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**BLASICRURA TERES ELATENSIS
AND BLASICRURA TERES NATALENSIS – TWO NEW SUBSPECIES**

by E. L. Heiman*) & H. K. Mienis**)

Abstract: *Blasicrura teres elatensis* new ssp. from the east coast of Sinai and *Blasicrura teres natalensis* new ssp. from South Africa are described.

Key words: Mollusca, Gastropoda, Cypraeidae, taxonomy, *Blasicrura teres*, Red Sea, South Africa.

Introduction

Blasicrura teres (Gmelin, 1791) is widely distributed in the Indo – Pacific region from the Red Sea, East Africa and South Africa to Panama. Gmelin, 1791 described *Cypraea teres* in the following way:

“teres. 35. C. testa cylindrica lactea altero latere limbata liturisque angustis luteis rarioribus varia: dorso fascius undatis tribus fuscescentibus. Schroet. Einl. in Conch., I. 161 t. Ic.f.7”.

Although Schilder, 1966a mentioned that the holotype of this species is unknown, there is a consensus among malacologists at the moment regarding the name for this taxon, which was moved to the genus *Blasicrura*. It is recognized below as the nominate subspecies *B. teres teres* (Fig. 1) from Malaysia, Philippines, Indonesia and near-by areas. Numerous groups of cowry populations in the Indo-Pacific region belonging to the *teres* complex are known to malacologists. It turned out during a study of this complex that two groups of *teres* populations from extreme parts of the Indian Ocean –from the Gulf of Aqaba and from South Africa – differ from other populations of this species to such a degree that they can be described as subspecies.

1. *Blasicrura teres elatensis* new ssp.

Diagnosis

The new subspecies *Blasicrura teres elatensis* differs from the nominate subspecies *Blasicrura teres teres* (Gmelin, 1791) by the following statistical shell characteristics:

- Considerably larger size. The average shell length in populations from East Sinai is about 33% larger than this shell characteristic in the nominate subspecies *Blasicrura teres teres* (Gmelin, 1791).
- Absence of the dorsal blotch in the majority of shells.
- More vivid brown coloration of the dorsum.



1. *B. teres teres*, Philippines

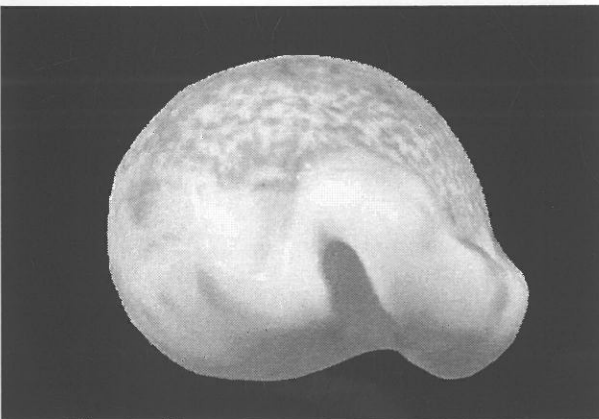
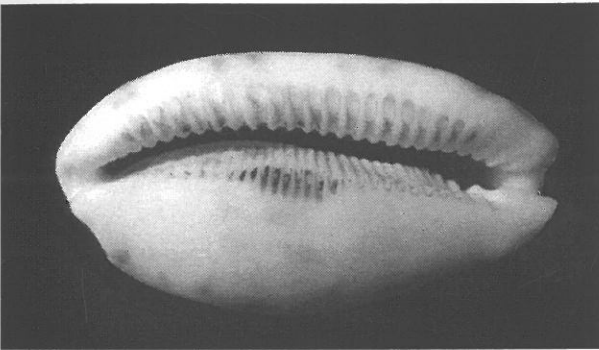
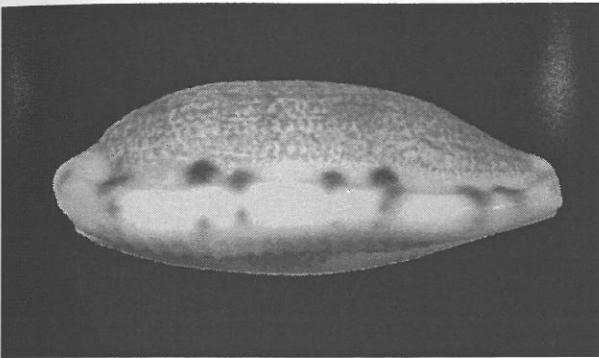
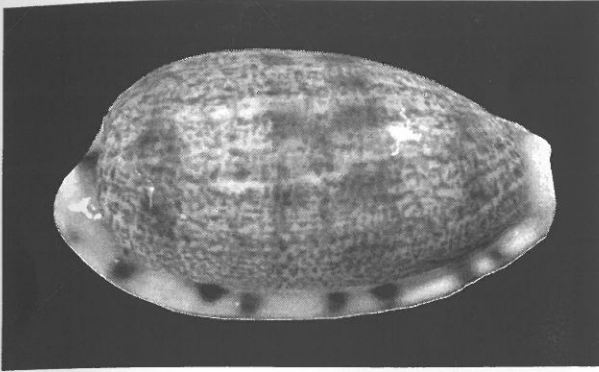
Description of *B. teres elatensis*

Shells of *B. teres elatensis* have most of the characters of the nominate subspecies: they are elliptical, the shell spire forms a depression, the shell profile is flat to slightly convex. The shell extremities are not acuminate. The shell base is white, slightly convex. The outer lip is flat. The shell is strongly margined at the labial side (Fig. 5) but not at the columellar side, although that side can be strongly callused and the columellar callus is sometimes visible from the dorsum. The labial callus is compressed near the anterior end and protrudes near the posterior end.

In shells of *B. teres elatensis* (Figs. 2-5):

dark spots are always present at the margins and are sometimes visible from the base. Their size is smaller than 1 mm in the vast majority of shells and their number may vary from one or two to 12-15 and more. In shell of not fully adult molluscs (not callused) part of the transversal dorsal bands may be visible near the left margin resembling small square spots.

The dorsum is colored with a light brown net of specks and lines. Three transverse brown bands of different intensity may be present on the dorsum. Arrowhead-like lines may be visible mostly in the central band. The dorsal line is practically never visible. The aperture is slightly curved at the posterior part of the shell. The columellar teeth are



2 – 5. *B. teres elatensis*, the holotype HUI # 40830. Teeth in the central part of the base are artificially colored.

not limited to the aperture and slightly extend towards the base. In about 20-25% of the shells columellar teeth are more extended in the central part of the base - Fig. 4.

The fossula is concave, denticulate as an extension of columellar teeth. Teeth on the outer lip are strong, extending across half of the outer lip or more.

Statistical shell characteristics:

The estimated shell length range varies from 19 to 53.2 mm with the average 36 mm. The average relative shell width is 0.53. The formula reads 36.53.23.24.

Habitat

B. teres elatensis can be found sporadically in several places in the Sinai area from Elat to Sharm-el-Sheikh in shallow water and more often in deep water down to 25-30 m.

Etymology

The subspecies is named after the type locality Elat in the extreme northern part of the Gulf of Aqaba.

Type locality and known material.

The type locality is Elat. The holotype is from the type locality. Paratypes and all studied material are from East Sinai (Table 1).

Table 1
The type material of *B. teres elatensis*

specimen	collect.	L, mm	W, mm	H, mm
holotype	HUJ	38.2	20.7	16.1
paratype	EH	37	20	15
paratype	EH	43.5	21.7	17
paratype	EH	40.3	21.5	17
paratype	EH	37.3	19.1	15.3
paratype	EH	30	15.1	12

Note: HUJ - collection of the Hebrew University, Jerusalem; EH - collection of the first author

Comparison with other populations of *Blasicrura teres* and discussion

Opinions concerning the taxonomic identity of the *B. teres* populations in the different geographical areas of the Indo-Pacific can be seen in Table 2. Shell characters (qualities) of different *teres* populations, which were studied statistically by the authors, are presented in Table 3. The number of shells from each area is stated after the locality. Certain qualities: the depression near the spire, distinct dorsal bands, callused and margined outer lip, the extended and callused posterior extremity

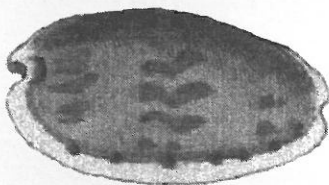
are shared by the majority of individuals in all studied populations. "Arrow-heads" in the pattern of dorsal bands, the dorsal pattern, blotch and tinge of coloration vary to some extent and can be found in every population in different proportions. Populations of *B. teres elatensis* differ statistically from populations of the nominate subspecies *B. teres teres* from the Philippines (PI) by the shell characters mentioned above is a section Diagnosis.



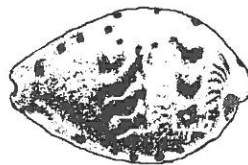
6. *Blasicrura teres elatensis*, paratypes

Table 2
The status of *B. teres* populations according to different authors

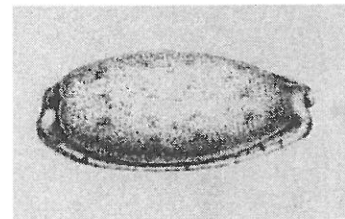
authors	subspecies of <i>B. teres</i> , their main locality, and their formula				
	<i>teres</i>	<i>alveolus</i>	<i>subfasciata</i>	<i>pellucens</i>	<i>elatensis</i>
	27.54.24.23	30.55.23.22	25.54.24.23	28.54.23.21	36.53.23.24
	Malaysia Moluccas	East Africa Lemuria	N. Caledonia Australia	Pacific Ocean	East Sinai
Schilder & Schilder, 1938	subspecies	subspecies	subspecies	subspecies	not known
Schilder & Schilder, 1971	species	synonym	synonym	synonym	not known
Kay, 1981	species	synonym	synonym	synonym	not mentioned
Burgess, 1985	species	synonym	synonym	synonym	not mentioned
Cossignani & Passamonti, 1991	species	synonym	synonym	synonym	not mentioned
Raybaudi, 1992	subspecies	subspecies	subspecies	subspecies	not mentioned
Lorenz & Hubert, 2000	subspecies	synonym	synonym	subspecies	not mentioned



7. *Cypraea tabescens*.
A picture from a work
by Martini, 1769



8. *Cypraea latior*
A picture from a work
by Reeve, 1846



9. *Cypraea tabescens* var. *alveolus*
a picture from a work by
Tapparone-Canefri, 1882

Table 3
Shell characters (in %) in different *teres* populations

qualities	Sinai N=65	Kenya N=27	Mozam- bique N=68	South Africa N=48	PI N=42	Okinawa N=37
the shell shape is subcylindrical or elliptical	47	70	31	10	91	46
	53	30	69	90	9	54
the dorsal blotch is distinct	13	41	49	25	88	51
labral spots are larger than 1	7	27	12	50	28	19
the relative shell width, %	53	nd	54	57	54	54
the average shell length, mm	36	nd	32	30	27	32

Table 4
A chronology of synonyms of *Blasicrura teres* (Gmelin, 1791)

name	note	author and date	comments
<i>subfasciata</i>	1	Link, 1807	a synonym; the holotype is unknown, referred to a work by Martini, 1769-
<i>tabescens</i>	2	Dillwyn, 1817	a synonym; the description was studied by the authors
<i>cylindrica</i>		Blainville, 1826	a synonym; name is preoccupied, the holotype is unknown
<i>alveolus</i>	3	Tapparone-Canefri, 1882	a synonym; a description was studied; the type locality is Mauritius, described as a variety of <i>Cypraea tabescens</i> -Fig. 9
<i>elaiodes</i>		Melvill, 1888	a synonym; originally described as a form from Mauritius
<i>laticrura</i>	4	Melvill, 1888	a synonym; a description was studied; originally described as a form, the holotype is unknown
<i>pellucens</i>	5	Melvill, 1888	a synonym, described as a form from Hawaii
<i>pentella</i>		Iredale, 1939	a synonym, a form from Queensland, Australia
<i>hermanni</i>		Iredale, 1939	a synonym, a form from Queensland, Australia
<i>vava</i>		Steadman & Cotton, 1943	a synonym, a form from Fiji

Synonyms of *B. teres* listed in Table 4 were studied by the authors. The following notes should be added to this table:

1. Link, 1807 mentioned a work by Martini, 1769. An illustration from this work can be seen in Fig. 7.
2. This name was adopted in the Prodrôme to designate a subspecies of *B. teres* from New Caledonia and Australia. Currently, there is a consensus between malacologists that *Cypraea tabescens* is a synonym of *Blasicrura teres* (Gmelin, 1791).
3. This name was adopted in the Prodrôme to designate a subspecies of *B. teres* from East Africa and Lemuria - Fig. 9.
4. This controversial taxon was discussed by Heiman, 2001.

5. This name was adopted in the Prodrôme to designate a subspecies from the northern Pacific Ocean.

2. *Blasicrura teres natalensis* new ssp Diagnosis

The new subspecies differs from the nominate subspecies *Blasicrura teres teres* by the following statistical characteristics:

- an oval (egg) shape of the majority of shells
- greater relative width of the shell (0.57 against 0.53-0.54);
- presence of large labral spots;
- more convex base;

-more shallow columellar teeth, which are restricted to the aperture and do not extend on the columella part of the base.

Description of *B. teres natalensis*

Blasicrura teres natalensis shares the following shell characters with the nominate subspecies *Blasicrura teres teres*:

the hollowed-out spire, the convex shell profile, the distinctly margined and callused labial margin, the white base, dark marginal spots at the margins, the greenish-brown dorsum with three brownish bands.

Blasicrura teres natalensis differs from the nominate

subspecies by the following shell characteristics:

- More oval shape (egg-shaped).
 - A wider shell: the average relative shell width in populations of *B. teres natalensis* is 0.57 against 0.53 in the nominate subspecies.
 - Larger labral spots often reaching size of 2 mm and more.
 - More convex dorsum and base.
 - Lesser number of columellar teeth, which are more shallow and restricted to the aperture almost not extending on the columellar part of the base.
- The formula for *B. teres natalensis* reads 30.57.22.20.



10.

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12.

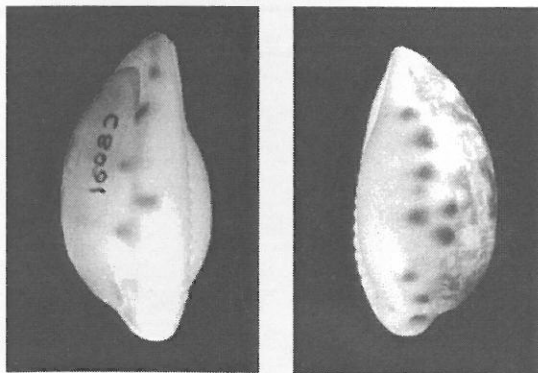
13.

Shells of elliptical shape

Large marginal spots

Blasicrura teres natalensis (coll. of the Natal Museum, South Africa)

Pictures Figs. 10-15 are published thanks to courtesy of the Natal Museum (NM), Pietermarisburg, Natal, South Africa.



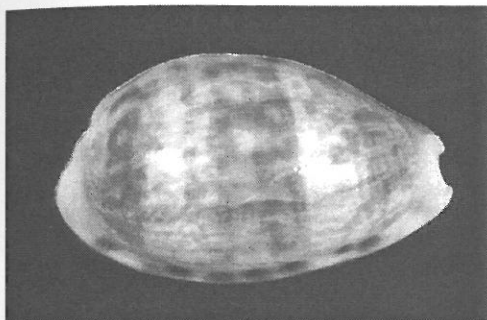
14, 15. Shells with a very convex base and dorsum

Blasicrura teres natalensis
(coll. of the Natal Museum, South Africa)

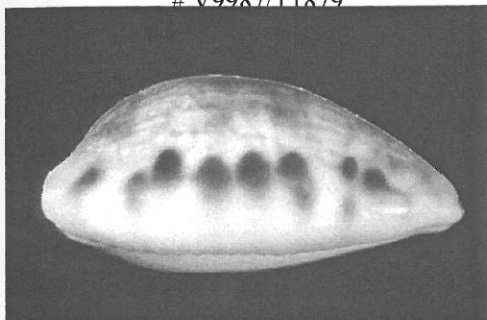
Table 5

The type material of *B. teres natalensis*

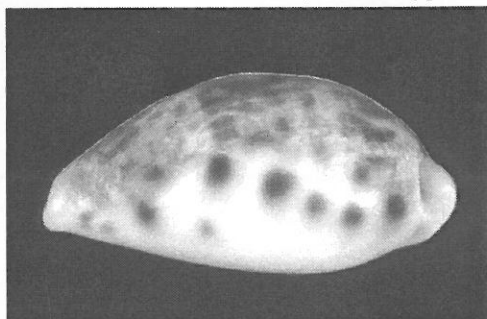
specimen	coll.	L, mm	W, mm	H, mm
holotype	NM	31	18	14.8
paratype	EH	32.2	19.9	16
paratype	EH	27	17	13.3
paratype	EH	25.1	15	12
paratype	EH	28.9	17	13.5
paratype	EH	26.2	14	11.3



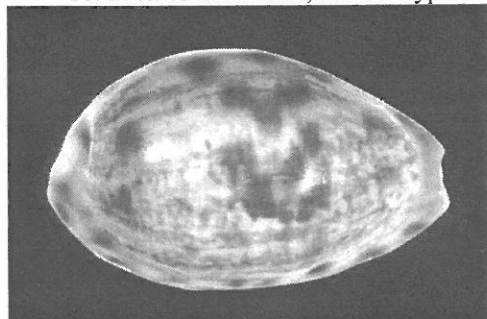
16. *B. teres natalensis*, the holotype
29.9x17x13.3 mm, the Natal Museum,
V9987/T1879



17. *B. teres natalensis*, the holotype



18. *B. teres natalensis*, the holotype



19. *B. teres natalensis*, a paratype



20. *B. teres natalensis*, a paratype

Type locality and known material

The type locality of *B. teres natalensis* is Natal, South Africa. The holotype is from Scottburg. More than 140 shells (mostly from the Natal Museum) from different localities were studied. Localities in Mozambique: NW from Nacala, East from Nacala, Pemba, East of Sancul, Mozambique Id., NE of Conducia,, Conducia, Inhambane, NE of Lunga, SW of Lunga, NE of Memba, SE of Memba, Margaruque. Localities in South Africa: Zululand, Durban, Shelly Beach, Alival, Scottburg, Sexela, Port Shepstone, Pondoland, Mbozyi, Mzamba, Xora, Banyana, Shelley, Lwandile, Msikoba, Jeffrey Bay,, Coffee Bay, Eliotdale.

Etymology

The subspecies is named after the type locality: coasts of a province Natal in South Africa.

Comparison with other populations of *Blasicrura teres* and discussion

Populations of *B. teres* from South Africa differ from other populations by mostly elliptical shape of their shells, wider shells and more often occurrence of large labral spots (larger than 1 mm). These differences are essential, constant and allow to single out these populations as a new subspecies *Blasicrura teres natalensis*.

Acknowledgements

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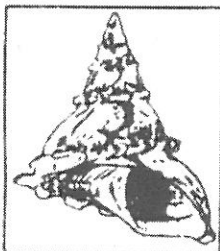
Mr. W. Massier, Margate, South Africa sent us large representative lots of cowry shells from South African and East African coasts. We studied conchological material from collections of the Tel-Aviv University, the Hebrew University of Jerusalem and members of the Israel Malacological Society and we very grateful to all people and organizations, which helped us.

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