

**Revision and description of new *Piperamarginella* species
(Gastropoda: Marginellidae: *Marginella*), from the Eastern Cape,
South Africa – Part 2**

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ABSTRACT Three new species in the subgenus *Piperamarginella*, genus *Marginella* from the Eastern Cape, South Africa, are described. This study follows on the study conducted by the author (2024) where three new species, *Marginella (Piperamarginella) buffaloensis*, *M. (P.) lindaswartae*, and *M. (P.) gonubiensis* were described and compared to *M. (P.) monozona*, *M. (P.) obliqua*, *(P.) scitula* and *M. (P.) piperata*. Additional sorting of *Piperamarginella* shells in this study resulted in the identification of three new species, described here as *M. (P.) salmarosea* n. sp., *M. (P.) boetveldsmani* n. sp., and *M. (P.) florescopictorata* n. sp.

KEYWORDS Marginellidae, *Marginella*, *Piperamarginella*, *M. (P.) salmarosea*, *M. (P.) boetveldsmani*, and *M. (P.) florescopictorata*, Eastern Cape, South Africa

INTRODUCTION

Recent study on the *Piperamarginella* by the author (2024) revealed several new species, that were described and compared to several congeners within the *Piperamarginella*. The species described by the author (2024) comprised *Marginella (Piperamarginella) buffaloensis* S.G. Veldsman, 2024, *M. (P.) lindaswartae* S.G. Veldsman, 2024, and *M. (P.) gonubiensis* S.G. Veldsman, 2024 and compared to *M. (P.) monozona* W.H. Turton, 1932, *M. (P.) obliqua* S.G. Veldsman, R. Aiken & J.H. Veldsman, 2014, *M. (P.) scitula* W.H. Turton, 1932 and *M. (P.) piperata* Hinds, 1844. The shells within this subgenus are very similar and share many morphological characteristics that make them *Piperamarginella* (Veldsman 2017, 2019). The coloration of the shells studied are at first glance quite similar, a pinkish coloration, but with closer investigation there are several differences between the three new

species described here and should be read in conjunction with the authors article in 2024. The new species are *(P.) salmarosea* n. sp., *M. (P.) boetveldsmani* n. sp., and *M. (P.) florescopictorata* n. sp.. Many collectors might have these shells improperly identified in their collections as *M. (P.) piperata* Hinds, 1844 or *M. (P.) obliqua* which has been discussed in detail in several previous articles (Aiken 2019, Veldsman *et al.* 2014, Veldsman 2022, Veldsman 2024). The shells of the new species, like most other *Piperamarginella* species, are found along the beaches of the Eastern Cape, South Africa (Figure 1), dived live at shallow depths and in rare cases dredged at 40 m.

METHODOLOGY

Marginella species within the same subgenus share several taxonomic characters, such as the



Figure 1. Locality map indicating the main localities along the Eastern Cape, South Africa, where the three new species occur.

type and size of labial denticles, posterior notch presence and callus on columella. Other shell morphological features are used here to differentiate species include, but are not limited to, the shoulder shape and width, general shape of the shell, spire height and characteristics, aperture shape and width, shape of the labrum, markings, and coloration.

Material from the Institute for Marine and Environmental Science's (IMES) Collection (previously known as the Veldsman Collection)

were studied along with material from the Linda Swart Collection and former collections of Boet (J.H.) Veldsman Sr., Media Evans and Laurie Smith (now part of the IMES Collection).

Shells were measured with a pair of digital calipers (RS Pro Electronic Digital Caliper 150 mm/6", South Africa). To ensure precision, each measurement was taken in triplicate. All the type material of the new species and other material studied were photographed by S.G. Veldsman.

SYSTEMATICS

Phylum	Mollusca Linnaeus, 1758
Class	Gastropoda Cuvier, 1795
Subclass	Caenogastropoda Cox, 1960
Order	Neogastropoda Wenz, 1938
Superfamily	Volutoidea Rafinesque, 1815
Family	Marginellidae Fleming, 1828
Genus	<i>Marginella</i> Lamarck, 1799
Subgenus	<i>Piperamarginella</i> S.G. Veldsman, 2017

Marginella (Piperamarginella) florescopicturata S.G. Veldsman n. sp.
(Plate 1, Figures 1-4)

Description. The shell is moderately large (17-20 mm), elongate-fusiform shaped, shoulder sharp edged. Moderately thick labrum, smooth and off-white background color with red-brown markings on top, no developed posterior notch or labial denticles. Spire high, spire whorls convex, slightly stepped and rounded. Moderately wide protoconch, light grey color. Columella straight with four thick continuous plications on anterior side, which take up half the length of the aperture, off-white color. Callus covering all the plicae, no callus on inside of columella. Aperture narrow and lip straight, off-white color. Background of the body whorl off-white to light pinkish colored, with very fine red-brown speckled pattern (dark and light colored) forming thin lines. A light-colored band in the center around the body whorl, with a very thin darker band just below it on anterior side. The last third towards the base of the shell similar patterned compared to the posterior half. A pinkish marking is visible on last plicae. The shoulder has a thin band presented as alternating dark and light red-brown markings. The spire has a similar pattern than most of the body-whorl, sometimes with darker colored patches visible.

Distribution. Type locality of *M. (P.) florescopicturata* n. sp. is beach collected, Xora River Mouth, Eastern Cape, South Africa. Specimens were mainly beach collected, Eastern Cape, South Africa.

Type Material. The type material of the holotype and paratypes of *M. (P.) florescopicturata* are as follows:

- Holotype: 18.47 x 9.80 mm (Plate 1, Figure 1); Xora River Mouth, beach collected; 2012; Coll. Natal Museum South Africa (NMSA), ID No: P2654/T4625 (Donated by S.G. Veldsman - IMES).
- Paratype 1: 18.48 x 10.16 mm (Plate 1, Figure 2); Xora River Mouth, beach collected; 2012; IMES Coll.
- Paratype 2: 19.18 x 10.23 mm (Plate 1, Figure 3); Xora River Mouth, beach collected; 2012; IMES Coll.
- Paratype 3: 18.44 x 10.11 mm (Plate 1, Figure 4); Xora River Mouth, beach collected; 2012; IMES Coll.
- Paratype 4: 18.01 x 9.53 mm (Plate 1, Figure 4); Xora River Mouth, beach collected; L. Swart Coll.
- Paratype 5: 18.11 x 9.82 mm; Broomstick (East London area); IMES Coll.
- Paratype 6: 17.65 x 9.10 mm; Xora River Mouth, beach collected; L. Swart Coll.
- Paratype 7: 18.07 x 9.83 mm; East London, beach collected; IMES Coll.
- Paratype 8: 18.57 x 10.05 mm; Xora River Mouth, beach collected; 2012; IMES Coll.
- Paratype 9: 17.79 x 9.47 mm; Broomstick (East London area); IMES Coll.
- Paratype 10: 18.27 x 9.46 mm; East London, beach collected; IMES Coll.

Paratypes 11-85: 16.93 – 19.72 mm, beach collected at Jeffreys Bay, Fish River Mouth, East London, Broomstick (East London area), Gonubie (12 km north-east of East London), Black Rock & Marshstrand (Haga Haga), Xora River Mouth, from the IMES Coll. and L. Swart Coll.

Etymology. The name “*florescopicturata*” refer to that the species look like a painted flower.

Marginella (Piperamarginella) boetveldsmanni
S.G.Veldsman n. sp.
(Plate 2, Figures 1-4)

Description. The shell is moderately large (16-20 mm), elongate-fusiform shaped, shoulder rounded. Moderately thick labrum, smooth and off-white background color with dark brown to grey/black markings on top, no developed posterior notch or labial denticles. Spire high, spire whorls convex and slightly stepped. Moderately wide protoconch, light grey color. Columella slightly bending inwards in center with four thick continuous plications on anterior side, which take up half the length of the aperture, off-white color. Callus covering all the plicae, no callus on inside of columella. Aperture narrow and lip straight, off-white color. Background of the body whorl off-white/light grey to creamy colored, with very fine grey to brown speckled pattern forming thin lines, speckles range from light to dark grey and dark cream color. A light-colored band barely visible below shoulder around body whorl, and another light-colored band in the center around the body whorl, mainly visible on dorsal side. The last third towards the base of the shell has the same coloration as the posterior half. No specific markings on plicae. The spire has a substantially similar pattern to that of the body whorl, only darker in color.

Distribution. Type locality of *M. (P.) boetveldsmanni* n. sp. is dredged 75 m, East London, Eastern Cape, South Africa. Specimens studied were beach collected, dived, and dredged, Eastern Cape, South Africa.

Type Material. The type material of the holotype and paratypes of *M. (P.) boetveldsmanni* are as follows:

- Holotype: 19.07 x 10.24 mm (Plate 2, Figure 1); East London, dredged 75 m; 2006; Coll. Natal Museum South Africa (NMSA), ID No: P2655/T4626 (Donated by S.G. Veldsman - IMES).
- Paratype 1: 19.84 x 10.69 mm (Plate 2, Figure 2); East London, dredged 75 m; 2006; IMES Coll.
- Paratype 2: 17.12 x 9.21 mm (Plate 2, Figure 3); Jeffreys Bay, beach collected; IMES Coll.
- Paratype 3: 17.02 x 9.24 mm; Jeffreys Bay, beach collected; 1997; IMES Coll. (Plate 2, Figure 4)
- Paratype 4: 16.33 x 9.10 mm; Jeffreys Bay, beach collected; 1997; IMES Coll.
- Paratype 5: 16.22 x 8.89 mm; Jeffreys Bay, beach collected; 1995; IMES Coll.
- Paratype 6: 16.96 x 9.35 mm; Jeffreys Bay, beach collected; L. Swart Coll.
- Paratype 7: 18.39 x 9.87 mm; Marshstrand (Haga Haga); 1994; IMES Coll.
- Paratype 8: 16.82 x 9.31 mm; Jeffreys Bay, beach collected; 1993; IMES Coll.
- Paratype 9: 17.54 x 9.52 mm; Xora River Mouth, beach collected; IMES Coll.
- Paratype 10: 16.86 x 9.02 mm; Jeffreys Bay, beach collected; 1998; IMES Coll.

Paratype 11: 16.95 x 8.64 mm; East London, beach collected; IMES Coll.

Etymology. This species is named in honor of the late Boet (J.H.) Veldsman, Sr., father of Vellies (J.H.) Veldsman and grandfather of the author. Several of the material used here as paratypes are from his early collections along the beaches of the Eastern Cape. A bank manager by trade, he was better known as an enthusiastic naturalist, philatelist, fisherman, collecting shells, rocks, minerals, and other objects of natural history which interested him.

Marginella (Piperamarginella) salmoresea
S.G.Veldsman n. sp.
(Plate 2, Figures 5-8)

Description. The shell is moderately large (14-17 mm), fusiform sub-oval shaped, shoulder semi-sharp-rounded. Moderately thick to thick labrum, smooth and off-white background color with dark pink markings on top, no developed posterior notch or labial denticles. Spire moderately high to low, spire whorls convex and rounded. Moderately wide protoconch, light grey color. Columella relatively straight (only slightly bending inwards) with four thick continuous plications on anterior side, which take up half the length of the aperture, off-white color. Callus covering all the plicae, no callus on inside of columella. Aperture moderately wide to narrow and lip slightly bend, off-white color. Background of the body whorl off-white to light pinkish colored, with very fine pink speckled pattern (light to dark colored), consisting of thin bands around the body whorl. A light-colored band in the center around the body whorl, followed by a slightly darker band on anterior side. The last third towards the base of the shell the same coloration as the first half on the posterior side. No specific markings on the plicae on beach collected specimens, light pink marking visible on last plicae in live taken

specimens. The shoulder has a thin band presented as alternating light and dark pink markings. The spire has similar coloration as the body whorl, with some darker colored blotches sometimes present.

Distribution. Type locality of *M. (P.) salmoresea* n. sp. is beach collected, Jeffreys Bay, Eastern Cape, South Africa. Specimens were mainly beach collected, and dive live, Eastern Cape, South Africa.

Type Material. The type material of the holotype and paratypes of *M. (P.) salmoresea* are as follows:

- Holotype: 16.61 x 9.72 mm (Plate 2, Figure 5); Jeffreys Bay, beach collected; 1997; Coll. Natal Museum South Africa (NMSA), ID No: P2656/T4627 (Donated by S.G. Veldsman - IMES).
- Paratype 1: 16.18 x 8.75 mm (Plate 2, Figure 6); Jeffreys Bay, beach collected; 1997; IMES Coll.
- Paratype 2: 15.12 x 8.25 mm (Plate 2, Figure 7); Algoa Bay, dived live at 15 m; 1993; IMES Coll.
- Paratype 3: 15.51 x 8.72 mm (Plate 2, Figure 8); Jeffreys Bay, beach collected; IMES Coll.
- Paratype 4: 17.12 x 9.49 mm; Jeffreys Bay, beach collected; IMES Coll.
- Paratype 5: 15.84 x 8.92 mm; Jeffreys Bay, beach collected; 1981; IMES Coll
- Paratype 6: 14.90 x 8.36 mm; Jeffreys Bay, beach collected; 1987; L. Swart Coll.
- Paratype 7: 16.27 x 9.17 mm; Fish River Mouth, beach collected; IMES Coll.
- Paratype 8: 15.53 x 8.86 mm; Jeffreys Bay, beach collected; IMES Coll.

Paratype 9: 17.27 x 9.77 mm; Gqeberha (ex. Port Elizabeth), dived 25 m; 2012; IMES Coll.

Paratype 10: 16.16 x 8.94 mm; Jeffreys Bay, beach collected; 1986; IMES Coll.

Paratypes 11-43: 13.98 – 17.09 mm in length, beach collected at Jeffreys Bay,

Fish River Mouth, East London, and Xora River Mouth from the IMES Coll. and L. Swart Coll.

Etymology. The name “*salmorosea*” refer to salmon pink coloration of the shells.

	<i>M. (P.) florescopicturata</i>	<i>M. (P.) boetveldsmeni</i>	<i>M. (P.) salmorosea</i>
General shape	Elongate-fusiform	Elongate-fusiform	Fusiform sub-oval
Spire	Spire high, spire whorls convex, slightly stepped and rounded	Spire high, spire whorls convex and slightly stepped	Spire moderately high to low, spire whorls convex and rounded
Columella and aperture	The columella straight, aperture narrow and lip straight	The columella is slightly bending inwards in center, aperture narrow and lip straight	The columella is relatively straight (only slightly bending inwards), the aperture moderately wide to narrow and lip slightly bend
Plicae markings	A pinkish marking is visible on last plicae	No specific markings on plicae	No specific markings on the plicae on beach collected specimens, light pink marking visible on last plicae in live taken specimens
Body-whorl pattern	Background of the body whorl off-white to light pinkish colored, with very fine red-brown speckled pattern (dark and light colored) forming thin lines. A light-colored band in the center around the body whorl, with a very thin darker band just below it on anterior side. The last third towards the base of the shell similar patterned than the posterior half.	Background of the body whorl off-white/light grey to creamy colored, with very fine grey to brown speckled pattern forming thin lines, speckles range from light to dark grey and dark cream color. A light-colored band barely visible below shoulder around body whorl, and another light-colored band in the center around the body whorl, mainly visible on dorsal side. The last third towards the base of the shell has the same coloration as the posterior half.	Background of the body whorl off-white to light pinkish colored, with very fine pink speckled pattern (light to dark colored), consistent in thin bands around the body whorl. A light-colored band in the center around the body whorl, followed by a slightly darker band on anterior side. The last third towards the base of the shell the same coloration as the first half on the posterior side.

Table 1. Comparison between *M. (P.) florescopicturata*, *M. (P.) boetveldsmeni* and *M. (P.) salmorosea*.

DISCUSSION

All three new species, along with the closest congeners in this subgenus *Piperamarginella*, share most shell morphological characteristics.

The species described here however differ in general shape. Although all three have pinkish coloration, they differ in minor pattern details. *Marginella (P.) florescopicturata* and *M. (P.) boetveldsmeni* are both elongate-fusiform,

whereas *M. (P.) salmorosea* is on average smaller and fusiform sub-oval shaped. Both *M. (P.) florescopicturata* and *M. (P.) boetveldsmanni* have high spires, whereas *M. (P.) salmorosea* has a shorter spire in relation to shell length. Detailed comparison is found in Table 1. For comparison with the other closest congeners, refer to the comparison tables in Veldsman (2024).

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Plate 1, Figures 1-4. *M. (P.) florescopicturata*. 1= Holotype: 18.47 x 9.80 mm, Xora River Mouth, beach collected, Coll. NMSA (P2654/T4625). 2= Paratype 1: 18.48 x 10.16 mm, Xora River Mouth, beach collected, Coll. IMES. 3= Paratype 2: 19.18 x 10.23 mm, Xora River Mouth, beach collected, Coll. IMES. 4= Paratype 3: 18.44 x 10.11 mm, Xora River Mouth, beach collected, Coll. IMES. **Figures 5-6=** *M. (P.) obliqua*. 5= Paratype 9: 16.69 x 9.72 mm, Jeffreys Bay, beach collected, Coll. IMES. 6= Paratype 10: 16.12 x 8.80 mm, Jeffreys Bay, beach collected, Coll. IMES.



Plate 2, Figures 1-4. *M. (P.) boetveldsmanni*. 1= Holotype: 19.07 x 10.24 mm, East London, dredged 75 m, Coll. NMSA (P2655/T4626). 2= Paratype 1: 19.84 x 10.69 mm, East London, dredged 75 m, Coll. IMES. 3= Paratype 2: 17.12 x 9.21 mm, Jeffreys Bay, beach collected, Coll. IMES. 4= Paratype 3: 17.02 x 9.24 mm, Jeffreys Bay, beach collected, Coll. IMES. **Figures 5-8=** *M. (P.) salmorosea*. 5= Holotype: 16.61 x 9.72 mm, Jeffreys Bay, beach collected, Coll. NMSA (P2656/T4627). 6= Paratype 1: 16.18 x 8.75 mm, Jeffreys Bay, beach collected, Coll. IMES. 7= Paratype 2: 15.12 x 8.25 mm, Algoa Bay, dived live at 15 m, Coll. IMES. 8= Paratype 3: 15.51 x 8.72 mm, Jeffreys Bay, beach collected, Coll. IMES.