

## Rectifications regarding two fasciolariid names introduced by Récluz, 1844 and taxa to which those names have been related (Gastropoda: Fasciolaridae: Peristerniinae)

Martin Avery SNYDER  
Department of Malacology  
Academy of Natural Sciences of Drexel University  
19<sup>th</sup> and Benjamin Franklin Parkway, Philadelphia, PA 19103-1195, USA  
Muséum National d'Histoire Naturelle  
55, rue du Buffon, 77005 Paris, France  
dr.martin.snyder@gmail.com \*

William G. LYONS  
4227 Porpoise Drive, SE, St. Petersburg, FL 33705, USA  
w.lyons9@knology.net

\* corresponding author



**KEYWORDS.** Fasciolaridae, Récluz, *Latirus*, *Turbinella*, *Peristernia*.

**ABSTRACT.** *Turbinella philberti* and *T. tessellata*, both Récluz, 1844, are redescribed, figured and discussed, as are two Reeve taxa confused with them: *T. belcheri* and *T. candelabrum*. A lectotype is selected for *T. philberti* and *T. tessellata*. Récluz is regarded as a *nomen dubium*. We also discuss *T. tessellata* Kobelt in Küster & Kobelt, 1874, and *Peristernia castanoleuca* Tapparone-Canefri, 1879, which complete this group of confused names.

### INTRODUCTION

Constant A. Récluz (1797?-1873) was one of many European workers who described species of mollusks discovered in the Cuming collection (Dance, 1986: 123). In 1844 he published accounts of two fasciolariiids, *Turbinella philberti* and *T. tessellata*, with a written description of each species and a separately published drawing (Figs 1, 7). No extant type material is known for either taxon, but the identity of *T. philberti* is clear and an inconclusive estimate can be made as to that of *T. tessellata*.

*Turbinella philberti* is a *Latirus* which is readily evident from the original figure; the size stated for the specimen is 56 mm SL. The figure clearly shows the characteristic deeply compressed suture and prominent undulant anterior cord on the body whorl, and we select the shell depicted in the original figure as lectotype of *T. philberti*. We also illustrate two other specimens (Figs 2, 3) to show variation; the specimen in Fig. 2 is similar in size and sculpture to Récluz' illustration, and a much larger specimen is shown in Fig. 3

*Turbinella philberti* 'Récluz' was redescribed by Reeve (1847: pl. 12, fig. 63), but the shell he treated (Fig. 10) is not the Récluz species. This discrepancy was recognized by Tapparone-Canefri (1879: 317), who introduced the name *Peristernia castanoleuca* for the species that Reeve misidentified. However, the Tapparone-Canefri name was soon forgotten in the

literature and the name *P. philberti* (Récluz, 1844) continued to be applied erroneously to *P. castanoleuca*. Tapparone-Canefri's type material for *P. castanoleuca* (Fig. 11) was reexamined by Snyder & Callomon (2010), who confirmed conspecificity of that species with Reeve's illustrated specimen.

Reeve compounded his error by describing in the same publication (1847: pl. 2, fig. 1) a new species, *Turbinella candelabrum*, which is a subjective synonym of *T. philberti* Récluz. We illustrate the figured syntype of *T. candelabrum* (NHMUK 1968428), herein selected as the lectotype (Fig. 4).

*Latirus philberti* has been figured often in recent literature but almost always misidentified as *L. belcheri* (Reeve, 1847). We examined the figured syntype of *Turbinella belcheri* Reeve (NMW 1955.158.01407), herein selected as the lectotype (Fig. 5). It measures 49.7 mm in length and agrees in all particulars with Reeve's original description. *Latirus philberti* bears only superficial resemblance to *L. belcheri* and attains more than twice the size of the latter species.

### Methods and Materials

Specimens were examined in the collection of the Academy of Natural Sciences of Drexel University (ANSP), which now includes the former collection of Martin A. Snyder, and in the collection of William G. Lyons.

**Abbreviations**

- ANSP: Academy of Natural Sciences of Drexel University, Philadelphia, PA, USA  
 CAS: California Academy of Sciences, San Francisco, USA  
 LC: Collection of William G. Lyons, St. Petersburg, FL, USA  
 MHNG: Muséum d'Histoire Naturelle, Genève, Switzerland  
 MSNG: Museo Civico di Storia Naturale "Giacomo Doria," Genoa, Italy  
 NHMLAC: Natural History Museum of Los Angeles County, CA, USA  
 NHMUK: The Natural History Museum of the United Kingdom, London, England  
 NMW: National Museum of Wales, Cardiff, Wales  
 SBMNH: Santa Barbara Museum of Natural History, CA, USA  
 SL: shell length  
 USNM: National Museum of Natural History, Washington, DC, USA

**SYSTEMATICS**

- Family **FASCIOLARIIDAE** Gray, 1853  
 Subfamily **PERISTERIINAE** Tryon, 1880  
 Genus *Latirus* Montfort, 1810  
 Type species by monotypy: *Latirus aurantiacus* Montfort, 1810, = *Latirus gibbulus* (Gmelin, 1791), Recent, Indo-West Pacific.

*Latirus philberti* (Récluz, 1844)

Figs 1-4

- Turbinella philberti* Récluz, 1844a: 48; 1844b: sp. 93 (Philippines).  
*Turbinella candelabrum* Reeve, 1847: pl. 2, fig. 9 (St. Elena, Colombia); Hertlein & Strong, 1951: 80 (dismissed as eastern Pacific species).  
*Lathyrus candelabrum* (Reeve): Mørch, 1852: 100 (Panama).  
*Turbinella polygona* (Gmelin): G. B. Sowerby II, 1852: 329, pl. 18, fig. 383 (figured shell *philberti*); *non Murex polygonus* Gmelin, 1791, = *Latirus polygonus*, Recent, Indo-west Pacific.  
*Latirus (Plicatella) candelabrum* (Reeve): H. & A. Adams, 1853: 153; Paetel, 1883: 24.  
*Lathirus candelabrum* (Reeve): Schaufuss, 1869: 34.  
*Turbinella (Plicatella) candelabrum* (Reeve): Kobelt, 1876: 19.  
*Latirus candelabrum* (Reeve) [Eastern Pacific]: Kobelt, 1877: 58 (St. Elena, Colombia); Paetel, 1887: 162; Melvill, 1891: 404 (Colombia); M. Smith, 1944: 32 (Panama to St. Elena); Burch, 1945: 4, 5 (Panama); Hoffstetter, 1954: 406 (Ecuador); Keen, 1971: 613, fig. 1326 (Colombia); Vander Ven, 2005: 24 (Panama); [Western Pacific]: Hidalgo, 1904: 36 (Philippines); Adam & Leloup, 1938: 186 (Amboina); Kuroda & Habe, 1952: 62 (Japan); Kuroda, 1960: 31

(Okinawa); Higo & Goto, 1993: 240 (Japan); Higo *et al.*, 1999: 261 (Japan); Mallard & Robin, 2005: 17 (Okinawa to Ecuador).

*Latirus (Plicatella) philberti* (Récluz): Tapparone-Canefri, 1879: 317.

*Latirus polygonus* var. *candelabrum* (Reeve): Tryon, 1881: 88 (Colombia); Faustino, 1928: 271 (Philippines).

*Latirus philberti* (Récluz): Paetel, 1887: 164.

*Latirus polygonum* var. *candelabrum* (Reeve): Adam & Leloup, 1938: 186.

*Latirus candelabris* [sic] (Reeve): Trew, 1990: 2.

*Latirus belcheri* auctt., *non* Reeve, 1847: Quirk & Wolfe, 1974: 26, color fig. 2 (Pacific; to 3 inches SL); Wolfe, 1975: 5, unnumbered pl., figs (western Pacific, common in Philippines); Springsteen & Leobrera, 1986: 174 (Philippines); 16 more recent citations.

*Non Turbinella philberti* (Récluz) Reeve, 1847: pl. 12, sp. and fig. 63; *nec Peristernia philberti* (Récluz), auctt.; both = *Peristernia castanoleuca* Tapparone-Canefri, 1879.

**Type material.** Lectotype specimen figured by Récluz, 1844b, selected herein (Fig. 1).

**Type locality.** Manila, Philippine Islands.

**Distribution.** Western Pacific Ocean; southern Japan to the Philippines, Malaysia, Indonesia, North Borneo, Queensland, Australia, New Caledonia, Palau and Fiji; tropical eastern Pacific?

**Description.** Shell large for genus, to about 108.3 mm SL, solid, whorls subtabulate, strongly compressed at suture and bearing prominent axial ribs and spiral cords, two cords at periphery and single cord at base much larger than others; markings dominated by many wider-than-long brown rectangles on white and/or yellowish or orange background. Protoconch rather tall, of about 2 smooth whorls, terminating abruptly. Teleconch of about 8 whorls, each with a rather flat sutural ramp and broadly rounded axial ribs; suture appressed, undulating in concert with axial ribs and intercostal areas; whorls of spire with 8-9 ribs crossed by smooth spiral cords as follows: 2-3 small cords on sutural ramp of early whorls, increasing by intercalation to about 7 cords on ramp of body whorl; ribs elevated, node-like, reduced to broadly triangular points at periphery, which is marked by single strong spiral cord, bordered anteriorly by single smaller cord, followed by another large cord, then by 0-4 smaller cords in space between large cord and anterior suture; body whorl subquadrate, strongly shouldered, with 2 strong cords at periphery and single, markedly undulant cord at anterior end, and with as many as 10 axial ribs; ribs weaker on sutural ramp, stronger and separated by rather deep intercostal spaces between peripheral and anterior undulant cords; 5-6 smaller cords crossing tops of ribs between larger cords; base contracting quickly, crossed by about 6 cords of



various sizes; siphonal process rather long, with straight sides and transversely tapered tip, surface bearing about 12 transverse cords of various sizes, 3 or 4 usually more prominent than others. Aperture subquadrate, with narrow posterior sinus; outer lip strongly angled at junctions with peripheral and undulant cords, lip edge nearly straight between angles, edge crenulated by termini of smaller cords and interspaces of body whorl, with deeper, wider sinuses at angles; inside of outer lip with as many as 20 thin, straight, uninterrupted emergent lirae that terminate before lip edge; inner lip straight and adherent anteriorly, arcuate and sometimes detached posteriorly on larger shells, with low swelling on parietal wall at posterior sinus and 1 or 2 low, oblique, nearly obsolete plicae near anterior end of columella; siphonal canal rather long, narrow, with straight edges, elevated inner edge adjacent to prominent elongate pseudo-umbilicus.

Protoconch and first 1-2 whorls of teleoconch pink in fresh material, fading to white in older shells; spire and body whorl white, overlain by broad streaks of rich brown, which is dominant color on ramp, axial ribs, base and siphonal process; brown areas crossed by small white, orange, or lighter brown spiral cords, dividing larger areas into smaller, wider-than-long, spirally aligned brown rectangles; largest (peripheral and undulant) cords usually bright white but occasionally orange or yellow; intercostal areas usually with prominent patches of white; edge of outer lip and outer edge of siphonal canal with many dark brown spots, often paired, and sometimes extended beyond plane of lip as denticles, representing extensions of grooves between smaller spiral cords of body whorl; interior of pseudo-umbilicus dark brown, nearly black at tip; shell interior entirely white. A few shells almost entirely yellow-orange outside, white within.

Operculum black, thick, solid, elongate, distally rounded, tapering and curving toward anterior tip with terminal nucleus; outer surface bearing many incised concentric growth increments. Periostracum transparent, tan, smooth, very thin. Radula unknown.

**Remarks.** We found two specimens labeled "*T. philberti* Récluz" purported to be from the Récluz collection, in the Delessert collection at MHNG. Upon examination, however, these proved to be *Peristernia castanoleuca*, indicating they were probably acquired after publication of Reeve (1847) and should not be afforded status as types.

The earliest misidentifications of *Latirus philberti* as *L. belcheri* seem to have been by Quirk & Wolfe (1974) and Wolfe (1975), who published the name with excellent photographs of Philippines shells. The error was repeated by Springsteen & Leobrera (1986) in their *Shells of the Philippines* and became widespread soon thereafter.

We examined 93 specimens of *L. philberti* (35 specimens in LC; others at ANSP) ranging from 26.0

to 106.9 mm SL (average 74.1 mm). The combination of spire whorls deeply compressed at sutures, the pattern of multiple, widely elongate rectangular brown markings, the prominently undulant anterior cord on the body whorl, and the relatively long, narrow, straight-sided siphonal process distinguish shells of *L. philberti* from those of all its nearest congeners, which include *L. barclayi* (Reeve, 1847), *L. belcheri* (Reeve, 1847), *L. pictus* (Reeve, 1847) and *L. polygonus* (Gmelin, 1791). The largest known specimen of *L. belcheri* is 56.5 mm (herein). *Latirus philberti* attains about 108.3 mm SL (Barbier *et al.* 2009: 117, as *belcheri*, *auctt.*) and is exceeded in size only by *L. barclayi* (111.4 mm SL) and *L. polygonus* (117.6 mm SL) (record sizes from Barbier *et al.* 2009: 117, 119).

An orange and white shell, with relatively subdued spiral cords and with few or no brown markings distinguish *L. barclayi* from *L. philberti*, leaving only *L. polygonus* with which it may be confused. Shells of *L. polygonus* have less constricted spire whorls and less elevated axial ribs crossed by generally weaker spiral cords; apices of the ribs are usually rounded, seldom acute, and never produced as blunt, triangular peripheral spines; the siphonal process of *L. polygonus* is relatively shorter and wider, and the anterior cord on the body whorl may be undulant, as on *L. philberti*, but it is seldom as well developed and generally has fewer undulations, a consequence of fewer axial ribs on the body whorl. Western Pacific shells of *L. polygonus* are usually yellow (Fig. 8), with a few relatively narrow, irregular brown streaks on the sutural ramp continuing onto the axial ribs, and with more prominent brown patches on ribs of the body whorl; the widely rectangular brown markings on the sutural ramp and ribs of *L. philberti* are absent or represented only by a few brown spots on *L. polygonus*. Wolfe (1975: 5) noted that denticles on the outer lip of *Latirus philberti* (as *belcheri* *auctt.*) are blackish brown and the color is visible inside the aperture, whereas the aperture of *Latirus polygonus* has an orange-brown margin and the denticles are of the same color.

The type locality for *T. candelabrum* is St. Elena, West Colombia, based on material in the Cuming collection (Reeve, 1847). Eastern Pacific occurrences of *L. candelabrum* have been mentioned by Mørch (1852: 100), Kobelt in Küster & Kobelt (1873: 52, 53, pl. 9b, figs 1, 2), Kobelt (1876: 19; 1877: 58), Paetel (1883: 24; 1887: 162), M. Smith (1944: 32), Burch (1945: 4), Hoffstetter (1954: 406), Keen (1971: 613) and Vander Ven (2005: 24), but we were unable to locate specimens to confirm that occurrence. Lindsey Groves informed us that the only lot listed for the species at NHMLAC was a juvenile *Triplofusus princeps* (G. B. Sowerby I, 1825) whose identity was corrected a decade ago (LG email to WGL 8/1/2011). Dr. Karen Vander Ven provided a photo that revealed her record to be of a species of *Leucozonia*. Particularly perplexing is the report by Keen (1971),



who reported an 85-mm specimen taken off Punta Cotuda, Colombia in 9-13 m during the 1968 Te Vega Expedition; Keen did not figure the specimen, instead using Reeve's figure as an illustration. We could not locate the Te Vega specimen in several likely major repositories (CAS; NHMLAC; SBMNH; USNM).

Early in the last century, Hidalgo (1904) reported *L. candelabrum* from Cebu, Philippines. Reports of the species at Amboina, Indonesia (Adam & Leloup, 1938), Japan (Kuroda & Habe, 1952), and Okinawa (Kuroda, 1960) followed. We illustrate Reeve's figured syntype of *T. candelabrum* (Fig. 4) which is indistinguishable from some specimens of *T. philberti* that we examined from the western Pacific. From this we conclude that *T. candelabrum* is a later name for *T. philberti*, and the species lives principally in the western Pacific.

Hertlein & Strong (1951) proposed that, *Latirus candelabrum* may not occur in the eastern Pacific. However, despite difficulties in verifying earlier records, hints that it may be there were given by Shasky (1995) and Skoglund (2002). Shasky figured as *Latirus belcheri* a small (22.9-mm) shell provided by a divemaster on an expedition that Shasky accompanied to Isla Clarion, Islas Revillagigedo, Mexico. One of us (MAS) examined the shell (SBMNH 151703) and confirmed it to be an immature *L. philberti*. Vermeij & Snyder (2006) accepted the record as from Isla Clarion, but the shell was sent without data to Shasky sometime after the expedition returned, and its actual provenance may be uncertain. Skoglund (2002: 142) also noted a record of *L. belcheri* at Isla Socorro, Islas Revillagigedo, reported by Villalobos (1960), but we failed to find that record in Villalobos' report. Thus, uncertainty about New World records of *Latirus philberti* continues.

*Latirus belcheri* (Reeve, 1847)

Figs 5-6

*Turbinella belcheri* Reeve, 1847: pl. 4, fig 22 (Cargados Garajos); Kobelt in Küster & Kobelt, 1873: 58, 59, pl. 14, figs 3, 4 (Liukiu-Inseln).

*Leucozonia belcheri* (Adams & Reeve [sic]): H. & A.

Adams, 1853: 154.

*Latirus belcheri* (Reeve): Chenu, 1859: 182, fig. 912  
*Turbinella (Peristernia) belcheri* (Reeve): Kobelt, 1876: 25.

*Plicatella belcheri* (Reeve): von Martens, 1880: 245.

*Peristernia belcheri* (Reeve): Tryon, 1881: 79.

*Latirus (Leucozonia) belcheri*: Paetel, 1883: 24.

*Fasciolaria belcheri* (Reeve): Santos Galindo, 1977: 183.

*Non Latirus belcheri* (Reeve) *auctt.*, Recent, western and eastern Pacific, = *L. philberti* (Récluz, 1844); *nec L. belcheri auctt.*, Recent, Western Australia, = *Latirus* n. sp. Lyons & Snyder, in prep.

**Type material.** Figured syntype NMW # 1955.158.01407, SL 49.7 mm (Fig. 5).

**Type locality.** Cargados Garajos, central Indian Ocean.

**Distribution.** Southern Japan and Northern Marianas Islands; Philippines?

**Description.** Shell of moderate size for genus, to 56.5 mm SL, broadly fusiform, solid, with prominent, node-like ribs on spire, short, broad axial ribs on body whorl, and distinctive color pattern. Apices slightly or considerably worn on all shells; protoconch evidently small, of about 2 rapidly expanding whorls, with pointed tip. Teleoconch of about 6 rapidly expanding whorls; whorls of spire wider than long, with expansive, flat sutural ramp and 7-8 broad, acute nodes that occupy anterior quarter of whorls and form periphery; body whorl with 7-8 broad axial ribs marked by pointed nodes at periphery and anteriorly at junction with base, peripheral nodes more prominent; anterior terminus of body whorl marked by low, undulant light-colored cord emergent from upper (posterior) end of aperture, resembling those on shells of some *Leucozonia* species; base and siphonal process short, broad; whorls and base covered with numerous fine spiral threads.

**Figures 1-11.** Scale bar: 10 mm.

**1-4. *Latirus philberti*.** **1.** Original figure of *Turbinella philberti* Récluz, 1844 (lectotype); **2.** 52.9 mm SL, Calituban Island, Philippines, on mud at 9 m. ANSP 426299; **3.** 96.0 mm SL, off Balicasag Island, Panglao, Philippines. ANSP 422700; **4.** Lectotype of *Turbinella candelabrum* Reeve, 1847, 86.3 mm SL, NHMUK 1968428, synonym of *Latirus philberti*.

**5-6. *Latirus belcheri*.** **5.** Lectotype of *Turbinella belcheri* Reeve, 1847, 49.7 mm SL, NMW 1955.158.01407; **6.** *Latirus* cf. *L. belcheri*, 49.6 mm SL, Philippines. ANSP 422699.

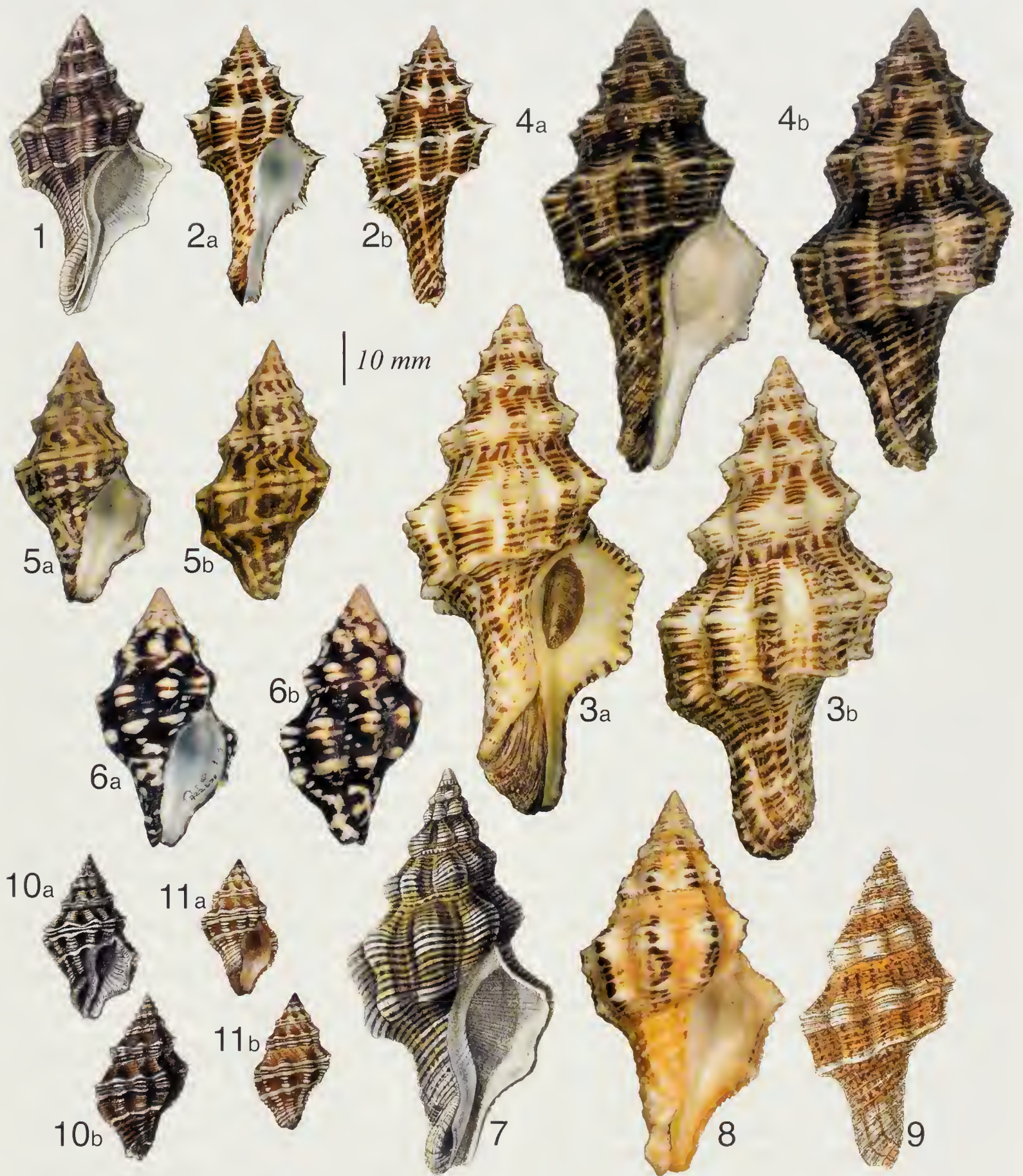
**7.** Original figure of *Turbinella tessellata* Récluz, 1844.

**8. *Latirus polygonus*** (Gmelin, 1791), 72.8 mm SL, Philippines. ANSP 422701.

**9. *Turbinella tessellata*** Kobelt in Küster and Kobelt, 1876: pl. 17, fig. 7.

**10-11. *Peristernia castanoleuca*.** **10.** Reeve's figures of "*Turbinella philberti*" = *Peristernia castanoleuca*; **11.** *Peristernia castanoleuca* Tapparone-Canefri, 1879, lectotype, 26.2 mm SL, MSNG.







Aperture subquadrate; outer lip with strong posterior angle at periphery of body whorl and lesser angle at intersection with anterior undulant cord; interior of outer lip with about 11 straight, emergent lirae terminating before lip edge, posterior lirae entire, those in anterior half more often broken into dots and dashes; inner lip adherent, arcuate, marked by 3-4 prominent plicae near anterior end of columella and node-like prominence on parietal wall at posterior sinus; siphonal canal short, rather straight, usually bordered at interior edge by pseudo-umbilicus, hardly developed except on largest shells.

First 3 whorls of apex pink on all shells; background color of teleoconch creamy white to yellowish orange; sutural ramps strongly marked by broad, axially aligned, slightly wavy brown to black bands, as many as 20 axial bands on ramp of body whorl; peripheral nodes and ribs crossed by 3 contiguous, narrow, uninterrupted bands, each ~1 mm wide: a posterior white band at periphery, another white band slightly anterior to it, and a dark brown band between them; ribs and intercostal spaces on body whorl marked with broad, irregular blotches generally correspondent to axial bands of sutural ramp; after interruption by anterior white or yellowish undulant spiral cord, blotches continue onto base where they are crossed by 2-3 narrow, white or yellow transverse spiral bands; interior of aperture white.

Operculum blackish-brown, thick, ovo-elongate, rather narrow, with many fine, concentrically arcuate growth increments radiating from sharply tapered anterior tip. Periostracum not discerned on any specimen. Radula unknown.

**Remarks.** The color pattern of irregular axial bands on the sutural ramp and brown and white spiral cords at the periphery is distinctive and separates shells of this species from those of all congeners.

Reeve's type was obtained from the collection of Capt. Sir Edward Belcher, who also provided its locality. The type locality, Cargados Garajos (now Cargados Carajos), is situated 395 km northeast of Mauritius in the Indian Ocean and is also known as St. Brandon Shoals (Woodward, 1871). A comment by von Martens (1880: 245) that Indian Ocean listings all trace to Reeve's original report still seems to hold true, and a listing from "Mauritius and dependencies" by Viader (1937: 24) probably traces to the same source. No new Indian Ocean records have been forthcoming, calling to question the accuracy of the original data. Belcher had recently returned to England as commander of H.M.S. *Samarang* but had served earlier as a lieutenant on the *Blossom* and as commander of the *Sulphur*, in those capacities collecting shells in many parts of the world. He kept no labels with his collection, and the localities he provided were notoriously unreliable, as evidenced by types of several other species of Fasciolaridae from his collection (see e.g., Kilburn, 1993; Petit, 2007: 91-100), so the type locality of *T. belcheri* may be

incorrect. Kobelt in Küster & Kobelt (1873: 59) extended the range beyond the Indian Ocean by figuring a shell from Liukiu-Inseln (Okinawa) in the Lischke collection. That record has been supported by many others from Japan and particularly from Okinawa. In fact, except for Reeve's original description, we are not aware of any valid published record of the species from outside the Japanese islands.

We examined 64 specimens (32 specimens in LC; 32 in ANSP), all similar to the figured syntype in shape and markings. The specimens range from 28.0 to 56.5 mm SL (average 39.2 mm). Most lots are from various sites around Okinawa and southern Japan. Of the remaining lots, one is labeled "western Pacific," one "Indian Ocean," two are from the Northern Marianas Islands, and two, containing three typical *L. belcheri*, are labeled as from Western Australia. We are inclined to treat Western Australian records as questionable until confirmed by more material from that region.

Additionally, we are aware of 14 publications, beginning with Wilson & Gillett (1971) and continuing through Mallard & Robin (2005) that treat a completely different Western Australian species as *L. belcheri*. Marrow (1988) recognized the error and tried to correct it by illustrating true *L. belcheri* from Okinawa and assigning the Western Australian taxon to *L. polygonus*. That species is similar to but distinct from *L. polygonus* and is being described by Lyons and Snyder.

One other specimen (ANSP 422699; Fig. 6), perhaps the first true record of the species in the Philippines, is considerably darker than Japanese specimens and may represent something else. We have seen none other like it.

Most incorrect reports of *Latirus belcheri* have proved to be of *L. philberti* (Récluz) or the undescribed Western Australian species. However, three specimens from Fiji figured as *L. belcheri* by Cernohorsky (1972: 155, 156, pl. 1, fig. 6, pl. 46, figs 2, 2a), are *L. pictus*. A listing of *L. belcheri* from Fiji by García (1985: 50) is also incorrect (E. García email to WGL 8/7/2010). We surmise that the radula figured by Cernohorsky (1972: 156, text fig. 15) as that of *L. belcheri* may belong instead to *L. pictus*, so the radula of true *L. belcheri* remains unknown.

*Latirus tessellatus* (Récluz, 1844), *nouven dubium*  
Fig. 7

*Turbinella tessellata* Récluz, 1844a: 48; 1844c: sp. 97 (Philippines).

*Latirus (Plicatella) tessellatus* (Récluz) Tapparone-Canefri, 1879: 317 (not synonym of *L. philberti*).

*Latirus polygonus* var. *tessellatus* Paetel, 1887: 164.

*Latirus tessellatus* (Rclz.) Paetel, 1887: 165 (synonym of *L. philberti*); Lyons, 1991: 181 (senior primary homonym of *Latirus tessellatus* Dall, 1890).

*Latirus polygonus tessellatus* (Récluz) Snyder, 2003:



163.

*Non Turbinella tessellata* (Récluz) Reeve, 1847: pl. 12, sp. 63 (variety of *T. philberti* 'Récluz' Reeve); *nec Turbinella philberti* var. *tessellata* (Récluz) Kobelt, 1874: 73 (variety of *philberti* (Récluz) Reeve); *nec Turbinella (Peristernia) philberti* var. *tessellata* (Récluz) Kobelt, 1876: 25 (variety of *philberti* (Récluz) Reeve); *nec Peristernia tessellata* (Récluz) Tryon, 1881: 275 (synonym of *P. philberti*) and Elera, 1896: 81 (synonym of *P. philberti*); [all = *Peristeruia castanoleuca* Tapparone-Canefri, 1879, Recent, western Pacific].

*Non Turbinella polygoua* var. *tesselata* [sic] Kobelt in Küster & Kobelt, 1874: 68, pl. 17, fig. 7 (ref. also Reeve, 1847: pl. 1, fig. 1c); *nec Turbinella polygoua* var. *tessellata* (Kobelt) Kobelt in Küster & Kobelt, 1876: 160 (correction of 1874 misspelling); *nec Turbinella (Plicatella) polygoua* var. *tessellata* (Kobelt) Kobelt, 1876: 19 (variety of *P. polygoua*); *nec Latirus polygonus* var. *tessellata* [sic] (Kobelt) Tryon, 1881: 88; *nec Latirus tessellatus* (Kobelt) Tryon, 1881: 299, pl. 67, fig. 109 (figure after Reeve, 1847, pl. 1c) and Hidalgo, 1904: 37 (synonym of *Latirus polygouus*); *nec Latirus polygonus* (Gmelin) var. *tessellatus* (Kobelt) Paetel, 1887: 164 (Philippines; in section *Plicatella*), Melvill & Standen, 1899: 158 (Torres Straits), and Viader, 1937: 23 (Mauritius); *nec Latirus polygonus* var.  $\beta$  *tessellatus* (Kobelt) Melvill, 1891: 404 (Tonga); *nec Latirus tessellatus* var. (Kobelt) Elera, 1896: 84 (Philippines); *nec Turbinella tessellata* (Kobelt, 1874, non Récluz, 1844) Kilburn, 1975: 599 (synonym of *L. polygouus*) and Lyons, 1991: 181 (senior primary homonym of *Latirus tessellatus* Dall, 1890); [no genus] *tessellatus* (Kobelt) Trew, 1990: 14 (name of uncertain validity, generic placement uncertain); *nec Latirus polygonus* forma *tessellatus* (Kobelt, 1876) Delsaerd & Steppe, 1996: pl. 8, fig. 9b (Philippines); *nec Plicatella polygoua* var. *tessellata* (Kobelt in Küster & Kobelt) Snyder, 2003: 163 (synonym of *Latirus polygouus*); *nec Latirus tessellata* [sic] (Kobelt in Küster & Kobelt, 1874) Mallard & Robin, 2005: 18 (variety of *Latirus polygouus*); [all = *Latirus polygonus* (Gmelin, 1791), Recent, Indo-west Pacific].

**Type material.** Unknown.

**Type locality.** Manila, Philippines.

**Remarks.** This name has been used in several ways in the literature. Reeve (1847) proposed that *Turbinella tessellata* simply represented a color form of *T. philberti*, a name he misapplied to another species. Tryon (1881) posited *tessellata* to be a synonym of *philberti* but as a species of *Peristeruia*, and various authors have considered *tessellata* as a variety or form of *Latirus polygouus* (Gmelin, 1791).

The original figure of the 77-mm specimen of *T. tessellata* Récluz, although suggestive of *L. polygouus*, is not unambiguous. We illustrate a 72.8-mm specimen of *L. polygouus* from the Philippines

(Fig. 8) that is similar to the Récluz figure. *Latirus polygonus* constitutes a morphologically variable species widely distributed across the tropical Indo-west Pacific from Japan to east Africa. Given the variable nature of this complex and the fact that *tessellatus* Récluz does not have priority issues with respect to Gmelin's name, it seems best to treat the name as a *nomen dubium*.

Kobelt in Küster & Kobelt (1874: 68) complicated matters by proposing a new name *tesselata* (corrected to *tessellata* by Kobelt in Küster & Kobelt, 1876: 160) for a variety of *T. polygoua*, while on p. 73 following Reeve in treating *T. tessellata* Récluz as a variety of *T. philberti* (Récluz) Reeve, *i.e.*, a *Peristeruia*. Kobelt (1876) maintained that distinction in his catalogue, and some subsequent authors (*e.g.*, Tryon, 1881; Kilburn, 1975) properly distinguished *tessellata* Récluz from *tessellata* Kobelt. However, *T. tessellata* Kobelt in Küster & Kobelt is an unavailable primary junior homonym of *T. tessellata* Récluz, 1844. Its figure (Kobelt in Küster & Kobelt, 1874: pl. 17, fig. 7; reproduced here as Fig. 9) reveals the junior name to represent a familiar Philippine variety of *Latirus polygonus*, suggesting that the homonyms may also prove to be subjective synonyms.

Genus *Peristernia* Mørch, 1852

Type species by subsequent designation (von Martens, 1868: 530): *Turbinella nassatula* Lamarck, 1822, Recent, Indo-West Pacific.

*Peristernia castanoleuca* Tapparone-Canefri, 1879  
Figs 10, 11

*Turbinella philberti* (Récluz): Reeve, 1847: pl. 12, sp. 63; *nou Turbinella philberti* Récluz, 1844, = *Latirus philberti*.

*Turbinella tessellata* (Récluz): Reeve, 1847: pl. 12, sp. 63 (variety of *T. philberti* 'Récluz' Reeve, *i.e.*, *Peristernia*).

*Latirus philberti* '(Récluz)' auct.: Schaufuss, 1869: 34.

*Turbinella philberti* '(Récluz)' auct.: Kobelt in Küster & Kobelt, 1874: 72, pl. 18, figs 6, 7.

*Turbinella (Peristernia) philberti* '(Récluz)' auct.: Kobelt, 1876: 25.

*Peristernia castanoleuca* Tapparone-Canefri, 1879: 318; Snyder, 2003: 63; Snyder & Callomon, 2010: 32, 33, pl. 2, figs 9-11.

*Peristernia philberti* '(Récluz)' auct.: Tryon, 1881: 79; Abbott & Dance, 1982: 182; Mallard & Robin, 2005: 21, pl. 62, figs; Robin, 2008: pl. 227, fig. 1.

*Latirus castanoleucus* 'Tapp. C.': Paetel 1887: 162.

**Type material.** Lectotype MSNG, Tapparone-Canefri type lot, 26.2 mm (Fig. 11).

**Type locality.** Philippine Islands (Cuming collection).

**Distribution.** Philippines, South China Sea, Vietnam,



Malaysia, Indonesia, Papua-New Guinea, and Queensland, Australia.

**Description.** Shells large for genus, to 44.9 mm SL, with about 9 whorls including protoconch. Protoconch gray-brown, tip flattened, immersed, of about 2-1/4 smooth, rounded whorls; terminus with teleconch well marked. Teleconch with up to 7 whorls, those of spire with about 8 broad axial ribs extending from suture to suture; spire moderately compressed at suture, which is somewhat collared by raised posterior edge of next anterior whorl, that edge being rendered denticulate by termini of numerous low growth ridges, edge and suture undulating in concert with axial ribs and intercostal areas; 3 equal-sized smooth spiral cords on first teleconch whorl, increasing to 4 on next whorl; anterior 2 cords larger, defining periphery and anterior half of whorls; cords crossing ribs and intercostal spaces but strongest atop ribs; by whorl 3, a smaller cord has appeared between large cords and another has appeared adjacent to anterior suture; more small cords added by intercalation to ramp on later whorls; body whorl up to 10 axial ribs extending from suture to base, 8-9 small and still smaller cords on ramp, 2 large cords separated by single smaller cord at periphery, single (rarely double) large cord at junction with base, and 4-5 smaller, subequal cords between; base short, with 4-5 subequal cords; siphonal process relatively broad, very short, truncated at tip, and crossed by about 2-6 low, transverse cords. Aperture ovo-elongate, with broad posterior sinus; outer lip slightly to very arcuate, edge crenulated by termini of spiral cords of body whorl, inside of lip with about 15-18 thin, straight emergent lirae, sometimes with small nodular swellings at tips of lirae at anterior end of aperture; inner lip arcuate, adherent, with smooth parietal wall and 1-2 low, oblique, nearly obsolete plicae at anterior end of columella; siphonal canal short, canted to left, with thin, raised inner edge defining deep prominent pseudo-umbilicus.

Apices worn, dark gray to black on all but one shell examined. Three teleconch color forms examined: first and most common (exemplified by Reeve's figure) dark chestnut to nearly black; second form with dark chestnut replaced by reddish orange; in third form, shell surface cream to light tan, with dark color confined to a few spiral lines. Prominent cords of spire and body usually but not always white; smaller cord separating large peripheral cords usually white; low ribs on sutural ramp sometimes white, more often chestnut; one shell entirely dark chestnut brown except for a single white anterior cord on body whorl; inside of aperture pale to rich lilac on dark shells; orange and lighter tan shells with white markings varying as on darker shells, but inside of apertures always pink or white. Operculum, periostracum and radula unknown.

**Remarks.** We examined 99 specimens (45 in LC; others in ANSP) with sizes from 11.3 to 41.3 mm SL (average 29.6 mm) and localities ranging from southeast Asia and the Philippines to Queensland, Australia. All had been misidentified as *Peristernia philberti* (Rècluz).

This species was originally misidentified as *Turbinella philberti* Rècluz by Reeve (1847), and his illustrations were so recognizable (Fig. 10) and his work so pervasive that the name has been used for it by most workers since (e.g., see synonymy above). Tryon (1881: 80) also proposed that *P. philberti* (*sensu* Reeve) might be a variety of *P. nassatula* (Lamarck, 1822), but that proposal was justifiably ignored.

When Tapparone-Canefri (1879) described *Peristernia castanoleuca*, he noted that Reeve had misidentified the species as *Turbinella philberti* Récluz, and he distinguished his species from the Récluz taxon. That classification was followed by Paetel (1887: 162-164), who included both *Latirus castanoleucus* (Tapparone-Canefri) and *L. philberti* (Rècluz) in his catalogue. Melvill (1891: 406) included *P. castanoleuca* in his catalogue, and Hidalgo (1904: 35) cited *P. castanoleuca* from several Philippines localities and served notice that this was the Philippine species that Elera (1896) had called *P. philberti*. Faustino (1928: 272, 273) reiterated Hidalgo's records and stated again that Reeve's name was a synonym. Shells of those two species are perfectly distinct where they occur sympatrically at many locations in the Philippines, yet after Faustino's catalogue the name *castanoleuca* inexplicably slipped from the lexicon for the next 75 years and was replaced by Reeve's error. Snyder (2003: 63) revived Tapparone-Canefri's classification, stating that *T. philberti* is a *Latirus* and *P. castanoleuca* is the correct name for the species that Reeve described and figured.

#### ACKNOWLEDGEMENTS

Yves Finet (MHNG) provided images of two specimens labeled *Turbinella philberti* in the Delessert collection, and Paul Callomon (ANSP) prepared the plate and obtained photographs of the type material of *Turbinella candelabrum*. Henry Chaney (SBMNH) sent the Shasky specimen of *L. philberti* for inspection and, with Eugene Coan, Lindsey Groves (NHMLAC), M. G. Harasewych (USNM), Elizabeth Kools (CAS), John Pearse, University of California, Santa Cruz, CA, and Karen Vander Ven, University of Pittsburg, PA, assisted in the search for Panamic *L. candelabrum*. Emilio F. García, Lafayette, LA provided distributional information and sent photographs of specimens in his collection. Richard E. Petit, North Myrtle Beach, SC provided guidance to literature, and an anonymous reviewer caught errors we had overlooked. All are gratefully thanked.



## REFERENCES

- Abbott, R.T. & Dance, S.P. 1982. *Compendium of seashells: a color guide to more than 4,200 of the world's marine shells*. New York: E.P. Dutton. ix, 411 pp., unnumbered pls.
- Adam, W. & Leloup, E. 1938. Résultats scientifiques du voyage aux Indes Orientales Néerlandaises de LL. AA. RR. le Prince et la Princesse Léopold de Belgique. Prosobranchia et Opisthobranchia. *Musée Royal d'Histoire Naturelle de Belgique, Mémoires* 2(19): 1-209, pls. 1-8.
- Adams, H. & Adams, A. 1853-1858. *The genera of Recent Mollusca; arranged according to their organization*. London: John van Voorst. 2 vols. [1: 1-256, pls. 1-32, 1853; 1: 257-484, 2: 1-92, pls. 33-72, 1854; 2: 93-284, pls. 73-96, 1855; 2: 285-412, pls. 97-112, 1856; 2: 413-540, pls. 113-128, 1857; 2: 541-660, pls. 129-138, 1858].
- Barbier, J.-P., Quiquandon, P. & Santini, O. 2009. *Registry of world record size shells. Shells Passion and Topseashells*, Mouans-Sartoux, France. 304 pp.
- Burch, J.Q. 1945. Family Fascioliidae. *Minutes of the Conchological Club of Southern California* 50: 3-10.
- Cernohorsky, W.O. 1972. *Marine shells of the Pacific*, II. Sydney: Pacific Publications. 411 pp., 68 pls.
- Chenu, J.C. 1859-1862. *Manuel de conchyliologie et de paléontologie conchyliologique*. Paris: Librairie Victor Masson. 2 vols. [1: vii, 508 pp., 1859; 2: 327 pp., 1862].
- Dall, W. H. 1890. Contributions to the Tertiary fauna of Florida, with especial reference to the Miocene silex-beds of Tampa and the Pliocene beds of the Caloosahatchie River. Part I. Pulmonate, opisthobranchiate and orthodont gastropods. *Transactions of the Wagner Free Institute of Science of Philadelphia* 3(1): 1-200, pls. 1-12.
- Dance, S.P. 1986. *A history of shell collecting*. Leiden: E.J. Brill – Dr. W. Backhuys. xv + 265 pp., 32 pls. 17 text figs
- Delsaerdt, A. & Steppe, L. 1996. General conchology: Fascioliidae (genus *Latirus* Montfort, 1810). *Gloria Maris* 35(1-2): pls. 8, 9 + 2 unnumbered caption pages.
- Elera, C. de. 1896. *Catálogo sistemático de toda la fauna de Filipinas conocida hasta el presente, y a la vez el de la colección zoológica del Museo de Pp. Domenicos del Colegio-Universidad de Sto. Tomás de Manila, escrito con motivo de la Exposición Regeonal Filipina*. Vol. 3, Moluscos y Radiados. Manila: Colegio de Santo Tomás. i-iii, 942 + LXIV pp.
- Faustino, L.A. 1928. Summary of Philippine marine and fresh-water mollusks. Manila: *Bureau of Science*. Monograph No. 25.
- García, E. F. 1985. Shell collecting in Fiji. *Texas Conchologist* 21(2): 49-54.
- Gmelin, J. F. 1791. Vermes. In: *Caroli a Linnaei, systema naturae per regna tria naturae. Editio decima tertia, Aucta, Reformata*. Lipsiae (Leipzig). 1(6): 3021-3910.
- Gray, J. E. 1853. On the division of ctenobranchous gasteropodous Mollusca into larger groups and families. *Proceedings of the Zoological Society of London* 21: 32-44.
- Hertlein, J. G. & Strong, A. M. 1951. Eastern Pacific expeditions of the New York Zoological Society. XLIII. Mollusks from the west coast of Mexico and Central America. Part 10. *Zoologica* 36: 67-120, pls. 1-11.
- Hidalgo, J.G. 1904. *Catalogo de los moluscos testáceos de las Islas Filipinos, joló y Marianas. I. Moluscos marinos*. Madrid. pp. xvi, 408.
- Higo, S. & Goto, Y. 1993. *A systematic list of molluscan shells from the Japanese Is. and the adjacent area*. Elle Corporation. Osaka. 847 pp.
- Higo, S., Callomon, P. & Goto, Y. 1999. *Catalogue and bibliography of the marine shell-bearing Mollusca of Japan*. Osaka: Elle Scientific Publications, 749 pp.
- Hoffstetter, R. 1954. Moluscos subfósiles de los estanques de sal de Salinas (Pen. de Santa Elena, Ecuador). Comparacion con la fauna actual del Ecuador. (Conclusion). *Boletín de Informaciones Científicas Nacionales* 65: 399-426, figs 17-19.
- Keen, A.M. (with assistance of McLean, J. H.). 1971. *Sea shells of tropical west America: marine Mollusks from Baja California to Peru*, 2nd ed. Palo Alto: Stanford University Press. xiv, 1064 pp., 22 pls., text fig., 6 maps.
- Kilburn, R. N. 1975. Taxonomic notes on South African marine Mollusca (5): Including descriptions of new taxa of Rissoidae, Cerithiidae, Tonnidae, Cassididae, Buccinidae, Fascioliidae, Turbinellidae, Turridae, Architectonicidae, Epitoniidae, Limidae and Thraciidae. *Annals of the Natal Museum* 22(2): 577-622.
- Kilburn, R. N. 1993. Rediscovery of *Turbinella thersites* Reeve, 1847, with notes on its taxonomic position (Gastropoda: Fascioliidae). *The Nautilus* 107(1): 24-28.
- Kobelt, W. 1876. Catalog der Gattung *Turbinella* Lam. *Jahrbücher der Deutschen Malakozoologischen Gesellschaft* 3: 10-29.
- Kobelt, W. 1876-1878. *Illustriertes Conchylienbuch. Erster Band*. Verlag von Bauer & Raspe, Nürnberg. Pp. 1-40, pls. 1-10 (November 1876); pp. 41-64, pls. 11-20 (November-December 1877); pp. 65-88, pls. 21-30 (February-March 1878); pp. 89-104, pls. 31-40 (May 1878); pp. I-XVI, 105-144, pls. 41-50 (May 1878).
- Kuroda, T. 1960. *A catalogue of molluscan fauna of the Okinawa Islands (exclusive of Cephalopoda)*. University of the Ryūkyūs. iv + 106 pp., 3 pls.
- Kuroda, T. & Habe, T. 1952. *Check list and bibliography of the Recent marine Mollusca of Japan*. Tokyo: Hosokawa Printing Company. 210 pp., 2 maps.



- Küster, H.C. & Kobelt, W. 1844-1876. Die geschwänzten unbewehrten Purpurschnecken. Erste Hälfte: *Turbinella* und *Fasciolaria* In: Martini, F. H. W. & Chemnitz, J. H. *Systematisches Conchylien-Cabinet*, 2nd ed., 3(3a): 1-164, pls. 1-32, 9a, 9b, 13b. Pp. 1-40, pls. 1-6, 11 (1844); pls. 7, 9, 10 (1845); pls. 13a, 13b (1855); pp. 41-64, pls. 9a, 9b, 12, 14-16 (1873); pp. 65-88, pls. 8, 17-21 (1874); pp. 89-164, pls. 22, 26-32 (1876).
- Lamarck, J. B. P. A. de M. de. 1822. *Histoire naturelle des animaux sans vertèbres*, Vol. 7. Paris. 711 pp.
- Lyons, W. G. 1991. Post-Miocene species of *Latirus* Montfort, 1810 (Mollusca: Fasciolaridae) of southern Florida, with a review of regional marine biostratigraphy. *Bulletin of the Florida Museum of Natural History, Biological Sciences* 35(3): 131-208.
- Mallard, D. & Robin, A. 2005. *Fasciolaridae*. Muséum du Coquillage, Les Sables d'Olonne. 27 pp., 70 pls.
- Martens, E. von. 1868. Mollusca Section, Zoological Record for 1867, 4: 485-602.
- Martens, E. von. 1880. Mollusca. pp. 179-343, pls. 19-22 In: K. Möbius. *Beiträge zur Meeresfauna der Insel Mauritius und der Seychellen bearbeitet von K. Möbius, F. Richters und E. von Martens nach Sammlungen, angelegt auf einer Reise nach Mauritius*. Berlin: Verlag der Gutmann'schen Buchhandlung. vi, 352 pp., 22 pls., 1 map.
- Marrow, I. 1988. Confusion of the *Latirus polygonus* group of shells. *Australian Shell News* No. 61: 5.
- Melville, J. C. 1891. An historical account of the genus *Latirus* (Montfort) and its dependencies, with descriptions of eleven new species, and a catalogue of *Latirus* and *Peristernia*. *Memoirs and Proceedings of the Manchester Literary and Philosophical Society, Fourth Series*, 4:365-411, pl. 2.
- Melville, J. C. & Standen, R. 1899. Report on the marine Mollusca obtained during the first expedition of Prof. A. C. Haddon to the Torres Straits, in 1888-89. *The Journal of the Linnean Society of London, Zoology*, 27: 150-206, pls. 10, 11.
- Montfort, P.D. de 1810. *Conchyliologie systématique, et classification méthodique des coquilles; offrant leurs figures, leurs arrangement générique, leurs description caractéristiques, leurs noms; ainsi que leur synonymie en plusieurs langues*. Volume 2: Coquilles univalves, non cloisonnées. Paris: F. Schoell. 676 pp., 161 figs.
- Mørch, O. A. L. 1852. *Catalogus conchyliorum quae reliquit D'Alphonso D'Aguirra & Gadea, Comes de Yoldi, & c. Fasciculus Primus, Cephalophora*. Ludovici Kleini, Hafniae. 170 pp.
- Paetel, Fr. 1883. *Catalog der conchylien-sammlung von Fr. Paetel*. Berlin: Verlag von Gerbrüder Paetel. 271 pp.
- Paetel, F. 1887. *Catalog der conchylien-sammlung von Fr. Paetel. I. Die Cephalopoden, Pteropoden und Meeres-Gastropoden*. Berlin: Verlag von Gerbrüder Paetel. 16, 639 pp.
- Petit, R. E. 2007. Lovell Augustus Reeve (1814-1865): malacological author and publisher. *Zootaxa* No. 1648: 1-120.
- Quirk, S. J. G. & Wolfe, C. S. 1974. *Exotic seashells of the Pacific*. WW Distributors, Ltd., Honolulu. 32 pp.
- Récluz, C.A. 1844a. Description de trois coquilles univalves provenant des îles Philippines. *Revue Zoologique*, par la Société Cuvierienne 7: 48-49.
- Récluz, C.A. 1844b. [Description and illustration of *Turbinella philberti*]. *Magasin de Zoologie* 6: sp. 91.
- Récluz, C.A. 1844c. [Description and illustration of *Turbinella tessellata*]. *Magasin de Zoologie* 6: sp. 97.
- Reeve, L.A. 1847. Monograph of the genus *Turbinella*. *Conchologia Iconica* 4: [unpaginated text], pls. 1-13.
- Robin, A. 2008. *Encyclopedia of marine gastropods*. AFC, Paris and Hackenheim, Germany: Xenophora and ConchBooks. 480 pp.
- Santos Galindo, E. 1977. *Index and register of seashells (with cross references)*. Mexico: Libreria de Porrúa Hermanos y Cia, S.A. 524 pp., 10 pls.
- Schaufuss, W. 1869. *Molluscorum systema et catalogus. System und aufzählung sämtlicher conchylien der sammlung von Fr. Paetel. Zur belebung des interesses für malakozoologie nach dessen manuscript herausgegeben von dr. L.W. Schaufuss*. Dresden: Oscar Weiske. [2], i-xiv, 1-119 pp.
- Shasky, D. R. 1995. *Latirus belcheri* (Reeve, 1847): a new addition to the tropical eastern Pacific fauna. *The Festivus* 27(11): 127.
- Skoglund, C. S. 2002. Panamic Province molluscan literature. Additions and changes from 1971 through 2001. III. Gastropoda. *The Festivus* 33 (Supplement): 1-286.
- Smith, M. 1944. *Panamic marine shells: synonymy, nomenclature, range and illustrations*. Winter Park, Florida: Tropical Photographic Laboratory. xiii, 127 pp., 912 figs.
- Snyder, M.A. 2003. Catalogue of the marine gastropod family Fasciolaridae. *Academy of Natural Sciences of Philadelphia, Special Publication* 21: i-iv, 1-431, 1 fig.
- Snyder, M.A. & Callomon, P. 2010. Tapparone-Canefri's type material of Gastropoda at the Genoa Natural History Museum. *Proceedings of the Academy of Natural Sciences of Philadelphia* 159: 31-38, pls. 1-3.
- Sowerby, G. B. I. 1825. *A catalogue of the shells contained in the collection of the late Earl of Tankerville, arranged according to the Lamarckian conchological system; together with an appendix containing descriptions of many new*



- species*. London: G. B. Sowerby. i-vii, 1-92 pp., appendix pp. i-xxxiv, 9 pls.
- Sowerby, G. B. II. 1852. *A Conchological Manual; fourth edition*. London: Henry G. Bohn. vii, 337 pp., 2 tables, 28 pls.
- Springsteen, F. J. and F. M. Leobrera. 1986. *Shells of the Philippines*. Carfel Shell Museum, Manila. 377 pp.
- Tapparone-Canefri, C. 1879. Museum Pauluccianum. Études malacologiques. *Journal de Conchyliologie* 27: 316-327.
- Trew, A. 1990. The Melvill-Tomlin Collection. Parts 50, 51, 52, 53, 54. Buccinacea (Pyrenidae, Buccinidae, Galeodidae, Nassariidae and Fascioliidae). *Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales*. Series 1. Part 50, 46 pp.; part 51, 48 pp., part 52, 5 pp.; part 53, 50 pp.; part 54, 24 pp., sources, 29 pp. and references, 7 pp.
- Tryon, G.W. 1880-1881. *Manual of conchology, structural and systematic, with illustrations of the species*. Volume 3. Tritonidae, Fusidae, Buccinidae. Philadelphia. 310 pp., 87 pls. [1-64, 1880; 65-310, pls. 25-87, 1881].
- Vander Ven, K. 2005. Barging in -- A shelling adventure to the Perlas Islands of Pacific Panamá. *American Conchologist* 33(4): 23-28.
- Vermeij, G. J. & Snyder, M. A. 2006. Shell characters and taxonomy of *Latirus* and related fascioliid groups. *Journal of Molluscan Studies* 72(4): 413-424.
- Viader, R. 1937. Revised catalogue of the testaceous Mollusca of Mauritius and its dependencies. *The Mauritius Institute Bulletin*. 1(2): xiii, 111 pp.
- Villalobos F., A. 1960. *Notas acerca del aspecto hidrobiológico de la parte sur de la isla*. Pp. 153-180, figs 1-18 in: J. Adem, E. Cobo, L. Blásquez, F. Miranda, A. Villalobos, T. Herrera, B. Villa & L. Vásquez, eds. *La Isla Socorro, Archipelago de las Revillagigedos*. Universidad Nacional Autónoma de México, Monografías del Instituto Geofísica, no. 2.
- Wilson, B. R. & Gillett, K. 1971. *Australian Seashells; illustrating and describing 600 species of marine gastropods from Australian waters*. Charles E. Tuttle Company, Rutland, Vermont. 168 pp.
- Wolfe, C. S. 1975. Shell identification. *Hawaiian Shell News* 23(8): 5, suppl. 5-75(1).
- Woodward, S. P. 1871. *A manual of the Mollusca; a treatise on Recent and fossil shells; second edition*. London: Lockwood & Company. xiv + 542 pp., 23 pls.