

## The description of two new species: *Marginella (Nataliamarginella) sagena* and *Marginella everriculum* from the Tugela Bank, South Africa

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**ABSTRACT** Two new species from the Tugela Sub-Province (Tugela Bank) are described: *Marginella sagena* new species and *M. everriculum* new species. The two new species are compared to *Marginella monicae*, *M. tuguriana*, *M. joostei*, *M. natalcinerea*, *M. westhuizeni* and *M. gabrielae*.

**KEYWORDS** *Marginella*, *Nataliamarginella*, Tugela Sub-Province, KwaZulu-Natal Province, South Africa, *everriculum*, *gabrielae*, *joostei*, *monicae*, *natalcinerea*, *sagena*, *tuguriana*, *westhuizeni*.

### INTRODUCTION

In the recent in the past, several species of *Marginella* were trawled from depths of 100-375 m along the KwaZulu-Natal coast, South Africa and off southern Mozambique. These all have similar morphological shell characteristics. In the southern part of the Mozambique Province (ranging from Inhaca Island to Lumbo Island, see Figure 1), *Marginella gabrielae* Bozzetti, 1998 is dredged and trawled at depths of 80-120 m off the coast of Inhambane and just south of Inhambane at Quissico and Zavora. (Veldsman, S. 2017). Paratype 3 of *M. gabrielae* is illustrated in Plate 2.7, and the holotype can be viewed in Cossignani (2006).

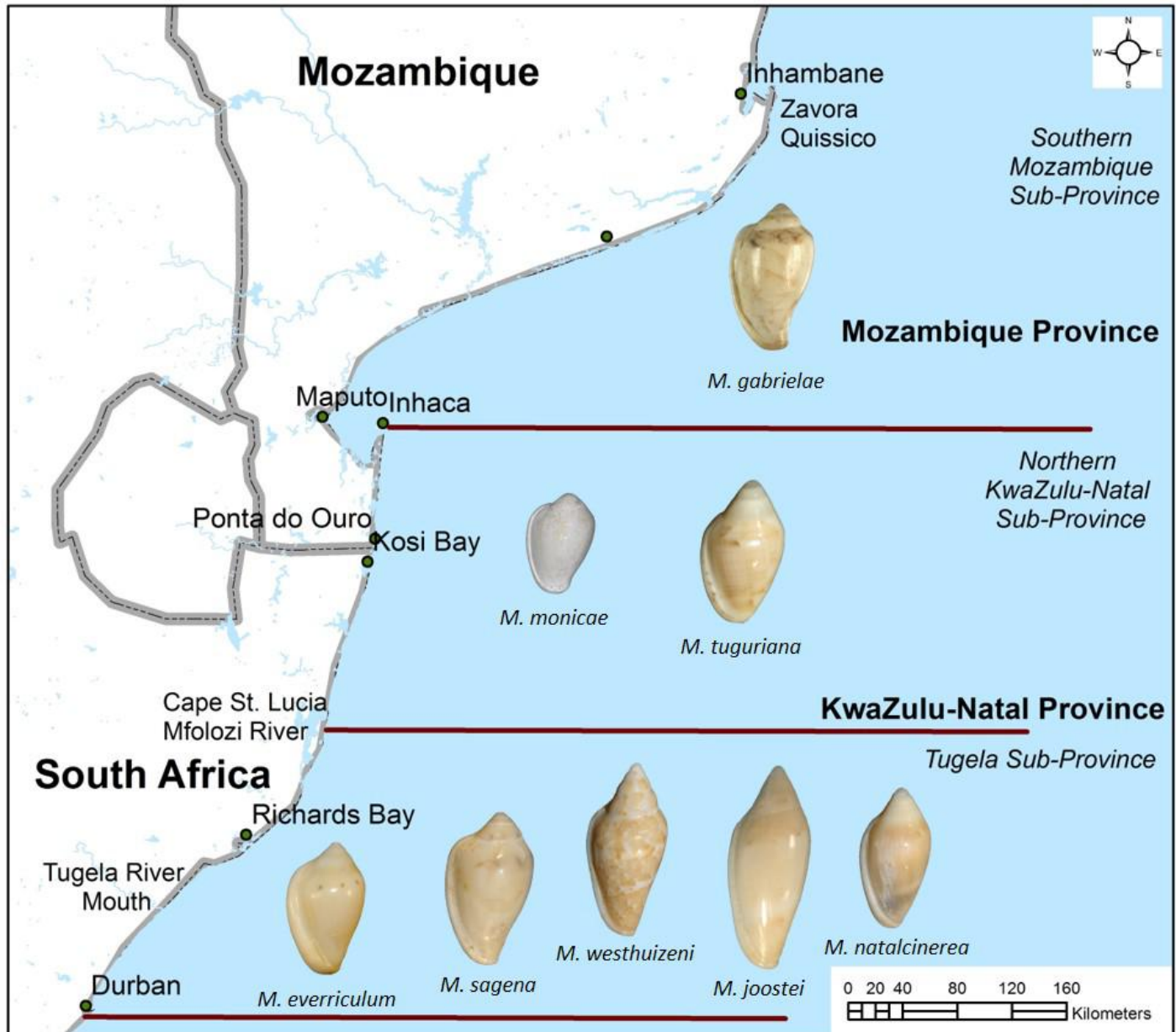
Farther south, two more species within this group are found in the Northern KwaZulu-Natal Sub-Province, KwaZulu-Natal Province. The Northern KwaZulu-Natal Sub-Province stretches from South of Maputo (Inhaca Island) to Mfolozi River just south of St. Lucia (Figure 1) (Veldsman, S. 2017). Species within the subgenus *Nataliamarginella* from the Northern KwaZulu-Natal Sub-Province are: *Marginella tuguriana* Lussi, 1993 (trawled at depths of 200-375 m) and *Marginella monicae* Bozzetti, 1997 (trawled at depths of 90-200 m). The holotype

of *Marginella monicae* was acquired off the coast of Maputo, trawled at 90 m and can be viewed in Cossignani (2006).

Farther south, the Tugela Bank is found along the coast of KwaZulu-Natal and is classified as the Tugela Sub-Province, with the northern boundary at the Mfolozi River Mouth, south of St. Lucia and the southern boundary at Durban (Figure 1) (Veldsman, S. 2017). Species within the subgenus *Nataliamarginella* that occur in the Tugela Sub-Province are: *Marginella westhuizeni* Massier, 1993, *M. joostei* Liltved & Millard, 1994 and *M. natalcinerea* Massier, 1993 along with several unnamed species, of which two are described here as new species: *Marginella sagena* new species, and *M. everriculum* new species. The holotype of *M. joostei* is illustrated in Plate 2.1 and paratype 1 in Plate 3.3. The holotype of *Marginella dawnae* described by Liltved & Millard (1994), was found to be the same as *M. natalcinerea* Massier, 1993 (holotype is illustrated in Plate 1.6), thus become a junior synonym of *M. natalcinerea*. Paratype 1 of *Marginella dawnae* Liltved & Millard, 1994 (Plate 1.2) is in fact a *Marginella tuguriana* (the holotype is illustrated in Plate 1.2), and Paratype 1 of *Marginella dawnae* was found further north from the

Northern KwaZulu-Natal Sub-Province. The holotype of *Marginella asra*, described by Liltved & Millard (1994) (Plate 3.2), was found to be the same as *M. westhuizeni* Massier, 1993,

thus become a junior synonym of *M. westhuizeni* (the holotype of *M. westhuizeni* is illustrated in Plate 3.1).



**Figure 1.** Illustration of the eight species discussed according to their coastal Sub-Province occurrence (Altered after Veldsman, S. 2017).

## SYSTEMATICS

Family: Marginellidae Flemming, 1828

Genus: *Marginella* Lamarck, 1799

Subgenus: *Nataliamarginella* S.Veldsman, 2017

*Marginella (Nataliamarginella) sagera*  
S.Veldsman, new species

### Description:

The shell is large in size (average of 22 mm), light-weight and bulbous sub-pyriform-biconical in shape with a very broad, rounded shoulder. Shell surface smooth, spire low in height (14% on average), wide protoconch. No labial denticles or a posterior labial notch. Columella, with four continuous plications wide apart, the lower (fourth) plica ending at base of shell. Callus covering all the plicae. Aperture very wide, off-white on inside. Thin lip, off-white in colouration, with no markings on the labrum. Apex off-white, spire light cream with few small dark brown to black markings. Background colour of the body whorl is cream with dark brown to black markings near shoulder. There are weak markings visible further below around the body-whorl, especially towards the lower end.

The Holotype of *M. sagera* new species is illustrated in Plate 1.3, which has been donated to the Natal Museum, South Africa (NMSA), Holotype ID Number: P1003/T4225.

### Type and distribution:

Type locality of the Holotype of *M. sagera* new species is off Tugela Bank, east of Tugela River (approximately 29°19.1'S & 31°57.5'E), Tugela Sub-Province, KwaZulu-Natal Province, South Africa, trawled 200-300 m, on soft mud.

Specimens can be found from depths of 200-300 m. The species distribution range is limited to the Tugela Bank, Tugela Sub-Province (Figure 1).

The physical measurements of the Holotype of *M. sagera* new species, and five Paratypes are summarized below:

Holotype:	23.46 x 13.45 mm (Plate 1.3); Tugela Bank, east of Tugela River (approximately 29°19.1'S & 31°57.5'E), Tugela Sub-Province; Trawled 200-300 m, on soft mud; Coll. Natal Museum South Africa (NMSA), ID No: P1003/T4225. Donated by S.G. Veldsman.
Paratype 1:	25.00 x 14.05 mm (Plate 5.1); Tugela Bank, east of Durban, Tugela Sub-Province; Trawled 200-300 m; Aiken Collection.
Paratype 2:	23.05 x 11.01 mm (Plate 5.2); Tugela Bank, east of Durban, Tugela Sub-Province; Trawled 200-300 m; Aiken Collection.
Paratype 3:	20.91 x 11.07 mm (Plate 5.3); Tugela Bank, east of Durban, Tugela Sub-Province; Trawled 200-300 m; Aiken Collection.
Paratype 4:	19.44 x 10.54 mm (Plate 5.4); Tugela Bank, east of Durban, Tugela Sub-Province; Trawled 200-300 m; Aiken Collection.
Paratype 5:	20.64 x 10.98 mm (Plate 5.5); Tugela Bank, east of Durban, Tugela Sub-Province; Trawled 200-300 m; Aiken Collection.

*Marginella (Nataliamarginella) everriculum*  
S. Veldsman, new species

**Description:**

The shell is large in size (average of 19 mm), heavy and ovate-biconical in shape with a broad, rounded shoulder. Shell surface smooth, spire low in height (15% on average), wide protoconch. No labial denticles or a posterior labial notch. Columella, with four continuous plications relatively wide apart, the lower (fourth) plica ending at base of shell. Callus covering all the plicae. Aperture narrow, off-white to light cream on inside. Very thick lip, off-white to light cream in colouration, with no markings on the labrum. Apex off-white, spire light cream with no markings. Background colour of the body whorl is cream with dark brown to black spots near shoulder. A thin line consisting of dark brown to black spots are occasionally visible around the lower third area of the shell.

The Holotype of *M. everriculum* new species, is illustrated in Plate 1.1, which has been donated to the Natal Museum, South Africa (NMSA), Holotype ID Number: P1004/T4226.

**Type and distribution:**

Type locality of the Holotype of *M. everriculum* new species is off the Tugela Bank, east of Tugela River (approximately 29°19.1'S & 31°57.5'E), Tugela Sub-Province, KwaZulu-Natal Province, South Africa, trawled 200-300 m, on soft mud.

Specimens can be found from depths of 200-300 m. The species distribution range is limited to the Tugela Bank, Tugela Sub-Province (Figure 1).

The physical measurements of the Holotype of *M. everriculum* new species, and 16 Paratypes are summarized below:

- Holotype: 18.66 x 11.35 mm (Plate 1.1); Tugela Bank, east of Tugela River (approximately 29°19.1'S & 31°57.5'E), Tugela Sub-Province; Trawled 200-300 m, on soft mud; Coll. Natal Museum South Africa (NMSA), ID No: P1004/T4226. Donated by S.G. Veldsman.
- Paratype 1: 21.11 x 12.12 mm (Plate 6.1); Tugela Bank, east of Tugela River, Tugela Sub-Province; Trawled 200-300 m; Veldsman Collection.
- Paratype 2: 21.53 x 12.55 mm (Plate 6.2); Tugela Bank, east of Durban, Tugela Sub-Province; Trawled 200-300 m; Aiken Collection.
- Paratype 3: 17.87 x 10.23 mm; Tugela Bank, east of Tugela River, Tugela Sub-Province; Trawled 200-300 m; Veldsman Collection.
- Paratype 4: 20.06 x 12.87 mm (Plate 2.3); Tugela Bank, east of Durban, Tugela Sub-Province; Trawled 200-300 m; Aiken Collection.
- Paratype 5: 17.04 x 10.78 mm; Tugela Bank, east of Tugela River, Tugela Sub-Province; Trawled 200-300m; Veldsman Collection.
- Paratype 6: 19.07 x 11.28 mm (Plate 6.3); Tugela Bank, east of Durban, Tugela Sub-Province; Trawled 200-300 m; Aiken Collection.
- Paratype 7: 20.15 x 11.74 mm; Tugela Bank, east of Durban, Tugela Sub-Province; Trawled 200-300 m; Aiken Collection.

- Paratype 8: 19.45 x 12.05 mm; Tugela Bank, east of Durban, Tugela Sub-Province; Trawled 200-300 m; Veldsman Collection.
- Paratype 9: 20.45 x 12.94 mm; Tugela Bank, east of Durban, Tugela Sub-Province; Trawled 200-300 m; Aiken Collection.
- Paratype 10: 20.22 x 12.24 mm; Tugela Bank, east of Durban, Tugela Sub-Province; Trawled 200-300 m; Aiken Collection.
- Paratype 11: 19.03 x 12.21 mm; Tugela Bank, east of Durban, Tugela Sub-Province; Trawled 200-300 m; Aiken Collection.
- Paratype 12: 20.90 x 11.97 mm (Plate 6.4); Tugela Bank, east of Durban, Tugela Sub-Province; Trawled 200-300 m; Aiken Collection.
- Paratype 13: 18.52 x 10.91 mm (Plate 6.5); Tugela Bank, east of Durban, Tugela Sub-Province; Trawled 200-300 m; Aiken Collection.
- Paratype 14: 19.07 x 11.33 mm; Tugela Bank, east of Durban, Tugela Sub-Province; Trawled 200-300 m; Aiken Collection.
- Paratype 15: 20.85 x 12.41 mm (Plate 6.6); Tugela Bank, east of Durban, Tugela Sub-Province; Trawled 200-300 m; Aiken Collection.
- Paratype 16: 19.49 x 11.23 mm (Plate 2.4); Tugela Bank, east of Durban, Tugela Sub-Province; Trawled 200-300 m; A. Potgieter Collection.

## DISCUSSION

All of the species discussed have a smooth shell surface, no labial denticles or a posterior labial notch. All of them have four continuous plications relatively wide apart, the lower (fourth) plica ending at base of shell, with callus covering all the plicae. The average size, general shape, spire, aperture width, lip thickness and body-whorl colouration differs. The main differences are discussed in Table 1 and Table 2. All comparisons are made with relation to each other and not meant to be a measure between *Marginella* species not discussed in this article.

## Etymology:

Both the two species were trawled by typical large dragnets, hence the names *everriculum* and *sagena* that refer to dragnets.

	<i>M. sagena</i> new sp.	<i>M. gabriellae</i>	<i>M. monicae</i>	<i>M. westhuizeni</i>
<b>Average size</b>	22 mm	18 mm	13 mm	25 mm
<b>General shape</b>	Bulbous sub-pyriform-biconical; very broad, rounded shoulder.	Sub-pyriform-biconical; very broad shoulder.	Ovate-biconical; broad rounded shoulder.	Elongated biconical; narrow, angular rounded shoulder.
<b>Spire</b>	Spire low in height (14% on average), smooth to slightly stepped.	Spire low in height (14% on average), stepped. Light cream with zig-zag dark brown to black markings.	Spire low in height (14% on average), smooth. Light cream with thin light to dark brown markings.	Spire moderately high (22% on average), stepped. Light cream with orange to brown thick flame-like pattern.
<b>Aperture</b>	Very wide.	Wide.	Narrow.	Moderately wide.
<b>Lip</b>	Very thin lip.	Moderately thick lip.	Very thick lip.	Moderately thick lip.
<b>Body-whorl</b>	Background colour is cream with dark brown to black markings near shoulder. There are weak markings visible further below around the body-whorl, especially towards the lower end.	Background colour is cream with dark brown to black zig-zag markings across shell. Finer weak markings are visible further below around the body-whorl, especially towards the lower end.	Background colour is cream to light yellow with a broken light brown band on lower third of shell near the base.	Background colour is off-white to light cream with a thick orange to brown flame-like pattern, a light coloured band on shoulder and around middle, encircling the body-whorl.

**Table 1.** Discussion of main differences of *Marginella sagena*, *M. gabriellae*, *M. monicae* and *M. westhuizeni*.

	<i>M. everriculum</i> new sp.	<i>M. tuguriana</i>	<i>M. natalcinerea</i>	<i>M. joostei</i>
<b>Average size</b>	19 mm	15 mm	18 mm	28 mm
<b>General shape</b>	Ovate-biconical; broad rounded shoulder.	Ovate; broad rounded shoulder.	Elongated ovate-biconical; narrow, angular rounded shoulder.	Elongated ovate-biconical; narrow, angular rounded shoulder.
<b>Spire</b>	Spire low in height (15% on average), smooth.	Spire high (27% on average, smooth. Light cream with light to dark brown markings.	Spire moderately high (24% on average), smooth. Light cream with no markings.	Spire moderately high (22% on average), smooth. Light cream with orange to light brown thick line present.
<b>Aperture</b>	Narrow.	Narrow.	Narrow.	Narrow.
<b>Lip</b>	Very thick lip.	Very thick lip.	Very thick lip.	Moderately thick lip.
<b>Body-whorl</b>	Background colour is cream with dark brown to black spots near shoulder. In some shells a thin line consisting of dark brown to black spots are visible around the lower third area of the shell.	Background colour is cream with light brown bands separated by dark brown lines around the body whorl. A thicker dark brown band is visible on lower third of shell near the base.	Background colour is dark cream with light brown bands separated by dark brown lines around the body whorl. A thicker dark brown band is visible on lower third of shell near the base.	Background colour is dark cream with a thick orange to light brown band on shoulder and a thicker dark orange to light brown band on lower third of shell near the base.

**Table 2.** Discussion of main differences of *Marginella everriculum*, *M. tuguriana*, *M. natalcinerea* and *M. joostei*.

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## REFERENCES

- Bozzetti, L. 1997.** Descrizione di undici nuove marginelle (Gastropoda: Prosobranchia, Marginellidae e Cystiscidae) dalla provincia Indo-Pacifica. *Malacologia Mostra Mondiale* 24:2-15.
- Bozzetti, L. 1998.** Description of a new species of *Marginella* Lamarck, 1799 (Gastropoda: Prosobranchia, Marginellidae) from southern Mozambique / descrizione di una nuova specie di *Marginella* Lamarck, 1799 (Gastropoda: Prosobranchia, Marginellidae) dal Mozambico meridionale. *Malacologia Mostra Mondiale* 27:24-26.
- Cossignani, T. 2006.** Marginellidae and Cystiscidae of the world. L'Informatore Piceno, Ancona, Italia.
- Lussi, M. 1993.** Two new species of *Marginella* Lamarck, 1799 from South Africa. *World Shells* 7:52-54.
- Veldsman, S. 2017.** Taxonomic review of the Genus *Marginella*: dividing the African coast into marine provinces and sub-provinces. Submitted in partial fulfillment of requirements for the degree of Doctor of Philosophy (Zoology), In the Faculty of Natural and Agricultural Sciences, Department of Zoology and Entomology, University of Pretoria, South Africa.



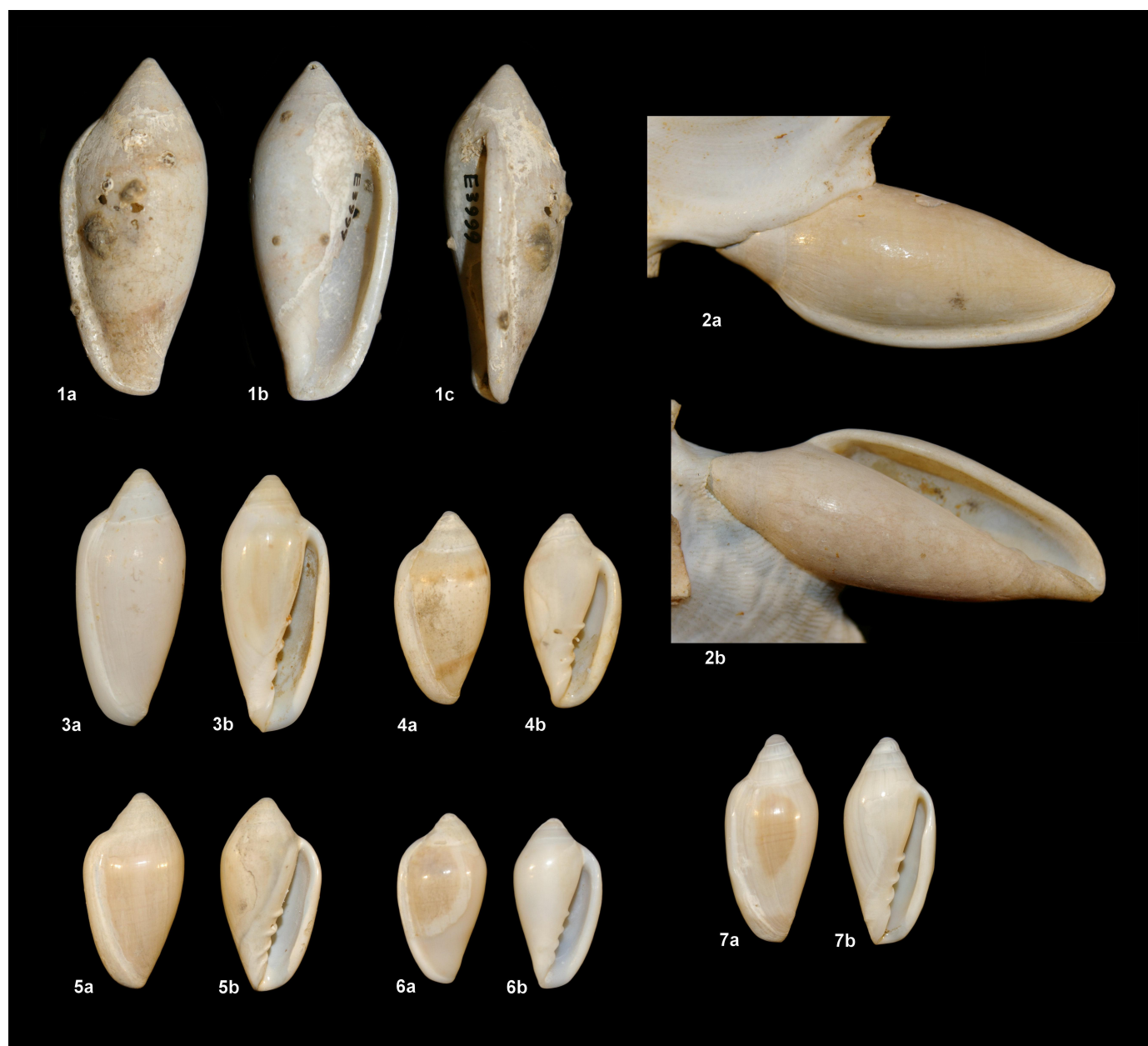
**Plate 1.** Figures: **1.** *Marginella everriculum* new species (18.66 x 11.35 mm) - Holotype; Tugela Bank, east of Tugela River, trawled 200-300 m; Coll. NMSA, ID No: P1004/T4226. **2.** *Marginella tuguriana* Lussi, 1993 (ex. *M. dawnae* Liltved & Millard, 1994 - Paratype 1) (15.34 x 8.57 mm); Off Inhaca, trawled 175 m; Coll. NMSA, ID No: K1868/T185. **3.** *Marginella sagera* new species (23.46 x 13.45 mm) - Holotype; Tugela Bank, east of Tugela River, trawled 200-300 m; Coll. NMSA, ID No: P1003/T4225. **4.** *Marginella monicae* Bozzetti, 1997 (10.18 x 6.88 mm); Cape Vidal, trawled 200 m; Coll. NMSA, ID No: E3949. **5.** *Marginella gabrielae* Bozzetti, 1998 (19.40 x 11.30 mm); Quissico, trawled 120 m; photo courtesy of Conchology Inc. **6.** *Marginella natalcinerea* Massier, 1993 (19.40 x 9.36 mm) - Holotype; Off Durban, Tugela Bank, trawled; Coll. NMSA, ID No: V798/T1309.



**Plate 2.** Figures: **1.** *Marginella joostei* Liltved & Millard, 1994 (28.70 x 11.80mm) - Holotype; East of Durban “The Gate”, Tugela Bank, trawled at 300 m; Coll. SAM, ID No: A37575. **2.** *Marginella tuguriana* Lussi, 1993 (17.90 x 9.50 mm); South of Inhaca Island, trawled 375 m; photo courtesy of Conchology Inc. **3.** *Marginella everriculum* new species (20.06 x 12.87 mm) - Paratype 4; Tugela Bank, east of Durban, trawled at 200-300 m; Aiken Collection. **4.** *Marginella everriculum* new species (19.49 x 11.23 mm) - Paratype 16; Tugela Bank, east of Durban, trawled at 200-300 m; A. Potgieter Collection. **5.** *Marginella tuguriana* Lussi, 1993 (18.64 x 10.99 mm); Southern Mozambique, trawled 250 m; NMSA, ID No: K7356. **6.** *Marginella gabrielae* Bozzetti, 1998 (18.20 x 10.95 mm); Xai-Xai, trawled 100-120 m; Veldsman Collection. **7.** *Marginella gabrielae* Bozzetti, 1998 (18.20 x 10.95 mm) - Paratype 3; south of Zavora, Ponta Mazanza, trawled 90-118 m; NMSA, ID No: L5065/T1743.



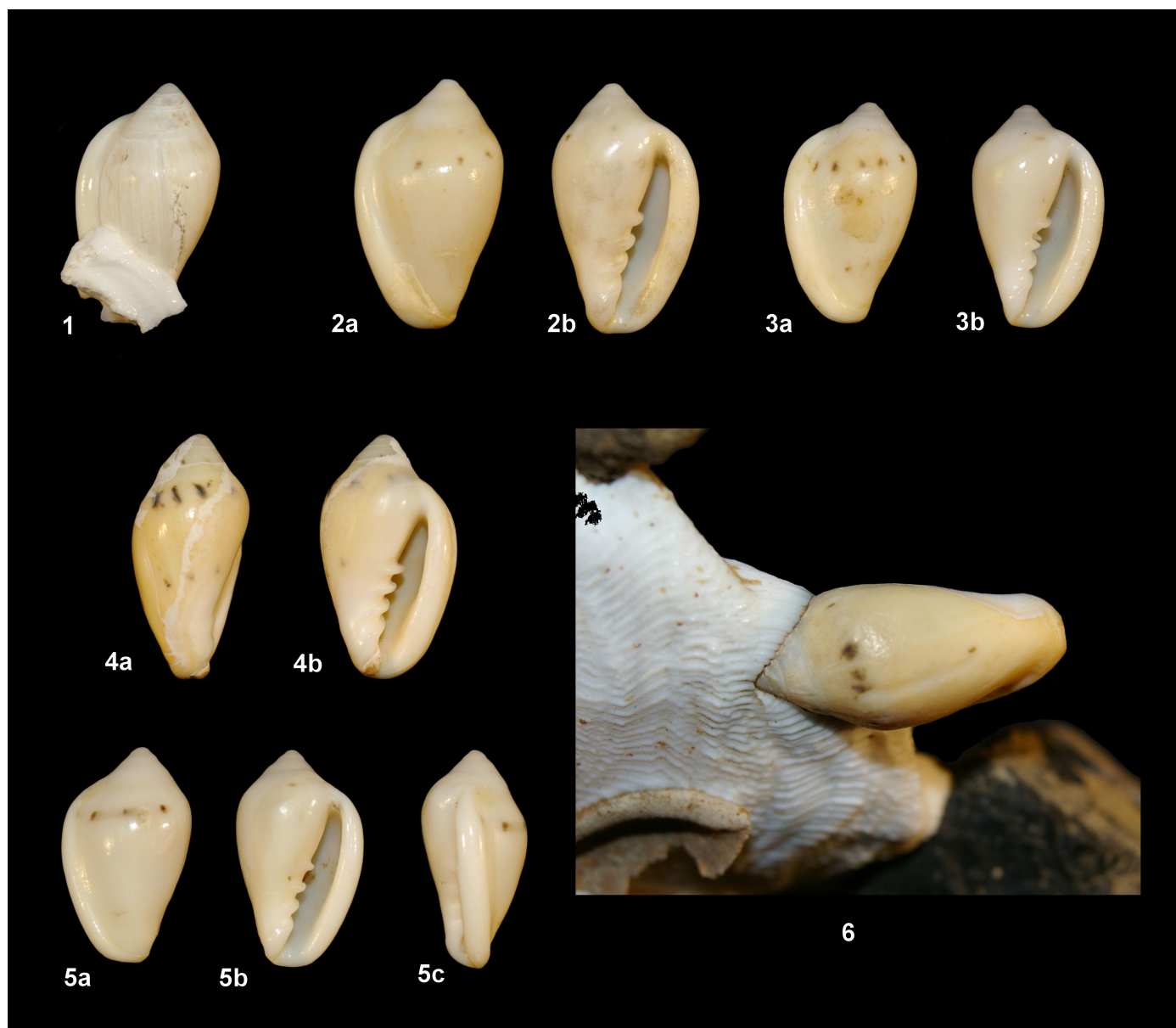
**Plate 3.** Figures: **1.** *Marginella westhuizeni* Massier, 1993 (23.78 x 11.12 mm) - Holotype; East of Durban "The Gate", Tugela Bank, probably trawled at 550 m; Coll. NMSA, ID No: V797/T1308. **2.** *Marginella westhuizeni* Massier, 1993 (ex. *M. asra* Liltved & Millard, 1994 - Holotype) (21.91 x 10.42 mm); East of Durban "The Gate", Tugela Bank, probably trawled at 550 m; Coll. NMSA, ID No: B6306/T186. **3.** *Marginella joostei* Liltved & Millard, 1994 (35.25 x 14.26 mm) - Paratype 1; East of Durban "The Gate", Tugela Bank, trawled at 300 m; Coll. NMSA, ID No: E7214/T187. **4.** *Marginella westhuizeni* Massier, 1993 (23.57 x 9.73 mm); Tugela Bank, trawled; R. Aiken Collection.



**Plate 4.** Figures: **1.** *Marginella joostei* Liltved & Millard, 1994 (29.50 x 12.73 mm); Neill Peak, Tugela Bank, trawled at 320-340 m; Coll. NMSA, ID No: E3999. **2.** *Marginella joostei* Liltved & Millard, 1994 (41.01 x 15.04 mm); Tugela Bank, trawled; R. Aiken Collection. **3.** *Marginella joostei* Liltved & Millard, 1994 (22.75 x 9.66 mm); Tugela Bank, trawled; Veldsman Collection. **4.** *Marginella natalcinerea* Massier, 1993 (17.11 x 8.51 mm); Tugela Bank, trawled; Veldsman Collection. **5.** *Marginella natalcinerea* Massier, 1993 (17.18 x 8.92 mm); Tugela Bank, trawled; Veldsman Collection. **6.** *Marginella natalcinerea* Massier, 1993 (15.06 x 7.74 mm); Tugela Bank, trawled; Veldsman Collection. **7.** *Marginella natalcinerea* Massier, 1993 (18.21 x 8.19 mm); Tugela Bank, trawled; Veldsman Collection.



**Plate 5.** Figures: **1.** *Marginella sagena* new species (25.00 x 14.05 mm) - Paratype 1; Tugela Bank, east of Durban, trawled at 200-300 m; Aiken Collection. **2.** *Marginella sagena* new species (23.05 x 11.01 mm) - Paratype 2; Tugela Bank, east of Durban, trawled at 200-300 m; Aiken Collection. **3.** *Marginella sagena* new species (20.91 x 11.07 mm) - Paratype 3; Tugela Bank, east of Durban, trawled at 200-300 m; Aiken Collection. **4.** *Marginella sagena* new species (19.44 x 10.54 mm) - Paratype 4; Tugela Bank, east of Durban, trawled at 200-300 m; Aiken Collection. **5.** *Marginella sagena* new species (20.64 x 10.98 mm) - Paratype 5; Tugela Bank, east of Durban, trawled at 200-300 m; Aiken Collection.



**Plate 6.** Figures: **1.** *Marginella everriculum* new species (21.11 x 12.12 mm) - Paratype 1; Tugela Bank, east of Tugela River, trawled at 200-300 m; Veldsman Collection. **2.** *Marginella everriculum* new species (21.53 x 12.55 mm) - Paratype 2; Tugela Bank, east of Durban, trawled at 200-300 m; Aiken Collection. **3.** *Marginella everriculum* new species (19.07 x 11.28 mm) - Paratype 6; Tugela Bank, east of Durban, trawled at 200-300 m; Aiken Collection. **4.** *Marginella everriculum* new species (20.90 x 11.97 mm) - Paratype 12; Tugela Bank, east of Durban, trawled at 200-300 m; Aiken Collection. **5.** *Marginella everriculum* new species (18.52 x 10.91 mm) - Paratype 13; Tugela Bank, east of Durban, trawled at 200-300 m; Aiken Collection. **6.** *Marginella everriculum* new species (20.85 x 12.41 mm) – Paratype 15; Tugela Bank, east of Durban, trawled at 200-300 m; Aiken Collection.