Harpa cabriti P. Fischer, 1860 and its junior synonym *Harpa lorenzi* D. Monsecour & K. Monsecour, 2018

a gallery of pictures showing its variability

by Frank Nolf

Abbreviations:

CFN: private collection of Frank Nolf
CSH: private collection of Steve Hubrecht
MNHN: Muséum national d’Histoire naturelle (Paris, France)

The family HARPIDAE

Three genera: *Austroharpa*, *Harpa* and *Morum*

Habitat: shallow water, as well as at a greater depth

Geographic distribution: tropical and semitropical waters of the Indo-Pacific; one species (*Harpa doris* Röding, 1798) in West Africa, absent from the W Atlantic

Species: The genus *Harpa* consists of 12 different species and three questionable species, living at the margins of the known distribution range, described in the last decade. *Harpa ivojardai* Cossignani, 2013 is now considered as a subspecies of *Harpa major* Röding, 1798. Two others, namely *Harpa kolaceki* Cossignani, 2011 and *Harpa queenslandica* Berschauer & Petuch, 2016 certainly need still more investigation.

General characteristics:

- a more or less inflated body whorl and evidently a large and wide aperture
- the well-defined axial ribs, which are flattened at the suture and curved towards the columella
- juvenile or semi-adult specimens possess more ribs
- it is sometimes quite difficult to distinguish the different species from each other, and we are almost limited to the study of the columellar blotches and the axial ribs: widely spaced or closely packed, broad or narrow, delicate or heavy.
- few differences in pattern of blotches, flecks, dots, dashes and bands, chevrons or zigzag lines between the axial ridges

- despite these variable characteristics some authors succeed again and again in describing new species
- in general a broad anterior siphonal notch is present to receive the inhalant siphon, the collumella lacks folds
- an umbilicus is never present, except for *Harpa gracilis* Broderip & G.B. Sowerby I, 1829
- a broad, polished callus (or ventral shield) extends over the parietal and columellar areas and often covers the lower spire walls
- no significant difference between male and female animals, although those of males are generally narrower
- the protoconch of the different *Harpa* species vary sufficiently in form and number of whorls to aid identification.

The following pictures show the variability of *Harpa cabriti* P. Fischer, 1860 over his whole distribution area in the western Indian Ocean.

In the northern and southern limit if this range red colour forms are not uncommon and the description of *Harpa lorenzi* D. Monsecour & K. Monsecour, 2018 was based upon an immature specimen from waters south of KwaZulu-Natal (South Africa).

Many intermediates exist between *H. cabriti* and *H. lorenzi* and the red colour forms may be the result of habitat conditions in deeper waters.

Harpa cabriti P. Fischer, 1860

Order Neogastropoda
Superfamily Neogastropoda [unassigned]
Family HARPIDAE
Genus *Harpa* Röding, 1798

Synonymised names:

Harpa striata Lamarck, 1819
Harpa ventricosa Lamarck, 1816
Harpa lorenzi D. Monsecour & K. Monsecour, 2018

Most important characteristics:

- solid shell with a size of 50 to 113 mm
- broadly oval with a very wide body whorl of which the width takes 70% of the total length
- protoconch elevated-conical, flesh-pink and smooth
- lower portion of the spire whorls becomes increasingly covered by a glaze
- the projections at the junctions of the axial ribs with the subsutural cords becomes distinctly spinose towards the end of the penultimate whorl
- throughout the spire very fine axial threads are present between the ribs
- irregular chestnut or pale brown spots are present below the sutures of the spire whorls
- the penultimate whorl is high and covered with a purple-brown callus, fading to light brown or yellow near the shoulder.

- last whorl large and wide, with 11 to 17 strong axial recurving ribs, flattened below the shoulder
- below the spines on the shoulder of each whorl the ribs have two or three rows of very small denticles
- the profile of the ribs is triangular
- on the middle of the body whorl there is usually a radial band of brown patches in the intercostal space, this band can be continuous or it can alternate between the ribs
- the ribs are marked by blotches of varying shades of flesh-colour separated by narrow bands of white, aligned as revolving bands on the body whorl
- the intercostal spaces, which are sculptured with fine axial threads, are marked by festoonlike chestnut lines, and occasional chestnut blotches
- in some dark-coloured shells the colouration on the ribs is of a red-brown or orange shade

- the parietal wall is covered with a thin glaze marked by two large chestnut spots, one near the junction of the outer lip and body whorl and the other where the columellar lip joins the parietal wall
- a third small spot is present at the base of the columellar lip and is occasionally connected to the lower large spot by a chestnut patch along the inner edge of the columellar lip
- spire paler, often with a yellowish band on the shoulder of the penultimate whorl
- outer lip thickened.
- aperture ovate, outer lip gently rounded or occasionally somewhat flattened
- interior usually with yellow-orange colouration, and with the external banded pattern visible.

Distribution range:

- typical western Indian Ocean species: from KwaZulu-Natal (South Africa) in the south, over Mozambique, Madagascar, Tanzania, Somalia, Gulf of Aden to the Red Sea in the north and Seychelles and Mauritius in the east

- records from Tranquebar Coast (E India), Madura and Ambon (Indonesia) and even the Philippines are based on specimens from old collections and should be regarded as doubtful, probably confused with *H. major* Röding, 1798

- this PPT contains a figure of a specimen from Tuticorin (SE India), eventually an extension of the geographic range to the eastern Indian Ocean

Remark about the colour variation:

- specimens from Somalia are mostly strongly orange coloured
- further southwards, colours go from dark brown-red to brown with variable patterns
- in Madagascar, specimens show a large variation of colour, pattern and number of axial ribs
- off Mauritius live specimens may be exceptionally strongly wine red
- in waters south of KwaZulu-Natal (South Africa) at a depth of about 100 m, deeply red coloured specimens may occur.

Comparison with similar species:

- *Harpa major* Röding, 1798 encompasses the distribution range of *H. cabriti* in the Western Indian Ocean. *H. cabriti* is characterised by the more squarish outline of the body whorl, the flattened side and angulate shoulder where the ribs are more erect and bear a strong triangular spine with less conspicuous spines below the shoulder. The chestnut intercostal painting is more regularly, deeply, and multiplicitly arcuate. The chestnut markings on the parietal wall are decidedly less extensive.

- *Harpa davidis* Röding, 1798 has a brown blotch on the parietal wall bisected in the upper larger portion; the lower portion of the parietal blotch is bisected resulting in an isolated brown or chestnut spot at the base of the columella.

Comments about *Harpa lorenzi* D. Monsecour & K. Monsecour, 2018:

H. lorenzi was described as a slenderer shell with an average size of 44 mm, a more elongate outline and a less rounded aperture: characteristics typical for the juvenile stage of each *Harpa* species. The authors mention a '*consistent reticulate pattern on the shoulder*', but this is hardly visible in the South African specimens and even not in juvenile *H. cabriti*. Anyway, even if it were present this would be only a characteristic for the juvenile stage and should not be used to define adult specimens.

The reddish colour of shells of *H. lorenzi* cannot be an argument to decide whether it should be regarded as a separate species. It is a deep-water dweller (about 100 m) and just like specimens of *H. cabriti* from the Gulf of Aden and Somalia, trawled by fishermen in deeper waters, it has an almost orange or reddish colour. It can be assumed that the habitat and nutrition can influence the colour of the mantle lob and indirectly the colour of the shell. Most *Harpa* species occur on a sandy bottom in shallow water but even in deeper waters also on sand among bryozoa and sponges.

***Harpa cabriti* P. Fischer, 1860**
Off KwaZulu-Natal, South Africa.
Trawled by fishermen at a depth of 100 m. 2002.
46.24 mm. CFN.

***Harpa cabriti* P. Fischer, 1860**
Off mouth of Tugela River, KwaZulu-Natal,
South Africa. 43.27 mm.
Subadult specimen. CSH.

***Harpa cabriti* P. Fischer, 1860**
South KwaZulu-Natal, South Africa.
24.20 mm. Juvenile specimen. CSH.

***Harpa cabriti* P. Fischer, 1860**
North Transkei, South Africa.
31.88 mm. Juvenile specimen. CSH.

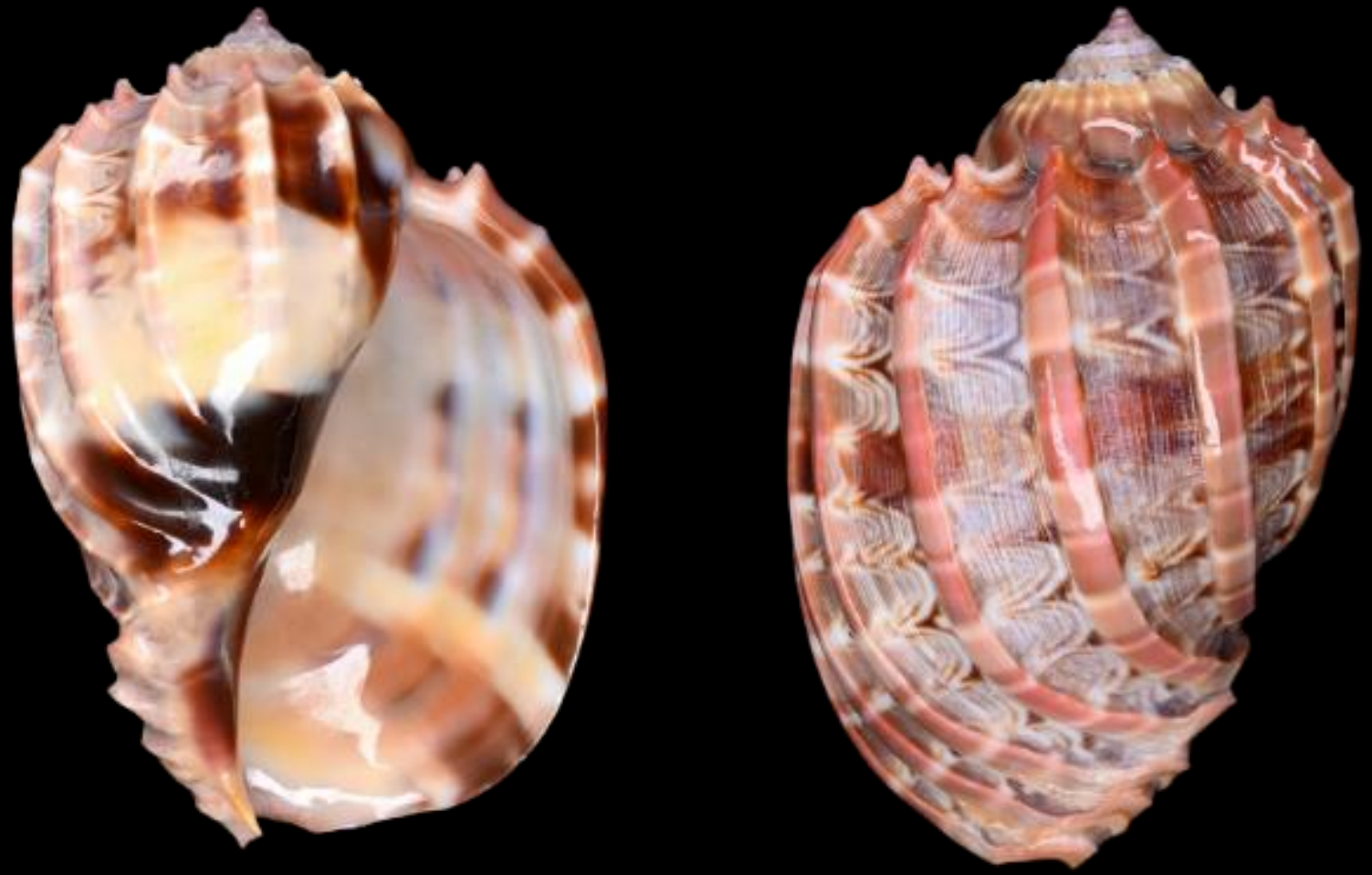
***Harpa lorenzi* D. Monsecour & K. Monsecour, 2018**
(junior synonym of *H. cabriti*).
South coast of Natal, South Africa. Dredged at a depth of 100-200 m.
Holotype. MNHN. 44 mm

***Harpa cabriti* P. Fischer, 1860**

Manantenina, Anosy region, Madagascar.

On reef in shallow water. From octopus divers at night.

July 2017. 72.85 mm. CSH.



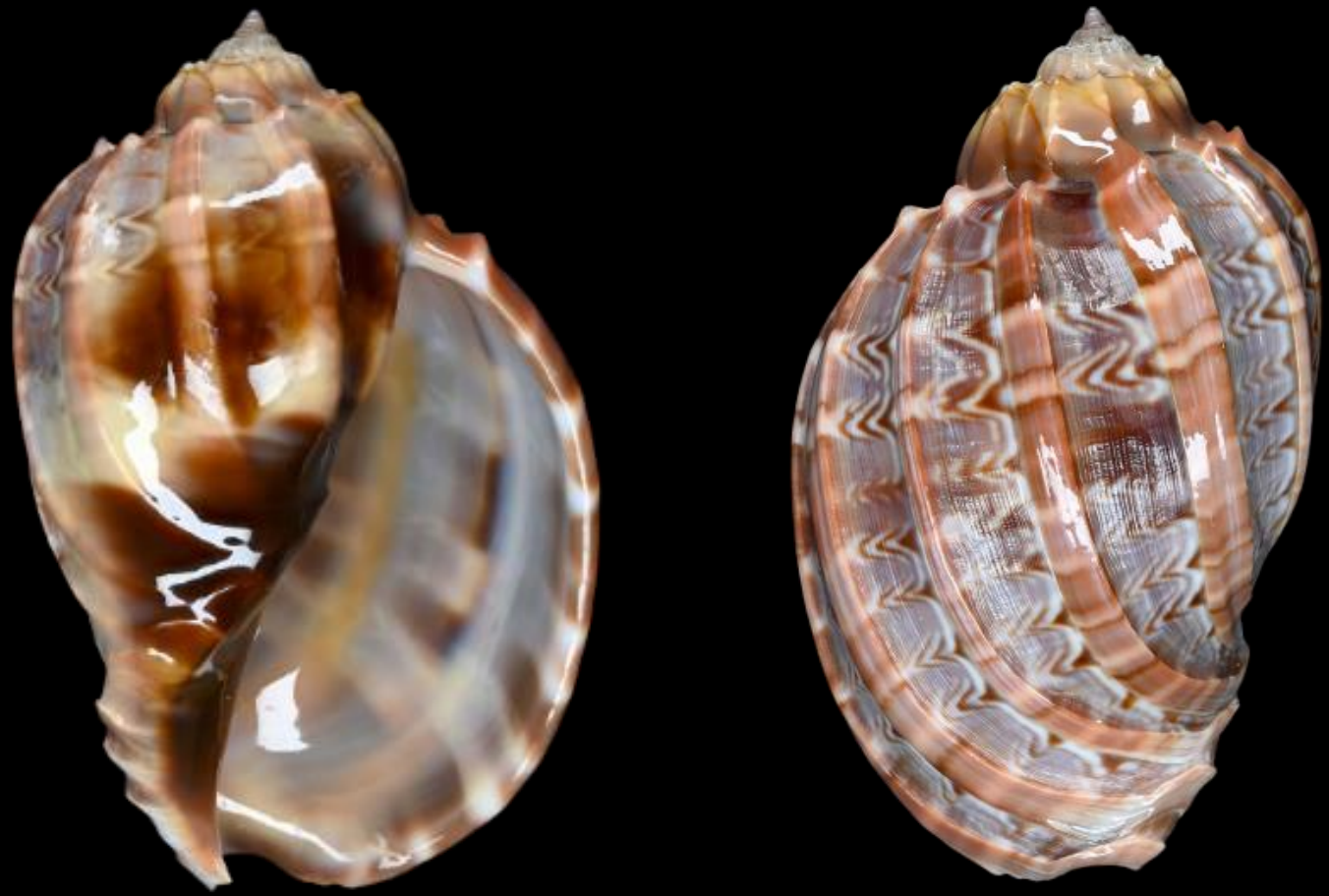
***Harpa cabriti* P. Fischer, 1860**

Trawled by local fishermen, off Ras Hafun, Somalia.

1998. 75.57 mm.

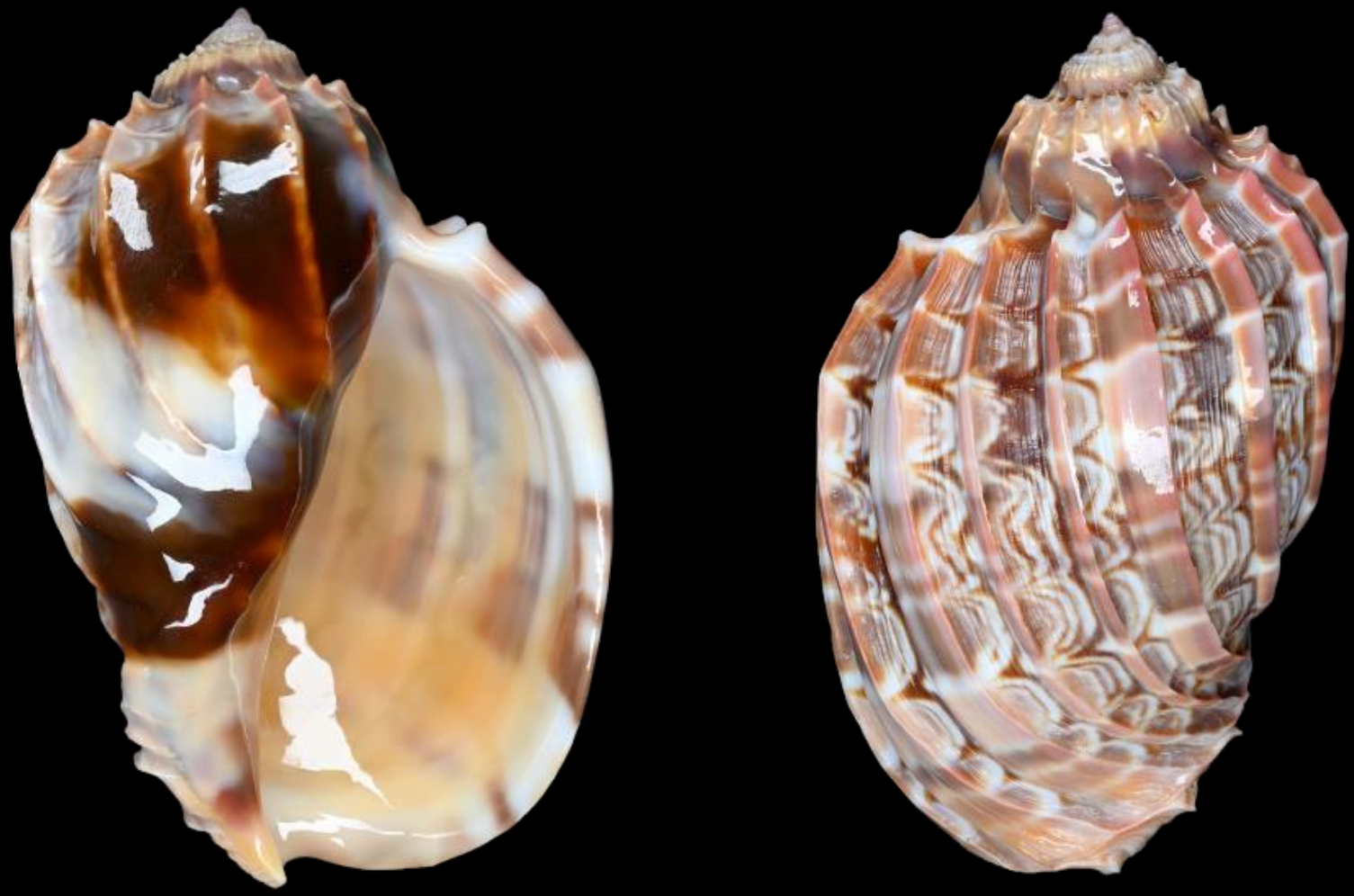
***Harpa cabriti* P. Fischer, 1860**
Nosy Be, NW Madagascar.
In marine grass *Cymodocea*, on reef. 1995.
100.01 mm. CFN.

***Harpa cabriti* P. Fischer, 1860**
Nosy Be, NW Madagascar. In marine grass *Cymodocea*, on reef. 1995.
CFN. 103.03 mm.

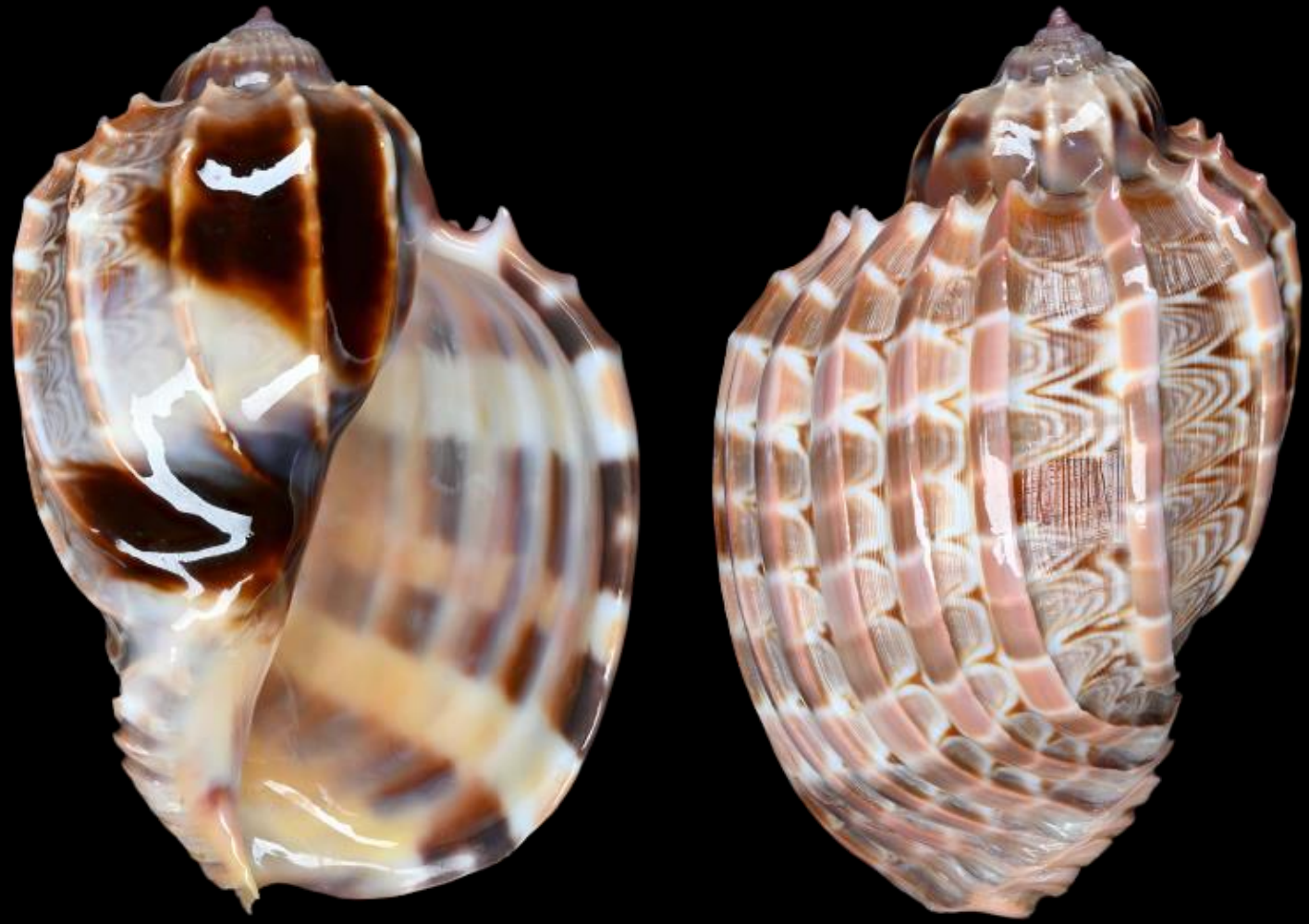


Harpa cabriti P. Fischer, 1860.
Nosy Be, NW Madagascar.
In marine grass *Cymodocea*, on reef. 1995.
CFN. 79.39 mm.

***Harpa cabriti* P. Fischer, 1860**
Nosy Be, NW Madagascar.
CFN. 73.77 mm.



***Harpa cabriti* P. Fischer, 1860**
Toliara, SW Madagascar. In shallow water.
CFN. 92.96 mm



***Harpa cabriti* P. Fischer, 1860**
Toliara, SW Madagascar. In shallow water.
CFN. 93.76 mm.

***Harpa cabriti* P. Fischer, 1860**
Toliara, SW Madagascar. In shallow water.
1998. CFN. 65.09 mm.

***Harpa cabriti* P. Fischer, 1860**
Toliara, SW Madagascar. In shallow water.
1998. CFN. 77.85 mm.

***Harpa cabriti* P. Fischer, 1860**

Toliara, SW Madagascar. In shallow water. 1998.

CFN. 86.74 mm.

***Harpa cabriti* P. Fischer, 1860**
Toliara, SW Madagascar.
CFN. 94.42 mm

***Harpa cabriti* P. Fischer, 1860**

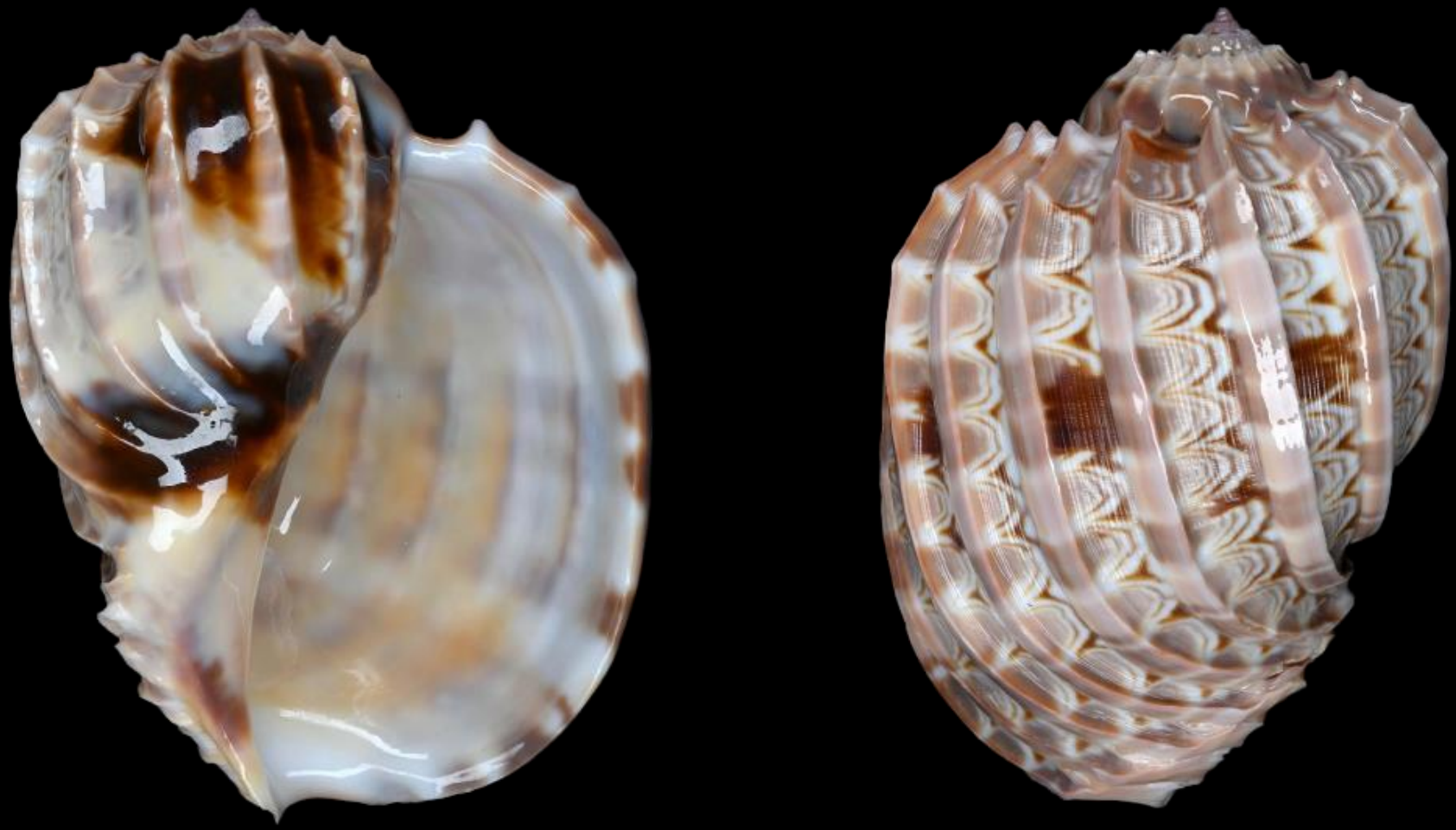
Trou aux Biches, Mauritius. Dived in shallow water. 1990.

CFN. 111.84 mm.

***Harpa cabriti* P. Fischer, 1860**

Nacala Bay area, Mozambique. Dived in shallow water. 1990.

CFN. 91.42 mm.



***Harpa cabriti* P. Fischer, 1860**

Nacala Bay area, Mozambique. Dived in shallow water. 1990.

CFN. 94.26 mm.

***Harpa cabriti* P. Fischer, 1860**

Nacala Bay area, Mozambique. Dived in shallow water. 1990.

CFN. 97.62 mm.

***Harpa cabriti* P. Fischer, 1860**

Nacala Bay area, Mozambique. Dived at a depth of 8 m. 2006.

Subadult specimens. CFN. Left: 39.78 mm; Middle: 40.27 mm. Right: 46.87 mm

***Harpa cabriti* P. Fischer, 1860**
Fumba region, Zanzibar, Tanzania. In shallow water.
VCFN. 80.79 mm.

***Harpa cabriti* P. Fischer, 1860**
Fumba region, Zanzibar, Tanzania.
Trawled by local fishermen in shallow water.
CFN. 91.58 mm

***Harpa cabriti* P. Fischer, 1860**
Fumba region, Zanzibar, Tanzania.
Trawled by local fishermen in shallow water.
CFN. 90.29 mm.

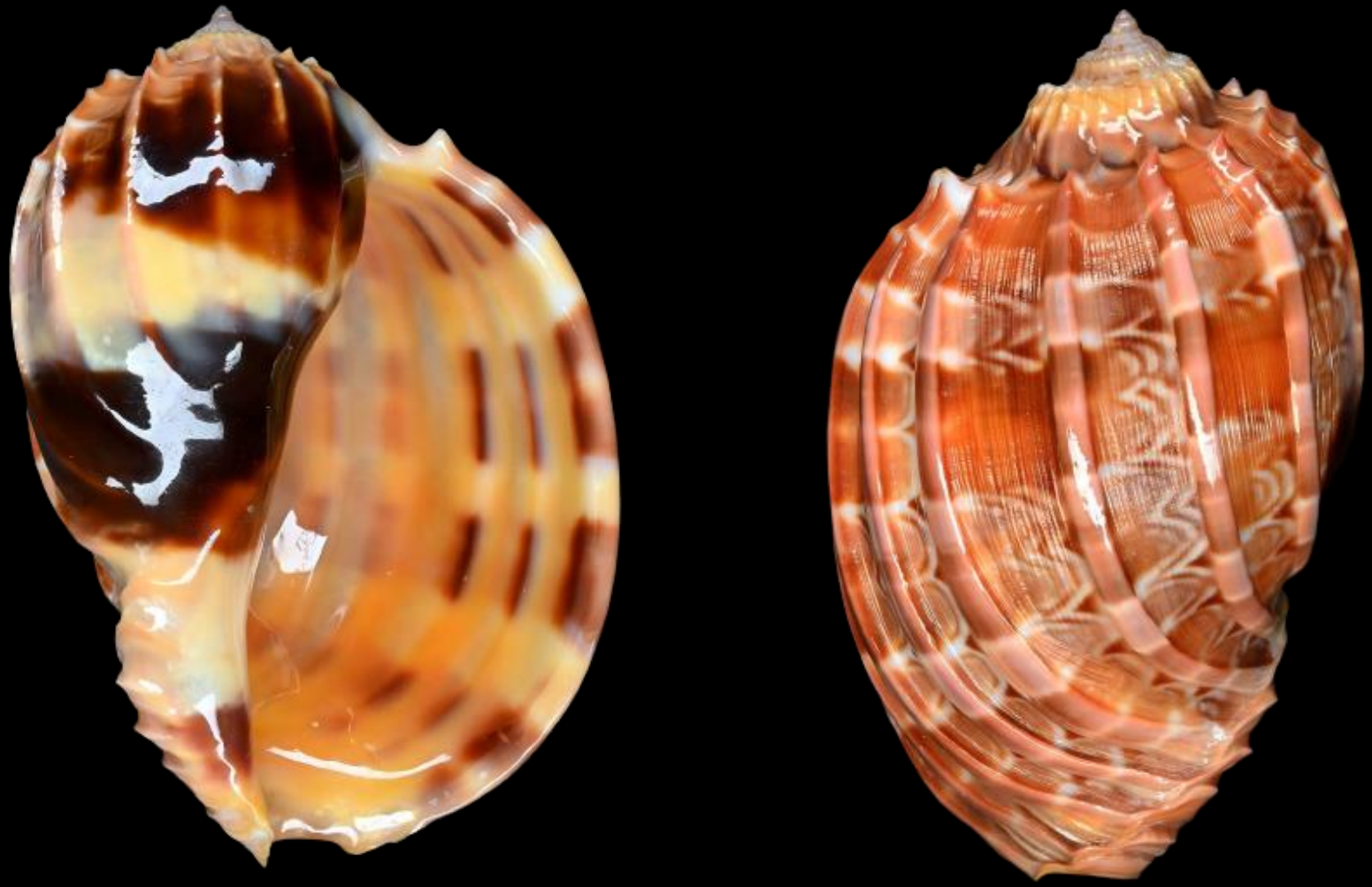
***Harpa cabriti* P. Fischer, 1860**
Fumba region, Zanzibar, Tanzania.
Trawled by local fishermen in shallow water.
CFN. 73.79 mm.

***Harpa cabriti* P. Fischer, 1860**
Fumba region, Zanzibar, Tanzania.
Trawled by local fishermen in shallow water.
CFN. 70.15 mm. Freak specimen.

***Harpa cabriti* P. Fischer, 1860**

Mogadishu, Somalia. Trawled by fishermen. 1991.

CFN. 65.09 mm.

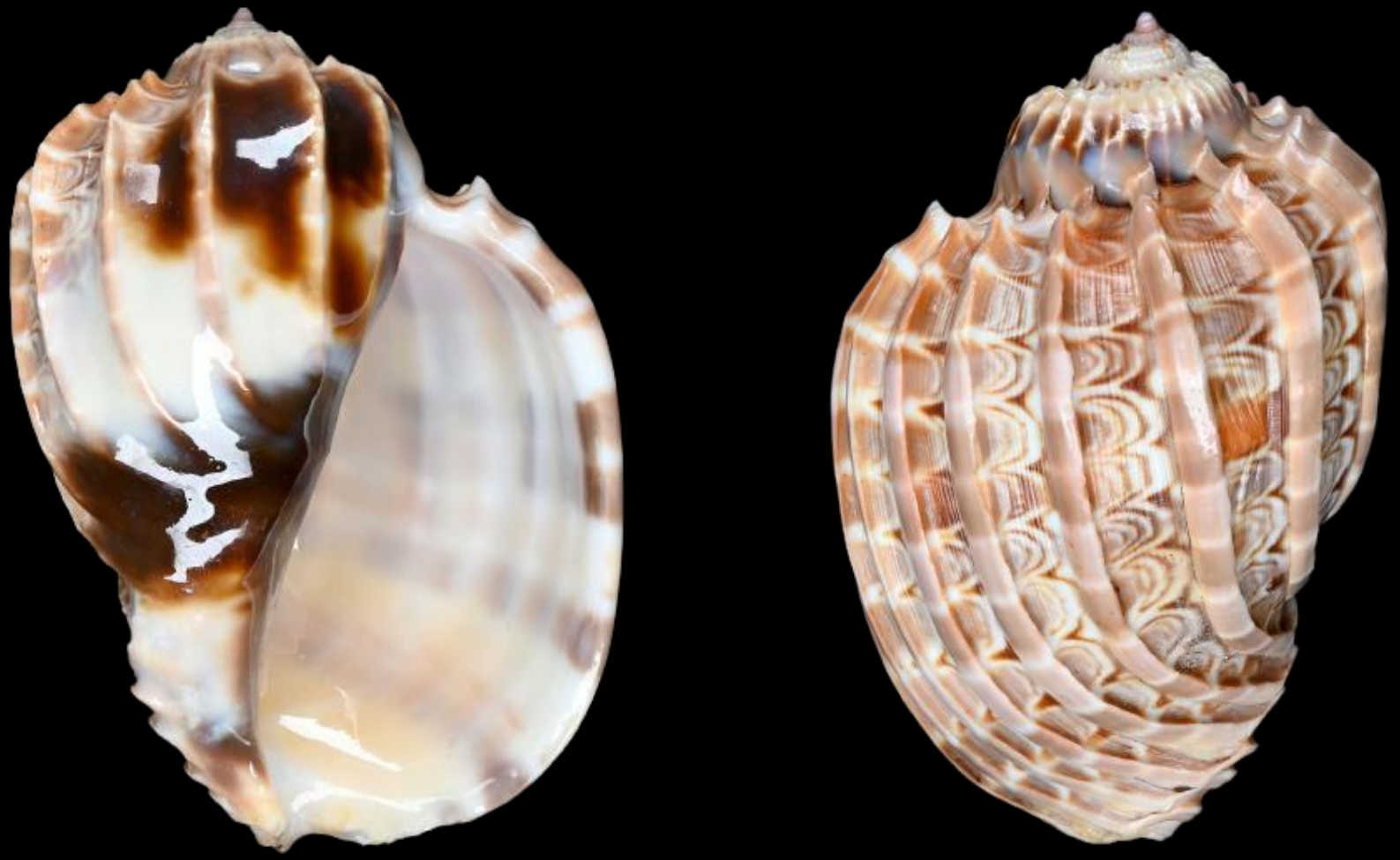


***Harpa cabriti* P. Fischer, 1860**
Mogadishu, Somalia. Trawled by fishermen. 1991.
CFN. 80.30 mm

***Harpa cabriti* P. Fischer, 1860**

Gulf of Aden. Trawled by fishermen. April 1991.

CFN. 83.15 mm



***Harpa cabriti* P. Fischer, 1860**
Tuticorin, SE India. Trawled by fishermen.
1999. 83.15 mm.

Conclusion:

Harpa lorenzi refers to juvenile specimens of *Harpa cabriti*, and therefore should be regarded as a junior synonym of the latter. This is a typical case of the creation of a new species name as a result of polymorphism in a species. The variability is even greater in *Harpa major*. Juvenile specimens of *H. cabriti* may have many very close axial ribs and have sometimes been considered hybrids between *H. costata* (Linnaeus, 1758) and *H. cabriti*: *H. multicostata* G.B. Sowerby I, 1822 and *H. laetifica* Melvill, 1916, both = *H. costata* Linnaeus, 1758.