

A new subspecies of *Callipara* (*Callipara*) (*Gastropoda: Volutidae*) from the southern coast of Natal, South Africa

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ABSTRACT. A new endemic subspecies of *Callipara* (*Callipara*) *africana* (Reeve, 1856) is described from the southern waters of Natal, South Africa. This new subspecies is geographically separated from the type species and presents genuine stable characters.

INTRODUCTION

Known for many years as beached specimens or originally *ex pisces*, species of the genus *Callipara* Gray, 1847 were, until recently, considered rare, and their habitats remained mysterious. In the last few decades, development of diving especially in search of cowries, led to a better knowledge of their ecological niche. Discoveries of living specimens finally provided accurate data on their respective ranges, as indicated in this paper.

Taxonomic considerations (after Bail & Poppe, 2001, 2004)

The genus *Callipara* Gray, 1847 is considered a senior synonym of *Festilyria* Pilsbry & Olsson, 1954. The latter was created by the authors for *Voluta festiva* Lamarck, 1811. They include it in the subfamily Fulgorariinae based upon the shape of protoconch and supposed absence of operculum and fasciole. Weaver & du Pont (1970) included in *Festilyria* three species restricted to eastern African waters. Two are very close to the type species: *F. ponsonbyi* (Smith, 1901) and *F. duponti* Weaver, 1968 and one differs slightly *F. africana* (Reeve, 1856). *Callipara* was a monospecific genus established by Gray (1847) for the shell named *Voluta bullata* Swainson, 1829 and renamed *Callipara bullatiana* by Weaver & du Pont (1967). For a long time known only from dead worn specimens, this species was placed by Weaver & du Pont in the subfamily Cymbiinae. Better studied now, this species is, except for its shape, quite identical to *F. africana* in shell structure as well as in soft part. Both species are obviously congeneric. Because of this integration, according to the law of priority, *Festilyria* becomes a junior synonym of *Callipara*. However the slight but neat difference between *bullatiana-africana* and the three other species leads to preserve this taxonomical difference by placing them in two different subgenera.

Callipara s.s.: Protoconch low and mamillate, spire short, pattern of brown speckles and blotches making denser in three spiral bands.

Festilyria: Protoconch raised and pupiform, spire high, pattern of red blotches with 5-7 spiral rows of darker marks.

SYSTEMATICS

Superfamily **VOLUTOIDEA**

Family **VOLUTIDAE** Rafinesque, 1815

Subfamily **VOLUTINAE** Rafinesque, 1815

Tribe **Lyrriini** Pilsbry & Olsson, 1954

Genus *Callipara* Gray, 1847

Subgenus *Callipara* Gray, 1847

Type species: *Callipara* (*Callipara*) *bullatiana* Weaver & Du Pont, 1967 (= *Voluta bullata* Swainson, 1829, preoccupied).

Callipara (*Callipara*) *africana pumila* subsp. nov.

Text Fig. 1; Figs 1-21, 32

Type material. Holotype P0090/T4218, KwaZulu-Natal Museum, South Africa, 36.5 mm (donated by A. Seccombe).

Paratype I, Pumula, 46.7 mm, A. Seccombe coll.; paratype II, Pumula, 45.0 mm, R. Aiken coll.; paratype III, Park Rynie, 36.3 mm, P. Bail coll.

Other material. Seven specimens off Pumula, 41.5 mm, 40.1 mm, 39.5 mm, 39.3 mm, 38.9 mm, 35.5 mm, 34.5 mm in R. Aiken and A. Seccombe collections.

Type locality. Off Park Rynie, Natal, South Africa, on sand between reefs in 50 m.

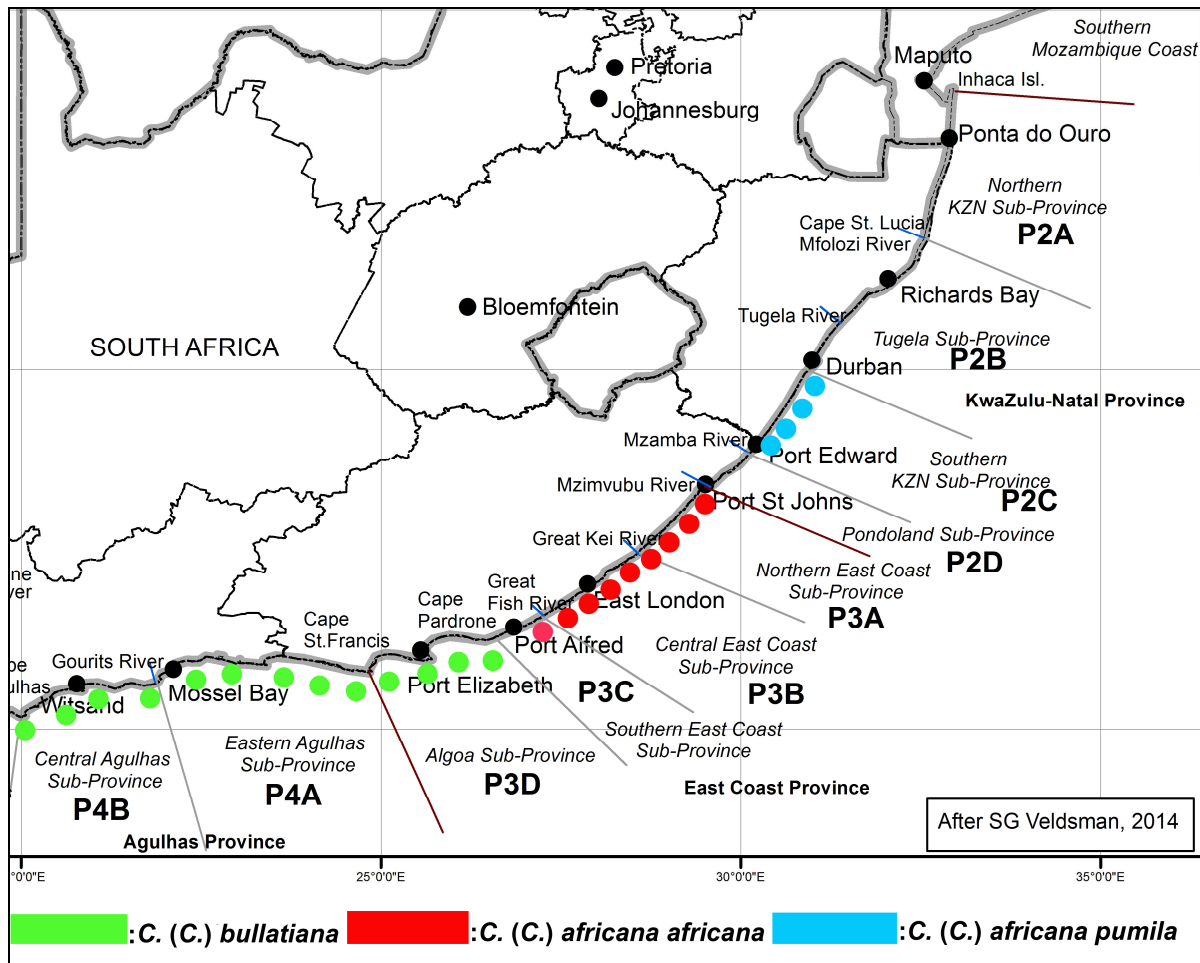
Range: Restricted to the southern waters of Natal, between Port Edward and Durban, separated from the nominal *Callipara* (*C.*) *africana africana* by a gap of 120 km.

Habitat. On sand between high profile reefs, at 35 to 50 m.

Description. Shell of small size, from 35 to 45 mm long, light, stocky with a turreted spire. Protoconch rounded, turbinate of 1.5 whorls with an average diameter of 3.2 mm. Teleoconch of 3.5 whorls, strongly sculptured by 12 or 13 axial ribs on the spire, the body whorl with a marked shoulders bearing 8 or 9 distinct knobs slightly extending abapically. Sculpture of dense minute spiral striae on the intercostal space of the spire. Aperture wide and semi-ovate. Outer lip slightly thickened and crenulated at maturity by 7 or 8

pairs of black small nodules, terminal projections of short black spiral lines covering the external surface of the outer lip. Columella arched, with two solid plaits followed adapically by a faint one, then by 2 or 3 attenuated lirae. A deep black callus marks its posterior junction with the outer lip. Siphonal notch deep. Fasciole well marked.

Background colour stable, beige-orange, stained by irregular brown blotches, more or less concentrated into three spiral bands: subsutural forming tiny irregular radial lines, median and anterior. Aperture and columella salmon-pink.

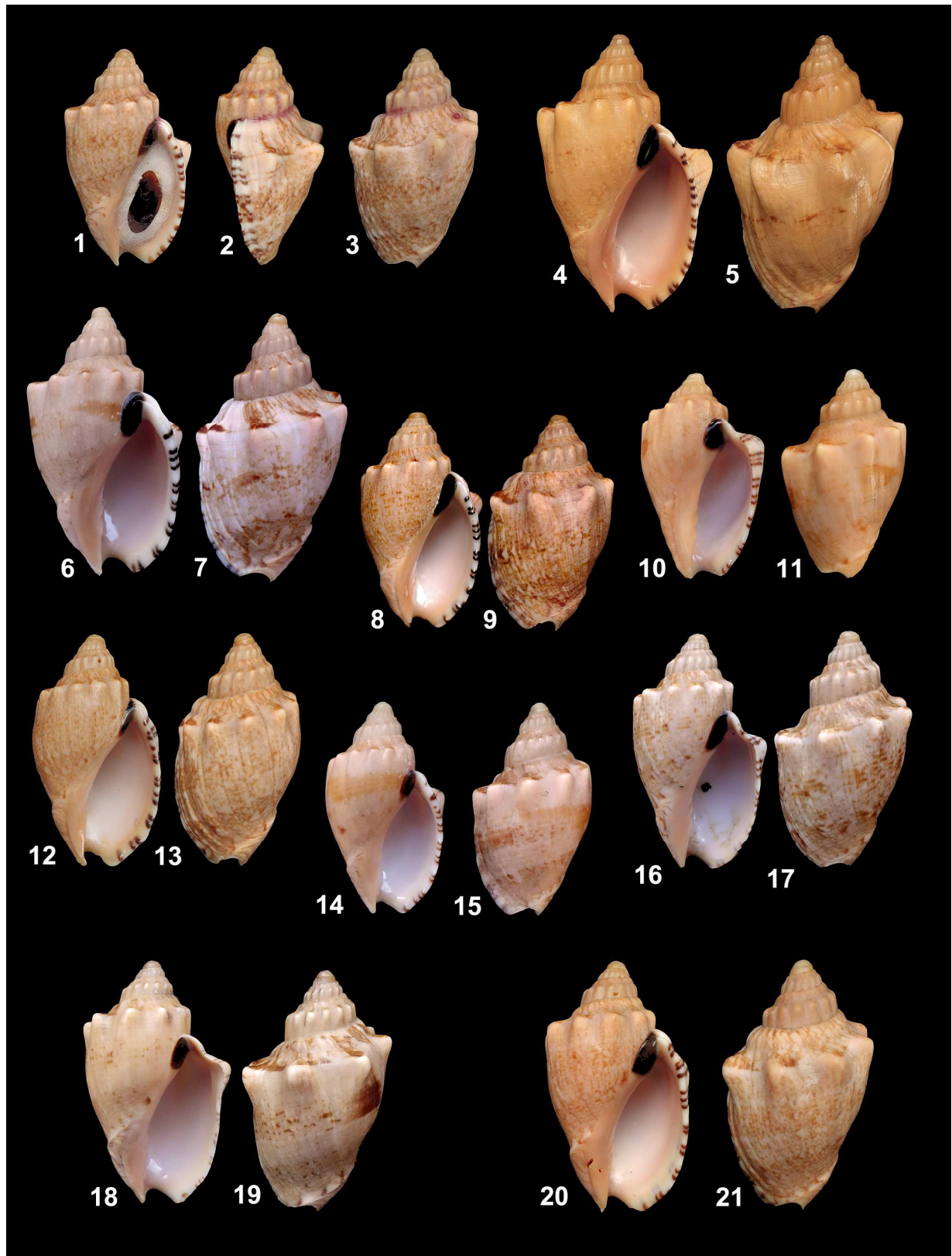


Text-Fig. 1. Distribution of the subgenus *Callipara* (*Callipara*).

Animal. Quite similar to the other species of the subgenus, head-foot overlaid with a blue and yellow network, underlined by black dots (Aiken, 2010).

Figures 1-21. *Callipara* (*Callipara*) *africana pumila* subsp. nov.

1-2-3. Holotype P0090/T4218, Natal Museum, off Park Rynie, Natal, South Africa, 50 m sand and reef, 36.6 mm. **4-5.** Paratype I, Pumula, 44 m, on reef, 46.7 mm, A. Seccombe coll. **6-7.** Paratype II, Pumula, on sand, 44 m, 45.0 mm, R. Aiken coll. **8-9.** Paratype III, Park Rynie, on sand, 40 m, 36.3 mm, P. Bail coll. **10-11.** Pumula, on sand, 44 m, 34.5 mm, R. Aiken coll. **12-13.** Pumula, on sand, 45 m, 39.8 mm, P. Bail coll. **14-15.** Pumula, on sand, 44 m, 35.5 mm, R. Aiken coll. **16-17.** Pumula, on sand, 44 m, 39.3 mm, R. Aiken coll. **18-19.** Pumula, on sand, 44 m, 40.1 mm, R. Aiken coll. **20-21.** Pumula, on sand, 46 m, 41.5 mm, M. A. Seccombe coll.



Comparison. This secluded population presents stable characters presuming a genetic separation from its nominal species. The average width of protoconch gives 3.19 mm in *Callipara (C.) africana pumila* vs 3.96 mm in typical population. Under the lens, shape is the same. Regarding the Volutidae, the size of protoconch is not a relevant character at (sub)species level. It depends of how many embryos are in the ootheca or on local conditions. Nevertheless, this permanent smaller size of protoconch confirms the subspecies *pumila* to be neither freaks nor juveniles of typical species. It represents a robust character indicating genetic homogeneity. The spiral striae are constantly more marked than on the nominal species. The ratio length/aperture (i.e the height of spire) gives 0.80 for typical *africana* vs 0.74 for dwarf specimens, though this measure may be simply due to the small size, the last whorl being less expanded.

Callipara (C.) africana africana is a polymorphic taxon with many variations in the colouration, the richness of the pattern and the thickness of the knobs on the body whorl, whereas *C. (C.) africana pumila* is

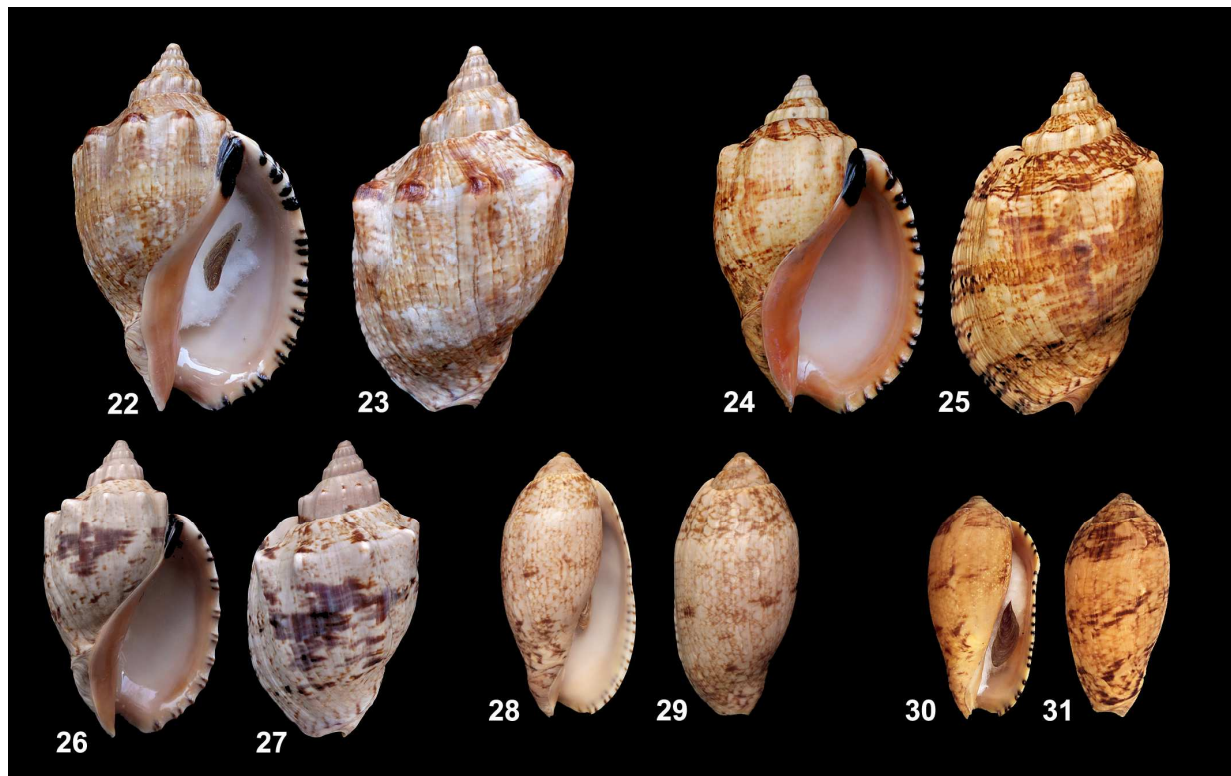
very monomorphic in shape and pattern, possible expression of a genetic impoverishment. Its relative *C. (C.) bullatiana* bears identical features but strongly differs by its small cylindrical shape without any shoulders, and exhibits only vestiges of the black callus in the uppermost part of the parietal region.

Remarks. For a long time this shell had been known only from *ex-pisce* shells without location and considered individual variants only. Though still uncommon, live collected specimens have been found now by divers operating in this area.

Etymology. Derived from the Latin *pumilus*: dwarf.

ACKNOWLEDGEMENTS

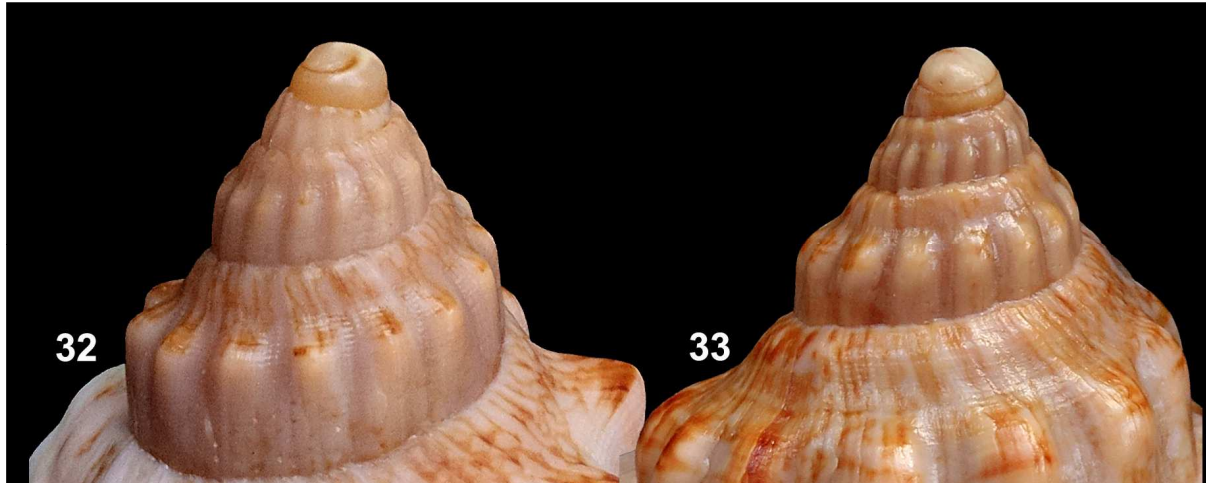
We wish to thank Alan Seccombe for his contribution of the live taken holotype, Linda Davis for prompt supply of accession numbers, and Mike Fraser for valuable input on locality data.



Figures 22-31. Species of *Callipara (Callipara)*

Callipara (Callipara) africana africana. East London, Transkei, South Africa, 20-30 m on reef. Live taken. P. Bail coll. **22-23.** 94.2 mm **25-25.** 88.8 mm. **26-27.** 76.3 mm.

Callipara (Callipara) bullatiana. Jeffreys Bay, South Africa, 30 m. Live taken. P. Bail coll. **28-29.** 68.2 mm. **30-31.** 58.1 mm (orange form).



Figures 32-33. Comparative shape of spire.

32. *Callipara (Callipara) africana pumila* subsp. nov.; **33.** *C. (C.) africana africana* (Reeve, 1856).

REFERENCES

- Aiken, R.P. 2010. Volutidae. In Marais, A.P and Seecombe, A.D. *Identification Guide to the Seashells of South Africa*. Vol. 1: 314-333. Centre for Molluscan Studies, Groenkloof, South Africa: 376 pp.
- Bail P. & Poppe G. T. 2001. *A Taxonomic Introduction to the Recent Volutidae. A Conchological Iconography*. Conchbooks, Hackenheim, Germany: 30 pp.
- Bail P. & Poppe G. T. 2004. *The Tribe Lyrinii. A Revision of the Recent Species of the Genera Lyria, Callipara, Harpulina, Enaeta, and Leptocapha*. Conchbooks, Hackenheim, Germany: 90 pp, 68 pl.
- Gray, J. E. 1847. A list of the Genera of Recent Volutidae. Their Synonyma and Types. *Proceedings of the Zoological Society of London* (15): 129-219.
- Veldsman S.G. 2014. Description of a new *Marginella* Lamarck, 1799: *Marginella san*, from False Bay, South Africa. *Malacologia, Mostra Mondiale, Cupra Marittima, Italia*, No 85: 28-32.
- Weaver, C. S. and duPont, J. 1967. Species Names proposed for the Homonyms *Voluta bullata* Swanson, 1828 and *Voluta lineata* Leach, 1814. *The Veliger* 9 (4):382-387.
- Weaver, C. S. and duPont, J. 1970. *The Living Volutes. A monograph of the Recent Volutidae of the world*. Delaware Museum of Natural History, 375 pp.