

## Conchylia

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# A New Species of Conidae (Gastropoda) from the Egyptian Red Sea

By Felix Lorenz, D-Buseck

With 1 Text-Figure, 1 Map and 19 Figures on 1 Plate

## Keywords

Conidae, *Isoconus kahlbrocki*, new species, Egypt, Red Sea.

## Abstract

*Isoconus kahlbrocki* n. sp. from the northern Red Sea has been mistaken for *Leptoconus hamanni* (FAINZILBER & MIENIS, 1986) from the same general area and depth. It differs by its color pattern and the lower spire. It is more slender than *Isoconus martensi* (E. A. SMITH, 1884) from the western Indian Ocean. It is more similar to the Pacific *Isoconus sazanka* (SHIKAMA, 1970), from which it differs by a more slender shape and a taller spire with a more conspicuous protoconch.

## Zusammenfassung

*Isoconus kahlbrocki* n. sp. ~~vom~~ ~~aus dem~~ nördlichen Roten Meer wurde bisher mit *Leptoconus hamanni* (FAINZILBER & MIENIS, 1986) aus der gleichen Region und Wassertiefe verwechselt. Sie unterscheidet sich durch die Musterung und eine flachere Spira. Sie ist schlanker als *Isoconus martensi* (E. A. SMITH, 1884) aus dem westlichen Indischen Ozean und ist der ~~Pazifischen-pazifischen~~ *Isoconus sazanka* (SHIKAMA, 1970) ähnlicher, unterscheidet sich ~~von dieser jedoch~~ ebenfalls durch ein schlankeres Gehäuse, eine höhere Spira und einen auffälligeren Protoconch.

## Introduction

The species described in the following has been collected on various occasions during expeditions to the Egyptian Red Sea conducted by the author and a team of divers.

## Systematics

Family Conidae J. FLEMING, 1822

*Isoconus kahlbrocki* n. sp.

Pl. 1, figs. 1-15

## Material

Seventeen live collected or freshly dead specimens.

**Holotype:** 19.5 × 9.8 mm, coll. MSF No. co1992.

Paratype 1: 23.0 × 11.2 mm; Paratype 2: 17.0 × 8.5 mm; Paratype 3: 21.7 × 10.5 mm; Paratype 4: 21.8

× 10.4 mm; Paratype 5: 18.7 × 9.4 mm; Paratype 6: 15.7 × 7.8 mm; Paratype 7: 17.0 × 7.9 mm; Paratype 8: 14.7 × 7.1 mm; Paratype 9: 15.8 × 8.3 mm; Paratype 10: 20.8 × 10.1 mm; Paratype 11: 17.7 × 8.8 mm; Paratype 12: 13.6 × 7.0 mm; Paratype 13: 13.0 × 6.7 mm; Paratype 14: 12.2 × 6.2 mm; all from Shaabur Umm Gamar, Hurghada area (27°19'59"N - 33°54'59"E), taken with shell grit at 65 to 87 m; Paratype 15: 28.7 × 14.6 mm, Abu Ramada Is. at 38 m; Paratype 16: 30.2 × 15.1 mm, Abu Dabab 3, Marsa Alam (25°20'N - 34°47'E), at 9 m.

## Methods and Abbreviations

The terminology in the description follows that proposed by MONNIER et al. (2018).

MSF Molluscan Science Foundation, Inc.,  
Owings Mills, Maryland, USA.

RD Relative diameter (width by length).

RSH Relative spire height (spire height by length).

## Description

The holotype is a live collected adult with an intact lip and protoconch.

The shell is small, solid, rather narrow (RD = 0.46-0.51), conical, with straight sides. The spire is low (RSH = 0.23-0.29) hardly stepped, with a slightly concave outline. The protoconch measures 0.75 mm in diameter and 0.9-1.0 mm in height. Its tip is tapering, 2.5 whorls form the apex, being smooth and glossy, separated from the teleoconch whorls.

The first four sutural ramps of the teleoconch show distinct spiral ribs with radial threads giving them a cancellate appearance. The ribs are less distinct than the later ramps, with only one pronounced rib along the suture. The shoulders of the sutural ramps are rounded and glossy. The shoulder of the body whorl is slightly undulated.

The body whorl of the holotype is of a saturate reddish-brown color. The sutural ramps and the shoulder is of pink ground color with darker brown patches situated in the depressions of the undulate shoulder. The apex is bright red. The anterior end is paler pink. There is a narrow spiral band of irregular interrupted white streaks and

less distinct greyish brown ones. The plateaus in between the spiral grooves at the anterior end, show sparse brown spotting.

The paratypes show considerable variation of the ground color of the body whorl, from whitish to lemon yellow to uniform dark red. The spiral band may be absent, especially in larger shells. Specimens with brown spotting along the spiral band and the anterior section are exceptional.

The periostracum is pale brown, thin, and transparent.

The animal has a bright red foot and siphon with tiny yellow specks.

### Type Locality and Distribution

*Isoconus kahlbrocki* n. sp. has been collected at a few sites in the southern Sinai, namely in the vicinity of Hurghada, Egypt, especially around Giftun Island. Empty shells are moderately common in shell grit taken from crevices of reef walls at depths ranging from 50 to 90 m, especially at Shaabrur Umm Gamar (Type locality), where SVEN KAHLBROCK and NIL FLOTTMANN conducted several trimix deep dives to collect shellgrit in 2015. The largest known specimen, however, was found in a cave at only 9 m at Marsa Alam (Paratype 16), which constitutes the southernmost and shallowest record for the species so far. There are no records from further north, either in the Vicinity of Dahab and Abu Galum in the Gulf of Aqaba, or at the wreck of the MV *Turkia* in the Gulf of Suez, although both sites have been investigated to a depth of 60 m. It is likely that the range extends further south.

### Ethymolog

In honor of SVEN KAHLBROCK, who participated in all of our expeditions to the Egyptian Red Sea conducted between 2009 and 2018. He also collected many of the type specimens.

### Discussion

This species had tentatively been identified as *Leptoconus hamanni* (FAINZILBER & MIENIS, 1986), occurring in the same general area, and was illustrated in the recent taxonomic iconography of the Conoidea by MONNIER et al. (2018: 912, fig. 5). However, *hamanni* has a stepped spire and a smooth, not undulated, shoulder (Fig. 1). The ground color of *hamanni* is always

pale grey to white, and the brown zig-zag pattern differs completely from that of *kahlbrocki* n. sp. In addition, the apex of the new species is bright red, and that of *hamanni* is white.



**Text-Fig. 1:** *Leptoconus hamanni* (FAINZILBER & MIENIS, 1986) 30 mm, from Wadi Gemal, Marsa Alam, Egypt, at 50 m.

Its morphology places *kahlbrocki* n. sp. in the genus *Isoconus*, with closest affinities to the Pacific *sazanka* (SHIKAMA, 1970) and *martensi* (E. A. SMITH, 1884) from the western Indian Ocean. It differs from both mainly by a somewhat narrower shell. All three taxa show considerable variability in shape and color pattern. *Isoconus kahlbrocki* n. sp. resembles the Pacific *sazanka* in more detail than the South African *martensi*, especially the pattern and the undulated shoulder. It differs from *sazanka* by a more elevated spire with a more conspicuous, proportionally larger protoconch. Zoogeographically, the apparent disruption of the ranges of these species is phenomenal (see Map 1), and justifies their distinction despite the conchological similarity.

### Acknowledgements

Many thanks to my team of divers and operators on five expeditions in the Red Sea: JANA KRATZSCH, SVEN KAHLBROCK, NIL FLOTTMANN, DIETMAR AMON, MARCUS SCHEUNEMANN, HARALD WESTECKER, KARIM ERIC HOURY, to KLAUS GROH, and Dr. CARSTEN RENKER for careful editing, to the Molluscan Science Foundation, Inc., and Dr. MICHAEL A. MONT for proofreading.



**Map 1:** Distribution of three closely related *Isoconus*: *sazanka*, *martensi*, and *kahlbrocki* n. sp.

## Reference

MONNIER, E., LIMPALAER, L., ROBIN, A. & ROUX, C. (2018): A Taxonomic Iconography of Living Conidae. Vol. 1. – 601 pp. Paris, France (AFC) & Harxheim, Germany (ConchBooks).

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Received: 10. 02. 2019

Accepted: 18. 02. 2019

## Plate 1 (on p. ##)

**Figs 1-15:** *Isoconus kahlbrocki* n. sp., specimens of Figs 1-12 from Shaabrur Umm Gammar, Hurghada area, Egypt, at 50-95 m.

**Figs 1+2:** Holotype (19.5 mm).

**Fig. 3:** Paratype 4 (21.8 mm).

**Fig. 4:** Paratype 1 (23.0 mm).

**Fig. 5:** Paratype 3 (21.7 mm); a: detail of the median band b: detail of the anterior tip.

**Fig. 6:** Paratype 7 (17.0 mm); pale contrasting pattern.

**Fig. 7:** Paratype 5 (18.7 mm); showing thin brown periostracum.

**Fig. 8:** Paratype 13 (13.0 mm); mottled pattern.

**Figs 9-10:** Paratype 2 (17.0 mm).

**Figs 11-12:** Paratype 6 (15.7 mm); lemon yellow color form.

**13:** Paratype 16 (30.3 mm); Marsa Alam, Egypt, at 9 m.

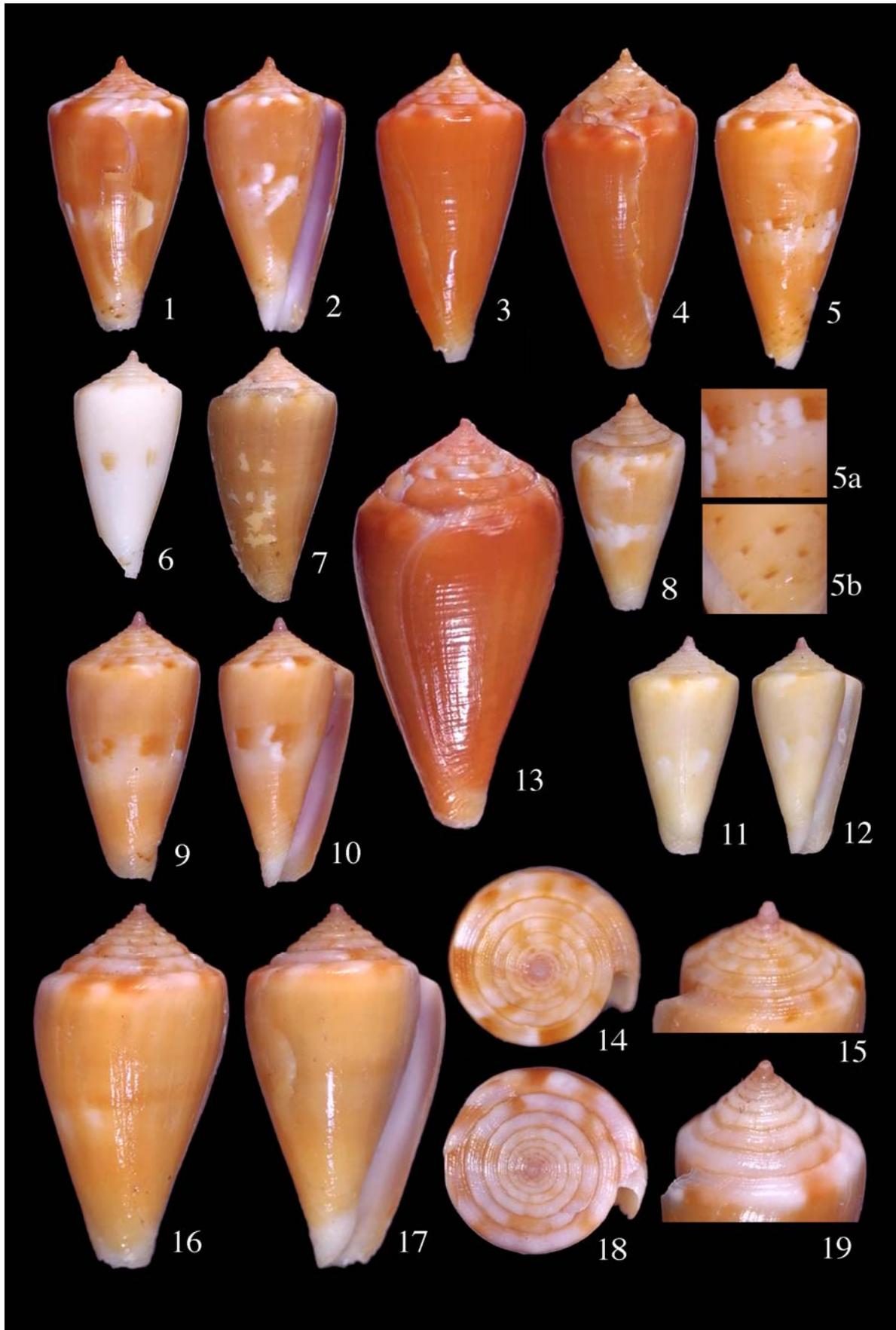
**Figs 14-15:** Paratype 2, detail of spire and protoconch.

**Figs 16-19:** *Isoconus martensi* (E. A. SMITH, 1884).

**Figs 16-17:** 23.7 mm, Umkomaas, Kwa-Zulu Natal, South Africa, at 100 m.

**Figs 18-19:** Detail of spire and protoconch.

Plate 1



Explanation on p. ##