

## Description of a new species of *Marginella*: *Marginella spadix* from the East Coast Province, South Africa

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**ABSTRACT** *Marginella spadix*, a new species, is described from the East Coast Province, South Africa. The new species is compared to *Marginella minuscula* Turton, 1932, *Marginella dimidiata* Thiele, 1925 and *Marginella eucosmia* Bartsch, 1915.

**KEYWORDS** *Marginella*, *minuscula*, *spadix*, *croukampi*, *dimidiata*, *eucosmia*, East Coast Province, South Africa.

### INTRODUCTION

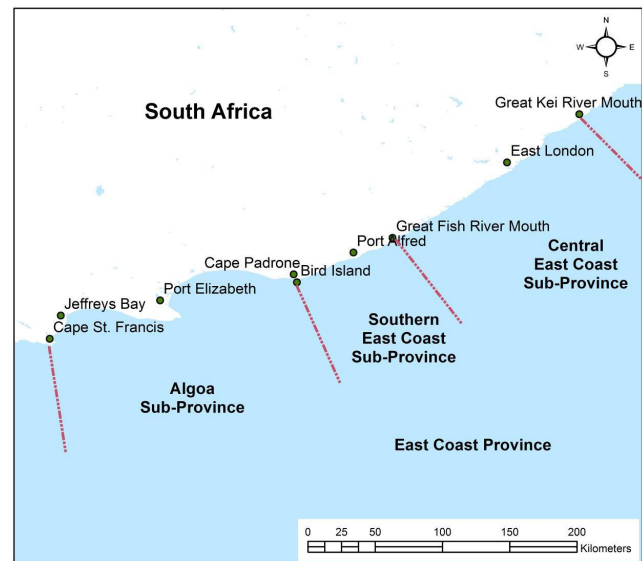
The small *Marginella* species from the Eastern Cape - East Coast Province (Figure 1), South Africa have been discussed and researched since the early 1900's. *Marginella eucosmia* Bartsch, 1915 was first described, then *M. dimidiata* Thiele, 1925, followed by *M. minuscula* Turton, 1932. More recently, Hayes (1996) described a small white shell as *M. croukampi*. Unfortunately, the specimens he thought to be *M. minuscula*, were in fact *M. dimidiata* Thiele, 1925, and the small white shell he described was actually a specimen of *M. minuscula*. Consequently, *M. croukampi* has now become a junior synonym of *M. minuscula*. Through intensive research on the genus *Marginella* over the last 6 years by the author, it became apparent that there is another small shell in this group that has not been described, hence the description of *M. spadix*, a new species.

### SYSTEMATICS

Family: **Marginellidae** Flemming, 1828

Genus: *Marginella* Lamarck, 1799

*Marginella spadix* S.G.Veldsman, new species



**Figure 1.** The East Coast Province, illustration of the Sub-Provinces and major towns where species were collected (modified after Veldsman 2014).

### Description:

The shell is small in size (on average 11-14mm), fusiform-ovate in shape with a slightly rounded shoulder. Shell surface smooth, spire high, wide protoconch. No labial denticles or posterior labial notch developed. Columella, with four continuous plications, the lower (fourth) plica ending at base of shell. Callus

covering the plicae. Aperture narrow, off-white color. Thick lip, off-white color, with a few light markings on the top. Apex off-white, spire has full pattern, white, light brown and thin dark brown markings present in a block-like pattern with thin creamy spiral lines. Background color of the body whorl is off-white to light cream with a light brown block-like pattern arranged in spiral bands around the body-whorl on the first half of the shell from the shoulder, a thin off-white band around the body-whorl in the middle, followed by a dark brown block-like patterned band around the body-whorl ending at the base with a light brown to cream block-like pattern arranged in spiral bands around the body-whorl.

**Type and locality:**

Type locality of the Holotype of *M. spadix* new species, is East London (33°06.6'S and 27°52.5'E), Central East Coast Sub-Province, East Coast Province, South Africa; dredged 65m, on sand.

The Holotype of *M. spadix* new species is illustrated in Figure 2 (2). The type material is as follows:

Holotype: 12.07 x 7.42 mm [Figure 2 (2)]; East London (33°06.6'S & 27°52.5'E), Central East Coast Sub-Province; Dredged 65m, on sand; Coll. Natal Museum South Africa (NMSA), ID No: P0676/T4207. Donated by S.G. Veldsman.

Paratype 1: 12.71 x 7.55 mm [Figure 2 (1)]; Port Alfred, Southern East Coast Sub-Province; Scuba 20m; Veldsman Collection.

Paratype 2: 13.66 x 8.35 mm [Figure 2 (3)]; Jeffreys Bay, Algoa Sub-Province; Dredged 65-70m; Veldsman Collection.

Paratype 3: 12.06 x 7.39 mm [Figure 2 (6)]; East London, Central East Coast Sub-Province; Dredged 65m; Veldsman Collection.

Paratype 4: 13.56 x 7.76 mm [Figure 2 (5)]; East London, Central East Coast Sub-Province; Dredged 65m; Aiken Collection.

Paratype 5: 11.92 x 7.14 mm; East London, Central East Coast Sub-Province; Dredged 65m; Veldsman Collection.

Paratype 6: 11.53 x 6.81 mm [Figure 2 (4)]; Algoa Bay, Algoa Sub-Province; Scuba 13m; Coll. Natal Museum South Africa (NMSA), ID No: P0677/T4208.

Paratype 7: 13.82 x 7.69 mm; East London, Central East Coast Sub-Province; Dredged 65m; Veldsman Collection.

Paratype 8: 12.67 x 7.57 mm; East London, Central East Coast Sub-Province; Dredged 65 m; Aiken Collection.

Paratype 9: 13.45 x 7.70 mm; Jeffreys Bay, Algoa Sub-Province; Dredged 70m; Veldsman Collection.

Paratype 10: 14.01 x 7.67 mm; Algoa Bay, Algoa Sub-Province; Scuba 20-25m; Kloos Collection.

Paratype 11: 13.10 x 7.48 mm; East London, Central East Coast Sub-Province; Dredged 65m; Aiken Collection.

Paratype 12: 13.36 x 7.72 mm; Jeffreys Bay, Algoa Sub-Province; Dredged 65m; Veldsman Collection.

Paratype 13: 13.36 x 7.65 mm; East London, Central East Coast Sub-Province; Dredged 65m; Aiken Collection.

Paratype 14: 13.20 x 7.51 mm; Algoa Bay, Algoa Sub-Province; Scuba 20-25m; Kloos Collection.

- Paratype 15: 13.34 x 8.04 mm; Jeffreys Bay, Algoa Sub-Province; Beach collected; Veldsman Collection.
- Paratype 16: 13.88 x 7.94 mm; East London, Central East Coast Sub-Province; Dredged 65m; Aiken Collection.
- Paratype 17: 13.72 x 7.82 mm; East London, Central East Coast Sub-Province; Dredged 65m; Veldsman Collection.
- Paratype 18: 13.80 x 8.10 mm; East London, Central East Coast Sub-Province; Dredged 65m; Aiken Collection.
- Paratype 19: 12.78 x 7.54 mm; Kwelera, Port Elizabeth, Algoa Sub-Province; Beach collected; Veldsman Collection.
- Paratype 20: 12.93 x 8.10 mm; East London, Central East Coast Sub-Province; Beach collected; Aiken Collection.

### Etymology:

The author believes that the term “spadix” refers to the chestnut color of the shell’s pattern.

### DISCUSSION

The new species, *Marginella spadix* (Figure 2) resembles *M. minuscula* (Figure 3), *M. dimidiata* (Figure 4) and *M. eucosmia* (Figure 5) in general morphology and size. Each of the three species has its own characteristic color pattern. The spire of *M. spadix* has full pattern, white, light brown and thin dark brown markings present in a block-like pattern with thin creamy spiral lines, *M. dimidiata* has full dark brown pattern, sometimes with some white markings present, whereas *M. minuscula* has an off-white and dark brown spiralling band on spire. *Marginella eucosmia* has full color pattern on the spire, with a block-like pattern consisting of red-brown blocks with white and black inserted spots.

The background color of the body whorl of *M. spadix* is off-white to light cream with a very light brown block-like pattern arranged in spiral bands around the body-whorl on the first half of the shell from the shoulder, a thin off-white band around the body-whorl in the middle, followed by a dark brown block-like patterned band around the body-whorl in the middle below the white band, and at the base a light brown to cream block-like pattern arranged in spiral bands around the body-whorl. The body-whorl of *M. minuscula* is off-white to light cream color, with no pattern, except for a thin dark brown band at the base of the shell, whereas *M. dimidiata* has brown color pattern, either in the form of spotting or blotches. *Marginella dimidiata* further has a broad dark brown band (solid to broken patterned) around the body-whorl at the lower third of the shell. *Marginella eucosmia* has an off-white background, sometimes a very faint color pattern visible over the first half of the body-whorl. The lower half of the body-whorl of *M. eucosmia* consists of a red-brown block-like pattern arranged in spiralling lines around the body-whorl, with white and black inserted spots.

### ACKNOWLEDGMENTS

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**Figure 2.** *Marginella spadix* new species. **1.** (12.71 x 7.55 mm) – Paratype 1; Port Alfred, scuba 20m; Veldsman Collection. **2.** (12.07 x 7.42 mm) – Holotype; East London, dredged 65 m; Coll. Natal Museum South Africa (NMSA), ID No: P0676/T4207. Donated by S.G. Veldsman. **3.** (13.66 x 8.35 mm) – Paratype 2; Jeffreys Bay, dredged 65-70 m; Veldsman Collection. **4.** (11.53 x 6.81 mm) – Paratype 6; Algoa Bay, dredged 65 m; Coll. Natal Museum South Africa (NMSA), ID No: P0677/T4208. **5.** (13.56 x 7.76 mm) – Paratype 4; East London, dredged 65 m; Aiken Collection. **6.** (12.06 x 7.39 mm); East London, dredged 65 m; Veldsman Collection.



**Figure 3.** *Marginella minuscula* Turton, 1932. **1.** (11.02 x 6.51 mm) – Holotype; Port Alfred, beach collected; Coll. Oxford University Museum, courtesy of Sammy de Grave. **2.** (9.73 x 6.11 mm) – Paratype 1; Port Alfred, beach collected; Coll. Oxford University Museum, courtesy of Sammy de Grave. **3.** (13.56 x 7.76 mm); south of Great Kei River mouth, dredged 75 m; Veldsman Collection. **4.** (9.97 x 5.79 mm), – ex. *M. croukampi* Hayes, 1996, Paratype 1; Kenton-on-Sea (south-east of Port Alfred), scuba 18-20 m; Coll. Natal Museum South Africa (NMSA), ID No: V4255/T1448. **5.** (11.01 x 6.51 mm) – ex. *M. croukampi* Hayes, 1996, Holotype; Kenton-on-Sea (south-east of Port Alfred), scuba 18-20 m; Coll. Natal Museum South Africa (NMSA), ID No: V4254/T1447. **6.** (12.54 x 7.39 mm); East London, beach collected; Veldsman Collection. **7.** (13.22 x 8.02 mm); East London, beach collected; Veldsman Collection.



**Figure 4.** *Marginella dimidiata* Thiele, 1925. **1.** (11.53 x 5.93 mm) – Holotype; Cape St. Francis, dredged; Coll. Museum für Naturkunde Berlin, courtesy of Christine Zorn. **2.** (11.52 x 6.36 mm); Port Elizabeth, scuba 25 m; Veldsman Collection. **3.** (12.46 x 7.35 mm); Jeffreys Bay, dredged 75 m; Veldsman Collection. **4.** (11.16 x 6.34 mm); Port Elizabeth, scuba 25 m; Veldsman Collection. **5.** (10.78 x 6.22 mm); Port Elizabeth, scuba 25 m; Veldsman Collection.



**Figure 5.** *Marginella eucosmia* Bartsch, 1915. **1.** (12.50 x 6.00 mm) – Illustration of Holotype (Bartsch 1915); Port Alfred, beach collected. **2.** (10.83 x 6.44 mm); Port Elizabeth, beach collected; Veldsman Collection. **3.** (10.70 x 6.14 mm); Xora River mouth, beach collected; Veldsman Collection. **4.** (11.01 x 6.34 mm); Xora River mouth, beach collected; Veldsman Collection. **5.** (10.19 x 6.21 mm); Jeffreys Bay, beach collected; Veldsman Collection. **6.** (10.24 x 5.96 mm); East London, beach collected; Veldsman Collection. **7.** (11.10 x 6.21 mm); Jeffreys Bay, beach collected; Veldsman Collection. **8.** (11.38 x 6.42 mm); East London, beach collected; Veldsman Collection.