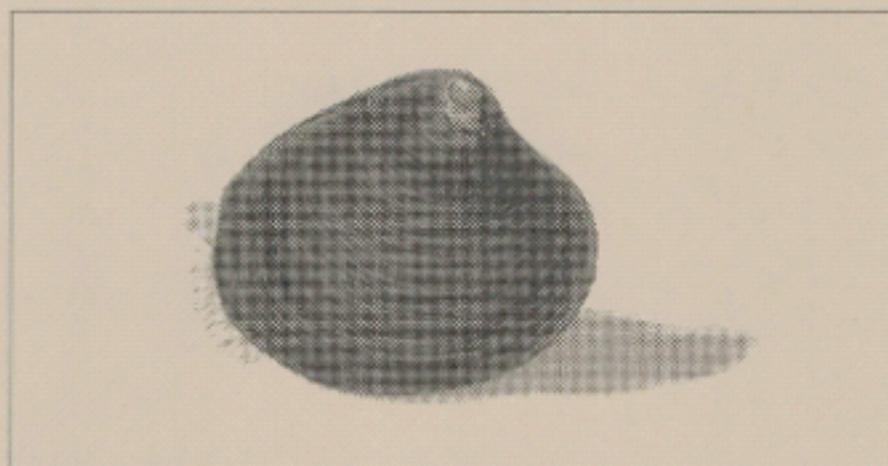


# Schriften zur Malakozoologie

aus dem Haus der Natur - Cismar

Heft 18



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## News on Sri Lankan Gastropods of the families Triviidae and Cypracidae (Mollusca: Prosobranchia)

by FELIX LORENZ,  
Giessen.

**Abstract:** The discovery of a large series of *Pusula rubinicolor* (GASKOIN) from southern Sri Lanka is reported. The shell of this formerly rare species is described in detail. From the same area, *Pusula janae* sp. nov. is described as a new species allied to *P. rubinicolor*. A possibly new species of Cypracidae, also from S. Sri Lanka is illustrated and compared to similar species of the genus *Purpuradusta*.

### 1. *Pusula (Dolichapsis) rubinicolor* (GASKOIN 1836) in Sri Lanka

*Cypraea rubinicolor* GASKOIN, Proc. Zool. Soc. London 3:199  
see also SOWERBY II (1870) fig. 500-501

In 1998 my friend JANA KRATZSCH and me obtained a number of rather eroded reddish-brown Triviids from Sinhalese fishermen, on a trip along the south coast of Sri Lanka. The shells could not be identified with the help of recent literature, finally DIRK FEHSE of Berlin promptly identified them as *P. rubinicolor* (GASKOIN 1836), a "lost" species known from only a few specimens in Museum's collections. Again in Jan. 2000 we were able to collect fifty perfect specimens and approximately four hundred eroded ones, proving that this species is fairly common in an area between Beruwala and Weligama, Southeastern Sri Lanka.

SCHILDER (1941) reports *P. rubinicolor* from "various Museums" and assigns Tiger Island, Western Celebes as type locality, furtheron he lists Borneo and the Philippines as localities for the species. However, to my knowledge, there have been no confirmed findings in recent decades. CATE (1979) quotes SCHILDER but adds no details except for a note that no specimen was represented in the collection of the British Museum.

All our specimens were collected on beaches, some of them are in perfect condition, suggesting that the habitat is rather shallow water. The species *P. rubinicolor* can be characterized as follows: inflated, globular body, extremities callous and produced, forming a distinct siphonal indentation on both ends. The extremities and the margins are separated from the body by a callus-accumulation and a somewhat darker band surrounding the shell. The aperture is very narrow, slightly curved posteriorly. There are 20 to 23 labral and 17 to 19 columellar teeth forming ridges surrounding the entire shell. Dorsally they are not interrupted by a well visible darker longitudinal zone imitating a dorsal groove. The shell's colour varies from pale to satinate reddish-pink, in some specimens the extremities are darker red, especially basally. The shell length size varies from 6,2 to 8,6 mm, the average length being 8,3 mm. The average width against the average length is 73%.

The living animal is unknown.

## 2. A new species of Trivulidae from Southern Sri Lanka

A new species, very similar to *P. rubinicolor*, was discovered by JANA and myself while searching for *P. rubinicolor* and other elusive Sri Lankan Gastropods. It is described herein as

*Puzosia (Dolichapuzia) janoe* sp. nov.

**Material:** Six rather fresh dead specimens: Holotype: 6.8 mm (MNHN Paris), Paratype 1: 6.7 (HNC 57325), Paratype 2: 6.6 (coll. MARTY BEALS), Paratype 3: 6.6 mm (coll. LORETO), Paratype 4: 6.5 mm (HNC 57326), Paratype 5: 6.2 mm (coll. HNC 57327).

**Description:** The holotype is a small, rather solid, globular shell. The extremities are strong, callous, but only slightly projecting. There is a very shallow dorsal groove across the middle of the dorsum, almost reaching the somewhat projecting spire posteriorly and the base formed by the ribslets anteriorly. There are 15 labral and 17 columellar teeth forming strong, seldom branching ridges across the entire shell, meeting in the area of the dorsal groove. The fossula is denticulate, concave and slightly projecting. The base is rather callous, whereas the dorsum is pellucid. There is no marginal step separating the labrum from the dorsum. The shell's colour is uniform greyish pink. All paratypes agree with this description. The number of labral teeth varies from 14 to 18, the columellar teeth vary from 14 to 16 in number. The average width against the average length is 79%.

**Type locality and distribution:** All specimens of *Puzosia janoe* sp. nov. were collected on the beach in a bay between Rassamunai Point and Mirissa Point, Weligama, Southern Sri Lanka (5°58'N 80°27'E), along with *P. rubinicolor*. To my knowledge, it has not been found anywhere else. The habitat is unknown but probably shallow water, judging from the fresh condition of the beached specimens.

**Etymology:** The new species is named in honour of my companion JANA KRATZSCH of Busbeck-Heuern who collected some of the paratypes.

**Discussion:** *Puzosia (Dolichapuzia) janoe* sp. nov. differs from the sympatric *P. rubinicolor* by being smaller and more globular. This impression is caused by the extremities being less produced. Whereas in *rubinicolor* the posterior and anterior extremity make more than one third of the shell's length, in *P. janoe* the contribution of the extremities to the total length is only about one fourth (see fig. 1).

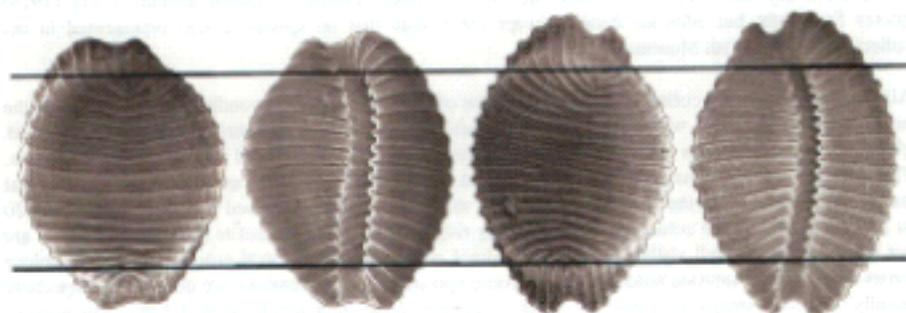
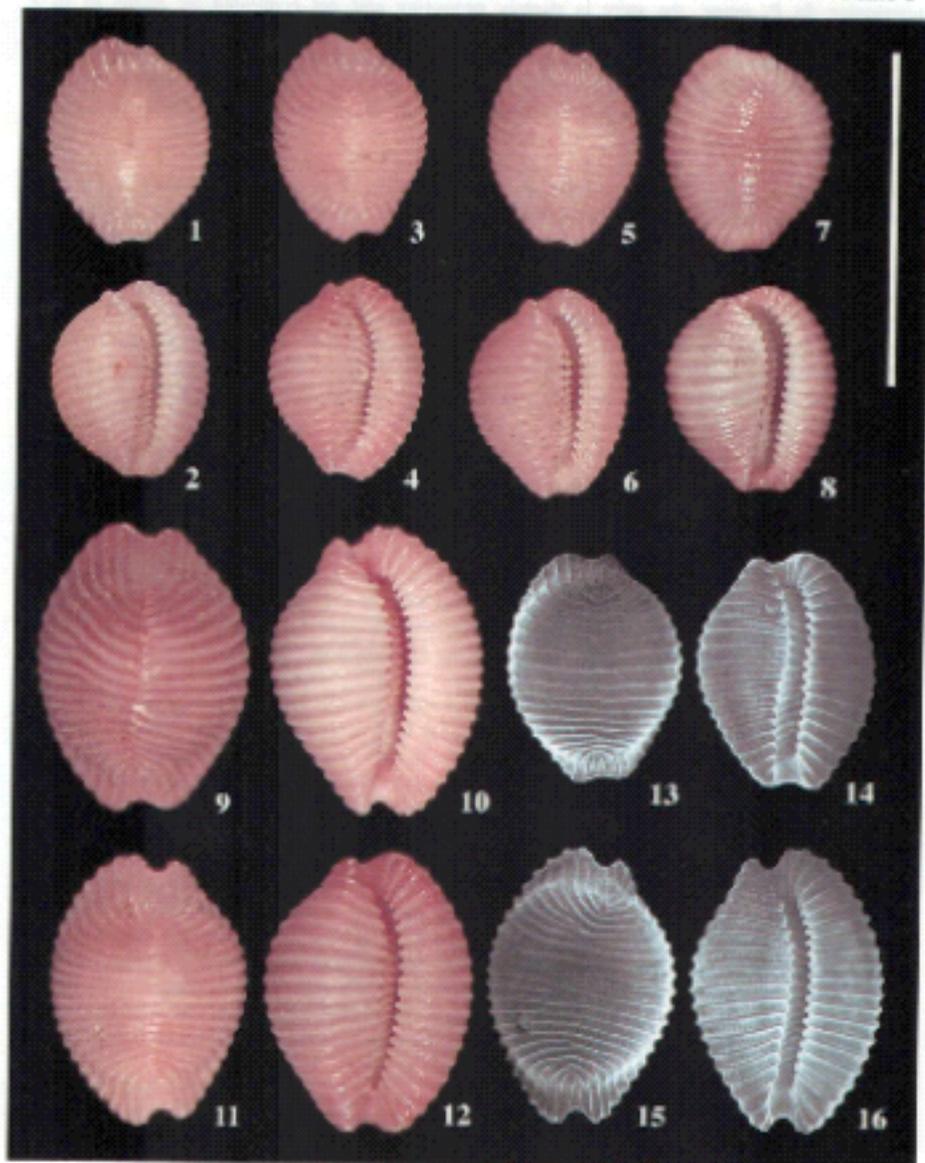


Fig. 1: Left: *P. janoe*, right: *P. rubinicolor*. Scaled to compare the extremities' length with that of the actual aperture (without the channels formed by the extremities). In *P. rubinicolor*, more than one third of the shell's total length is taken by the extremities, in *P. janoe* only about one fourth. SEM photograph by the author, courtesy Strahlencentrum University of Giessen



F. LORENZ: News on Sri Lankan Gastropods of the families Triviidae and Cypraeidae.

*Puzosia (Dollichapix) jinnae* sp. nov.

Fig. 1-2: Holotype, Fig. 3-4 and 13-15 (SEM); Paratype 1; Fig. 5-6: Paratype 2, Fig. 7-8: Paratype 3

*Puzosia (Dollichapix) rubinicolor* (Gaskoin).

Weligama, Sri Lanka Fig. 9-12, Fig. 15-16 (SEM). Scale bar: 10 mm.

The extremities are less margined in *P. janae*, and there is no conspicuous labral margin as in *P. rubinicolor*. In *P. janae*, the spire is slightly projecting and not concealed by callus as in *P. rubinicolor*. The ribbing and the dentition is coarser in the new species, and less numerous than in *P. rubinicolor*. In *P. janae*, the aperture is slightly wider, and the dorsal groove (which is merely a darker zone in *P. rubinicolor*) is longer in proportion, an effect resulting from the extremities being much shorter. The general colour of *P. janae* is similar to that of *rubinicolor*. *P. janae* cannot be confused with any other species in the family.

*Dolichaplys rubinicolor* and *P. janae* seem to be closely allied sister species confined to the extreme south of Sri Lanka. The fauna of this island is characterized by a high degree of endemism. It is likely that the two Triviid species discussed herein are parasites of compound tunicates, like most other species of the family. Other Triviidae found in the locus typicus of *P. janae* sp. nov. are: *Cleotrivia globosa* (SOWERBY 1832): common, *C. pilula* (KIENER 1843): rare, *Trivirostra spionimula* CATE 1979: very common, *T. horolacea* (KIENER 1943): uncommon, *T. acubimacula* (GRAY 1827): rare, *T. oryza* (LAMARCK 1811): uncommon, *T. insularum* SCHILDER 1944: uncommon, *T. edgari* (SHAW 1909): common, *T. corrugata* (PEASE 1858): rare, *T. hyalina* SCHILDER 1933: uncommon, *T. shawi* SCHILDER 1933: uncommon, *T. becki* SCHILDER 1944: very common.

### 3. A possibly new species of *Purpuradusta* (Prosobranchia: Cypraeidae)

Along with the specimens of *P. rubinicolor* and *P. janae* described above, several heavily eroded shells of a possibly new Cypraeid were collected. The poor state of preservation does not allow a formal description, although significant conchological characteristics suggest that we are dealing with a new, distinctive member of the family belonging to the genus *Purpuradusta*.

Material studied (measurements enumerated: length x width x height (labral : columellar teeth): Seven eroded specimens: 8,5 x 4,5 x 3,8 mm (13:11), 7,3 x 3,8 x 3,5 mm (11:8), 7,9 x 4,8 x 4,0 (11:8), 7,9 x 4,8 x 3,6 mm (11:9), 8,0 x 4,6 x 3,8 mm (12:11), 8,7 x 5,1 x 4,0 mm (11:12), 8,6 x 4,6 x 4,2 mm (10:2), all in the author's collection. Several very eroded or fragmentary shells of unknown Sri Lankan origin were obtained from Sinhalese fishermen.

The shells are extremely small for the family, narrow, cylindrical, with greatly produced extremities and callous base. The labral teeth are very strong, equally spaced and extending onto lip. The columellar teeth are restricted to the aperture. They are fine in the posterior half, conspicuously thickening towards the anterior end. There is a distinct gap between the last anterior columellar tooth and the swollen terminal ridge. The fossula is steep, steplike, with three coarse denticles. Base and margins are plain white, the decorticate dorsum is purple, without embryonal banding. The extremities are faintly blotched with blotched with brownish. The margins show faint darker spots visible also from basal view. All specimens agree with this description, the only variable factor is the degree of callosity of the extremities.

Most specimens were collected around Dondra Head, the southernmost tip of Sri Lanka (5° 54' N - 80° 35' E). As all specimens known are very eroded, the habitat appears to be deeper water. At Dondra Head, a heavy surf washes ashore many Cypraeid species usually known only from deeper water (*Anzemonia mariae* SCHILDER 1927, *Ipsa chlidoni* (GRAY 1825), *Erosaria beckeri* (GASKOEN 1836)).

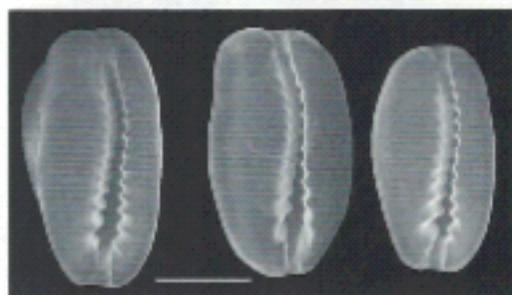
The brown tinted extremities in combination with distinctly thickening anterior columellar teeth safely identify the new species as a member of *Purpuradusta*. Along with the Polynesian *P. oryzaeformis* LORENZ & STERBA 1999, it is the smallest member of the Cypraeidae, not reaching 1 cm in length. In

contrast to *P. oryzaeformis*, the extremities of the possibly new species are rostrate and callous, making up one fifth of the shell's length. The callous shell is the most remarkable feature in comparison to the other members of the genus. The most similar species is probably *Purpuradusta gracilis* (GASKOIN 1849), which is much larger and broader, with more numerous teeth and less produced extremities. The equally small *P. fimbriata* (GIBBES 1791) still has finer and more numerous teeth, less callous extremities and a more projecting fossula region than the possibly new species. *P. minoridens* (MELVILL 1901) differs by the same features, and it has even more teeth than both, *P. fimbriata* and the possibly new species. So far, there are eight well established members of *Purpuradusta*, three of which being endemic to eastern Polynesia (*serratifera* (SCHILDER & SCHILDER 1938), *barbicos* RAYBAUDI 1986 and *oryzaeformis*), one being confined to the Western Pacific and Australia (*hammondii* (BEDALE 1939)), while the others (*gracilis*, *fimbriata*, *minoridens*, *microdon* (GRAY 1828)) are widely distributed in the Indo-Pacific.

In the area where the possibly new species was collected, also *P. fimbriata*, *P. minoridens*, *P. microdon* and *P. gracilis* were found in fair numbers. All four species are much larger in this area, with all their typical morphological features. It is therefore unlikely that we are looking at an aberrant dwarf population of another species of *Purpuradusta*.

The present political situation in Sri Lanka makes field research in the southernmost areas of the island difficult. It is my hope that the future will bring peace and unity to all Sri Lankan people.

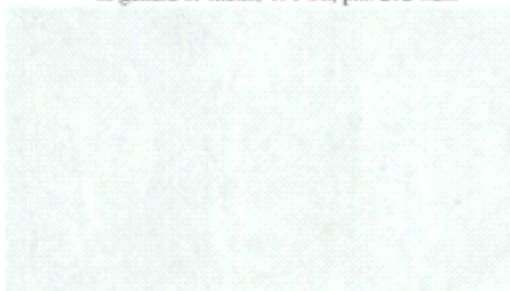
Fig. 2:  
*Purpuradusta* sp.  
Dondra Head, Sri Lanka. Scale: 3 mm.  
SEM photograph by the author, courtesy  
Strahlenzentrum University of Giessen.



**Acknowledgements:** Many thanks to DIRK FEHSE, Berlin, for sharing his knowledge and help in the identification of the minute look-alike *Trochostoma* species; Dr. LINDSEY T. GROVES, Los Angeles; Dr. MARCO CHIAPPONI, Lecco (Italy); Dr. MARTIN ILARDT, Uni-Giessen; T. ROY CHANDANA DA SILVA, Aluthgama (Sri Lanka).

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