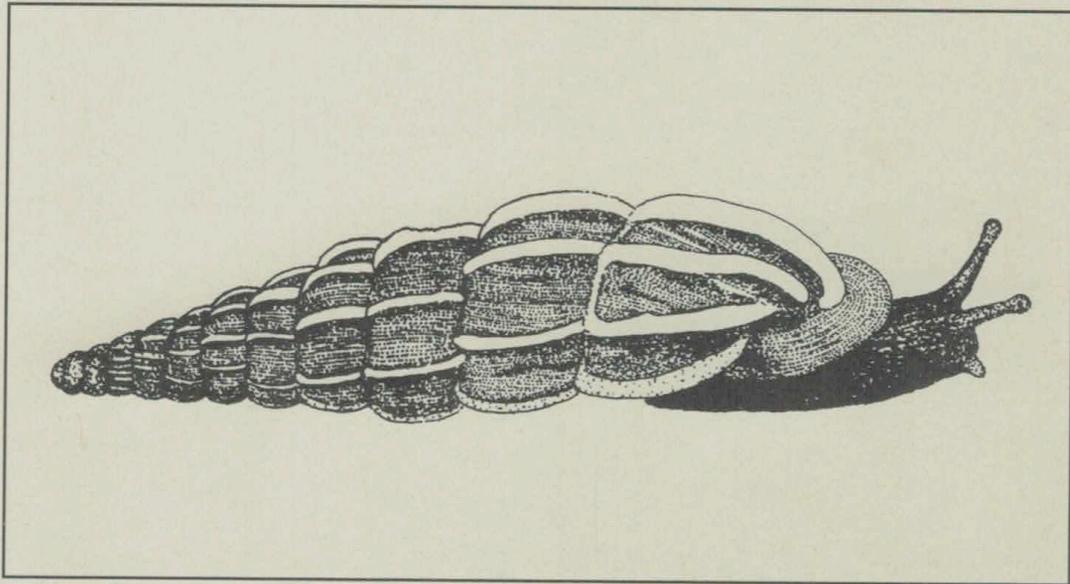


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Schriften zur Malakozoologie

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Heft 4 *WB*



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A new subspecies of *Nucella wahlbergi* (KRAUSS 1848) and notes on

some South African Muricidae.

By
FELIX LORENZ jun., Lauenburg.

Abstract: A short, widely winged *Nucella wahlbergi* (KRAUSS 1848) is described as a new subspecies, the deep water variation of *Nucella wahlbergi* is discussed. Recent findings from South Africa give new information on rare *Ocenebra* species.

1. A new subspecies of *Nucella wahlbergi*

My attention to the new subspecies of *Nucella wahlbergi* was drawn by my friends and diving partners LINDA NIEFT and BRUNO DE BRUIN of Cape Town, who also furnished most of the material for this study. The new taxon is described in honour of Ms LINDA NIEFT, the most courageous diving lady I know.

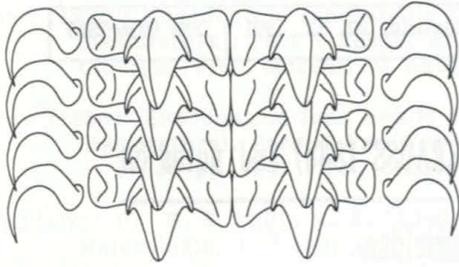
Order: Neogastropoda
Family: Muricidae
Subfamily: Thaidinae

Nucella wahlbergi lindaniae n. ssp.

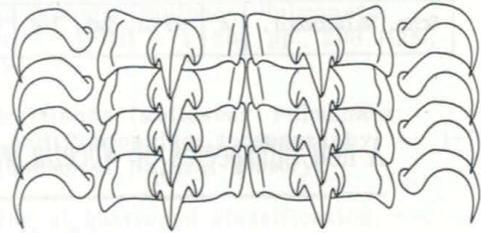
Description: The holotype is a livecollected, fully adult specimen. The shell consists of five whorls and a moderately small and smooth protoconch of two whorls. The first three postnuclear whorls show a fenestrate sculpture, with rather fine, dense longitudinal corrugations. In the later whorls, these form striking whings, which are rather fragile and imbricate, with slight development of scaly structures. The wings of the body whorl sometimes have a crispate structure underneath. There are fine transverse striae only in the first three whorls, towards the body whorl there are rather distant and shallow grooves, otherwise the surface inbetween the wings is rather smooth. The aperture is only slightly callous, with a purplish tint posteriorly on the columellar side, the labrum distinctly denticulate, anteriorly these denticles are purplish, reaching far into the shell. The operculum is pale brown and translucent thin. The fresh shell is covered with a thick layer of brown algae.

The animal of the holotype was brownish-grey with very short tentacles and barely developed eyes.

The radulae of three specimens investigated are identical, the radula teeth are illustrated below together with comparable teeth of *Nucella wahlbergi* s. str.



Text fig. 1: Radula teeth of
Nucella wahlbergi lindaniae n. ssp.



Text fig. 2: Radula teeth of
Nucella wahlbergi wahlbergi.

Comparing the paratypes with the holotype only slight variation in the density of the wings can be noted. The colours of the shells vary from pale brown to greyish, dead collected shells are whitish. The anterior labral denticles always seem to have a purplish tint.

Locus typicus and distribution: The type material was collected by L. NIEFT and B. DE BRUIN at Sandy Bay, western coast of South Africa, in depths between 40 and 45 m on rocky walls in 1990. A single dead shell was collected by the author in 1988 at Coral Gardens, western coast of South Africa, in a depth of 34 m on sand among rubble.

Material and measurements: Four adult specimens and one slightly subadult shell from the type locality with a preserved animal were furnished by B. DE BRUIN, a sixth dead collected shell could be added from the author's collection.

Holotype: L = 27,2 mm (Sandy Bay, HNC 27485)

Paratype 1: L = 30,0 mm (Sandy Bay, coll. LORENZ jun.)

Paratype 2: L = 27,1 mm (Sandy Bay, coll. LORENZ jun.)

Paratype 3: L = 22,9 mm (Sandy Bay, coll. LORENZ jun.)

Paratype 4: L = 20,7 mm (Sandy Bay, coll. Jeffreysbay Shell Museum)

Paratype 5: L = 23,2 mm (Coral Gardens, coll. LORENZ jun.)

Discussion: *Nucella wahlbergi* (KRAUSS 1848) is an endemic South African species restricted to the area between False Bay and Saldanha. It is found under rocks and in crevices from a few metres depth to about 50 m, where it occurs on open rocks among soft coral growth.

Shallow water specimens are heavily shelled, with a slightly inflated body whorl. The first four whorls have discrete corrugations, with 5-8 transversal striae. These are more numerous and wider, leaving only narrow grooves in the later whorls, while the costae fade, the last whorl is rather smooth, with two or more distant and regular growth lines. The aperture is framed by a callous peristome, forming coarse and distinct denticles labrally. The ground coloration is usually plain white, yellowish forms occur as well as brownish ones, occasionally there is a darker purplish brown band anteriorly across the body-whorl. The average size range for adult specimens of the shallow water form is about 23-32 mm. The shallow water form is most common along the False Bay shores, very few specimens have been reported from the Atlantic side of the species' range.

Deep water specimens, from 15 to 50 m, are less solid and seem to be more slender. The costae of the first 4-6 whorls are rather distant and form winglike flanges which become more produced in the later whorls and usually disappear towards the fifth whorl, from whereon the costae are absent. Consequently, only the upper half of the shell shows winglike structures. The striae are slightly denser and coarser on the body whorl than in the shallow water form. On the average, this deep water variation of *Nucella wahlbergi* is slightly larger than shallow water specimens and is most common in Atlantic localities of the species' range.

Deep water specimens, from 15 to 50 m, are less solid and seem more slender. The costae of the first 4-6 whorls are rather distant and form winglike flanges which become more produced in the later whorls and usually disappear towards the fifth whorl, from whereon the costae are absent. Consequently, only half of the shell shows winglike structures. The striae are slightly denser and coarser on the body whorl than in the shallow water form. On the average, this deep water variation of *Nucella wahlbergi* is slightly larger than shallow water specimens and is most common in Atlantic localities of the species' range.

A drawing of this form is given by KILBURN & RIPPEY (KILBURN & RIPPEY 1982, 90, fig. 48), they noticed, that this form was described as *Murex wahlbergi* KRAUSS 1848 and was considered a member of Trophoninae.

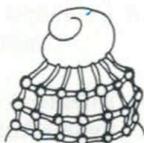
By BARNARD a drawing of a winged specimen of *Nucella wahlbergi*, apparently the same deep water variety, is labeled as *Trophon wahlbergi* (BARNARD 1967, pl. 8 fig. 16), while a typical specimen without wings is illustrated as *Euthria wahlbergi* (BARNARD 1967, pl. 7 fig. 8). Similar differentiation is given by KENSLEY (*Murex wahlbergi*, KENSLEY 1973 fig. 477, *Thais wahlbergi*, KENSLEY 1973 fig. 517).

The confusion on one hand results from the repetitive use of the name "*wahlbergi*" for two different forms of the same species, on the other hand from the extreme conchological modification of deep water *Nucella wahlbergi*, which is indeed similar to some species of Trophoninae rather than to Thaidinae.

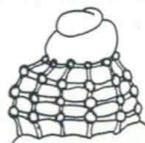
Typical, fully adult specimens of the new subspecies finally have every conchological feature justifying its separation not only on species - but even on generic level: It looks like a *Trophon* sp., not at all like a *Nucella* sp.

The new subspecies is so strikingly different from *Nucella wahlbergi wahlbergi* that the relationship becomes apparent only when juvenile deep water *N. wahlbergi* are compared.

In *Nucella wahlbergi lindaniae* n. ssp. the winglike flanges are wide and produced throughout and not restricted to the first whorls, they are also denser than in the typical *Nucella wahlbergi*. The shell is less elongate, much more inflated and much less solid in texture. The labrum is denticulate like that of the typical *Nucella wahlbergi*, though less callous altogether. The radulae show slight differences, as well as the protoconch and the postnuclear whorls (see fig. 3-4).



Text fig. 3: Protoconch of
Nucella wahlbergi lindaniae n. ssp.



Text fig. 4: Protoconch of
Nucella wahlbergi wahlbergi.

Both, the slender deep water variation of *Nucella wahlbergi* and the new subspecies seem to coexist in the same, or a very similar habitat at Coral Gardens and Sandy Bay at depths between 40 and 45 m, so that the depth of water cannot be the reason for the extreme conchological differences of this new taxon from *Nucella wahlbergi wahlbergi*.

2. Notes on some South African Muricidae

Recently *Ocenebra newmani* LORENZ 1990 was described and a short review of the most common South African species of *Ocenebra* was given (LORENZ 1990, 12-17). New information has come to hand that will be summarized in short:

WERNER MASSIER of Margate, Natal, submitted a number of livecollected specimens of *Ocenebra newmani* from the Sea Point area, taken by a diver from 15 m. He also supplied a couple of apparently livecollected *Ocenebra purpuroides* from an intertidal habitat at Kommetjie from the western coast of South Africa.

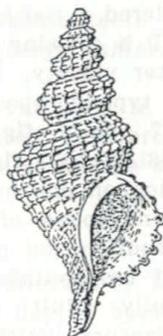
Mrs EMILY VOKES confirmed the occurrence of *Ocenebra purpuroides* in the Atlantic, namely from Sea Point, so that the map given by the author in the La Conchiglia article (LORENZ 1990, 16) is incomplete. The conchological differences between *O. newmani* and *O. purpuroides* formulated in the description could be confirmed by the livecollected material. Specimens of *O. purpuroides* from the Atlantic are otherwise identical to those from False Bay.

The subfossil specimen of *Ocenebra* (LORENZ 1990, p. 14 fig. 1) was identified by Mrs KAY VAUGHT of Scottsdale, Arizona, as *Ocenebra aedicularum* BARNARD 1969 (the text and illustration for this taxon given by R. FAIR 1976 is reprinted here for comparison, text fig. 5).

"*aedicularum* Barnard, 1969,
[Tritonalia], (...)

Shell 14 mm, whorls convex, sutures deep, ribs irregularly spaced. Nineteen or twenty ribs on the last whorl crossed by raised spiral lirae. At the junction of the lirae and the ribs the sculpture becomes squamate or crispate, with the squamae close together on the rostrum. Canal narrow, aperture ovate, denticulated on the edge by the spiral lirae.

Range: South Africa."



Text fig. 5:

Ocenebra (?) *aedicularum* (BARNARD 1969)
(drawing: FAIR 1976 after BARNARD 1969)

Recently I received another specimen apparently of the same species, taken alive by PHILLIP JOOSTE at Port Elizabeth in 17 m depth.

It is illustrated here (plate 8, fig. 21), I am not sure if a specimen in such good condition has been reported so far. The fresh shell confirms it is distinct from *O. scrobiculata*, but may be synonymic with *Ocenebra babingtoni* SOWERBY 1892 ("*O. bairstowi*" by LORENZ 1990, p. 13 fig. 3).

Literature cited:

BARNARD, K. H. (1967): A Beginner's Guide to South African Shells. -- 215 pp., Cape Town (Maskew Miller).

FAIR, R. H. (1976): The Murex Book. -- Honolulu (Sturgis Printing Co.).

KENSLEY, B. (1973): Sea-Shells of Southern Africa. Gastropods. -- 236 pp., Cape Town (Maskew Miller).

KILBURN, R. & RIPPEY, E. (1982): Sea Shells of Southern Africa. -- 249 pp., Johannesburg (Macmillan).

LORENZ jun., F. (1990): Further notes on South African Muricidae (Gastropoda: Muricidae). -- La Conchiglia, 256: 12-17. Roma.

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Explanations of plate 7.
(page 60, slightly enlarged, photos: V. WIESE)

Nucella wahlbergi lindaniae n. ssp.

- Fig. 1: Holotype (Sandy Bay, 40-45 m, leg. NIEFT & DE BRUIN, HNC 27485).
Fig. 2: Paratype 5 (Coral Gardens, 35 m, leg. & coll. F. LORENZ jun.).
Fig. 3: Paratype 1 (Sandy Bay, 40-45 m, leg. NIEFT & DE BRUIN, coll. F. LORENZ jun.).

Nucella wahlbergi wahlbergi (KRAUSS 1848)

- Fig. 4: False Bay, Buffelsbay, intertidally (coll. F. LORENZ jun.).
Fig. 5-6: False Bay, Buffelsbay, 15 m (coll. F. LORENZ jun.).
Fig. 7: Whittle Rock, 25 m (coll. F. LORENZ jun.).
Fig. 8: Coral Gardens, 35 m (coll. F. LORENZ jun.).
Fig. 9: Sandy Bay, 45 m (coll. F. LORENZ jun.).

Explanations of plate 8.
(page 61, enlarged approx. 3:1, photos: V. WIESE)

Fig. 10-11: *Ocenebra scrobiculata* (PHILIPPI 1846),
East London area, intertidally.

Fig. 12-13: *Ocenebra newmani* LORENZ jun. 1990,
Llandudno, 15m.

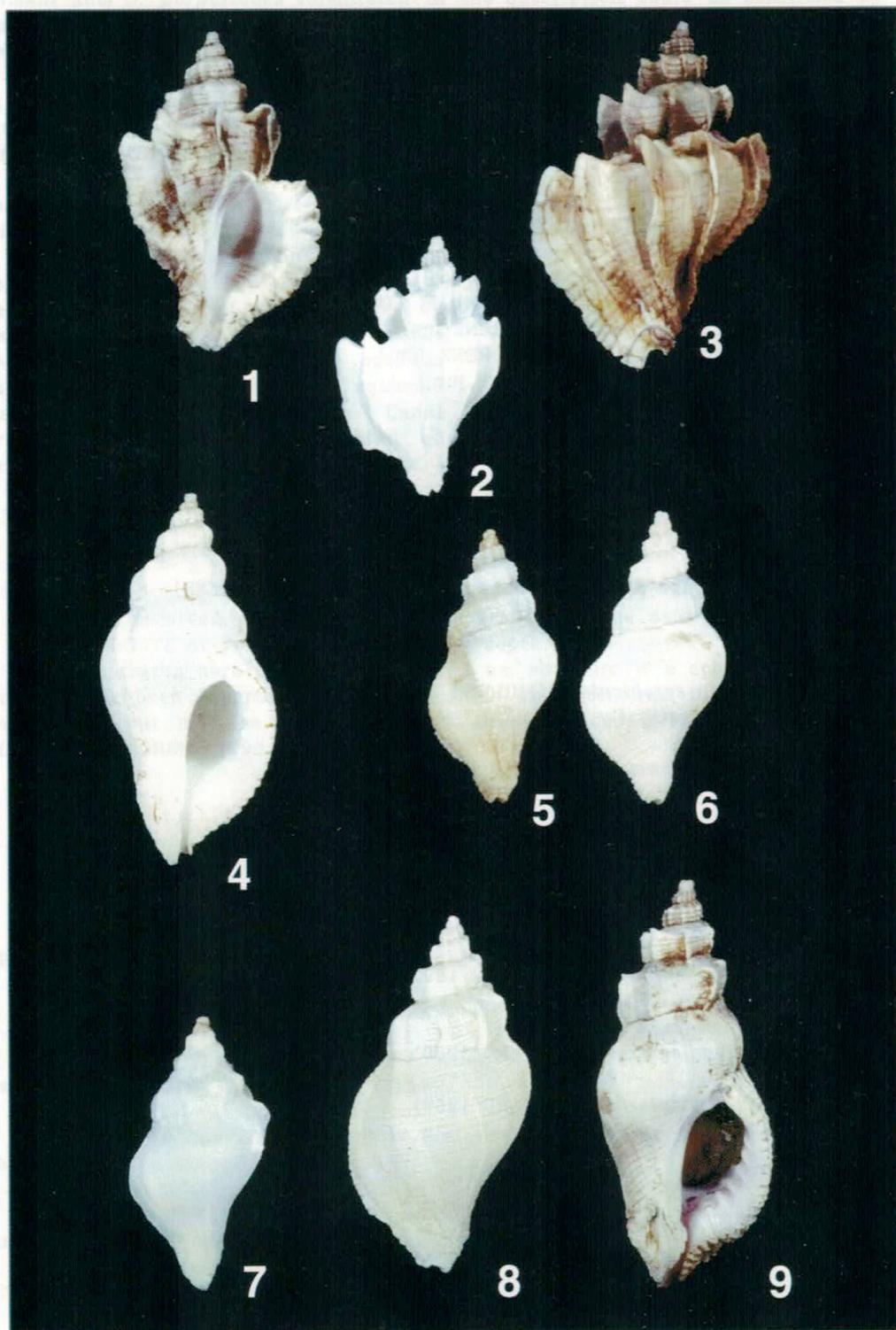
Fig. 14-15: *Ocenebra purpuroides* (REEVE 1845),
False Bay, Buffelsbay, intertidally.

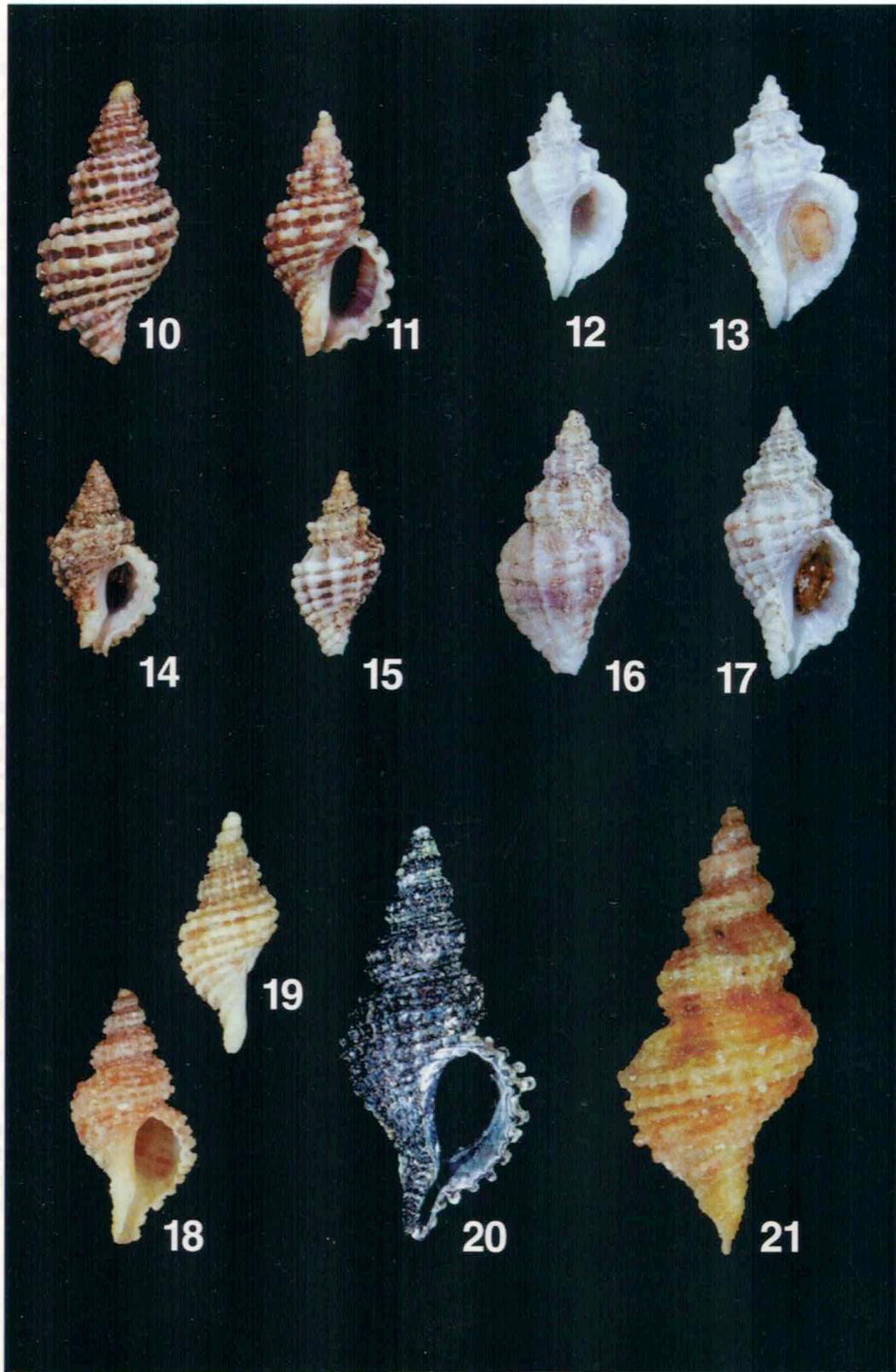
Fig. 16-17: *Ocenebra purpuroides* (REEVE 1845),
Kommetjie, in rock pools.

Fig. 18-19: *Ocenebra babingtoni* SOWERBY 1892,
Gonubie, on beach.

Fig. 20: *Ocenebra aedicularum* (BARNARD 1969),
Jeffreysbay.

Fig. 21: *Ocenebra aedicularum* (BARNARD 1969),
Port Elizabeth, 17 m.





F. LORENZ jun.: *Nucella wahlbergi* and notes on some South African Muricidae.