

## A new species of Columbellidae (Mollusca: Gastropoda) from Saint Helena Island

Kevin MONSECOUR<sup>(1)</sup> & Frank SWINNEN<sup>(2)</sup>

<sup>(1)</sup>Oude Leuvensebaan 10B, 3460 Bekkevoort, Belgium

kevin.monsecour@telenet.be

<sup>(2)</sup>Eikstraat 13, 3920 Lommel, Belgium

f.swinnen.lommel@telenet.be

Research Associate Royal Belgian Institute of Natural Sciences, D.O. Taxonomy & Phylogeny  
Vautier Street, 29 - 1000 Brussels, Belgium.

Research Associate Estação de Biologia Marinha and Museu Municipal do Funchal, Madeira.  
Cais do Carvão Promenade da Orla Marítima do Funchal.

**Key words:** GASTROPODA, COLUMBELLIDAE, *Mitrella*, Saint Helena Island.

**Abstract:** A new species of **Columbellidae**: *Mitrella leeannae* sp. nov. is introduced as new to science. The species is found at Saint Helena Island. It is compared with its closest congeners *Mitrella ocellata* (Gmelin, 1791) and *Mitrella africana* Rolán, 2005.

**Introduction:** Due to its remote location and difficult accessibility, the molluscs from Saint Helena Island are poorly studied. The **Columbellidae** are no exception to this and they were last studied by Smith (1890). He reported a handful of species, but most of his records were based on just one find of a single specimen from the Macgillivray collection. These species in fact originate from the Caribbean or the South African province, so their whereabouts are doubtful. The only two species that he reported in good numbers are: *Columbella* (*Mitrella*) *cribriaria* Lamarck, 1822 (now a synonym of *Mitrella ocellata* (Gmelin, 1791)) and *Columbella* (*Mitrella*) *sanctaehelenae*. The latter is a valid species of *Mitrella* Risso, 1826, which he described in that work. The recent material we have studied confirms the findings of Smith, as our samples contain only two species: *Mitrella sanctaehelenae* (Smith, 1890) in low numbers and a second species of *Mitrella* in good numbers. It is obvious that this is the species Smith referred to as *C. cribriaria*, but after careful examination of the specimens it is clear they are different from *M. ocellata* and are hereby described as *Mitrella leeannae* sp. nov.. *Mitrella ocellata* can currently not be confirmed from Saint Helena Island.

### Abbreviations

**RBINS:** Royal Belgian Institute of Natural Sciences, Brussels

**MNHN:** Museum National d'Histoire Naturelle, Paris

**MSF:** Molluscan Science Foundation, Owing Mills

**NHM(UK):** Natural History Museum, London

**CFS:** collection Frank Swinnen

**CKM:** collection Kevin Monsecour

**CRDP:** collection Roland De Prins

**Material:** Dr Judith Brown provided the second author with detritus from St Helena island collected in 2014-2015. It was taken at 1-33m deep all around the island. After she had moved to the island of Ascension, Leeann Henry took over the task of detritus collection and still does so today.

### Systematic account:

Family **Columbellidae** Swainson, 1840

Subfamily **Atiliinae** Cossmann, 1901

Genus ***Mitrella*** Risso, 1826

*Mitrella leeannae* sp. nov.

**Type material:** Holotype KBIN MT.3785/I.G.34033, 1 paratype KBIN, 1 paratype MNHN MNHN-IM-2014-7071, 2 paratypes MSF, 1 paratype NHM(UK), 30 paratypes CFS, 8 paratypes CKM, 1 paratype CRDP.

**Type locality:** Saint Helena Island, near Jamestown, Papanui Wreck, 11m deep on base of wreck (survey code: 160710/154).

**Material examined: Saint Helena Island:** Survey code 130512/Q65/02 (15.939 S 5.644 W, Prosperous Bay Point) : 1 juv; survey code 140301/92 (15°55'44.4"S 5°43'51.6"W, in sand at 7 m): 2 adult (paratypes CFS) and 8 juv (all paratypes CFS); survey code 140305/93 (15°56'42"S 5°45'10.8"W, in detritus in cave at 11 m): 13 juv; survey code 140307/96 (15°56'45.6"S 5°45'18"W, in detritus at 5 m): 3 juv; survey code 140309/95 (15°56'42"S 5°45'10.8"W, in detritus at 19 m): 5 juv; survey code 140315/98/02 (Bennetts Point, in sand at 23 m): 1 adult (fragment) and 13 juv; survey code 140322/109/01 (James Bay, in sand at 10 m): 1 juv; survey code 140402/102/01 (Long Ledge, in detritus at 19 m): 10 juv; survey code 140412/106/01 (Billy May's Revenge, in detritus at 12 m): 1 adult (Paratype MSF mk1944) and 9 juv (1 paratype MSF mk1944); survey code 140521/116/01 (Bouyshole, in detritus under black coral at 10 m): 11 juv; survey code 140710/120/01 (Red Island, 15°56'24"S 5°44'31.2"W, in detritus at 12 m): 5 juv; survey code 140712/121/01 (15°57'18"S 5°45'43.2"W, in detritus at 26 m): 1 adult (fragment) and 11 juv; survey code 140719/123/04 (between Red Island and Long Ledge, in sand at 12 m): 2 juv; survey code 140720/124/01 (16°00'50.4"S 5°43'33.6"W, in detritus at 1 m): 2 juv; survey code 140722/125/01 (15°54'43.2"S 5°42'32.4"W, in detritus): 5 juv; survey code 150522/2 (Long Ledge East, 12 m deep under ledge): 1 adult and 8 juv; survey code 150730/1 (Long Ledge, inside cave at 10 m): 1 adult and 1 juv; survey code 150808 (Merrimens' Point, 10 m deep under ledge): 2 juv; survey code 151007/142 (Flagstaff Bay, Black rocks, 7 m deep under large boulders): 7 juv; survey code 151007/147/1-2-3 (Flagstaff Bay, Black rocks, 7 m deep near/under large boulders): 15 juv; survey code 160616/147 (Bens Island, under bedrock ledge at 17 m): 14 juv; survey code 160625/148 (Horse Pasture Point, 16 m deep on bedrock ledge): 6 juv; survey code 160709/152 (Peaked Island, 20 m deep, mouth of cave): 5 juv; survey code 160710/154 (type locality): 3 adult (Holotype KBIN and 2 paratypes CFS) and 19 juv (1 paratype KBIN and 18 paratypes CFS); survey code 160710/157 (near Papanui Wreck, 12 m) : 14 juv; survey code 160716/155 (Merrimens' Island, 16 m deep in debris): 3 adult (2 paratypes CKM) and 36 juv (6 paratypes CKM); survey code 170420/Q311 (Egg Island, 8 m deep between bedrock and boulders): 28 juv; survey code 170425/Q318 (Ruperts, 11 m deep in detritus): 35 juv; survey code 170426/Q319 (Bedgellat Wreck, 18 m deep): 12 juv; survey code 170428/Q323 (Bouys Hole/ Cavalley Hole, 15 m deep at mouth of cave): 2 adult (1 paratype CRDP) and 45 juv; survey code 170515/Q329 (Black Rocks near Thompsons Valley, 20 m deep inside cave): 7 juv; survey code 170517/157 (near Papanui Wreck, 12 m deep): 1 adult (paratype NHM(UK), 9 juv; survey code 180502/Q374 (Ruperts Bay, 11 m deep between bedrock and boulders): 1 adult and 7 juv. Without survey code: Long Ledge, in detritus in cave at 11 m: 6 adult (fragments) and 16 juv; Bedgellat Wreck,

18m: 2 juv; Egg Island, in detritus at 29 m: 18 juv; near Frontier Wreck, in detritus at 28 m: 16 juv; Bird Island, 12 m deep in detritus in cave: 1 (paratype MNHN) adult and 15 juv.

**Distribution:** Only known from St Helena Island.

**Description:** Shell of rather small size for the genus, adult size up to 8 mm; fusiform, elongate. Suture slightly impressed. Adults with decollate early whorls. Protoconch (studied in juvenile specimens like paratype 1) paucispiral, about 1.4-1.6 whorls. Transition to teleoconch clearly visible. Teleoconch with 6-6.5 whorls (reconstructed), adults have the final 4-5 teleoconch whorls left, the protoconch and early teleoconch whorls are rejected just before adult stage. Teleoconch whorls smooth, apart from microscopic growth lines. The body whorl shows a spiral sculpture of about 15 basal cords ranging to about 2/3 of the height of the aperture. Outer lip slightly thickened on the outside; with the continuation of the basal cords. Inside of the outer lip with a clear posterior canal. Rest of the lip thickened and denticulate with 4-6 denticles, the adapical ones clearly visible, the abapical ones often obsolete. Columellar callus thickened, not denticulate. Parietal callus weaker, but clearly present. Siphonal canal very short, open, slightly recurved.

Teleoconch whorls cream with an overlay of a brownish-orange netting. Protoconch semi-translucent cream to orange. Aperture and columella off-white to cream.

Holotype height 6.7 mm.

Operculum and radula not studied.

**Remarks:** This species was already reported from St Helena Island by E.A. Smith (1890) under the name *Columbella (Mitrella) cribraria* (Lamarck, 1822), now considered a synonym of *Mitrella ocellata* (Gmelin, 1791). Smith already indicated that the specimens he had for study from Saint Helena and Ascension were different: "All the specimens from Ascension and St. Helena are small, averaging about eight or nine millimeters in length. They are almost invariably decollated, and have but four whorls remaining." *M. ocellata* occurs on both sides of the Atlantic and has been confirmed from the Madeira, Canary and Cape Verde Archipelagoes, the West African coast to Angola (Rolán, 2005; Segers *et al.*, 2009), from Bermuda and Florida southwards to Rio de Janeiro State, Brazil and the entire Caribbean region (Radwin, 1978; Rios, 1994). Some of these researchers like Rios and Segers *et al.* (with questionmark) also refer to Saint Helena and Ascension, but these records are most likely based on the

work of Smith. Rosewater (1975) is the only author confirming *M. ocellata* from Ascension based on fresh specimens and not on the work by Smith. The second author also possesses specimens from *M. ocellata* from Ascension, but *M. ocellata* cannot be confirmed from Saint Helena at the moment. Brown *et al.* (2016) did not recognise this species.

*Mitrella leeannae* differs from *M. ocellata* by its smaller size, lighter and more elegant shell. The lower number of teleoconch whorls (*M. leeannae* has 6 teleoconch whorls, whereas *M. ocellata* has 7 teleoconch whorls) and the lower number of denticles in the lip (*M. ocellata* has 6-8 denticles on the inside of the outer lip). The colour pattern is also different. *M. ocellata* has a dark brown background: uniform dark brown or often with 1 or 2 cream to light brown spiral bands, with a constant pattern of white blotches all over the shell.

*Mitrella africana* Rolán, 2005 has a similar colour pattern, but differs in its slightly bigger size, its protoconch of 2.5 whorls and the higher number of denticles on the inside of the outer lip.

**Etymology:** Named in honour of Leeann Henry; Marine Conservation Assistant in the Marine Section of Environment Natural Resources and Planning Directorate, St Helena Island for her constant effort in supplying material.

**Acknowledgements:** We would like to thank Ms Leeann Henry, Dr Judith Brown and Mr Peter Wirtz for collecting the material and making it available for study. Rhys Hobbs and Elizabeth Clingham, Marine Conservation Officers, Marine Section, Environmental Management Division for St Helena Government for their assistance in facilitating staff collecting material. We would also like to thank Mr. David Monsecour for rereading the manuscript and giving useful comments.

#### References:

- Brown, J., K. Downes, R.J. Mrowicki, E.L. Nolan, A.J. Richardson, Swinnen, F. & Wirtz, P., 2016. New records of marine invertebrates from Ascension Island (Central Atlantic). *Arquipelago. Life and Marine Sciences* 33: 71-79.
- Radwin, G.E., 1978. The family Columbellidae in the Western Atlantic. Part IIB – The Pyrenidae (Continued). *Veliger* 20(4): 328-344.
- Rios, E., 1994. *Seashells of Brazil*. 2<sup>nd</sup> edition. Rio Grande, Brazil.
- Rolán, E., 2005. *Malacological Fauna from the Cape Verde Archipelago*. Conchbooks, Hackenheim, Germany.
- Rolán, E., 2005. Columbellidae (Gastropoda, Neogastropoda) of the gulf of Guinea with the description of eight new species. *Iberus* 23(2): 119-156.

Rosewater, J., 1975. An annotated list of the marine mollusks of Ascension Island, South Atlantic Ocean. *Smithsonian Contributions to Zoology*. 1-41.

<https://doi.org/10.5479/si.00810282.189>

Segers, W., Swinnen, F. & De Prins, R., 2009. *Marine molluscs of Madeira. The living marine molluscs of the province of Madeira (Madeira and Selvagens Archipelago)*. Snoeck Publishers, Zwijndrecht, Belgium.

Smith, E.A., 1890. Report on the marine Molluscan Fauna of the Island of St. Helena. *Proceedings of the Zoological Society of London* (for 1890): 247-317.

#### Plate

**A-E: *Mitrella leeannae* sp. nov.**

**A-B:** holotype KBIN MT.3785/I.G.34033 (6.7 mm).

**C:** Paratype MNHN (7.7 mm).

**D:** detail of protoconch and early teleoconch of paratype KBIN.

**E:** paratype KBIN (8.0 mm).

**F: *Mitella africana* Rolán, 2005.** Southern Angola, CKM (7.4 mm).

**G-H: *Mitrella ocellata* (Gmelin, 1791).**

Ascension Island, Catherine Point, CFS.

**G:** 10.5 mm

**H:** 12.7 mm

