A New Cone from the Bay of Bengal,
Darioconus bengalensis, n. sp.

Takashi OKUTANI
(Tokai Regional Fisheries Research Laboratory)

A unique specimen of a cone was brought home by the R/V Shoyo-Maru of the Fisheries Agency of Japan in 1958. It was in the biological samples trawled by that vessel in the Bay of Bengal for the purpose of an exploratory fishing. The specimen had been preserved by freezing, but animal and operculum were not examined as they had been contractile into the spire.

Prof. Tokio SHIKAMA, the Yokohama National University, have shown the present specimen on the color frontispiece of his beautiful book, "Selected Shells of the World Illustrated in Color (II)", under the name of Conus (Leptoconus) sp. aff. gloriamaris HWASS. Dr. R. Tucker ABBOTT (1967)* criticized that it may be a close kin of Darioconus aureus (BRUGUIÈRE).

After a long search for literatures on an identity of the specimen, it was concluded that this cone may reasonably be treated as the new to science.

I wish to express my sincere gratitude to Mr. Shojiro SHIMURA, who was in charge of the Japanese Fisheries Agency research vessel Shoyo-Maru in 1958, for the opportunity of examining the present specimen. I am also indebted to Drs. Tadashige HABE and Masuoki HOKIKOSHI for their kind advice. As color printing is generally expensive for the scientific journal, Prof. SHIKAMA's colored illustration may well relieve the description of the present report.

Darioconus bengalensis, n. sp.
Conus (Leptoconus) sp. aff. gloriamaris, SHIKAMA 1964, Selected Shells of the World III. Col. (II), frontispiece (col. illus. and note).

Shell medium in size, elongate, conico-cylindrical, thick and stout. Protoconch pinkish, mamillate, smooth, about 2 1/2 in number of turns. Teleoconch biconical, about 12 whorls. Early whorls ornamented with fine granules on the shoulder and opisthocyrist rugae on the sutural ramp. The spire high, regularly conical, cytoconoidal, ornamented with opisthocyrt growth lines; suture flush; sutural ramp weakly concave and periphery

* Notulae Nature, No. 400.
weakly angulated. The maximum diameter of the shell at the shoulder about thrice
the diameter of the base at the abapical end of the canal, and the distance from the
shoulder to the base about two and a half times the maximum diameter.

Body whorl transversely striated; striae impressed, fine, closely spaced, most
distinct around the outer-lip at about three quarters from the shoulder to the base and
almost indistinct on the other area of the body whorl. Aperture moderately broad,
siphonostomous, flaring basally. Outer lip thin, edged, weakly concave at about halfway
from the shoulder to the base. Adapical corner of the aperture deeply notched, forming
an anal fasciole.

Ground color white with wavy longitudinal brownish lines, interrupted by white
triangles arranged as scales, and broad brownish maculations disposed to form two
interrupted transverse bands on the body whorl. The maculation streaked longitudinally
with irregular darker brown lines. Spires similarly marked, but maculation and white
ground color alternate to show a chequer pattern.

Interior of aperture white. Periostracum thin, yellowish, translucent.

Locality: The Bay of Bengal, about 50 m in depth.

Measurement: Height 96.7 mm, height of the spire 23.4 mm, maximum diameter
31.1 mm.

Type: Holotype only, tentatively preserved in Tokai Regional Fisheries Research
Laboratory, Tokyo, Japan.

Comparison to Darioconus gloriamaris (Chemnitz)* and D. aureus (Bruguière):
The important difference of the present new species from gloriamaris and aureus
may be summarized as follows:

(1) Proportion: The new species is longer (diameter about 31% of the height) than
both gloriamaris (38% based on measurement of the (photograph of the holotype) and
aureus (35% on a specimen from Amami-Ōshima Isl.). The spire is much higher in
the new form (23.2% of the shell height) than in gloriamaris (21.4%) and aureus (20%).

(2) Outline: The outline of the spire in the new species gives an impression of being
"coeloconoid" (side concave), while that of other two species, "cytoconoidal" (side
convex). The body whorl of the new species looks slightly concave or weakly narrowed
near the middle, while those of the others, linear or weakly convex.

(3) Color pattern: The principle of triangular scaly pattern is quite the same in all
three species. The number of triangle on a single collabral line (imaginarily drawn at
random) on the body whorl is more than 100 on gloriamaris but it is quite less than
that in the new species. The spire of gloriamaris retains triangle patterns, but that of
the new species is ornamented with brownish maculations that alternate with interrupted

* Descriptions and illustrations used for comparison are as follows:
Rheede (1843 Conch. Icon. Comus), Sowerby (1857, Thes. Conch., pl. 24, fig. 526), Weinkauff
(1875, Syst. Conch. Cabinet, Martini u. Chemnitz, p. 150, pl. 7, fig. 1, 2), Tryon (1884, Man.
Conch. vi, p. 89, pl. 29, fig. 90), Bruun (1945, Vidensk. Medd. fra Dansk. naturh. Foren 18,
p. 95-101, pl. 1) and Kohn (1963, J. Linn. Soc. (Zool.), 45, p. 152, pl. 1, figs. 1-2).
white ground color showing a chequer pattern.

Three dark brownish color bands are distinct on the body whorl of gloriamaris, but only two bands are visible on the new species. In aureus, color bands are two in number, but they occupy the major portion of the body whorl and darker longitudinal streaks are far distinct than in the new species.

Comparison to other Indo-Pacific cones:

There are some known cones that have similar color patterns. They are such as, Darioconus textile (L.), D. pennaceus Born, D. abbas Bruguière, D. victoriae Sowerby and some others, but all of the above-mentioned species are distinguished from the present species in short and squat shell. By the elongated outline, Hermes auricomus (Bruguière) is somewhat alike to the present new species, but it is easily distinguished from the new one by its clytoconoidal whorl. Leptoconus milneedwardi (Joussaeurn) is strikingly similar to the present one not only in color pattern but also in a high-spired elongated shell. But, L. milneedwardi differs from the present new species in having smaller size, much coarser triangle scaly pattern, and much higher spire.

Concurrent molluscan assemblage:

Together with the present new species, some interesting molluscs were also found in trawl catch of the R/V Shoyo-Maru from the Bay of Bengal. As not much information on molluscan assemblage in the sublittoral zones in the Bay of Bengal is available, it may be noteworthy to add the list of molluscs concurrently taken with the new cone:

Stellaria solaris (Linnaeus) var., Strombus (Euprotomum) listeri Gray, Gyrineum echinatum Link, Gyrineum elegans (Sowerby), Ficus gracilis (Sowerby), Tonna faszicatam (Bruguière), Murex trapa (Röding), Murex tenuispina (Lamarck), Murex tribulus (Linnaeus).

要　約

鹿間時夫博士著“原色図鑑統世界の貝”(1964年北隆館)の巻頭にウミノサカエと同称されたイモガイの種につき記載する。種の色彩文様および種名はウミノサカエ Darioconus gloriamaris あるいは Abbottの指摘するように、コガネイモ Darioconus aureus に似るが、次の諸点で区別される。(1) 形状：新種はきわめて細長い殻長は殻長の 31%（ウミノサカエ 38%、コガネイモ 35%）、螺塔は殻長の 23.2%（ウミノサカエ 21.4%、コガネイモ 20%）程度。(2) 外形：新種の螺塔および体層側面をみる四、ウミノサカエコガネイモ共やや凸状。体層や殻面の形状がある。(3) 形状：ウミノサカエの螺状線は極めて小さく、且つ螺塔部にも螺状線がみえるが、新種では螺状交差模様で、螺塔は巻き戻った状態となっている。又体層の色帯が 2 本である点、3 本のウミノサカエより、コガネイモに似るが、コガネイモのそれほど円広くなく又暗色線も濃くない。

この螺状文様はタガヤサンミンナ、ヒメタガヤサン、ハナイモガイ等と共通であるが、それらは何れも太短い殻で新種とは異なる。又、殻の細長い点ではホンタガヤサンミンナに似る点もあるが、体層が狭小になっている点等で区別できる。又ハディミナシも似た点があるが、ハディミナシは小型の貝であるばかりでなく、螺状線も粗で又螺塔が著しく高い点、新種とは異なる。
Explanations of Plate 7.

1. *Darioconus gloriamaris* Hwass. Type specimen in the Zoologisk Museum, University of Copenhagen. (Height 91.2 mm) After a souvenir picture card of the Zoologisk Museum presented to the present author by Dr. Z. Nakai.

2. *Darioconus bengalensis* Okutani, n. sp. Type specimen. (Height 96.7 mm)

抄録

アボット（1967）ウミノサカエの毒腺と地理的分布


かつては珍稀なイモガイとして知られていたウミノサカエについて、S.P. Dance（1966 貝の収集 Shell Collecting 第 8 章ウミノサカエ The ‘Glory of the Sea,’ pp. 238–258）はそれまで、44 個標本があることについて述べた。所が著者はさらに 19 個の標本の記録をここに加え、総計 63 個あることとなった。

著者が調べた標本のうちフィリピン群島からのもの、標本（殻高 121.0 mm）の軟体部を観察することが出来た。その結果、一般的特徴はタガヤサンミナシ群と非常に似かよっていた。陰茎は斧型で、水管は生時には黒く赤、白、青黒の色帯があったものと思われる。吻ははらっぱのように聞いていて肉質の突起で鰭取されていている。毒腺は 30 cm 余もあって殻高の 3 倍もあり、歯舌面には 2 列に並んだ 14 の歯舌があり、吻端にはすぐ発射できる 22 の歯舌があった。歯舌の幅と比率の特徴は *C. canonicus* やタガヤサンミナシと同じで、他の猛毒のあるイモガイと同じ傾向として本種も人命にかかる毒性をもつものと思われる。

Dance の報告した記録および新たに追加された 19 の標本（主としてフィリピン群島、ピスマルク諸島、ソロモン群島、ニューギニアなど）の記録および更に補足的なデータに基づいてみるとウミノサカエの大体の分布範囲がソロン島—フローレス島—ニューギニア—ソロモン群島—カロリン群島（ヤブ）を結ぶ圏内にあることが判る。(奥谷義司)
Okutani: A New Cone from the Bay of Bengal