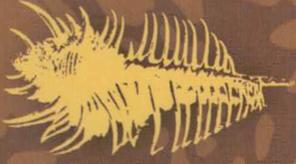


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# CLUB CONCHYLIA

INFORMATIONEN



## SCISSURELLIDEN KLEINE SCHNECKEN GANZ GROSS

LANDSCHNECKEN **CLAUSILIEN AUS CHINA**

NEUE ARTEN **CONUS, IMPAGES, ATHLETA**

FREAKS **TIGRIS AUS OSTAFRIKA**

GEFRÄSSIG **DAUDEBARDIE CONTRA REGENWURM**

## Two new species of *Conus* from Palawan, Philippines (Gastropoda: Conidae)

By FELIX LORENZ, Buseck-Beuern

### Plates 1, 2

#### Abstract

*Conus petergabrieli* n. sp. is described and compared with *Conus spectrum* LINNAEUS, 1758 and *Conus broderipii* REEVE, 1843. *Conus leobottonii* n. sp. is described and compared with superficially similar species.

#### Zusammenfassung

Die Art *Conus petergabrieli* n. sp. wird neu beschrieben und gegenüber den Arten *Conus spectrum* LINNAEUS, 1758 und *Conus broderipii* REEVE, 1843 abgegrenzt. Die Art *Conus leobottonii* n. sp. wird ebenfalls neu beschrieben und gegenüber auf den ersten Blick ähnlich aussehenden Arten abgegrenzt.

#### Introduction

The Philippines continuously produce new malacological discoveries. The island of Palawan was so far poorly exploited for seashells. Recent activities of compressor divers operating in the Cuyo Island Group between Palawan and Panay, and Balabac Island in the south of Palawan have yielded interesting finds, such as quantities of the formerly extremely rare *Pustularia bistrinotata keelingensis* SCHILDER & SCHILDER, 1938 (Cypraeidae) and *Conus guidopopei* RAYBAUDI 2005 (Conidae) (RAYBAUDI MASSILIA 2005). Along with such material came two further new species of Conidae which are described in the following.

#### *Conus petergabrieli* n. sp. (Plate 1)

Material: Ten live collected specimens of different stages of growth.

Holotype: 36.3 mm x 21.1 mm coll. Staatliches Museum für Naturkunde Stuttgart

Paratype 1: 32.1 x 18.5 mm coll. H. MORRISON

Paratype 2: 26.5 x 15.0 mm coll. W. CARGILE

Paratype 3: 40.5 x 24.6 mm coll. P. STIMPSON

Paratype 4: 33.6 x 19.0 mm coll. W. CARGILE

Paratype 5: 27.5 x 15.2 mm coll. W. CARGILE

Paratype 6: 29.6 x 17.1 mm coll. H. MORRISON

Paratype 7: 22.6 x 12.7 mm coll. H. MORRISON

Paratype 8: 21.3 x 11.3 mm coll. H. MORRISON

#### Description

The shell is medium sized, heavy and ventricosely bulbous, with an evenly convex outline. The shoulder is rounded. The spire consists of 9 postnuclear whorls, it is very slightly elevated, its outline sigmoid. The protoconch is slightly pointed and smooth, consisting of 1,5 whorls. There is no visible transition to the first three teleoconch whorls, which are smooth and slightly convex, with a deep suture. The sub-sutural ridge is slightly pronounced and smooth, the sutural ramp is slightly convex, gradually becoming flatter towards the body whorl. There are distinct spiral grooves of variable size, but no intervening ribs on the sutural ramp. The body whorl is smooth, with a silky gloss. In the anterior half there are variably spaced spiral grooves with flat ribbons in-between, gradually becoming ridge-like, denser and stronger towards the anterior end. The basal part of the columellar is smooth, separated from the ribbed middle part by a terminal ridge. The aperture is rather wide, becoming still wider in the anterior half. The body whorl is very thick, gradually becoming thinner towards the margin of the outer lip.

The ground color and the inner part of the aperture are porcellaine white. The protoconch is white, the first three teleoconch whorls are orange. The body whorl shows evenly spaced, very fine transverse rows of minute brown dots. There are vivid orange dashes covering the body whorl, forming two colorful bands, leaving tentmark-like areas of white above them. The orange dashes continue as spiral markings on the sutural ramps of the spire.

The paratypes agree with the holotype in all aspects of shell structure. Even smaller specimens are very heavy-shelled. The ground color of all shells is plain white, yet the color-pattern varies from yellowish to saturate reddish-brown, some specimens have a pinkish red coloration. In some specimens, the dashes on the body whorl are denser than in others, forming a brown or orange coat leaving only few flecks of white. In paratype 1, the white windows are framed with darker brown against the orange dashes, but all other shells have two obvious color components only. In some shells, the fine transverse lines of brown dots are indistinct and visible only under magnification.

Animal characteristics as well as the features of the operculum and periostracum are unrecorded.

## Type locality and habitat

All specimens of *Conus petergabrieli* n. sp. were collected at depths of 10 - 15 m, by compressor divers operating in the Cuyo Island Group, northeastern Palawan, Philippines (10°55'N 120°58'E). The exact habitat is unknown.

## Etymology

Named in honour of the British musician PETER GABRIEL, whose innovative works over four decades have inspired and influenced people around the world, including myself.

## Discussion

*Conus petergabrieli* n. sp. superficially resembles *Conus spectrum* LINNAEUS, 1758, a variable species with a distribution from Japan across the Philippines and Indonesia to both sides of Australia. *Conus spectrum* (including its many forms) has a lightweight, rather elongate shell. *Conus petergabrieli* is heavy, thick-shelled and less elongate. In *spectrum*, the protoconch has two or more whorls (opposed to 1.5 in *petergabrieli*), and the early teleoconch whorls are usually tuberculate or undulate (not smooth as

in *petergabrieli*), the sutural ramps are flat and there is not deep suture whereas in *petergabrieli*, the sutural ramps are slightly convex, with a deep suture. The spiral grooves in *petergabrieli* show no intervening ribs whereas in all forms of *spectrum*, the structure of the teleoconch sutural ramps consists of variably spaced spiral ribs and ribbons, especially on earlier whorls. Philippine specimens of *Conus spectrum* have a finely sculptured body whorl. Only the Australian form or subspecies *spectrum pica* ADAMS & REEVE, 1849 has a rather smooth body whorl similar to that of *petergabrieli*. The only other superficially similar species is *Conus broderipii* REEVE, 1843 from Indonesia and Melanesia, which is distinguished at once by its orange instead of white aperture. Furthermore, *Conus broderipii* is a more slender shell, with a more pointed spire whose markings are more distant and narrower (Röckel & al. 1995: Plate 39, Figs. 27, 28, 31, 32). The body whorl of *Conus broderipii* shows deep, distant spiral grooves in the anterior half of the shell. In *C. petergabrieli*, the spiral grooves are shallower and denser. The color pattern of *Conus broderipii* consists of orange dashes and darker brownish cloudy markings, crossed by distinct brown interrupted lines, opposed to the most obvious feature of *Conus petergabrieli*: the clear and simple color pattern of the shell, whose mostly orange to pinkish tone is only very rarely found in other species of Conidae.

Plate 1: (see next page)

from left to right:

1st row: *C. petergabrieli* n. sp. Holotype (36.3 mm), Paratype 6 (29.6 mm)

2nd row: *C. petergabrieli* n. sp. Paratype 1 (32.1 mm), Paratype 5 (27.5 mm), Paratype 4 (33.6 mm)

3rd row: *C. petergabrieli* n. sp. Paratype 3 (40.5 mm), Paratype 2 (26.5 mm)

4th row: Comparison of the spiral grooves. *C. petergabrieli*, (left), *C. spectrum* (Philippines) (right)

5th row: Comparison of the protoconch and early teleoconch whorls: *C. petergabrieli* (left), *C. spectrum* (Philippines) (right)



Explanation see p. 5



Explanation see p. 8

***Conus leobottonii* n. sp.**  
**(Plate 2)**

Material: Fifteen live collected specimens, nine of which are fully adult.

Holotype: 55.5 x 27.4 mm coll. Muséum National d'Histoire Naturelle, Paris

Paratype 1: 68.6 x 35.4 mm coll. P. STIMPSON

Paratype 2: 58.5 x 29.8 mm coll. M. CHIAPPONI

Paratype 3: 61.4 x 29.2 mm coll. W. CARGILE

Paratype 4: 48.6 x 23.3 mm coll. F. LORENZ

Paratype 5: 43.7 x 20.9 mm coll. L. STILES

Paratype 6: 50.0 x 23.3 mm coll. F. LORENZ

Paratype 7: 47.8 x 24.1 mm coll. W. CARGILE

Paratype 8: 48.2 x 23.6 mm coll. W. FENZAN

Paratype 9: 36.5 x 17.4 mm coll. M. CHIAPPONI

Paratype 10: 33.0 x 16.2 mm coll. F. LORENZ

Paratype 11: 32.5 x 15.4 mm coll. W. FENZAN

Paratype 12: 33.9 x 15.5 mm coll. M. CHIAPPONI

Paratype 13: 31.0 x 14.4 mm coll. F. LORENZ

Paratype 14: 26.7 x 12.8 mm coll. M. CHIAPPONI

**Description**

As paratypes and holotype show only a slight degree of variation, the following description takes into account all available specimens. The shell is heavy and rather large, ventricosely conical, with an angulate shoulder and a moderately low spire with straight outline. The protoconch is pointed, smooth, consisting of two whorls. The teleoconch whorls have a shallow suture, their ramps showing three to four indistinct grooves. The body whorl is smooth and glossy, in the anterior end there is an area with shallow but distinct irregular spiral grooves. These separate the slightly twisted, pronounced basal part of the columella from the body whorl. The aperture is slightly convex (due to the convex outline of the thickened outer lip), gradually becoming wider anteriorly. The protoconch is pale orange, the ground color of the teleoconch whorls is plain white, so is the aperture and the interior. The body whorl of some specimens is plain white (without secondary pattern), reddish brown in the darkest shells (the holotype, Paratypes 1 and 2). There are two faint yellow transverse zones and a narrow, pale middorsal zone in the pale shells whereas in the darker shells there are transverse zones of varying brown to pale grey coloration. Generally there is a tendency to form a single paler middorsal zone. The early sutural ramps of some shells show few indistinct darker dashes. In some juvenile shells there is a single darker dash on the body whorl. The body whorl of adults does not show any darker pattern at all.

**Plate 2:** (see page 7)

from left to right:

**1st row:** *C. leobottonii* n. sp. Paratype 2 (58.5 mm), Paratype 1 (68.6 mm)

**2nd row:** *C. leobottonii* n. sp. Holotype (55.5 mm), Paratype 3 (61.4 mm), Paratype 12 (33.9 mm), Paratype 13 (31.0 mm)

## Type locality and habitat

All specimens of *Conus leobottonii* n. sp. were collected at depths of 10 - 15 m, by compressor divers operating around Balabac Island, southern Palawan, Philippines (7°57'N 117°01'E). The exact habitat is unknown.

## Etymology

Named in memory of LUIGI GALILEO BOTTONI († 1996), who dedicated his life to the study of oriental cultures as well as comparative theology and aspects of worldwide religions.

## Discussion

Superficially, *Conus leobottonii* n. sp. resembles a variety of brownish or whitish Cones. *Conus magus* LINNAEUS, 1758 may occasionally be uniformly brownish banded or plain white on the body whorl. However, the protoconch in all *C. magus* variations is orange (instead of white as in *C. leobottonii*), the sutural ramps show distinct darker stripes and dashes, the body whorl is less glossy and the coloration consists of fine transverse, mostly irregularly interrupted lines composing the pattern. The sides of *magus* are rather straight, not as ventricose as in *C. leobottonii*. The closest superficial relative to *C. leobottonii* is *C. consors* SOWERBY i, 1833. This species is narrower, with straighter sides than *C. leobottonii*. The first postnuclear whorls of *C. consors* are distinctly coronate and not smooth as in *C. leobottonii*. The coloration of *C. consors* usually contains fine brown transverse lines absent in *C. leobottonii*. Generally, the heavy, ventricose shell lacking darker pattern or lines along with the brown to uniform white coloration of the body whorl make *Conus leobottonii* a very distinctive species of Conidae, with a very restricted range in southern Palawan.

## Acknowledgements

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## References

- ROCKEL, D., KORN, W. and KOHN, A. (1995): Manual of the Living Conidae - Indopacific.— 517pp.; Wiesbaden (Verlag Christa Hemmen).
- RAYBAUDI MASSILA, G. (2005): The first discovered Pacific Ocean Member of the *Conus traverstianus* group: *Conus guido-poppei* new species.— *Visaya*, 1 (5): 143-147, 1 table, 1 map, 2 colour plates.

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