

Nesiocypraea midwayensis kontiki n. ssp., a New Subspecies from the Eastern Pacific (Gastropoda: Cypraeidae)

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(1 Plate, 1 Table)

Keywords

Cypraeidae, new subspecies, *Nesiocypraea midwayensis kontiki*, eastern Pacific.

Abstract

Nesiocypraea midwayensis kontiki n. ssp. is described from eastern Polynesia. It differs from the nominate subspecies by a more pyriform instead of oval shape, more numerous teeth, a less rostrate posterior extremity, and coarser and more distinct dorsal pattern.

Zusammenfassung

Nesiocypraea midwayensis kontiki n. ssp. wird vom östlichen Polynesian beschrieben. Sie unterscheidet sich von der Nominatform durch birnenförmige anstatt ovale Gehäuseform, zahlreichere Zähne, weniger geschnäbelte Hinterextremität und gröberes, deutlicheres Rückenmuster.

Introduction

The collecting campaigns in the eastern Pacific conducted between 2006 and 2010 by the MNHN, Paris, have yielded a large number of interesting discoveries in the family Cypraeidae from deep water (Lorenz 2008). Among the rich material, a new subspecies of *Nesiocypraea midwayensis* Azuma & Kurohara, 1967 came to light which is described in the following.

Abbreviations

MNHN: Museum Nationale d'Histoire Naturelle, Paris

CLSF: Chiapponi Lorenz Seashell Foundation, Lecco

AKM: Collection of Andrey Kostin, Moscow

Nesiocypraea midwayensis kontiki n. ssp.

Material: Twelve fresh dead specimens of *N. midwayensis kontiki* n. ssp. retaining most of the pattern, one subadult (Paratype 3) and two fragmented shells (not measured). Measurements enumerated length x width x height (mm), labral: columellar teeth (counted).

Holotype	19,8 x 12,8 x 9,9 (24 : 21)	Huahine 16°43'S 151°04'W 430-620 m	coll. MNHN
Paratype 1	21,8 x 13,8 x 11,0 (22 : 23)	Rurutu 22°29,1'S 151°21,9'W 489-1050 m	coll. MNHN
Paratype 2	17,4 x 10,6 x 8,6 (23 : 22)	Rurutu 22°29,1'S 151°22,2'W 700-1350 m	coll. MNHN
Paratype 3	18,7 x 12,0 x 9,7 (23:23)	Rimatara 22°38,2'S 152°49,5'W 250-280 m	coll. MNHN
Paratype 4	20,8 x 13,0 x 10,4 (21 : 22)	Rurutu 22°25,1'S 151°21,9'W 270-480 m	coll. CLSF 10276
Paratype 5	18,0 x 11,7 x 9,2 (24 : 20)	Kaukura, Tuamotu 15°S146°54'W 390-420 m	coll. MNHN
Paratype 6	23,1 x 14,5 x 11,2 (23 : 21)	Tubai 23°18,8'S 149°29,3'W 558-1000 m	coll. MNHN
Paratype 7	14,1 x 9,4 x 7,5 (21 : 18)	Huahine 16°42'S 151°03'W 700-785 m	coll. MNHN
Paratype 8	13,0 x 8,2 x 6,7 (18 : 19)	Moorea 17°29'S 149°45'W 440 m	coll. MNHN
Paratype 9	16,9 x 11,0 x 8,5 (21 : -)	Kaukura, Tuamotu 15°39'S 146°55'W 326-540 m	coll. CLSF 10604
Paratype 10	14,8 x 9,6 x 7,8 (21 : -)	Kaukura, Tuamotu 15°40'S 146°54'W 285-286 m	coll. MNHN
Paratype 11	19,0 x 12,6 x 9,3 (22 : 21)	Tikehau, Tuamotu 14°59'S 14818'W 380-758 m	coll. MNHN

Table 1: Size, origin and storage of the type material of *Nesiocypraea midwayensis kontiki* n. ssp.

Fifteen specimens of *Nesiocypraea midwayensis midwayensis* from Japan (7), Taiwan (5) the Philippines (2) and New Caledonia (1) in the CLSF (No. 621, 10275, 3617, 10272, 10273, 10274) and the AKM (No. 348-1 to 348-7).

Conchological features are expressed in the shell-formula: L (W-H)X:Y: L: average length (mm); W: average width/length ratio in %; H: average height/length ratio in %; X: normalized number of labral teeth; Y: normalized number of columellar teeth, following the formula proposed by Schilder & Schilder 1938, 1952, modified by Lorenz 2002.

Description: The holotype is a slightly depressed, elegantly pyriform shell with slight marginal calluses and fragile, rostrate extremities that are bordered by conspicuous flanges anteriorly. The spire is partly exposed and pointed, the protoconch is pointed, consisting of four finely reticulated whorls. The labral teeth are equally well produced and numerous, extending slightly onto the lip. The columellar teeth are distinct towards the extremities, and slightly extending towards the base at the extremities, but faint and restricted to the aperture midways. The fossula is coarsely denticulate and distinctly projecting, showing six denticles which are not connected with a corresponding anterior columellar tooth.

The base and the margins are pale yellow-white. There are few faint marginal spots above the marginal callus on both sides. The dorsum is covered with a coarse, regular brown netting which leaves a distinct straight dorsal line. There are three faint orange blotches at each extremity and mid-dorsally, underlying the netting.

In the paratypes, the orange dorsal blotches are more conspicuous than in the holotype. The regular dorsal netting, or traces of it, are present in all paratypes, depending on the preservation. In two specimens, the columellar teeth are not discernible along the mid portion of the shell, they are covered by a calloused ridge bordering the aperture. In all shells the marginal spotting is faint or absent. In some specimens the extremities are faintly orange. In all shells the spire is pointed and partly exposed.

Habitat and distribution: All specimens of *N. midwayensis kontiki* n. ssp. were dredged dead at depths between 230 and 1000 m in the Austral Island group, between Rimatara and Rurutu, Moorea (near Tahiti) and the Tuamotus. Type

locality: Huahine 16°43'S 151°04'W 430-620 m. The fresh dead condition of the shells suggests that the subspecies lives beyond the 500 m depth range. The specimens found in deeper water may have been carried there with sediment from shallower water.

Etymology: Named after the boat Kon-Tiki of the Norwegian anthropologist and adventurer Thor Heyerdahl, which was built in the same way as the boats of ancient Peruvians. Without the aid of modern technology, Heyerdahl and his team managed to travel from Peru to the Tuamotus within 101 days in 1947. He managed to prove that Polynesia could have been populated by ancient South Americans. Although this theory is obsolete today, Heyerdahl's approach of reproducing the scenario of man crossing the Pacific westward some 1000 years BC is a legendary adventure and inspiration to all those who swim (and think) against the stream.

Discussion: *N. midwayensis kontiki* n. ssp. must be compared only with the nominate *N. midwayensis midwayensis* known from the western Pacific: southern Japan, the Philippines and New Caledonia, always at depths of 150 to 450 m. It does not show significant conchological variation throughout its range (Lorenz & Hubert, 2000). Formulae: *m. kontiki*: 18(64-51)25:23; *m. midwayensis*: 22(66-52)27:29).

N. midwayensis kontiki n. ssp. was found in the Austral Islands, Tahiti and the Tuamotus, a long distance from the range of *m. midwayensis*, which has so far not been found anywhere inbetween these areas. *N. m. kontiki* differs from *N. m. midwayensis* by being narrower and more pyriform rather than oval. By having coarser and less numerous labral and columellar teeth. The anterior extremity of *m. kontiki* is wider and more flanged. The posterior extremity is less pointed, shorter and wider than in *m. midwayensis*. The mid-dorsal netting of *midwayensis* is faint whereas in *m. kontiki* the netting is coarser and distinct. The spire of *midwayensis* is usually covered with callus, in *m. kontiki* it is often rather exposed. The combination of relatively small size, denticulate fossula and the distinct dorsal netting makes *N. m. kontiki* well distinguishable from the larger western members of the genus. The smaller *N. lisetae* (Kilburn, 1975) differs by its unique formation of the teeth, which are connected by a callus-bridge, along with the more inflated,

rostrate shell. Together with *N. lisetae*, *N. midwayensis kontiki* n. ssp. is the second known eastern Pacific representative of the ancient deep-water genus *Nesiocypraea* (Lorenz 2008). These two taxa probably hold the depth-record of any known living cowry.

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Plate 1 (next page)

1st row: *Nesiocypraea midwayensis kontiki* n. ssp. Holotype

2nd row: *Nesiocypraea midwayensis kontiki* n. ssp. left: Paratype 1, right: paratype 11

3rd row: *Nesiocypraea midwayensis kontiki* n. ssp. left: Paratype 10, right: paratype 8

4th row: *Nesiocypraea midwayensis midwayensis* (24 mm) South Japan (AKM No. 348-3)

Plate 1

