

## COWRIES - Part 1: Text

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*Talostolida teres* (Gmelin, 1791)

- Kirtisinghe, 1978

## CYPRAEIDAE Rafinesque, 1815

## Cowries

Shell fairly sturdy, ovate or oblong, spire short and concealed under the body whorl in the adult. Surface highly polished, smooth and often vividly patterned, with a low groove on midline of the dorsal side. Periostracum absent. Ventral side more or less flattened to calloused. Aperture long and narrow, extending almost the full length of the shell, shortly channelled at both ends. Both lips with raised transverse ridges or teeth, the outer one thickened and incurved; inner lip with a short longitudinal furrow situated towards the front end. No operculum.

Generally associated with coral reefs. Feed most actively at night, browsing on encrusting algae or sponges or tiny animals that grow on rock and coral. Eggs hatch as free-swimming larvae or as crawling young. Juvenile shell strikingly different from the adults: thin and resembling an olive shell in shape, with a pointed spire, a wide aperture and a sharp un-toothed outer lip. When the animal nears maturity, features of the adult appear. Then, the shell cannot increase in size but is thickened by deposition of material over the whole surface, producing the glossy aspect and the distinctive adult colour pattern.

(Poutiers, 1998 p. 486)

Currently, 245 species and 166 subspecies (or 411 operational taxonomic units) are recognized in 48 genera in the family (Moretzsohn, 2014).

The two similar families **Ovulidae** Egg cowries and **Triviidae** Bean cowries are dealt with in a separate article on page 8. In Ovulidae teeth, when present, are restricted to the outer lip, the anterior and posterior canals sometimes strongly elongate. Triviidae are usually small in size with the apertural teeth continued over the lateral and dorsal sides of the shell. (Poutiers, 1998)



### 1. *Arestorides argus* (Linnaeus, 1758)      Eyed cowrie

[*Cypraea argus* Linnaeus, 1758 – original name. *Arestorides argus argus* (Linnaeus, 1758) - accepted, alternative.  
*Lyncina argus* (Linnaeus, 1758), *Talparia argus* (Linnaeus, 1758) - synonyms.]

Shell large, cylindrical, the posterior rounded with immersed apex, the anterior narrowed into a short siphonal prolongation. Beige coloured, with two narrow transverse bands of lighter hue across the dorsum, the whole dorsal surface and the sides strewn with dark rings. The underside pale with four cinnamon blotches, two on each side of the aperture.

82 x 41.5 mm (l x w)

Hikkaduwa, Kadawara gala, 14 m, empty, amongst rocks, sandy bottom. By diving.

- Eisenberg, 1989 p.60; Abbott, 1994 p. 44; Oliver, 1989 p. 112; Kirtisinghe, 1978 p. 65

### 2. *Bistolida hirundo* (Linnaeus, 1758)      Swallow cowrie

[*Cypraea hirundo* Linnaeus, 1758 – original name. *Bistolida hirundo hirundo* (Linnaeus, 1758) - accepted, alternative.]

Shell small, elongate-ovate, strong teeth on both lips that almost cover the underside. Dorsum blue-grey with sparsely scattered brown dots and larger macules on the mid-dorsal summit. Two faint transverse white bands lie either side of the central patch. A pair of strong chocolate-brown spots at either extremity.

16 x 10 mm (l x w)

Dehiwela, Auburnside, off Godagala, 5 m, empty; Mount Lavinia Reef, 1/2 mile south of Bellangala, 5 m; Mount Lavinia, Bellangala Channel, 3 m, empty; Galle, tide pool below ramparts, 1.5 m, under rock. By diving.

- Eisenberg, 1989 p. 65; Abbott, 1994 p. 42; Olive, 1989 p. 116; Kirtisinghe, 1978 p. 74 as *Derstolida hirundo*.

### 3. *Blasicrura interrupta* (Gray, 1824)

[*Cypraea interrupta* J.E. Gray, 1824 – original name.]

Shell cylindrical, the spire immersed and marked by a dimple. Numerous fine teeth on both lips. Three spiral rows of black-brown rectangular blotches across dorsum on a greenish grey or pale blue ground, finely speckled with brown or not. Underside white.

Two Colombo specimens show the brownish tints shown in Eisenberg, 1989, two from Kirinda are blue, as described in Kirtisinghe, 1978.

21.6 x 10 mm (l x w)

Mount Lavinia, no collection data; Mount Lavinia, Bellangala Channel, 3 m, empty, by diving; Kirinda, beached shells purchased from a roadside vendor.

- Eisenberg, 1989 p. 66; Kirtisinghe, 1978 p. 73. Oliver, 1989 p. 96 describes related *C. pallidula* and refers to *C. interrupta*.

### 4. *Cibrarula cibraria* (Linnaeus, 1758)      Sieve cowrie

[*Cypraea cibraria* Linnaeus, 1758 – original name. *Cibraria cibraria* (Linnaeus, 1758) - synonym.]

Shells slender ovals or bulbous, the margin thickened on the outer lip side. Dorsum russet densely speckled with white spots. Margins and under-side milky-white. The mantle scarlet.

24 mm.

Dehiwela, Auburnside, off Godagala, 5 m, empty; Mount Lavinia reef, no collection data, live collections. By diving.

- Eisenberg, 1989 p.62; Abbott, 1994 p. 41; Oliver, 1989 p. 102; Kirtisinghe, 1978 p. 72.

5. *Cypraea tigris* Linnaeus, 1758

Tiger cowrie

[*Cypraea tigris* Linnaeus, 1758 – original name.]

Shell large, heavy, ovate, colour pattern variable. The dorsum and sides strewn with cinnamon to black circular spots of varying sizes, the margins blurred. The spots either discrete or coalescing with neighbours wholly or partly, showing varying degrees of the background colour which varies from pale to dark cream in different shells. The underside and extremities milky white.

98 x 63 mm (l x w)

Wellawatte, Kinross 1st reef, 2 m, rocky bottom, two - heavily spotted, many coalescing and spots small, discrete, distant; Mount Lavinia reef, 5 m, reef top, some spots coalescing; Dehiwela, Auburnside, off Godagala, spots small, discrete. By diving.

This species is protected under the Fauna and Flora Protection Ordinance.

- Eisenberg, 1989 p. 72; Abbot, 1989t p. 44; Oliver, 1989 p. 106; Sabelli, 1979 # 248; Kirtisinghe, 1978 p. 65.

6. *Erronea caurica* (Linnaeus, 1758)

Caurica cowrie

[*Cypraea caurica* Linnaeus, 1758 - original name. *Ovatipsa caurica* (Linnaeus, 1758) - synonym.]

Shell ovate with thickened margin on the outer lip side. Coarse teeth on outer lip, low, obsolescent teeth on parietal side. Cream coloured, the dorsum peppered with cinnamon dots, a darker condensation on the summit and a row or large spots on either side above the margin.

41 x 26 mm (l x w)

Maldives, collected (purchased) by Psyche Pieris.

This species is listed here on the basis of the record in Kirtisinghe, 1978. The image is of the Maldives shell.

7. *Erronea caurica dracaena* (Linnaeus, 1758)

[*Cypraea caurica* Linnaeus, 1758 - original name. *Ovatipsa caurica* (Linnaeus, 1758) - synonym.]

*Erronea caurica dracaena* (Born, 1778) subspecies. ('dracaena' is one of 10 subspecies listed in MolluscaBase/WoRMS - 2019.)  
[*Cypraea dracaena* Born, 1778 - original name.]

Shell sub-cylindrical, outer lip margin thickened. Strong teeth on outer lip, weak on parietal side. Cream coloured, the dorsum peppered with cinnamon-coloured dots, a smudged rectangular patch of the same colour on the summit and a row of blackish spots on either side above the margin. These shells are all strongly coloured.

35.5 x 20 mm (l x w)

Mount Lavinia, Bellangala - 5 m, under loose brain coral, 30 mm, sub-cylindrical, brightly coloured and 5 m, under rock, 24, 25 mm, sub-cylindrical, brightly coloured; Kirinda, Great Basses ridge, 36 mm, elongate, deep colour.

Note: Kirtisinghe, 1978 illustrates a somewhat cylindrical shell under the name *Ovatipsa caurica dracaena* and an ovate shell named *Ovatipsa caurica*. The Natural History Museum Rotterdam (NMR) pages contain an image of *Erronea caurica dracaena* from Trincomalee and *Erronea caurica* (f) *corrosa*. The latter shell is oval with thickened margins; both *E. caurica dracaena* and the parent species are without the thickened margins.

- Eisenberg, 1989 p.61; Abbott, 1994 p. 44; Oliver, 1989 p. 110; Kirtisinghe, 1978 p. 70 (#2 *Ovatipsa caurica*, #1 *Ovatipsa caurica dracaena*).

8. *Erronea onyx* (Linnaeus, 1758)

Onyx cowrie

[*Cypraea onyx* Linnaeus, 1758 original name. *Cypraea succincta* Linnaeus, 1758,  
*Erronea succincta* (Linnaeus, 1758) synonyms]

Shell bulbous. Upper surface grey with pale transverse bands, under surface and margins rich brown, aperture lighter, teeth yellow-orange.

37.6 x 22.55 mm

Jaffna, Mandaitivu, alive at edge of beach, possibly fishing trash.

- Kirtisinghe, 1978 p. 66 as *Adusta onyx* (Linnaeus): "Dorsal surface varies from dark brown to near white with longitudinal streak in different specimens; sides and ventral surface nearly black".

9. *Leporicypraea mappa* (Linnaeus, 1758)

Map cowrie

[*Cypraea mappa* Linnaeus, 1758 original name. *Mauritia mappa* (Linnaeus, 1758) synonym.  
8 subspecies in MolluscaBase/Worms.]

No specimens in the collection, only a photograph of a specimen in the Rodney Jonklaas Collection at the Colombo National Museum, code Cypr 086, named *C. mappa alga*. This subspecies is not represented in MolluscaBase/WoRMS (2019). Eisenberg, 1989 comments that *C. mappa alga* is "from E. Africa - Red Sea has orange teeth."

77 x 47 mm.

This species is protected under the Fauna and Flora Protection Ordinance.

- Eisenberg, 1989 p. 67; Abbott, 1994 p. 45; Oliver, 1989 p. 110.

10. *Luria isabella* (Linnaeus, 1758) Isabella cowrie

[*Cypraea isabella* Linnaeus, 1758 – original name]

Shell elongate-ovate, teeth reduced. Dorsum light creamy-peach colour covered by dark axial streaks consisting of tiny punctate dots. Base creamy-white, the two extremities orange.

28 x 15 mm (l x w)

Wellawatte, 1<sup>st</sup> reef opposite the Railway Station, 7.5 m, empty; Trincomalee, Pigeon Islands, base of the rock Salabalas, 6 m, empty. By diving.

- Eisenberg, 1989 p. 66; Abbott, 1994 p. 42; Oliver, 1989 p. 90; Kirtisinghe, 1978 p. 71.

11. *Lyncina carneola* (Linnaeus, 1758) Carnelian cowrie

[*Cypraea carneola* Linnaeus, 1758]

Shell an elongated oval, apex buried. Dorsal colour fawn crossed by five tawny bands; underside, low marginal callus and both ends beige, teeth violet.

57.74 x 34.6mm (ht x w)

Wellawatte, Kinross 1st reef, 7 m. empty; Tangalle, Tangalle rocks, 15 m; Trincomalee, Marble Bay, 7 m. By diving.

The largest shell (57.74 mm) was purchased from a beach vendor at Nilaveli. The other collections ranged in size from 26 to 35 mm.

- Eisenberg, 1989 p. 61; Abbott, 1994 p. 43; Oliver, 1989 p. 102; Kirtisinghe, 1978 p. 71 as *Ponda carneola*.

12. *Lyncina lynx* (Linnaeus, 1758) Lynx cowrie

[*Cypraea lynx* Linnaeus, 1758 original name. *Cypraea caledonica* Crosse, 1869 synonym]

Shell bulbous, the base flattened, set off by a sharp angle from the rounded margin. Dorsum cream heavily spotted with small and large cinnamon coloured spots, margins and base white, gaps between teeth orange.

47 mm (Maldives, purchased by Psyche Peiris.), Sri Lanka collections 20 to 29 mm.

Wellawatte, 1st reef opposite railway station, 7.5 m, empty, abraded, in sandy gulley outer reef slope; Dehiwela, Auburnside, off Godagala, 5 m, empty. By diving.

- Eisenberg, 1989 p. 66; Abbott, 1994 p. 44; Oliver, 1989 p. 110; Kirtisinghe, 1978 p. 67.

13. *Lyncina vitellus* (Linnaeus, 1758) Deer or Milk-spotted cowrie

[*Cypraea vitellus* Linnaeus, 1758 - original name. *Mystaponda vitellus* (Linnaeus, 1758) - synonym]

Shell inflated, ovate, apex buried, teeth confined to the aperture. Dorsum grey-brown with scattered white spots of various sizes. Underside, both ends and teeth white.

67.54 x 41.52mm (l x w) (Nilaveli purchased). Colombo collections 32 and 40 mm.

Wellawatte, Kinross 1st reef, no collection data, by diving; Nilaveli, a large shell purchased from beach vendor.

- Eisenberg, 1989 p. 73; Abbott, 1994 p. 45; Oliver, 1989 p. 106; Kirtisinghe, 1978 p. 66 as *Mystaponda vitellus*.

14. *Mauritia arabica* (Linnaeus, 1758) Arabian cowrie

[*Cypraea arabica* Linnaeus, 1758 - original name. *Mauritia arabica arabica* (Linnaeus, 1758) - accepted, alternative. Six named subspecies.]

Shell large, ovate. Ground colour beige, the entire dorsum including the sides overlaid with a network of cinnamon lines: close-set antero-posterior parallel lines interrupted by circular and oval lines exposing the ground colour as spots. The two extremities free of lines but have purplish patches on either side. Both margins also free of lines but are spotted with purple. The underside is unmarked, except for a few spots at the edges, the teeth orange. There is some variation in markings, some shells being light coloured with fine lines, others dark coloured with thick lines.

68 x 41 mm (l x w) the largest, mostly 40 – 50 mm.

Mount Lavinia, rocky shore, sub-tidal rock crevices; Dickwella, Kudawella Bay, 3 m, rocky bottom, by diving.

- Eisenberg, 1989 p. 59; Abbott, 1994 p. 45; Oliver, 1989 p. 104; Kirtisinghe, 1978 p. 65 as *Arabica arabica*.

15. *Mauritia histrio* (Gmelin, 1791) Harlequin cowrie

[*Cypraea histrio* Gmelin, 1791 - original name; as *Arabica histrio* in Kirtisinghe, 1978]

Shell medium-large, ovate, slender and elongate or squat and humped. Cream ground colour covered on the dorsum by a network of fine cinnamon lines forming ovals and circles. Marginal callus on both sides cream with purplish spots, a prominent spire blotch and paired blotches on both extremities. The underside cream, teeth orange. The strong spire blotch is characteristic of this species.

No Sri Lanka collections. (Maldives, purchased by Psyche Peiris, two shells, one squat, humped the other slender, elongate.)

- Eisenberg, 1989 p. 65; Oliver, 1989 p. 104; Kirtisinghe, 1978 p. 66 as *Arabica histrio*; Sabelli, 1979 no. 187.

16. *Mauritia mauritiana* (Linnaeus, 1758) Humpback, Mourning or Chocolate cowrie

[*Cypraea mauritiana* Linnaeus, 1758 original name]

Large, heavy shells, very swollen. Deep chocolate-brown, the dorsum covered in white spots - crowded or distantly spaced. Apertural teeth white.

79 x 57 mm. 76 x 54 mm

Gandara, Naotunna south shell shop, purchased; Kirinda, shell vendor, purchased, Rs. 250/- for 2 79 mm shells; Nilaveli, purchased from beach vendor.

- Eisenberg, 1989 p.67; Abbott, 1994 p. 44; Oliver, 1989 p. 110; Kirtisinghe, 1978 p. 64 as *Peribolus mauritianus*.

17. *Melicerona felina* (Gmelin, 1791) Cat or Kitten cowrie

[*Cypraea felina* Gmelin, 1791 - original name. *Palmadusita felina* (Gmelin, 1791) - synonym]

A variable species. Shell cylindrical with flat underside, especially anteriorly. The spire immersed, numerous fine teeth on both lips. Dorsally blue-green to blue overlaid by fine brown speckles and crossed by about 3 dark bands and one indistinct white band towards the anterior. Margins and underside white with a series of strong blackish spots along both sides that is characteristic.

16 x 9 mm (l x w)

Beruwela, Barberyn reef, tide pool on reef flat, 14 mm, darkly bluish, speckled, dark bars obscured, white bar visible; Galle, tide pool below ramparts, 1.5 m, under rock, lightly speckled, distinctly barred; Kirinda, beach specimens purchased from vendor, weathered, dark blue prominent bars; No collection data, 16 mm, distinctly speckled with brown on blue-green, faintly barred.

*C. f. listeri* is a slender Indian Ocean form. The largest form is ovate and is from E. Africa (Eisenberg, 1989 and Oliver, 1989).

- Eisenberg, 1989 p. 63; Kirtisinghe, 1978 p. 73 as *Melicerona felina* (Gm.); Oliver, 1989 p. 120 as *C. listeri*; Abbott, 1994 p. 40 as *C. felina*.

18. *Monetaria annulus* (Linnaeus, 1758) Goldringer or Ring cowrie

[*Cypraea annulus* Linnaeus, 1758 - original name. *Erosaria annulus* (Linnaeus, 1758),  
*Ornamentaria annulus* (Linnaeus, 1758) - synonyms]

Shell small, ovate. Deep cream colour, the dorsum darker, outlined by an orange-coloured oval line with gaps anterior and posterior.  
27 x 19 mm (l x w)

Mount Lavinia, 1<sup>st</sup> reef opposite Mount Lavinia Hotel, 3 m, on algae covered rock; Dehiwela, no collecting data. By diving.

- Eisenberg, 1989 p. 59; Abbott, 1994 p. 42; Oliver, 1989 p. 120; Sabelli, 1979 # 275; Kirtisinghe, 1978 p. 70.

19. *Monetaria caputserpentis* (Linnaeus, 1758) Snake's head cowrie

[*Cypraea caputserpentis* Linnaeus, 1758 - original name. *Erosaria caputserpentis* (Linnaeus, 1758),  
*Ravitrona caputserpentis* (Linnaeus, 1758) - synonyms]

Shell small, ovate, the central portion humped, the margins flattened. Chocolate-brown, the central dorsum covered in white spots, two white patches at either end. The aperture, teeth and the middle of the underside cream, shading to brown around the margin. Colour tends to fade over time post-collection.

34 x 26 mm (l x w)

Mount Lavinia, 1<sup>st</sup> reef opposite Mount Lavinia Hotel, 1-2 m, crevices in reef flat and in sea urchin (*Stomopneustes variolaris*) burrows; Mount Lavinia Reef, 1/2 mi south of Bellangala, 5 m, rock crevices; Galle, Unawatuna, 5 m, rocky hollows. By diving.

- Eisenberg, 1989 p. 61; Abbott, 1994 p. 42; Oliver, 1989 p. 100; Kirtisinghe, 1978 p. 71 as *Ravitrona caputserpentis*.

20. *Monetaria moneta* (Linnaeus, 1758) Money cowrie

[*Cypraea moneta* Linnaeus, 1758 - original name. *Erosaria moneta* (Linnaeus, 1758) - synonym]

Shell with strong marginal callous, sometimes forming tubercles posteriorly to give a kite-shaped outline. Variable colour from pale, whitish yellow to dark yellow; sometimes with an orange ring similar to *C. annulus*. Under-side white. All these characters illustrated in the images of the collection. Mantle extended in daytime, grey-black with yellow streaks and spots.

25 mm

Mount Lavinia, 1<sup>st</sup> reef opposite Mount Lavinia Hotel, 1-3 m, crevices in reef flat and in sea urchin (*Stomopneustes variolaris*) burrows; Mount Lavinia, Bellangala, No data, very dark yellow; Mount Lavinia? No collection data, strong tubercles, orange ring on dorsum; Galle, below ramparts, tide pool, somewhat oval in shape, pale. Colour tends to fade over time post-collection.

- Eisenberg, 1989 p. 67; Abbott, 1994 p. 42; Oliver, 1989 p. 120; Sabelli, 1979 # 275; Kirtisinghe, 1978 p. 72.

21. *Naria erosa* (Linnaeus, 1758)

Eroded cowrie

[*Cypraea erosa* Linnaeus, 1758 original name. *Erosaria erosa* (Linnaeus, 1758) synonym]

Shell ovate, strongly margined, especially on the outer lip side. Cream coloured; the dorsum fawn thickly peppered with tiny white dots. Two purplish rectangular patches on either side that may be absent.

One large specimen from the Maldives, two small ones from Sri Lanka show variable colouring, the Maldives shell having fawn spots on the dorsum.

41 x 27 mm (Maldives), local collections 26 x 16.5 mm (l x w)

Mount Lavinia, Bellangala, collected by Nileendra Senanayake, no lateral blotches, margins weak; Mount Lavinia, Bellangala, 5 m, rocky bottom, blotches both sides margins moderate. By diving. (Maldives, purchased by Psyche Peiris, heavy lateral blotches, strong margins, illustrated).

- Kirtisinghe, 1978 p. 67.

22. *Naria helvola* (Linnaeus, 1758)

Honey or Red cowrie

[*Cypraea helvola* Linnaeus, 1758 - original name. *Erosaria helvola* (Linnaeus, 1758) - synonym]

Shell small, ovate. Dorsum blue-grey with close-set white spots and a scattering of deep honey-coloured spots. Two axial bands of honey on either side, the margins and underside pale honey.

19 x 13 mm (l x w)

Foreign specimens only in collection but reported from Sri Lanka by Kirtisinghe.  
(Maldives Islands, purchased by Psyche Pieris)

- Kirtisinghe, 1978 p. 72.

23. *Naria ocellata* (Linnaeus, 1758)

Ocellate cowrie

[*Cypraea ocellata* Linnaeus, 1758 original name. *Erosaria ocellata* (Linnaeus, 1758) synonym]

Shell small, ovate. Cream coloured, the dorsum light honey thickly peppered with white dots, some of which have dark cinnamon circular spots within, leaving a narrow white rim. The cream underside is faintly spotted.

25 x 18.45 mm (l x w)

Mount Lavinia, 1<sup>st</sup> reef opposite Mount Lavinia Hotel and Wellawatte 1<sup>st</sup> reef, Kinross, 1-3 m, common on turf algae-covered rocks. By diving.

- Eisenberg, 1989 p. 68; Kirtisinghe, 1978 p. 71 as *Erosaria ocellata*.

24. *Nucleolaria nucleus* (Linnaeus, 1758)

Nucleus cowrie

[*Cypraea nucleus* Linnaeus, 1758 - original name. *Staphylaea nucleus* (Linnaeus, 1758),

*Erosaria nucleus* (Linnaeus, 1758) - synonyms]

Shell small, ovate, strong teeth cross the underside up to the margins. The dorsum, from margin to margin is covered by a series of transverse ridges, each ridge raised into rounded elevations at intervals giving the impression of a pimpled surface. White throughout.

20 x 11.5 mm (l x w)

Dehiwela, Palagala (reef), 13.6 m, empty, by diving.

- Eisenberg, 1989 p. 68; Abbott, 1994 p. 41; Kirtisinghe, 1978 p. 72 as *Staphylaea nucleus*; Oliver, 1989 p. 114.

25. *Palmadusta asellus* (Linnaeus, 1758)

Little Ass cowrie

[*Cypraea asellus* Linnaeus, 1758 - original name. *Evenaria asellus* (Linnaeus, 1758) - synonym]

Shell small, elongate ovate. Milky-white with three broad transverse bands across the dorsum.

15.4 x 8.2 mm (l x w)

No local collections, reported by Kirtisinghe, 1978. (Maldives, purchased by Psyche Pieris);

- Eisenberg, 1989 p. 60; Abbott, 1994 p. 41; Kirtisinghe, 1978 p. 73.

26. *Palmadusta clandestina* (Linnaeus, 1767)

Clandestine cowrie

[*Cypraea clandestina* Linnaeus, 1767 - original name]

Shell small, ovate. Dorsum greyish-pink, crossed by red-brown hair-lines seen under magnification. Underside milky-white.

18 x 10 mm (l x w)

Mount Lavinia, Bellangala, seaward foot, 8 m, under rock; Mount Lavinia, Bellangala, in-shore, under rock. By diving.

- Eisenberg, 1989 p. 62; Oliver, 1989 p. 94; Kirtisinghe, 1978 p. 73.

27. *Purpuradusta gracilis* (Gaskoin, 1849) Graceful cowrie

[*Cypraea gracilis* Gaskoin, 1849 original name]

Shell small, ovate, the teeth confined to the aperture. Dorsum blue-grey finely speckled with brown, a smudged transverse bar across the mid-dorsum. The extremities marked with twin brown spots. Underside creamy-white. The mantle russet coloured.

14.6 x 8.7 mm (l x w)

Mount Lavinia, Bellangala, under rock; Mount Lavinia, Bellangala, to seaward, 7-8 m, under rock; Galle, Unawatuna bay, 5 m, under coral clump. By diving.

This apparently common species is not listed in Kirtisinghe, 1978. It is one of a complex of related and similar shells that include *C. fimbriata* (Oliver, 1989).

- Eisenberg, 1989 p. 64; Oliver, 1989 p. 98; Abbott, 1994 p. 40.

28. *Pustularia cicercula* (Linnaeus, 1758) Chick pea cowrie

[*Cypraea cicercula* Linnaeus, 1758 original name]

Shell inflated, ovate, almost as high as wide, with prolonged extremities. Prominent teeth extend across the underside. Upper surface pustular. The juvenile shell is honey-coloured.

20 x 11.4 x 11.7 mm (l x w x ht) [Ht. = dorso-ventral dimension]

Hikkaduwa, lagoon, 2 m, empty, found in sandy rubble, discoloured and abraded; No collection data, a juvenile late bulla stage shell without pustules. Said to be usually found on live coral (Abbott & Dance, 1982).

- Eisenberg, 1989 p. 62; Abbott, 1994 p. 40; Kirtisinghe, 1978 p. 74 as *Pustularia cicerula* [sic]; Oliver, 1989 p. 114; Abbott & Dance, 1982 p. 84.

29. *Staphylaea staphylaea* (Linnaeus, 1758) Grape cowrie, Pustulose cowrie

[*Cypraea staphylaea* Linnaeus, 1758 original name. 3 subspecies.]

Small, ovate shells covered in tiny pimple-like swellings. The teeth on the underside extend across the whole width. Dorsally purplish mottled with white, the two ends cinnamon, the underside cream, each tooth bearing a pair of brown lines. Juvenile shells smooth, cinnamon coloured with cream ends.

17 x 10 mm (l x w)

Mount Lavinia, Hotel Bay, juvenile; Mount Lavinia, Bellangala; Mount Lavinia, reef, seaward edge, 8 m, in dead oyster shell; Galle, by ramparts, 2 m, intertidal pool. By diving.

- Eisenberg, 1989 p. 70; Abbott, 1994 p. 41; Oliver, 1989 p. 114; Kirtisinghe, 1978 p. 74.

30. *Talparia talpa* (Linnaeus, 1758) Mole cowrie

[*Cypraea talpa* Linnaeus, 1758 - original name]

Shell large, elongate ovate. Dorsum cream crossed by four light brown bands. The margins, under side and extremities chocolate-brown. The aperture cream with chocolate-brown teeth.

63 x 33 mm (l x w)

Kuchchaveli? purchased from beach vendor at Nilaveli for Rs 200/- (1998).

- Eisenberg, 1989 p. 71; Abbott, 1994 p. 45; Oliver, 1989 p. 102; Kirtisinghe, 1978 p. 66.



Family: 2. Ovulidae J. Fleming, 1822

1. *Calpurnus verrucosus* (Linnaeus, 1758)
2. *Crenavolva* cf. *striatula* (Sowerby, 1828)
3. *Diminovula* cf. *aurantiomacula*  
Cate & Azuma, 1973
4. *Ovula ovum* (Linnaeus, 1758)
5. 'Phenacovolva' sp.

(Kirtisinghe, 1978 records *Volva brevirostris* accepted as *Phenacovolva brevirostris* (Schumacher, 1817))

**Order: Littorinimorpha Golikov & Starobogatov, 1975**

**Superfamily: Velutinoidea Gray, 1840**

Family: 1. Triviidae Troschel, 1863

## OVULIDAE J. Fleming, 1822

### Egg cowries, ovulids

Ovulids are the closest relatives of the true cowries, family Cypraeidae. They have a much greater variety of shapes than do cypraeids, ranging from globose to elongate spindle-shaped. Ovulids generally lack the regular teeth on the inner lip characteristic of cypraeids. They are variable—the shell colour, size and proportions can all be affected by the host. Researchers have not determined how much of the variation in ovulid shells is caused by environmental factors such as the characteristics of the host (colour and texture), and how much is genetically based. Most ovulids are cryptic, having shell or mantle colour that blends with the coloration of the host, but a few species have warning coloration.

All ovulids are ectoparasites on octocorals, including gorgonaceans (horny corals) such as sea fans and sea whips, alcyonaceans (soft corals), and pannatulaceans (sea pens).

They occur worldwide in tropical and subtropical seas.

- Based on Rosenberg, G. 1992, *An introduction to the Ovulidae*.

## TRIVIIDAE Troschel, 1863

### Bean cowries

The Triviidae are small shells characterised by transverse ridges passing all around the shell from one lip to the other. There may be a dorsal groove interrupting the ridges. They are classified into a number of genera. The shells are generally white in colour.



### Ovulidae

1. *Calpurnus verrucosus* (Linnaeus, 1758) Umbilical ovula, Little Egg cowrie  
 [Bulla verrucosa Linnaeus, 1758 - original name; *Ovula perla* Röding, 1798 - synonym]  
 A transverse ridge across the dorsum. White, two ends stained violet. Two 'umbilical' nodules characteristic. Found on *Sarcophyton* soft corals during daytime with mantle (white with black spots) covering shell.  
 Collected in 1979 and 1980, not found from nineteen nineties onwards. Colour has faded over time (July 2004).  
 29 x 19, 25 x 15 mm  
 Galle: Rumassala, 2 m, on *Sarcophyton*; Unawatuna bay, 3 m., on *Sarcophyton*. By diving  
 - Abbott, 1994 p. 46; Eisenberg, 1989 p. 74; Oliver, 1989 p. 124; Kirtisinghe, 1978 p. 75.

2. *Crenavolva* cf. *striatula* (Sowerby, 1828)  
 [Ovulum *striatum* G. B. Sowerby I, 1828 - original name, a number of synonyms under various generic names]

Slender, elongated shell with tapering, pointed extremities. Shouldered at one-quarter distance from apex, sharply tapering upwards. Sub-cylindrical below with increased taper at anterior end. Outer lip thickened, finely toothed on the inside, striate to outer edge that is irregularly spinous. Columella smooth, short anterior, shorter posterior canals. Encircled by close-packed fine grooves that stop short of the outer lip. Light orange (on 18.2.2015), probably faded.

11 x 4.66 mm

Maggona, base of Tiria gala, 8 m, found on an orange branching Gorgonian. Had been collected in February, 1989 but overlooked for years. The shape fits images of *C. striatula*, but much paler - in 2015, when documented, hence referred to *striatula*.

3. *Diminovula* cf. *aurantiomacula* Cate & Azuma, 1973  
 [Pseudosimnia *aurantiomacula* C. N. Cate & Azuma, 1973 - original name]

Shell cowrie-shaped with pointed ends. Imperceptibly shouldered, narrowing sharply upwards, sub-cylindrical below before tapering to anterior end. Outer lip thickened, striate, toothed on the inside. Columella smooth, anterior canal wide, straight, posterior canal narrow, curved. Encircled by fine, shallow, close-packed grooves that stop short of the outer lip. Pale pink crossed by two spiral whitish bands, the extremities pale. Outer lip and under-side glossy, white.

There are no golden spots - this may be another species.

7 x 4 mm.

Mount Lavinia, seaward of Bellangala rocky islet, 1 m, on the base of a *Dendronephthea*. Collected in January, 1985 but not documented till it was described and photographed on 18.2.2015. The colour may have faded with time, accounting for the absence of the golden spots that show on an image in the Internet, therefore referred to *D. aurantiomacula*.

4. *Ovula ovum* (Linnaeus, 1758) Egg cowrie  
 [Bulla *ovum* Linnaeus, 1758 - original name; *Ovula oviformis* Lamarck, 1801, *Xandarovula figgisae* C. N. Cate, 1973 - synonyms, among other names]

"Solid, ovate to pear-shaped shell, up to 12 cm. Exterior white, interior reddish-brown, operculum velvet black with a pattern of tiny dots. Habitat: on algae or Alcyonarian colonies (on which it feeds) on shallow reefs. Distribution: Indo-Pacific." (Richmond, 1997).

Mantle velvety black spotted with golden yellow arranged in a pattern of circles.  
 87 mm; juvenile 60 mm with white interior.

Mount Lavinia, Bellangala, juvenile; adult shell purchased and aquarium reared. Has also been seen on the algae-covered rocks of the reef at Wellawatte, opposite the Kinross Club.

- Eisenberg, 1989 p. 73; Abbott, 1994 p. 46; Oliver, 1989 p. 124; Kirtisinghe, 1978 p. 74; Sabelli no. 322

5. 'Phenacovolva' sp.

An underwater photograph by Nishan Perera is in the collection. It is of a fusiform-shaped living ovulid with expanded mantle sitting on a sea fan. Kirtisinghe, 1978 records *Volva brevirostris*, accepted as *Phenacovolva brevirostris* (Schumacher, 1817), a fusiform shell with pointed ends.

The description in the book (pp. 74-75) is as follows: "Slender shell with elongated canals at both ends; outer lip margin thickened. External surface smooth. Rose-coloured. Length 39 mm (1.54 in.)."

The genus name is suggested on account of the shape.

### Triviidae

1. *Trivirostra oryza* (Lamarck, 1810) Rice Grain Bean cowrie  
 [Cypraea *oryza* Lamarck, 1810 - original name, *Trivia oryza* (Lamarck, 1810) - synonym]

"Small, ovate to globular shell, up to 1 cm, with fine dorsal ribs leaving a longitudinal groove at its center. Color white. Habitat: shallow water boulders and on reef crest. Distribution: W Indian Ocean, Red Sea to W Pacific Ocean." (Richmond, 1977).

8 mm, 9 mm, 10 mm

Mount Lavinia 1st reef, half mile S. Bellangala, 5 m; Palagala (reef), 13 m, sand bottom, empty; Galle, Unawatuna Bay, under coral clump.

- Eisenberg, 1989 p. 58; Kirtisinghe, 1978 p. 74

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5.8.2019; 21.8.2020 - reviewed and updated.