

Gloria Maris	43(2-3)	31-39	Antwerpen, juli 2004
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Additional descriptive notes on *Terebra caledonica* Sowerby, 1909

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Keywords: TEREBRIDAE, *Terebra caledonica*, Isle of Pines, New Caledonia, additional descriptive notes

Abstract: The very poorly known *T. caledonica* Sowerby, 1909 has been collected again. Additional material is made available and additional information is added to the original description.

Introduction: In August 2003, the first author undertook a shell collecting trip to the Isle of Pines, New Caledonia. A population of an unfamiliar terebrid, comprising both juveniles and adults of different sizes, was found. Subsequent research indicated that it belonged to the species *T. caledonica*. Since only the holotype (smooth shell) had previously been known, and the present population included many more crenulated than smooth individuals, the authors decided to complement the original description and to make more material available to relevant scientific institutions.

Abbreviations:

JC	Private collection of <u>J</u> avier <u>C</u> onde, Spain
KBIN	<u>K</u> oninklijk <u>B</u> elgisch <u>I</u> nstituut voor <u>N</u> atuurwetenschappen, Brussels, Belgium
MNCN	<u>M</u> useo <u>N</u> acional de <u>C</u> iencias <u>N</u> aturales, Madrid, Spain
MNHN	<u>M</u> uséum <u>n</u> ational d' <u>H</u> istoire <u>n</u> aturelle, Paris, France
NHM	<u>N</u> atural <u>H</u> istory <u>M</u> useum, London, UK
YT	Private collection of <u>Y</u> ves <u>T</u> erryn, Belgium

Class GASTROPODA Cuvier, 1797
Family TEREBRIDAE Mörch, 1852
Genus *Terebra* Bruguière, 1789

***Terebra caledonica* Sowerby, 1909**
 (Pls 1-2)

Holotype: NHM Reg.No. 1909.10.19.103, 46.8 x 11.0 mm (pl. 1, figs a-d).

Additional material available: On sand, 1-4 m, Ita Point, Isle of Pines, New Caledonia: **JC:** 22 sps, 22-72 mm.; **KBIN:** 1 sp., leg. JC., 58 mm.; **MNCN:** 1 sp., leg. JC., 61 mm.; **MNHN:** 3 sps, leg. JC. 22-65 mm.; **YT:** 8 sps, leg. JC., 24-69 mm.

Type Locality: New Caledonia.

Additional descriptive notes: Shell up to 72 mm (JC). Colour ivory or greyish white beset with a row of more or less regular, squarish or rectangular, fawn-coloured or beige spots on the subsutural band and one row on the remainder of the whorl. Reddish brown protoconch of about 1.5 whorls. Outline of whorls slightly convex, early whorls of the teleoconch straight. Subsutural band bordered with a shallow groove.

In general, the shell is without sculpture but there are two exceptions:

1) Juveniles tend to display densely set, fine axial riblets and obsolete nodulation on the subsutural band (see pl. 1, figs. e-f).

2) About 60% of the adult specimens still show this nodulation or 'crenulations', similar to *Terebra crenulata* Linnaeus, 1758 (see pl. 2, figs a-c).

Both forms can be present in broad specimens (pl. 2, figs c-d) and slender ones (pl. 2, figs a, e).

The remainder of the adults are smooth, sometimes with evidence of some erosion and show no apparent sculpture (see pl. 2, figs d-e).

Body whorl long and inflated, aperture elongate. Columella recurved.

Animal and operculum dried inside all available material, not studied.

Habitat: Rather coarse coral sand, in one to four metres depth, taken by snorkelling while following tracks. Tracks were very variable in length, from 0.5 m to several metres long, twisting and meandering. Appears to feed on small worms.

Distribution: Sowerby (1909) designated New Caledonia as type locality but the species is only known from Isle of Pines, New Caledonia. Confirmed localities up till now are Kanumera Bay and Ita Point, Isle of Pines, New Caledonia.

Remarks and discussion: This elusive New Caledonian species had not been found again after the original description, until two decades ago. This first rediscovery did not give an exact locality. Very recently, a local naturalist found the species while diving in 8 metres, at Kanumera Bay, Isle of Pines.

In August 2003, the first author spotted a population at Ita Point, Isle of Pines, New Caledonia, which serves as the basis for this article. Because the species had not been found again for such a long time, systematic workers on **Terebridae** (*vide* Bratcher & Cernohorsky, 1987) considered it of doubtful validity at best, usually regarding specimens as freak specimens of *T. areolata* Link, 1807, *T. consors* Hinds, 1844 or *T. crenulata* Linnaeus, 1758. Alternatively, it was not thought to originate in the well-known and intensively collected areas around the Isle of Pines or Grand Terre.

The species has not been recorded so far from other neighbouring areas in the Southern Pacific. Within the Isle of Pines, the first author collected in more than ten different localities around the island, only finding the species at Ita Point. Based on present knowledge, the authors tentatively conclude that this is a species of very limited geographical distribution, possibly endemic to the subtidal zone of the southern Isle of Pines, a remarkably restricted geographical distribution for any terebrid species and certainly for any marine gastropod.

The original description depicts the species as being smooth and dull-coloured; our findings lead us to conclude that the majority of the population show clear crenulations and are strikingly fawn-coloured. Only a minority of the population are smooth, slightly eroded/encrusted and coloured a pale brown. While the cause or reason for this separation into two forms is still unclear, sexual dimorphism could well explain this phenomenon. A similar variety of forms can also be found in *T. crenulata*: *T. fimbriata* & *T. interlineata* Deshayes, 1857 (large and heavily crenulated form); *T. crenulata* var. *booleyi* Melvill & Sykes, 1898 (small, slender and smooth form). Based on shell morphology and variability, *T. caledonica* seems to be closely related to *T. crenulata*.

Acknowledgements: We would like to thank Mrs Kathy Way and Mrs Amelia McLellan, both NHM, for offering us the opportunity to study the holotype of *Terebra caledonica*. We would also like to express our gratitude towards Dr. J. L. Van Goethem, KBIN, for taxonomic aid and commenting this manuscript. We would like to thank Dr. Ph. Bouchet, MNHN, for the unlimited access to the **Terebridae**-types and -collection of the MNHN and Bruno Anseeuw for critically re-reading this manuscript.

Selected references:

- Bratcher T. & Cernohorsky W.O.**, 1987. - Living Terebras of the World. Madison Publishing Associates, New York, NY, USA. 240 pp.
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Summarizing translation into Dutch / Samenvattende Nederlandse vertaling

Terebra caledonica Sowerby, 1909 werd na de originele beschrijving niet meer gevonden tot 2 decennia geleden. Deze herontdekking bracht echter geen exacte localiteit aan het licht. Recent werden populaties aangetroffen bij Ita Point en Kanumera Bay, beide bij Isle of Pines, Nieuw Caledonië. Het blijkt dan ook om een soort met een uiterst beperkt verspreidingsgebied te gaan, die daardoor door velen als een soort met twijfelachtige geldigheid of freak van verwante soorten werd beschouwd. Door het aantreffen van populaties bestaande uit zowel juveniele en volwassen exemplaren kan dit echter ontkracht worden.

Bovendien kunnen door het aantreffen van de populatie nabij Ita Point door de eerste auteur bijkomende beschrijvende gegevens, evenals nieuwe gegevens i.v.m. habitat (ruw koraalstrand op 1-4m) worden aangebracht. *T. caledonica* is een tot 72 mm grote, ivoorachtige tot grijskleurige soort met een rij min of meer regelmatige, vierkantige of rechthoekige vlekken op de subsuturale band en een rij op de omgangen. De ca. 1,5 omgangen grote protoconch is roodbruin. De omgangen zijn licht convex, de eerste omgangen van de teleoconch recht en de subsuturale band is afgelijnd met een ondiepe groef. Deze soort vertoont vaak geen sculptuur (zoals vermeld in de originele beschrijving), maar er zijn twee uitzonderingen: juveniele exemplaren vertonen fijne axiale ribbeltjes en korreling op de subsuturale band, terwijl volwassen exemplaren deze korreling ook nog vaak vertonen. De reden voor het bestaan van deze twee vormen (gladde vorm en gekorrelde vorm) is nog onduidelijk, maar is mogelijk te verklaren door een verschil in geslacht.

Plate 1

Figs a – d : *Terebra caledonica* Sowerby, 1909 - holotype, NHM, 46.8 x 11.0 mm.

Fig. a: Holotype, 46.8 x 11.0 mm.

Fig. b: Detail of aperture and body whorl.

Fig. c: Detail of protoconch and early whorls of teleoconch.

Fig. d: Detail of middle whorls.

Figs e – g : *Terebra caledonica* Sowerby, 1909 - Ita Point, New Caledonia.

Fig. e: JC. Juvenile shell, slender form, 22 x 6 mm.

Fig. f: MNHN. Juvenile shell, broad form, 22 x 7 mm.

Fig. g: YT. Juvenile shell, broad form, 38 x 10 mm.

Plate 1

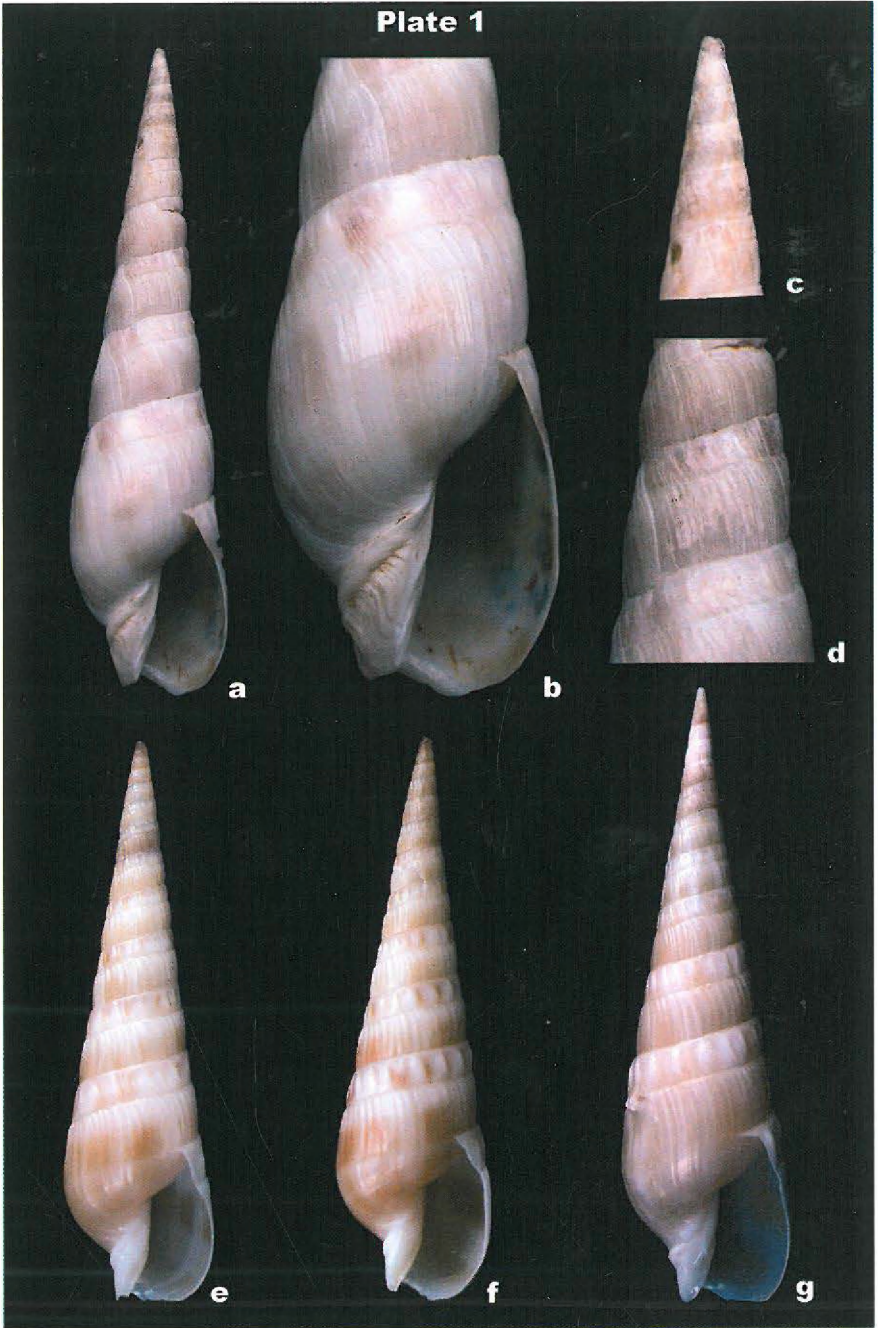


Plate 2

Figs a – e: *Terebra caledonica* Sowerby, 1909 - Ita Point, New Caledonia.

Fig. a: JC. Adult. Slender and crenulated form, 72 x 15 mm.

Fig. b: JC. Adult. Slender and crenulated form, 72 x 15 mm.

Detail of aperture.

Fig. c: YT. Adult. Broad and crenulated form, 69 x 18 mm.

Fig. d: YT. Adult. Broad and smooth form, 60 x 16 mm.

Fig. e: JC Adult. Slender and smooth form, 61 x 13 mm.

Plate 2

