13, pl. 20, figs. 4, 5; (1874) 1881.

Melongena paradisiaca, Tryon (pars), Manual of Conch., vol. 3, p. 110, pl. 43, fig. 225; 1881.

Pyrula (Melongena) paradisiaca, Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.

Melongena (Pugilina) pyrum Gmelin var. *nodosa* Lk., Dautzenberg, Journ. de Conch., vol. 68, p. 34; 1923.

Melongena (Pugilina) pyrum Gmelin Var. *nodosa*, Dautzenberg, Faune colon. françaises, vol. 3, p. 402; 1929.

Type locality: "Habitat γ in mari rubro" (Gmelin); "Habite la mer Rouge" (Lamarck).

Kobelt (1881, p. 38) in regard to the sculpture of this species writes: "Spiralsculptur ist nur wenig vorhanden, meistens sind nur am Stiel deut-

liche Furchen, öfter auch noch über der Kante". One of our specimens, however, a shell from Tegal (res. Pekalongan) (letter k), for the rest of a normal aspect, has its whole surface covered with rather elevated spiral ribs.

a. 4. Red Sea, L. W. Ruysenaers. — b. 1. Red Sea, F. Forskål & Marguier. — c. 1. Ras Gamsa (S.W. of Gulf of Suez), C. Beets. — d. 2. Hurghada (N.W. of the Red Sea), C. Beets. — e. 1. Abu Mingar (N.W. of the Red Sea), C. Beets. — f. 1. Safaga (N.W. of the Red Sea), C. Beets. — g. 2. Kagrmaksar-beach (Aden), H. Strengers & L. E. Nobel. — h. 2. Durban (Natal), P. Buitendijk. — i. 1. Ceylon, J. Mulder. — j. 1. Poeloe We (N. of Sumatra), P. Buitendijk. — k. 2. Tegal (res. Pekalongan) Java, P. Buitendijk. — 1668. 7. Djeddah, El Hedjas (Red Sea), J. A. Kruyt.

subsp. **nodosa** (Lm.) var. ex col. **fasciata** nom. nov.

Cochlis volutata integra Martini, Syst. Conch. Cab., vol. 3, p. 33, pl. 66, fig. 741 (tantum); 1777.

Schröter, Einl. Conchylienkenntn., vol. 1, p. 544 Murex,

No. 4; 1783.

Murex Ficus Gmelin, Linné, Syst. nat., ed. 13, p. 3545, No. 66; (1790) 1791.

Murex Ficus Maris Erythraei Chemnitz, Syst. Conch. Cab., vol. 11, p. 125, pl. 193, fig. 1853; 1795.

Volema Paradisiaca Röding (pars altera), Bolten, Mus. boltenianum, p. 58, No. 725; 1798.

Pyrula nodosa, Lam. varietas Kiener, Icon. coq. viv., Pyrula, p. 16, No. 10, pl. 6, fig. 2; 1840.

Pyrula Paradisiaca, Reeve (pars), Conch. Icon., Pyrula, sp. 17, pl. 5, fig. 17a; 1847.

Cassidulus paradisiacus, Martini. Var. δ . Tapparone Canefri, Ann. Mus. storia nat. Genova, vol. 7, p. 619; 1875.

Melongena paradisiaca, Tryon (pars), Manual of Conch., vol. 3, p. 110, pl. 43, fig. 223; 1881.

Type locality: "Es wohnet diese Gattung im rothen Meere" (Martini).

This varietas ex colore is for the tuberculated subsp. *nodosa* (Lm.) what the var. *undata* Dautz. is for the smooth *M. pirum* (Gm.). This variety is based on the figure 17a on plate 5 of Reeve (1847, *Pyrula*), it was already described by Tapparone Canefri (1875, p. 619) as *Cassidulus paradisiacus* Martini var. δ . Tapparone Canefri (1875, p. 619) writes: "io confesso di non aver mai potuto osservare veri esemplari di passaggio fra le due varietà senza zone di colore cenerino a quella ornata di zone di questo colore: quest' ultima potrebbe forse considerarsi come specie distinta che dovrebbe prendere il nome di *C. undatus* Martini, e che abbraccierebbe le mie varietà β . δ ".

a. 2. Red Sea, J. Mulder. — b. 3. Red Sea, L. W. Ruysenaers. — c. 2. Red Sea, F. Forskål & Marguier. — d. 8. Bander Tauwahi, Aden, H. Strengers & L. E. Nobel. — e. 1. Ceylon, J. Mulder.

var. **candida** Dautzenberg

Melongena (Pugilina) pyrum Gmelin var. *candida* Dautzenberg, Journ. de Conch., vol. 68, p. 34; 1923.

Melongena (Pugilina) pyrum Gmelin Var. *candida*, Dautzenberg, Faune colon. françaises, vol. 3, p. 403; 1929.

Type locality: "Nosy-Iranja".

a. 1. Indian Ocean, Geological Mus. Wageningen. — b. 1. Red Sea, L. W. Ruysenaers.

Semifusus Swainson, 18401. Sect. **Pugilina** Schumacher, 1817**S. carnarius** (Röding)

Murex carnarius duplici serie nodorum ... Chemnitz, Syst. Conch. Cab., vol. 10, p. 270, pl. 164, figs. 1566, 1567; 1788.

Murex Vespertilio var. γ Gmelin, Linné, Syst. nat., ed. 13, p. 3553, No. 100; (1790) 1791.

Fusus Carnarius Röding (pars una), Bolten, Mus. boltenianum, p. 121, No. 1557; 1798.

Murex pugilinus. Variety Dillwyn, Descr. catal. recent shells, vol. 2, p. 737, No. 111; 1817.

Pyrula bucephala Lamarck, Anim. s. Vert., vol. 7, p. 139, No. 6; 1822.

Pyrula bucephala, Kiener, Icon. coq. viv., *Pyrula*, p. 4, No. 2, pl. 4, fig. 1; 1840.

Pyrula bucephala, Deshayes, Lamarck, Anim. s. Vert., 2nd ed., vol. 9, p. 508, No. 6; 1843.

Pyrula bucephala, Reeve, Conch. Icon., *Pyrula*, sp. 24, pl. 7, fig. 24; 1847.

Melongena bucephala, Petit de la Saussaye, Journ. de Conch., vol. 3, p. 147, No. 11; 1852.

Pyrula bucephala, Chenu, Manuel de Conchyl., vol. 1, p. 141, fig. 612; 1859.

Pyrula carnaria (non Lm.) Sowerby, Thesaurus Conchyl., vol. 4, p. 101, No. 9, pl. 3 (420), fig. 23; 1880.

Pyrula bucephala, Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 34, No. 10, pl. 20, figs. 1, 2; (1874) 1881.

Melongena bucephala, Tryon, Manual of Conch., vol. 3, p. 109, pl. 42, fig. 209; 1881.

Pyrula (Melongena) bucephala, Paetel, Cat. Conch. Samml., vol. 1, p. 35; 1887.

Type locality: "Habite l'Océan indien"; "Habite l'océan Indien, les côtes des îles Sechelles" (Kiener).

Lamarck mentions as further indication of his "*Pyrula bucephala*": "Chemn. Conch. 10. t. 164. f. 1566. 1567." and "Lister, Conch. t. 885. f. 6. b.". Lister's figure, however, was quoted by Gmelin for *S. vespertilio* [= *S. pugilinus* (Born)], but erroneously, as its double row of tubercles does not agree with the other figures mentioned by Gmelin for *S. vespertilio*, as: "List. Conch. t. 884. f. 6. a.", "Valent. Abh. t. 6. f. 57. 58" and "Martin. Conch. 4. t. 142. f. 1323. 1324. 1326. 1327", in which all the shells show only one row of tubercles on the whorls.

Just as in *Melongena galeodes*, *M. pirum*, *Semifusus pugilina*, *S. morio*, there is an aculeate or tuberculate form besides a smooth one, so I found in our collection besides the tuberculate form of *S. carnarius* a smooth form deprived of nodules (fig. 1). I name this smooth form var. *laevis*. In this

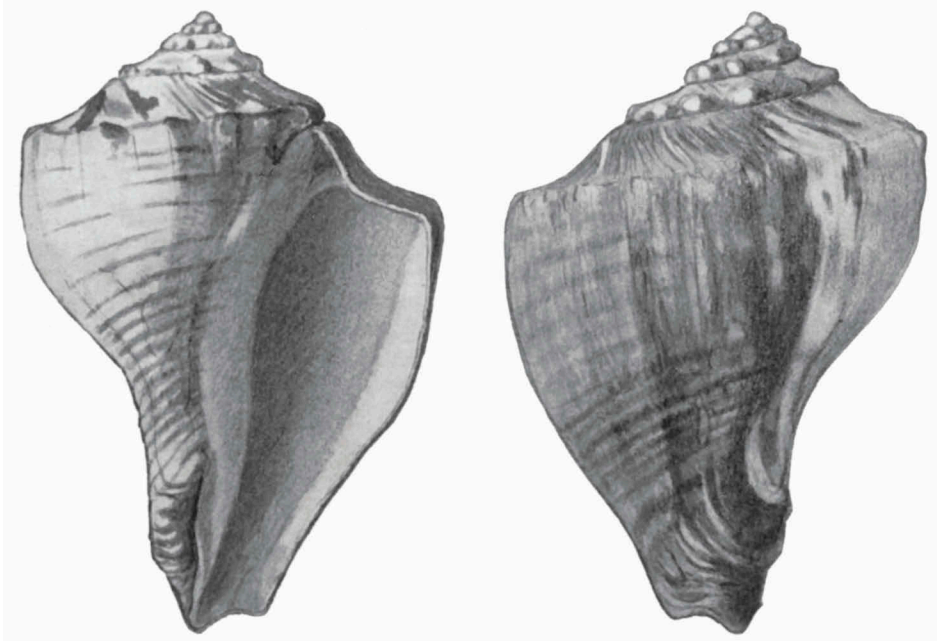


Fig. 1. *Semifusus carnarius* (Röding) var. *laevis* var. nov. $\times 4/5$.

variety the modules on the first whorls are scarcely developed, and they gradually fade away, to disappear completely on the body whorl.

a. 1. Indian Ocean, ?.

var. **laevis** var. nov. (fig. 1)

a. 1. Indian Ocean, J. Mulder.

S. cochlidium (Linné)

Murex Cochlidium Linné, Syst. nat., ed. 10, p. 753, No. 482; 1758.

Murex Cochlidium, Linné, Mus. Ulricaе, p. 640, No. 320; 1764.

Murex Cochlidium, Linné, Syst. nat., ed. 12, p. 1221, No. 553; 1767.

(non) *Murex cochlidium*, Born, Testac. Mus. Caes. Vindob., p. 311; 1780.

Murex Cochlidium, Meuschen (pars), Gronovius, Zoophylacium, fasc. 3, p. 320, No. 1467 & Index Vermium, No. 1467; 1781.

Murex cochlidium, Schröter, Einl. Conchylienkenntn., vol. 1, p. 516, No. 36; 1783.

Murex Cochlidium, Chemnitz, Syst. Conch. Cab., vol. 10, p. 273 & p. 335 (errore pro 235), pl. 164, fig. 1569; 1788.

- Murex Cochlidium*, Gmelin, Linné, Syst. nat., ed. 13, p. 3544, No. 63; (1790) 1791.
Pyrula cochlidium, Lamarck, Tableau encycl. et méth., vol. 21, Moll. testac., pl. 434, fig. 2; 1816.
Murex cochlidium, Dillwyn, Descr. catal. recent shells, vol. 2, p. 720, No. 77; 1817.
Fusus cochlidium, Lamarck, Anim. s. Vert., vol. 7, p. 128, No. 18; 1822.
Murex Cochlidium, Wood, Index Testac., 2nd ed., p. 126, No. 79, pl. 26, fig. 79; 1828.
Fusus cochlidium, Deshayes, Encycl. méth., Vers, vol. 2, p. 156, No. 24; 1830.
Fusus cochlidium, Kiener, Icon. coq. viv., Fusus, p. 55, No. 45, pl. 30, fig. 1; 1840.
Fusus cochlidium, Deshayes, Lamarck, Anim. s. Vert., 2nd ed., vol. 9, p. 453, No. 18; 1843.
Pyrula cochlidium, Reeve (pars una), Conch. Icon., Pyrula, sp. 2; 1847.
Fusus cochlidium, Jay, Catal. shells, p. 321; 1852.
Melongena cochlidium, Petit de la Saussaye, Journ. de Conch., vol. 3, p. 147, No. 13; 1852.
Murex cochlidium, Hanley, Ipsa Linnaei conch., p. 300; 1855.
Murex cochlidium, Hanley, Wood, Index Testac., rev. ed., p. 131, No. 79, pl. 26, fig. 79; 1856.
Pyrula cochlidium, Sowerby, Thesaurus Conchyl., vol. 4, p. 102, No. 12, pl. 3 (420), fig. 27; 1880.
Pyrula cochlidium, Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 37, No. 12, pl. 3, fig. 4, pl. 28, fig. 2; (1874) 1881.
Melongena cochlidium, Tryon (pars una), Manual of Conch., vol. 3, p. 110, pl. 43, fig. 227; 1881.
Pyrula (Melongena) cochlidium, Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.

Type locality: "Habitat..."; "Es wohnt diese Gattung in den Ostindischen Meeren" (Chemnitz); "Habitat in Oceano indico" (Gmelin); "Habite l'Océan des Grandes-Indes" (Lamarck).

In his four quotations Born refers to three different species. From these "Argenville Conch. tab. 9. f. A." and "Seba Thes. III. tab. 57. f. 27, 28" represent indeed figures of specimens of *S. cochlidium*.

The specimen figured by Knorr (1770, pars 6, pl. 26, fig. 2), of which the author (1775, pars 6, p. 99) says: "Op de Zevende Plaat van 't Tweede Deel is een Hooren afgebeeld, welke sommigen een Gebraden Peer noemen; doch dat is eigenlijk een Leeuwenkop. Hier vertoonen wij, in Fig. 2, de regte Gebraden Peer van Rumphius" is, however, *Cymatium lotorium* (L.). This agrees with the "Systematische bladwijzer" by Knorr where he names the "Gebraden Peer (No. 533)": "*Murex Lotorium*". The indication "f. 2" perhaps is a printer's error for "f. 1", but this figure represents not a *S. cochlidium*, though Knorr names it so in his "Systematische bladwijzer" (No. 553), but a *S. tuba* (Gm.).

The quotation of Born "Martini Konch. Kab. IV. tab. 143. f. 1333." refers to a figure of *S. tuba*, not to one of *S. cochlidium*.

Born's diagnosis of his *Murex cochlidium* is too perfunctory and too indistinct to conclude whether the author indeed meant here *S. cochlidium* or an other shell. The more detailed description, however, gives the im-

pression that Born meant *S. tuba*, not *S. cochlidium*. Many parts of the description are applicable to both species, but the following words "transversim sulcata, sulcis alternatim inaequalibus" are suitable for *S. tuba*, not for *S. cochlidium*. The latter species generally is very regularly spirally striate, only in a few parts this regularity is interrupted by a thinner, thread-like line. To *S. tuba*, in which thicker spiral lines alternate with thinner ones, the above mentioned words of Born would be applicable.

This author moreover writes: "anfractus ... utrinque declives, supra planiusculi"; this is not applicable to *S. cochlidium* with its whorls that are strongly keeled at the periphery, and flattened or rather depressed above the keel. In *S. tuba* "die Umgänge sind kantig, doch über der Kante kaum eingedrückt oder selbst gewölbt" as defined by Kobelt (1881, p. 41), which agrees with the description of Born.

The author of the "Musei Caesarii Vindobonensis" mentions as colour "pallidus aut lutescens". *S. cochlidium* has a chestnut-brown colour, *S. tuba*, however, is "gelblichweiss bis fleischroth", which approximates the colour indicated by Born.

The length also, mentioned by Born as: "1. ped. 5. poll." (about 45 cm) is rather larger than that of *S. cochlidium*, which attains only 15 cm.

a. 1. Indian Ocean, J. Raye van Breukelerwaert. — b. 1. Amboyna, D. J. Hoedt. — c. 1. ?, from Hoogeveen's collection. — d. 1. Moluccas, Geological Mus. Wageningen.

subsp. **diademata** nom. nov.

Pyrula cochlidium, Reeve (pars altera), Conch. Icon., *Pyrula*, sp. 2, pl. 1, fig. 2; 1847.

Pyrula cochlidium Linné Var. *coronata* Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 37, No. 12, pl. 3, fig. 5; (1874) 1881.

Melongena cochlidium, Tryon (pars altera), Manual of Conch., vol. 3, p. 110, pl. 43, fig. 226; 1881.

Type locality: "im indischen Ocean"; "Raines' Island, Torres Straits" (Reeve).

As there exists already a *S. coronatus* (*Fusus coronatus* Lm., 1822) it seems advisable to me, to prevent confusion, to give to this subsp. *coronata* the name *diademata*. Our specimen in general aspect agrees with that figured by Reeve (1847, pl. 1, fig. 2), also as far as concerns the colour, only the tubercles on the body whorl are more numerous and smaller than in the figure. Whilst Reeve's specimen on its aboral surface shows 5 tubercles, our shell in the same region has 7 nodules.

a. 1. Torres Straits, J. Mulder.

S. morio (Linné)

- Murex Morio* Linné, Syst. nat., ed. 10, p. 753, No. 481; 1758.
Murex Morio, Linné, Mus. Ulricaе, p. 640, No. 319; 1764.
Murex Morio, Linné, Syst. nat., ed. 12, p. 1221, No. 552; 1767.
Murex morio, Born, Testac. Mus. Caes. Vindob., p. 310; 1780.
 Schröter, Einl. Conchylienkenntn., vol. 1, p. 515, No. 35; 1783.
Murex Morio, Gmelin, Linné, Syst. nat., ed. 13, p. 3544, No. 62; (1790) 1791.
Fusus Morio, Röding (pars una), Bolten, Mus. boltenianum, p. 120, No. 1548; 1798.
Fusus morio, Lamarck, Tableau encycl. et méth., vol. 21, Moll. testac., pl. 430, fig. 3a; 1816.
Murex morio, Dillwyn, Descr. catal. recent shells, vol. 2, p. 719, No. 76; 1817.
Fusus morio, Lamarck, Anim. s. Vert., vol. 7, p. 127, No. 16; 1822.
Murex Morio, Wood, Index Testac., 2nd ed., p. 126, No. 78, pl. 26, fig. 78; 1828.
Fusus morio, Deshayes (pars una), Encycl. méth., Vers, vol. 2, p. 155, No. 23; 1830.
Fusus morio vartas, Kiener, Icon. coq. viv., Fusus, p. 56, No. 46, pl. 23, fig. 2; 1840.
Fusus morio, Deshayes, Lamarck, Anim. s. Vert., 2nd ed., vol. 9, p. 451, No. 16; 1843.
Pyrula morio, Reeve (pars una), Conch. Icon., Pyrula, sp. 3; 1847.
Melongena morio, Petit de la Saussaye, Journ. de Conch., vol. 3, p. 147, No. 15; 1852.
Cassidulus morio, Mörch, Catal. conch. Yoldi, Cephalophora, p. 103, No. 1933; 1852.
Murex Morio, Hanley, Ipsa Linnaei conch., p. 300; 1855.
Murex morio, Hanley, Wood, Index Testac., rev. ed., p. 131, No. 78, pl. 26, fig. 78; 1856.
Pyrula Morio, Sowerby, Thesaurus Conchyl., vol. 4, p. 102, No. 13, pl. 1 (418), fig. 1; 1880.
Pyrula morio, Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 35, No. 11; (1874) 1881.
Melongena morio, Tryon (pars una), Manual of Conch., vol. 3, p. 111, pl. 43, fig. 229; 1881.
Pyrula (Melongena) morio, Paetel (pars), Cat. Conch. Samml., vol. 1, p. 36; 1887.
Melongena morio, Nobre, Bull. Soc. Port. Sci. Nat., vol. 3, suppl. 2, p. 17; 1909.
Semifusus morio, Dautzenberg, Contr. faune malac. Afrique occ., p. 48; 1910.
Melongena (Pugilina) morio, Dautzenberg, Rev. Zool. Africaine, vol. 9, p. 112; 1921.
Semifusus (Pugilina) morio, Fischer-Piette, Moll. Adanson, p. 235; 1942.

Type locality: "Habitat..."; "Habitat in M. Africano" (Linné, 1767); "Habitat in mari Africam, potissimum occidentalem alluente" (Gmelin); "Habite l'Océan atlantique, sur les côtes d'Afrique" (Lamarck).

a. 2. African coast, C. Voigt. — b. 1. West African coast, Geological Mus. Wageningen. — c. 5. Coast of Guinea, H. S. Pel. — d. 1. Junk River (Liberia), F. X. Stämpfli. — e. 1. Grand Cape Mount (Liberia), J. Büttikofer. — 1667. 5. Coast of Guinea, H. S. Pel.

subsp. **coronata** (Lamarck)

- Buccinum nigrum fasciis albis* Chemnitz, Conch. Cab., vol. 4, p. 139, pl. 139, figs. 1300, 1301; 1780.
Fusus Morio, Röding (pars altera), Bolten, Mus. boltenianum, p. 120, No. 1548; 1798.

Fusus coronatus Lamarck, Tableau encycl. et méth., vol. 21, Moll. testac., pl. 430, fig. 4; 1816.

Pugilina fasciata Schumacher, Essai nouv. système, p. 216; 1817.

Fusus coronatus, Lamarck, Anim. s. Vert., vol. 7, p. 127, No. 17; 1822.

Fusus morio, Deshayes (pars altera), Encycl. méth., Vers, vol. 2, p. 155, No. 23; 1830.

Fusus morio, Kiener, Icon. coq. viv., Fusus, p. 56, No. 46, pl. 22, fig. 2; 1840.

Fusus coronatus, Deshayes, Lamarck, Anim. s. Vert., 2nd ed., vol. 9, p. 452, No. 17; 1843.

Pyrula morio, Reeve (pars altera), Conch. Icon., Pyrula, sp. 3, pl. 1, fig. 3; 1847.

Fusus coronatus, Jay, Catal. shells, p. 321; 1852.

Fusus morio, Jay, Catal. shells, p. 322; 1852.

Melongena morio Var. Petit de la Saussaye, Journ. de Conch., vol. 3, p. 148, No. 15; 1852.

Fusus (Pugilina) vesperilio, Chenu (pars una), Manuel de Conchyl., vol. 1, p. 141, fig. 610 (non 611); 1859.

Pyrula Morio Gmel. var. *coronata*, Lamk., Sowerby, Thesaurus Conchyl., vol. 4, p. 102, No. 13, pl. 1 (418), fig. 2; 1880.

Pyrula morio L. Var. *coronata*, Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 35, No. 11, pl. 28, figs. 4, 5; (1874) 1881.

Melongena morio, Tryon (pars altera), Manual of Conch., vol. 3, p. 111, pl. 43, fig. 228; 1881.

Pyrula (Melongena) morio, Paetel (pars), Cat. Conch. Samml., vol. 1, p. 36; 1887.

Type locality: "Habite l'Océan des Antilles".

Linné has not separated the subsp. *coronata* from the species, but included it in *S. morio*. This is proved by his quotations of "*Murex Morio*", which embraces the form with rounded whorls obsoletely tubercled as well as the form provided with a distinct shoulder or keel, bearing prominent tubercles. To Lamarck are due the merits of having separated the variety under the name "*Fusus coronatus*", and of having distinctly defined the differences between that shell and "*Fusus morio*". Lamarck goes, however, to the other extreme, and considers "*Fusus morio*" and "*Fusus coronatus*" two clearly separated species. If one examines, however, a great deal of material, one observes that *morio* and *coronatus* gradually merge into each other.

The best figure quoted by Lamarck, to elucidate his diagnosis of "*Fusus coronatus*", is that of the Encyclopédie ("Encyclop. pl. 430. f. 4.") in which all the characters mentioned by the author are distinctly visible, especially the prominent tubercles on the shoulder are obvious. The other figures cited by Lamarck do not as distinctly show the characters.

Deshayes (1843, p. 452) creates some confusion in quoting Bonanni's figure (3. f. 357), which Lamarck rightly interpreted as *Fusus coronatus*, also for *Fusus morio*. He makes another mistake when he mentions plate 80 of Seba (1761)—on which, with the exception of 5 figures, 21 specimens of *F. coronatus* are figured—for *Fusus morio*, with the remark: "Figuræ omnes" as well as with *F. coronatus* with the words: "(figuræ) ferè omnes".

I must observe that the citation of Linné (1767): "Seb. mus. 3. t. 88"

of course ought to be: "Seb. mus. 3. t. 80", as on t. 88 there are only figures of Lamellibranchiata (*Spondylus*).

a. 13. West African coast, C. Voigt, Geological Mus. Wageningen, J. Mulder & C. A. van der Willigen. — b. 7. Coast of Guinea, H. S. Pel. — c. 1. Junk River (Liberia), F. X. Stämpfli. — d. 4. American Ocean, ?. — e. 1. West Indies, J. Mulder. — f. 3. Surinam, D. Bolten. — g. 6. Mouth of Surinam River, A. J. Schimmelpenninck. — h. 1. Braamspunt (Suriname), A. J. Schimmelpenninck. — i. 1. Paramaribo (Surinam), W. C. van Heurn. — j. 2. Matappica beach (Surinam), D. C. Geyskes.

S. pugilinus (Born)

Fusus ponderosus carnarius Chemnitz, Syst. Conch. Cab., vol. 4, p. 147, pl. 142, figs. 1323, 1324 & forsan 1326, 1327; 1780.

Fusus crassus carnarius Chemnitz, Syst. Conch. Cab., vol. 4, p. 162, pl. 142, figs. 1323, 1324 & forsan 1326, 1327; 1780.

Murex pugilinus Born (syn. plur. exclus.), Testac. Mus. Caes. Vindob., p. 314; 1780.

Murex Vespertilio Gmelin, Linné, Syst. nat., ed. 13, p. 3553, No. 100; (1790) 1791.

Fusus Pugilinus, Röding, Bolten, Mus. boltenianum, p. 120, No. 1554; 1798.

Fusus Carnarius Röding (pars altera), Bolten, Mus. boltenianum, p. 121, No. 1557; 1798.

Pyrula carnaria, Lamarck, Tableau encycl. et méth., vol. 21, Moll. testac., pl. 434, fig. 3a, 3b; 1816.

Murex pugilinus, Dillwyn, Descr. catal. recent shells, vol. 2, p. 737, No. 111; 1817.

Pyrula vespertilio, Lamarck, Anim. s. Vert., vol. 7, p. 140, No. 7; 1822.

Pyrula carnaria, Blainville, Manuel Malacologie, p. 397; 1825.

Murex Vespertilio, Wood, Index Testac., 2nd ed., p. 129, No. 114, pl. 27, fig. 114; 1828.

Pyrula vespertilio, Deshayes, Encycl. méth., Vers, vol. 3, p. 871, No. 16; 1832.

Pyrula vespertilio, Kiener, Icon. coq. viv., Pyrula, p. 6, No. 3, pl. 5, fig. 1; 1840.

Pyrula vespertilio, Deshayes, Lamarck, Anim. s. Vert., 2nd ed., vol. 9, p. 508, No. 7; 1843.

Pyrula pugilina, Reeve (pars una), Conch. Icon., Pyrula, sp. 1, pl. 1, fig. 1b; 1847.

Melongena vespertilio, Petit de la Saussaye, Journ. de Conch., vol. 3, p. 147, No. 12; 1852.

Cassidulus pugilinus, Mörch, Catal. conch. Yoldi, p. 103, No. 1935; 1852.

Murex vespertilio, Hanley, Wood, Index Testac., rev. ed., p. 134, No. 114, pl. 27, fig. 114; 1856.

Pyrula (Pugilina) vespertilio, Chenu, Manuel de Conchyl., vol. 1, p. 141, fig. 611 (non 610); 1859.

Pyrula pugilina, Sowerby, Thesaurus Conchyl., vol. 4, p. 101, No. 11, pl. 2 (419), figs. 11, 12 & pl. 5 (422), fig. 41; 1880.

Pyrula pugilina, Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 33, No. 9, pl. 15, figs. 1, 2 & forsan 6, 7; (1874) 1881.

Melongena pugilina, Tryon (pars una), Manual of Conch., vol. 3, p. 110, pl. 43, figs. 220, 222; 1881.

Pyrula (Melongena) pugilina, Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.

Type locality: "Patria ignota"; "Habitat in Oceano indico" (Gmelin); "Tranquebar" (Wood).

Valentyn (1754, p. 68, No 57, 58, pl. 6, figs. 57, 58) names these "zeehorenkens" (shells): "Ternataansche Vleermuizen" (bats of Ternate), which explains the remark by Chemnitz (1780, vol. 4, p. 163): "Die Ternatischen Fledermäuse müssen also von den unsrigen gewaltig verschieden sein, weil er in der Form, Farbe, Bildung und Bauart unserer Schnecke eine Aenlichkeit mit ihnen zu erblicken glaubet". The name used by Valentyn, however, is not as surprising as one might suppose at first sight, as probably the colour, but also the form, reminded this collector of the frugivorous bats (*Pteropus* sp.) which he saw in the Indian archipelago suspended at the trees in their position of rest.

Though Born's diagnosis and description of this species leave nothing to be desired in relation to distinctness, most of the figures quoted by him to complete his description are badly chosen. The following figures are mentioned by him:

"Lister Hist. Conch. tab. 885. f. 6. b." is not a figure of *S. pugilinus*. This figure is quoted rightly by Chemnitz (1788, p. 270) for his "*Murex carnarius*" [= *S. bucephala* (Lm.)] and by Deshayes (1843, p. 508) for *S. bucephala*. The second row of tubercles, below the shoulder, which is characteristic of *S. bucephala*, is perfectly visible in this figure of Lister. It is not clear to me why Born has not mentioned Lister's pl. 884, fig. 6a, representing a good figure of *S. pugilinus*.

"Gualtieri Test. tab. 47. f. B" is not a *S. pugilinus*, as in this species the angle of the superior whorls is equidistant from the superior and the inferior sutures, whereas in the specimen represented by Gualtieri the angle is situated quite near the suture. The spire of the latter, moreover, is rather depressed, whereas it is elongated in the former. The columella in the specimen of Gualtieri's figure is tortuous, and the canal too is twisted, which is not the case in *S. pugilinus*. On account of its characters the specimen of Gualtieri rather reminds one of *Busycon caricum* (Gm.), it is quoted as such by Gmelin himself (1791, p. 3545, No 67) too, under the name "*Murex carica*".

"Knorr Vergn. I. tab. 30. f. I". As far as concerns this figure I also doubt if it really represents *S. pugilinus*, although the redbrown colour reminds one of this species. If we look at the spire of *S. pugilinus* we observe that the superior whorls are keeled, the angle being situated about half-way their height, so that a scalariform spire is formed. Moreover, all the whorls at equal distance are provided with more or less distinct radial folds. Of all these characters nothing is visible in the figure: at the lower side of the flat or slightly concave superior whorls we see only, near the suture, a row of nodules, that on the lower whorls take the form of spines.

In *S. pugilinus* there are no nodules near the suture, but the radial folds on the inferior whorls on the place where they form the angle are transformed into compressed tubercles. The canal of the specimen of Knorr too is longer and narrower than that of *S. pugilinus*, and, moreover, it is more curved than in the latter. The whole shell, except the colour, reminds one of a *Busycon*, it bears a strong resemblance to *Busycon caricum* (Gm.).

"Martini Konch. Kab. IV. tab. 152. (errore pro 142) f. 1323, 1324" shows two fine drawings in which *S. pugilinus* is easily recognizable.

a. 21. Canal of Pasar Ikan (Bay of Batavia), R. IJzerman. — b. 4. Tandjong Priok (Bay of Batavia), P. Buitendijk. — c. 2. Antjol River (E. of Batavia), F. P. Koumans. — d. 4. Soerabaja (Java), P. Buitendijk. — e. 2. Soerabaja, docks, Geological Mus. Wageningen. — f. 1. Bandjaran (E. of Soerabaja), Geological Mus. Wageningen. — g. 2. Cheribon (Java), E. F. Jochim & W. C. van Heurn. — h. 1. North coast of Besoeki (Java), J. Semmelink. — i. 3. between Bangil & Sitoebondo (E. Java), Research Officer Fisheries, Pasoeroean. — j. 7. Tjilatjap (S. Java), C. Overdijk. — k. 1. Pasoeroean (E. Java), J. Knock. — l. 2. South coast of Madoera, P. Buitendijk. — m. 12. Madoera, E. F. Jochim. — n. 1. Sumatra, S. Müller. — o. 2. Belawan Deli (E. coast of Sumatra), P. Buitendijk. — p. 1. coast of Benkoelen (S. W. Sumatra), Techn. Hoogeschool Delft. — q. 1. Poeloe We (N. of Sumatra), P. Buitendijk. — r. 1. Poeloe Moeda, Riouw Arch., L. de Priester. — s. 1. Dobo, Isle of Singkep, H. Koperberg. — t. 2. Blinjoe, Isle of Banka, L. de Priester. — u. 3. Biliton, Mrs. Vosmaer. — v. 1. Makasser (S. W. Celebes), W. C. van Heurn. — w. 2. Boesak (N. Celebes), ? — x. 2. Moluccas, Geological Mus. Wageningen. — y. 1. Amboyna, F. P. Koumans. — z. 1. Timor, P. Kruizinga. — aa. 2. Philippines, A. van der Valk. — ab. 1. Paranaque (Luzon), F. P. Koumans. — ac. 6. Ceylon, Geological Mus. Wageningen & J. Mulder. — ad. 5. Cape of Good Hope, from the Old Collection. — ae. 1. Lorenzo Marquez (Mozambique), J. Mulder. — 1666. 3. Indian Ocean, Müller. — 1670. 1. Padang (W. Sumatra), ?.

var. **fulva** (Deshayes)

Pyrula fulva Deshayes, Bélanger, Voy. Indes-or., Zool., p. 422, pl. 2, fig. 5; 1834.

Pyrula pugilina, Reeve (pars altera), Conch. Icon., *Pyrula*, sp. 1, pl. 1, fig. 1a; 1847.

Melongena vesperilio Var., Petit de la Saussaye, Journ. de Conch., p. 147, No. 12; 1852.

Pyrula pugilina Varietas *inermis* Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 33, No. 9, pl. 5, figs. 2, 3; (1874) 1881.

Melongena pugilina, Tryon (pars altera), Manual of Conch., vol. 3, p. 110, pl. 43, fig. 221; 1881.

Type locality: "détroit de la Sonde"; "in der Nähe von Singapore" (Kobelt).

a. 1. ?, from the Old Collection. — b. 2. Indian Ocean, Geological Mus. Wageningen. — c. Canal of Pasar Ikan (Bay of Batavia), R. Yzerman. — d. 1. Tandjong Priok (Bay of Batavia), P. Buitendijk. — e. 2. Antjol River (E. of Batavia), E. F. Jochim & F. P. Koumans. — f. 2. Soerabaja (Java), P. Buitendijk. — g. 1. Cheribon (Java), E. F. Jochim. — h. 1. S. coast of Madoera, P. Buitendijk. — i. 1. Belawan Deli (E. coast of Sumatra), P. Buitendijk.

2. Sect. **Semifusus s.s.**

S. colosseus (Lamarck)

Fusus colosseus Lamarck, Tableau encycl. et méth., vol. 21, Moll. testac., pl. 427, fig. 2; 1816.

Fusus colosseus, Lamarck, Anim. s. Vert., vol. 7, p. 122, No. 1; 1822.

Murex colosseus, Wood, Index Testac., 2nd ed., p. 125, No. 72, (fig. exclus.); 1828.

Fusus colosseus, Deshayes, Encycl. méth., Vers., vol. 3, p. 155, No. 21; 1830.

Fusus colosseus, Kiener, Icon. coq. viv., Fusus, p. 50, No. 41, pl. 25; 1840.

Fusus colosseus, Reeve, Conch. Syst., vol. 2, p. 185, pl. 232, fig. 3; 1842.

Fusus colosseus, Deshayes, Lamarck, Anim. s. Vert., 2nd ed., vol. 9, p. 442, No. 1; 1843.

Fusus colosseus, Reeve, Conch. Icon., Fusus, sp. 19 (?), pl. 5, fig. 19; 1847.

Melongena colosseus, Petit de la Saussaye, Journ. de Conch., vol. 3, p. 148, No. 19; 1852.

Cassidulus colosseus, Mörch, Catal. conch. Yoldi, Cephalophora, p. 103, No. 1930; 1852.

Murex colosseus, Hanley, Wood, Index Testac., rev. ed., p. 130, No. 72, (fig. exclus.); 1856.

Fusus (Hemifusus) colosseus, Chenu, Manuel de Conchyl., vol. 1, p. 142, fig. 614; 1859.

Pyrula colosseus, Sowerby, Thesaurus Conchyl., vol. 4, p. 102, No. 14, pl. 1 (418), fig. 3; 1880.

Pyrula colosseus, Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 40, No. 14, pl. 6, fig. 1; (1874) 1881.

Hemifusus colosseus, Tryon, Manual of Conch., vol. 3, p. 111, pl. 44, fig. 232; 1881.

Pyrula (Hemifusus) colosseus, Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.

Type locality: ?; "Habite les mers des Indes" (Kiener); "Eastern Seas" (Reeve).

Reeve's figure probably is not that of *S. colosseus*, amongst other reasons in connexion with the too slight inclination of the upper part of the whorls, and on account of the canal having a too wide opening. Kobelt (1881, p. 52) already presumed this when writing: "Ich bin nicht sicher, ob die Figur bei Reeve l.c. eine ächte colosseus darstellt".

Our largest specimen measures 34 cm.

a. 7. Indian Ocean, C. G. C. Reinwardt. — b. 1. Poeloe We (N. of Sumatra), P. Buitendijk. — c. 1. China, J. Mulder. — d. 2. Indian Ocean, ? — e. 1. ?, C. A. van der Willigen.

S. elongatus (Lamarck)

Cochlis volutata pyriformis Martini, Syst. Conch. Cab., vol. 3, p. 201, pl. 94, fig. 908; 1777.

Buccinum Tuba Gmelin, Linné, Syst. nat., ed. 13, p. 3484, No. 55; (1790) 1791.

Pyrula elongata Lamarck, Anim. s. Vert., vol. 7, p. 143, No. 14; 1822.

Buccinum Tuba, Wood, Index Testac., 2nd ed., p. 108, No. 68, pl. 23, fig. 68; 1828.

Fusus elongatus, Kiener, Icon. coq. viv., Fusus, p. 53, No. 44, pl. 28; 1840.

Pyrula elongata, Deshayes, Lamarck, Anim. s. Vert., 2nd ed., vol. 9, p. 513, No. 14; 1843.

Pyrula elongata, Reeve, Conch. Icon., Pyrula, sp. 5, pl. 2, fig. 5; 1847.

Melongena elongata, Petit de la Saussaye, Journ. de Conch., vol. 3, p. 148, No. 18; 1852.

Buccinum Tuba, Hanley, Wood, Index Testac., rev. ed., p. 115, No. 68, pl. 23, fig. 68; 1856.

Pyrula elongata, Sowerby, Thesaurus Conchyl., vol. 4, Pyrula, p. 103, No. 17, pl. 1 (418), fig. 8; 1880.

Pyrula elongata, Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 43, No. 17, pl. 15, fig. 5; (1874) 1881.

Hemifusus elongatus, Tryon, Manual of Conch., vol. 3, p. 112, pl. 44, fig. 236; 1887.

Pyrula (Hemifusus) elongata, Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.

Type locality: "Habite l'Océan des grandes Indes"; "Eastern Seas" (Reeve); "Indian Ocean" (Tryon).

Gmelin, on p. 3484 of the Systema naturae, has described this *Semifusus*, the "*Pyrula elongata*" of Lamarck, as "*Buccinum Tuba*" (type of the genus) thereby quoting a well recognizable figure of Martini. On p. 3554, however, Gmelin under the same species name has described another *Semifusus*, the "*Classicum legionis desultoriae*" of Martini, namely as "*Murex tuba*". In connexion with the paging the former "*Buccinum Tuba*" ought to have priority, and thus *S. elongata* should be named *S. tuba*. Where this might cause great confusion, the "*Classicum legionis desultoriae*" by all authors being named *S. tuba*, it seems preferable not to follow here too strictly the rules of nomenclature, and to preserve for *Semifusus elongatus* the name of Lamarck.

a. 5. Badjowe, Gulf of Boni (S. Celebes), B. Moens. — b. 2. ?, from Dalen's collection & Frank. — c. 4. Banda, ?.

S. lacteus (Reeve)

Pyrula lactea Reeve, Conch. Icon., Pyrula, sp. 8, pl. 3, fig. 8; 1847.

Melongena lactea, Petit de la Saussaye, Journ. de Conch., vol. 3, p. 147, No. 14; 1852.

Pyrula lactea, Sowerby, Thesaurus Conchyl., vol. 4, Pyrula, p. 101, No. 10, pl. 2 (419), fig. 10; 1880.

Pyrula lactea, Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 44, No. 18, pl. 7, fig. 4; (1874) 1881.

Hemifusus lacteus, Tryon, Manual of Conch., vol. 3, p. 112, pl. 44, fig. 235; 1881.

Pyrula (Hemifusus) lactea, Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.

Type locality: "Philippine Islands".

a. 2. Marquesas, Sowerby & Fulton.

S. pastinaca (Reeve)

Fusus pastinaca Reeve, Conch. Icon., *Fusus*, sp. 64, pl. 16, fig. 64; 1848.

Fusus pastinaca, Sowerby (syn. exclus.), Thesaurus Conchyl., vol. 4, *Fusus*, p. 82, No. 71, pl. 7 (411), fig. 75; 1880.

Neptunea (Austrofusus) pastinaca, Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 137, pl. 45, fig. 4; (1874) 1881.

Hemifusus pastinaca, Tryon, Manual of Conch., vol. 3, p. 112, pl. 44, fig. 234; 1881.

Pyrula (Hemifusus) pastinaca, Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.

Type locality: "Australia"; "Van Diemen's Land" (Sowerby).

S. ternatanus (Gmelin)

Fusus brevis Ternatanus Chemnitz, Syst. Conch. Cab., vol. 4, p. 153, pl. 140, figs. 1304, 1305; 1780.

Schröter, Einl. Conchylienkenntn., vol. 1, p. 614, *Murex*, No. 203; 1783.

Murex ternatanus Gmelin, Linné, Syst. nat., ed. 13, p. 3554, No. 107; (1790) 1791.

Fusus Ternatanus, Röding, Bolten, Mus. Boltenianum, p. 120, No. 1546; 1798.

Fusus pyrulaceus Lamarck, Tableau encycl. et méth., vol. 21, Moll. testac., pl. 429, fig. 6; 1816.

Murex ternatanus, Dillwyn, Descr. catal. recent shells, vol. 2, p. 738, No. 113; 1817.

Pyrula ternatana, Lamarck, Anim. s. Vert., vol. 7, p. 143, No. 15; 1822.

Murex Ternatanus, Wood, Index Testac., 2nd ed., p. 129, No. 116, pl. 27, fig. 116; 1828.

Pyrula ternatana, Deshayes, Encycl. méth., Vers, vol. 3, p. 867, No. 8; 1832.

Fusus ternatanus, Kiener, Icon. coq. viv., *Fusus*, p. 52, No. 43, pl. 27; 1840.

Fusus ternatensis Kiener, Icon. coq. viv., *Fusus*, pl. 27; 1840.

Pyrula ternatana, Deshayes, Lamarck, Anim. s. Vert., 2nd ed., vol. 9, p. 513, No. 15; 1843.

Pyrula Ternatana, Reeve, Conch. Icon., *Pyrula*, sp. 6, pl. 2, fig. 6; 1847.

Melongena ternatana, Petit de la Saussaye, Journ. de Conch., vol. 3, p. 148; 1852.

Murex Ternatanus, Hanley, Wood, Index Testac., rev. ed., p. 134, No. 116, pl. 27, fig. 116; 1856.

Pyrula ternatana, Sowerby, Thesaurus Conchyl., vol. 4, *Pyrula*, p. 102, No. 16, pl. 1 (418), fig. 7; 1880.

Pyrula ternatana, Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 42, No. 16, pl. 5, figs. 4, 5 & pl. 33, figs. 1, 2 (*modicas*); (1874) 1881.

Hemifusus ternatanus, Tryon, Manual of Conch., vol. 3, p. 112, pl. 44, fig. 233; 1881.

Pyrula (Hemifusus) Ternatana, Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.

Type locality: "Habitat ad littora insulae Ternate"; "Habite les mers des Moluques, près de Ternate" (Lamarck); "Island of Guimaras, Philippines" (Reeve).

a. 5. Ternate (Moluccas), J. A. Drieling. — b. 1. China, J. Mulder. — c. 6. Madoera, E. F. Jochim. — d. 2. Antjol River (E. of Batavia), E. F. Jochim. — e. 3. S. coast of Madoera, P. Buitendijk. — f. 1. Balik-Papan (E. Borneo), F. J. Faber. — g. 1. Tegal (res. Pekalongan) Java, P. Buiten-

dijk. — h. 1. Singapore, Geological Mus. Wageningen. — i. 1. Soerabaja (Java), W. C. van Heurn. — j. 1. Atjeh (N. W. Sumatra), Teyler's Foundation. — k. 1. Padang (W. Sumatra), C. A. van der Willigen. — l. 1. Soerabaja, docks, Geological Mus. Wageningen. — m. 3. Canal of Pasar Ikan (Bay of Batavia), R. IJzerman.

S. tuba (Gmelin)

Classicum legionis desultoriae Martini, Syst. Conch. Cab., vol. 4, p. 171, pl. 143, fig. 1333; 1780.

Murex cochlidium (non Linné) Born, Testac. Mus. Caes. Vindob., p. 311; 1780.

Schröter, Einl. Conchylienkenntn., vol. 1, p. 619, Murex, No. 212; 1783.

(non) *Buccinum Tuba* Gmelin, Linné, Syst. nat., ed. 13, p. 3484, No. 55; (1790) 1791.

Murex Tuba Gmelin, Linné, Syst. nat., ed. 13, p. 3554, No. 103; (1790) 1791.

Fusus Trompeta Röding, Bolten, Mus. boltenianum, p. 120, No. 1544; 1798.

Fusus tuba, Lamarck, Tableau encycl. et méth., vol. 21, Moll. testac., pl. 426, fig. 2; 1816.

Murex tuba, Dillwyn, Descr. catal. recent shells, vol. 2, p. 720, No. 78; 1817.

Pyrula tuba, Lamarck, Anim. s. Vert., vol. 7, p. 139, No. 5; 1822.

(non) *Buccinum Tuba*, Wood, Index Testac., 2nd ed., p. 108, No. 68, pl. 23, fig. 68; 1828.

Murex Tuba, Wood, Index Testac., 2nd ed., p. 126, No. 80, pl. 26, fig. 80; 1828.

Pyrula tuba, Deshayes, Encycl. méth., Vers, vol. 3, p. 869, No. 12; 1832.

Fusus tuba, Kiener, Icon. coq. viv., Fusus, p. 51, No. 42, pl. 26, fig. 1; 1840.

Pyrula tuba, Deshayes, Lamarck, Anim. s. Vert., vol. 9, p. 507, No. 5; 1843.

Pyrula tuba, Reeve, Conch. Icon., Pyrula, sp. 22, pl. 9, fig. 22; 1847.

Melongena tuba, Petit de la Saussaye, Journ. de Conch., vol. 3, p. 148, No. 17; 1852.

Cassidulus tuba, Mörch, Catal. conch. Yoldi, Cephalophora, p. 103, No. 1931; 1852.

(non) *Buccinum tuba*, Hanley, Wood, Index Testac., rev. ed., p. 115, No. 68, pl. 23, fig. 88; 1856.

Murex tuba, Hanley, Wood, Index Testac., rev. ed., p. 131, No. 80, pl. 26, fig. 80; 1856.

Hemifusus tuba, Adams, Genera rec. moll., vol. 1, p. 82, pl. 9, fig. 2, 2a; 1858.

Hemifusus (Pyrula) tuba, Chenu, Manuel de Conchyl., vol. 1, p. 142, fig. 615; 1859.

Pyrula tuba, Sowerby, Thesaurus Conchyl., vol. 4, p. 102, No. 15, pl. 1 (418), fig. 9; 1880.

Pyrula tuba, Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 41, No. 15, pl. 5, fig. 1, pl. 7, fig. 1; (1874) 1881.

Hemifusus tuba, Tryon, Manual of Conch., vol. 3, p. 112, pl. 44, fig. 237; 1881.

Pyrula (Hemifusus) tuba, Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.

Type locality: "Habitat rarus in Sina"; "Habite les mers de la Chine" (Lamarck); "Habite les mers de l'Inde" (Kiener).

a. 1. Indian Ocean, C. G. C. Reinwardt. — b. 2. China, Geological Mus. Wageningen.

var. **crassicauda** (Philippi)

Pyrula crassicauda Philippi, Zeitschr. f. Malakozool., vol. 5, p. 98; (1848) 1849.

Pyrula tuba Gmelin sp. b. Varietas, Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, p. 41, No. 15, pl. 7, fig. 1; (1874) 1881.

Type locality: "China".

a. 1. Indian Ocean, from Dalen's collection. — b. 1. ?, ?.

3. Sect. **Megalatractus** P. Fischer, 1884

S. probosciferus (Lamanck)

(non) *Murex aruanus* Linné, Syst. nat., ed. 10, p. 1222, No. 556; 1758.

Murex aruanus Born (syn. plur. exclus.), Testac. Mus. Caes. Vindob., p. 313; 1780.

Fusus Aruanus rarissimus Chemnitz, Syst. Conch. Cab., vol. 4, p. 190, p. 143 vign. 39, lit. D; 1780.

Murex Aruanus, Meuschen, Gronovius, Zoophylac. Gronov., fasc. 3, Index vermium & p. 320, No. 1464; 1781.

Murex aruanus, Schröter (syn. nonnul. exclus.), Einl. Conchylienkenntn., vol. 1, p. 520, No. 40; 1783.

Murex aruanus (non Linné), Gmelin, Linné, Syst. nat., ed. 13, p. 3546, No. 71; (1790) 1791.

Syrinx Aruana, Röding, Bolten, Mus. boltenianum, p. 121, No. 1560; 1798.

Murex aruanus, Dillwyn (syn. nonnul. exclus.), Descr. catal. recent shells, vol. 2, p. 723, No. 84; 1817.

Fusus probosciferus Lamarck, Anim. s. Vert., vol. 7, p. 126, No. 14; 1822.

Murex Aruanus, Wood, Index Testac., 2nd ed., p. 127, No. 87, pl. 26, fig. 87; 1828.

Fusus probosciferus, Deshayes, Encycl. méth., Vers, vol. 2, p. 148, No. 2; 1830.

Fusus probosciferus, Kiener, Icon. coq. viv., Fusus, p. 22, No. 16, pl. 17 & pl. 17bis; 1840.

Fusus aruanus, Swainson, Exotic Conch., 2nd ed., p. 6, pl. 19; 1841.

Fusus probosciferus, Deshayes, Lamarck, Anim. s. Vert., 2nd ed., vol. 9, p. 449, No. 14; 1843.

Fusus probosciferus, Reeve, Conch. Icon., Fusus, sp. 15, pl. 4, fig. 15; 1847.

Fusus incisus Mörch, Cat. conch. Yoldi, Cephalophora, p. 101, No. 1910; 1852.

Murex Aruanus, Hanley, Wood, Index Testac., rev. ed., p. 132, No. 87, pl. 26, fig. 87; 1856.

Fusus probosciferus, Kobelt, Ill. Conchylienbuch, vol. 1, p. 37, pl. 5, fig. 8; 1878.

Fusus probosciferus, Sowerby, Thesaurus Conchyl., vol. 4, Fusus, p. 70, No. 1, pl. 4 (408), fig. 31; 1880.

Fusus aruanus, Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, Purpuracea, p. 143, No. 1, pl. 46, fig. 1; (1874) 1881.

Fusus probosciferus, Tryon, Manual of Conch., vol. 3, p. 52, pl. 32, fig. 93; 1881.

Fusus (Fusus) probosciferus, Paetel, Cat. Conch. Samml., vol. 1, p. 54; 1887.

Type locality: "Habite..."; "China" (Wood); "Habite les mers de l'Inde" (Kiener); "Port Essington, New Holland" (Reeve); "Australia" (Hanley in Wood); "Singapore. Port Essington, New Holland" (Sowerby).

a. 2. Indian Ocean, ? — b. 3. Amboyna, D. J. Hoedt. — c. 5. Moluccas, from Jansen's & from Jochim's collection, Geological Mus. Wageningen, J. Mulder. — d. 1. Aroe Is. (Arafura-sea), from Jochim's collection. — e. 1. Banda Is., from Jochim's collection. — f. 1. ?, C. A. van der Willigen. — g. 1. Moluccas, ? — h. 1. Gorong Isl. (E. of Ceram), W. H. van Zadelhoff. — i. 1. Atjeh (N. W. Sumatra), Teyler's Foundation.

P. plicata (Lamarck)

Pyrula plicata Lamarck, Anim. s. Vert., vol. 7, p. 147, No. 28; 1822.

Pyrula plicata, Deshayes, Lamarck, Anim. s. Vert., 2nd ed., vol. 9, p. 520, No. 28; 1843.

Pyrula plicata, Petit de la Saussaye, Journ. de Conch., vol. 3, p. 153; 1852.

Melongena (Pyrula) plicata, Tryon, Manual of Conch., vol. 3, p. 111; 1881.

Pyrula plicata, Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.

Type locality: "les mers du Brésil?"

Tryon writes: "M. Deshayes has not been able to identify this species".

P. pyruloides De Kay in Tryon

Fusus pyruloides De Kay, Nat. Hist. N. Y. (cited by Tryon).

Melongena pyruloides, Tryon, Manual of Conch., vol. 3, p. 229; 1881.

Pyrula pyruloides, Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.

Type locality: "N. America" (Tryon).

"Very probably a depauperate *M. corona*, Gmelin, with the spines suppressed" (Tryon).

P. spadicea (Kobelt)

Fusus spadiceus Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 179, No. 37, pl. 55, figs. 5, 6; (1874) 1881.

Melongena spadicea, Tryon, Manual of Conch., vol. 3, p. 110, pl. 43, fig. 230; 1881.

Pyrula spadicea, Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.

Type locality: ?

Kobelt includes this species in the genus *Fusus*, but he is not quite sure if it is the right place: "Es ist mir übrigens durchaus nicht unwahrscheinlich, dass unsere Art zu den *Austrofusus* zu rechnen ist." In this case it ought to be placed in the genus *Siphonalia* subg. *Austrofusus*. Tryon locates the species in *Melongena* in relation to its colour.

P. squamosa (non Lamarck) Broderip

Murex squamosus Broderip, Proc. Zool. Soc., p. 176; 1832.

Melongena (Murex) squamosa, Tryon, Manual of Conch., vol. 3, p. 111, pl. 58, fig. 399; 1881.

Pyrula squamosa, Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.

Type locality: "ad Peruviam. (Payta)".

P. tuberculata (Anton)

Melongena tuberculata Anton, Verzeichn., 79; 1839 (cited by Tryon).

Melongena tuberculata, Tryon, Manual of Conch., vol. 3, p. 108; 1881.

Pyrula tuberculata, Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.

Type locality: ?

"No figure or locality is given with the description of this species; which has not been recognized" (Tryon).

SPECIES NON AD GENUS MELONGENA VEL SEMIFUSUS
PERTINENTES

P. belcheri (Hinds)

est *Chorus belcheri* (Hinds)

- Murex Belcheri* Hinds, Proc. Zool. Soc., p. 127; 1843.
Murex Belcheri, Hinds, Zool. Voyage Sulphur, Mollusca, vol. 2, p. 8, No. 8, pl. 2, figs. 1, 2, 3; 1844.
Pyrula Belcheri, Reeve, Conch. Icon., *Pyrula*, sp. 4, pl. 2, fig. 4; 1847.
Melongena Belcheri, Petit de la Saussaye, Journ. de Conch., vol. 3, p. 146, No. 5; 1852.
Hemifusus Belcheri, Adams, Genera rec. Moll., vol. 1, p. 83; 1858.
Murex Belcheri var., Dunker, Novit. Conch., p. 35, No. 31, pl. 10, figs. 6, 7; 1858-1870
Chorus Belcheri, Tryon, Manual of Conch., vol. 2, p. 198, pl. 61, fig. 309; 1880.
Pyrula Belcheri, Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 26, pl. 4, figs. 1, 2; (1874) 1881.
Chorus Belcheri, Paetel, Cat. Conch. Samml., p. 134; 1887.

Type locality: "San Diego, California"; "San Diego, California" (Reeve); "San Diego to Lower California" (Tryon).

P. bengalina Grateloup

est *Pterocera bryonia* (Gmelin) juv.

- Pyrula bengalina* Grateloup, Actes Soc. Linn. Bordeaux, vol. 11, pp. 170 & 447, pl. 4, fig. 5; (1839) 1840.
Pterocera truncata, Kiener, Icon. coq. viv., Pterocera, p. 4, pl. 10, fig. 3; 1843-44.
Thatcheria (Pyrula) Bengalina, Tryon, Manual of Conch., vol. 3, p. 113, pl. 44, fig. 242; 1881.
Pterocera bryonia juv., Tryon, Manual of Conch., vol. 7, p. 124; 1885.
Thatcheria Bengalina, Paetel, Cat. Conch. Samml., p. 37; 1887.
Pyrula Bengalina, Smith, Proc. Malac. Soc. London, vol. 8, p. 3; 1908 (1909).
Type locality: "Bengale". "L'Océan Indien, au Bengale".

P. crenifera (Montrouzier in sched.) Souverbie

est *Tritonalia (Vitularia) crenifera* (Montrouzier)

- Pyrula crenifera* Montrouzier in schedis.
Murex crenifer Souverbie, Journ. de Conch., vol. 9, p. 279, pl. 11, figs. 9, 10; 1861.
Pyrula crenifera, Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.
Type locality: "Balade. (Nov. Caledonia)."

P. fusiformis (Blainville)est *Cantharus (Hanetia) fusiformis* (Blainville)*Purpura Fusiformis* Blainville, Nouv. Ann. Mus. Hist. Nat., vol. 1, p. 229, pl. 11, fig. 7; 1832.*Fusus purpureoides* d'Orbigny, Voy. Amér. Méridion., vol. 5, pars 3, Mollusques, p. 448, pl. 65 (errore pro 63), fig. 1; 1835-1843.*Purpura D'Orbignyi* Reeve, Conch. Icon., *Purpura*, sp. 32, pl. 7, fig. 32; 1846.
(?) *Pyrula orbigny*, Sowerby, Thesaurus Conchyl., vol. 4, p. 100, pl. 5 (422), fig. 42; 1881.*Melongena fusiformis*, Tryon, Manual of Conch., vol. 3, p. 109, pl. 42, figs. 216, 217, 218; 1881.*Pyrula (Melongena) fusiformis*, Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.*Solenosteira fusiformis*, Fulton, Shells rec. Moll., Catal., p. 33; 1924.

Type locality: "la Nouvelle-Guinée ... l'Océan Pacifique, sur les côtes de Masatlan"; "Callao (Pérou) ... Payta" (d'Orbigny); "St. Elena, West Columbia" (Reeve).

The "*Pyrula orbigny*" described and figured by Sowerby differs from this species by its more depressed spire and by the absence of the compressed tubercles on the body whorl.**P. kieneri** Philippiest *Busycon perversum* (Linné) var. *kieneri* (Philippi)*Pyrula perversa* Lamarck vartas Kiener, Icon. coq. viv., *Pyrula*, p. 8, pl. 9, fig. 2; 1840.*Pyrula Kieneri* Philippi, Zeitschr. f. Malakozool., vol. 5, p. 98; 1848 (1849).*Pyrula Kieneri*, Petit de la Saussaye, Journ. de Conch., vol. 3, p. 145, No. 4; 1852.*Pyrula Kieneri*, Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.

Type locality: "l'océan des Antilles, la baie de Campêche".

P. lineata Lamarck, 1822 (non 1816)est *Melapium lineatum* (Lamarck)*Pyrula lineata* Lamarck, Anim. s. Vert., vol. 7, p. 147, No. 27; 1822.*Pyrula elata* Schubert & Wagner, Conch. Cab., vol. 12, p. 94, pl. 226, figs. 4012, 4013; 1829.*Pyrula lineata*, Gray, Zool. Beechey's Voy., Moll. Anim., p. 114; 1839.*Pyrula lineata*, Kiener, Icon. coq. viv., *Pyrula*, p. 24, No. 16, pl. 15, fig. 1; 1840.*Pyrula lineata*, Deshayes, Lamarck, Anim. s. Vert., 2nd ed., vol. 9, p. 520, No. 27; 1843.*Pyrula lineata*, Reeve, Conch. Icon., *Pyrula*, sp. 28, pl. 8, fig. 28; 1847.*Pyrula lineata*, Krauss, Südafrikan. Moll., p. 111; 1848.*Buccinum bulbosum*, Hanley, Wood, Index Testac., rev. ed., suppl., p. 212, No. 8, pl. 4, fig. 8; 1856.*Melapium lineatum*, Tryon, Manual of Conch., vol. 2, p. 213, pl. 67, fig. 395; 1880.*Melapium lineatum*, Paetel, Cat. Conch. Samml., vol. 1, p. 150; 1887.

Melapium lineatum, Smith, Ann. & Mag. Nat. Hist., vol. 3, p. 269; 1889.

Melapium lineatum, Sowerby, Mar. shells S. Africa, p. 16; 1892.

Type locality: "Habite ..."; "Habite les mers de l'Inde" (Kiener); "?" (Reeve); "An der Nataküste" (Krauss); "Port Elizabeth" (Sowerby).

P. subrostrata Gray

est *Lathyrus (Mazzalina) subrostrata* (Gray)

Fusus Lapillus Broderip & Sowerby, Zool. Journ., vol. 4, p. 378; 1829.

Pyrula subrostrata Gray, Zool. Beechey's Voy., Moll. anim., p. 115, pl. 36, fig. 15; 1839.

Pyrula subrostrata, Deshayes, Lamarck, Anim. s. Vert., 2nd ed., vol. 9, p. 523, No. 32; 1843.

Pyrula subrostrata, Reeve, Conch. Icon., *Pyrula*, sp. 11, pl. 3, fig. 11; 1847.

Pyrula subrostrata, Petit de la Saussaye, Journ. de Conch., vol. 3, p. 154; 1852.

Buccinum subrostratum, Hanley, Wood, Index Testac., rev. ed., suppl., p. 213, No. 9, pl. 4, fig. 9; 1856.

Clavella subrostrata, Adams, Genera rec. Moll., vol. 1, p. 86; 1858.

Turbinella subrostrata, Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 100, pl. 24, figs. 2, 3; (1844) 1873.

Pyrula subrostrata, Sowerby, Thesaurus Conchyl., vol. 4, *Pyrula*, p. 99, No. 2, pl. 5 (422), fig. 39; 1880.

Leucozonia (Lagena) subrostrata, Tryon, Manual of Conch., vol. 3, p. 96, pl. 70, figs. 181, 182; 1881.

Pyrula subrostrata, Paetel, Cat. Conch. Samml., vol. 1, p. 36; 1887.

Type locality: "Hab. ad littora Oceani Pacifici"; ? (Gray); "Habite les rivages de l'Océan Pacifique" (Deshayes).

P. versicolor Gray

est *Thais (Pinaxia) coronata* (A. Adams)

Pyrula versicolor Gray, Zool. Beechey's Voy., Moll. anim., p. 114; 1839.

Pyrula versicolor, Petit de la Saussaye, Journ. de Conch., vol. 3, p. 154; 1852.

Pinaxia coronata Adams, Genera rec. Moll., vol. 1, p. 132, pl. 14, fig. 1; 1858.

Pinaxia coronata, Tryon, Manual of Conch., vol. 2, p. 198, pl. 61, fig. 113 (errore pro 313); 1880.

Pyrula versicolor, Kobelt, Martini & Chemnitz, Syst. Conch. Cab., vol. 3, part 3, Purpuracea, p. 44 & p. 235; (1874) 1881.

Pinaxia coronata, Paetel, Cat. Conch. Samml., vol. 1, p. 146; 1887.

Type locality: "Pacific Ocean"; "Ceylon, Philipines, Polynesia" (Tryon); "I. Nossibé" (Paetel).

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