

Description of *Murex (Murex) hystricosus* n.sp. (Gastropoda, Muricidae) from Sumatra, Indian Ocean

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ABSTRACT. *Murex (M.) hystricosus* n.sp. is described from southwest Sumatra. It is compared with *Murex aduncospinosus* (Sowerby, 1841), *M. spicatus* Ponder & Vokes, 1988, *M. spectabilis* Ponder & Vokes, 1988 and *M. pecten soelae* Ponder & Vokes, 1988. The new species differs mainly in the number and morphology of the primary and secondary spines.

RESUME. *Murex (M.) hystricosus* n.sp. est décrite du Sud-Ouest de Sumatra. Elle est comparée à *Murex aduncospinosus* (Sowerby, 1841), *M. spicatus* Ponder & Vokes, 1988, *M. spectabilis* Ponder & Vokes, 1988 et *M. pecten soelae* Ponder & Vokes, 1988. La nouvelle espèce diffère principalement par le nombre et la morphologie des épines primaires et secondaires.

INTRODUCTION

The genus *Murex* was reviewed recently by Ponder & Vokes (1988) who named the new subgenus *Promurex*, distinguished by the absence of a labral tooth. They recognized 26 species or subspecies of *Murex* s.s. of which 9 were described for the first time, and one species of *Promurex*. Additional taxa were added by Parth (1990, 1994) and Houart (1990), while another new species was named by Neubert (1998) bringing the total number of *Murex* and *Promurex* species and subspecies to 34, listed as follows:

Murex (Murex)

Murex acanthostephes Watson, 1883
Murex aduncospinosus Sowerby, 1841
Murex africanus Ponder & Vokes, 1988
Murex altispira Ponder & Vokes, 1988
Murex brevispina brevispina Lamarck, 1822
Murex brevispina macgillivrayi Dohrn, 1862
 = *Murex acanthodes* Watson, 1883
Murex brevispina ornamentalis Ponder & Vokes, 1988
Murex brevispina senilis Jousseaume, 1874
Murex carbonnieri (Jousseaume, 1881)
 = *Murex maculatus* Verrill, 1950

Murex concinnus Reeve, 1845
Murex coppingeri E. A. Smith, 1884
Murex djarianensis poppei Houart, 1979
Murex falsitribulus Ponder & Vokes, 1988
Murex forskoehlii Röding, 1798
Murex kerslakae Ponder & Vokes, 1988
Murex megapex Neubert, 1998
Murex occa Sowerby, 1834
Murex pecten pecten Lightfoot, 1786
 = *Murex histrix* Röding, 1798
Murex pecten Montfort, 1810
Aranea gracilis Perry, 1810
Aranea triremis Perry, 1811
Haustellum nobile Schumacher, 1817
Murex tenuispina Lamarck, 1822
Murex duplicatus "Chemnitz" Mörch, 1852
Murex pecten soelae Ponder & Vokes, 1988
Murex philippinensis Parth, 1994
Murex queenslandicus Ponder & Vokes, 1988
Murex salomonensis Parth, 1994
Murex scolopax Dillwyn, 1817
 = *Murex crassispina* Lamarck, 1822 : 157 (in part)
Murex hystrix "Martini" Mörch, 1852 (in part)
Murex somalicus Parth, 1990
Murex spectabilis Ponder & Vokes, 1988
Murex spicatus Ponder & Vokes, 1988
Murex surinamensis Okutani, 1982
Murex tenuirostrum Lamarck, 1822
Murex ternispina Lamarck, 1822
 = *Murex nigrispinosus* Reeve, 1845

- Murex trapa* Röding, 1798
- = *Murex varispina* Lamarck, 1822
- Murex unindentatus* Sowerby, 1834
- Murex duplicatus* "Chemnitz" Pusch, 1837
- Murex mortinianus* Reeve, 1845
- Murex tribulus* Linnaeus, 1758
- = *Murex crassispina* Lamarck, 1822
- Murex troscheli* Lischke, 1868
- = *Murex tenuispina* var. *rufolirota* Schepman, 1911
- Murex heros* Fulton, 1936

Murex (Promurex)

- Murex auteluei* (Viader, 1938)
- Murex protocrassus* Houart, 1990

Note : *M. (P.) protocrassus* was described as *Murex* s.s. but there is no trace of a labral tooth. However, it does not fit in *Promurex* either. It is here included only tentatively in *Promurex*.

Abbreviations.

- AMS : The Australian Museum, Sydney, Australia.
- IRSNB : Institut royal des Sciences naturelles de Belgique, Bruxelles, Belgium.
- MNHN : Muséum national d'Histoire naturelle, Paris, France.
- NM : Natal Museum, Pietermaritzburg, South Africa.
- NMNZ: Museum of New Zealand Te Papa Tongarewa, Wellington, New Zealand.

P :	primary cord
s :	secondary cord
t :	tertiary cord
ad :	adapical
ab :	abapical
IP :	infrasutural primary cord (primary cord on shoulder)
adis :	adapical infrasutural secondary cord (shoulder)
abis :	abapical infrasutural secondary cord (shoulder)
P1 :	shoulder cord
P2-P6 :	Primary cords of the convex part of the teleoconch whorl
s1-s6 :	secondary cords of the convex part of the teleoconch whorl
s1 : secondary cord between P1 and P2; s2 : secondary cord between P2 and P3, etc.	
SIPHONAL CANAL	
ADP :	adapical siphonal cord
MP :	median siphonal cord
ABP :	abapical siphonal cord
ads :	adapical siphonal secondary cord
ms :	median siphonal secondary cord
abs :	abapical siphonal secondary cord
EAB1-4	extreme abapical siphonal cords
eabs1-3	extreme abapical siphonal secondary cords
APERTURE	
ID	infrasutural denticle
D1 to D6	abapical denticles

Table 1 : text conventions (adapted from Merle, 1999).

SYSTEMATICS

Family **MURICIDAE** Rafinesque, 1815
 Genus *Murex* Linnaeus, 1758.
 Type species by subsequent designation (Montfort, 1810) : *Murex tribulus* Linnaeus, 1758, as *Murex pecten* Montfort, 1810 (not Lightfoot, 1786). Recent, Indo-West Pacific.

Murex hystricosus n.sp.
 Figs 1-8

Type material.

Bengkulu, southwest Sumatra, holotype IRSNB IG 29304/491.

Paratypes : 1 AMS C.204774, 1 MNHN, 1 NM L5559/T1768, 2 coll. R. Houart, 1 coll. B. Dharma. Kangean Island, East Java, 1 paratype NMNZ M.273109.

Type locality.

Bengkulu, southwest Sumatra, Indian Ocean.

Distribution.

Southwest Sumatra and east Java, depth unknown.

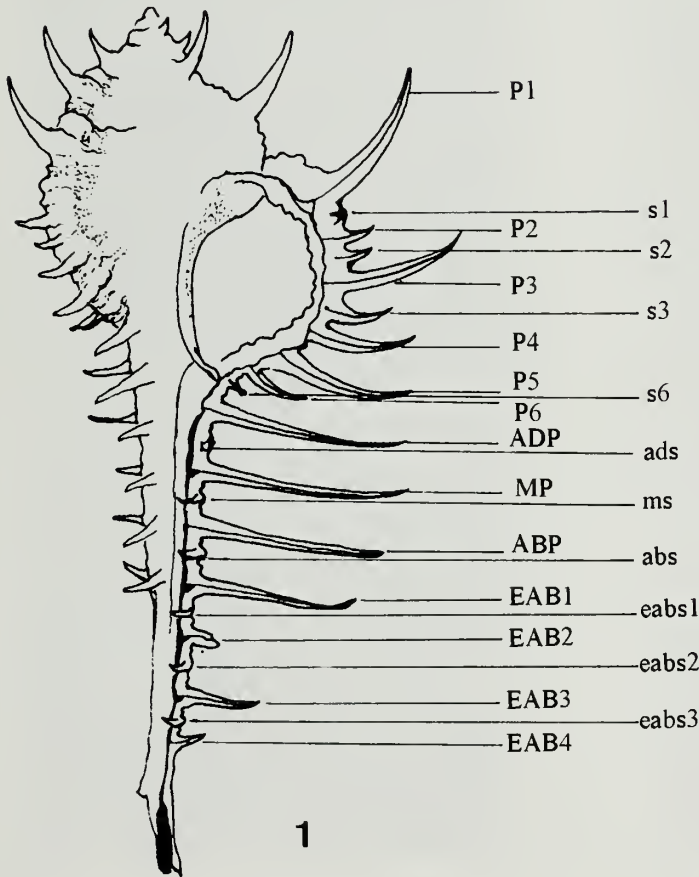
Description.

Shell medium sized for the genus, up to 93 mm in length at maturity (paratype NMNZ), spinose. Spire high with 2.25-2.5 protoconch whorls and up to 6 broad, convex, weakly shouldered, spinose and nodose teleoconch whorls. Suture impressed. Protoconch large, broad, bulbous; whorls rounded, smooth, occasionally with a few erratically placed small pustules near terminal varix. Terminal varix thin, raised, weakly curved.

Axial sculpture of teleoconch whorls consisting of moderately high, narrow axial lamellae on first and second teleoconch whorls; strong, rounded varices and low intervarical ribs from third teleoconch whorl. First whorl with 8 or 9 lamellae, second with 6-8 and one occasional varix, third to fifth whorls with 3 varices and 2 or 3 intervarical nodose ribs, last whorl with 3 varices and 4 or 5 low, weakly nodose intervarical ribs.

Spiral sculpture of primary, secondary and tertiary cords and of weak threads. First and second whorls with 3 visible primary cords : P1-P3; third with P1, s1, P2, s2, P3; fourth with adis, 1P, abis, P1, s1, P2,

s2, P3 (adis stronger and broader than abis); fifth with adis, 1P, abis, P1, s1, P2, s2, P3, s3, P4; last whorl with adis, 1P, abis, P1, s1, P2, s2, P3, s3, P4, s4, P5, s5, P6, s6, giving rise to short or long spines as follows : P1 (long), s1 (short), P2 (short), s2 (same length as P2), P3 (long), s3 (longest of secondary spines), P4 (long), s4 (short or absent), P5 (long) s5 (very short or absent), P6 (short), s6 (short). P1, P3 and P5 longest. Shoulder spines (adis, 1P, abis) strongly bent adaperturally; s1, P2, s2, s3, P4, s4 (when present), s5 (when present) and P5 weakly or strongly adaperturally bent; P1 and P3 straight. P1 longest, adapically bent. Occasionally tertiary cords between primary and secondary cords on penultimate and last whorl. Some primary and secondary cords occasionally of same strength. Presence of low nodes where spiral cords cross axial ribs. Holotype arranged as follows : adis, 1P, abis, P1, t1ad, s1, P2 (spine short), s2, t2ab, P3, t3ad, s3, t3ab, P4, t4ab, s4 (spine absent), P5, t5ab, s5 (spine absent), t5ad, P6 (spine short), t6ab, s6, t6ad. Presence of occasionally conspicuous threads between P6 and ADP as follows : P6, thread, t6ab, thread, S6, thread, t6ad, thread, ADP.



1. Primary and secondary spiral sculpture (ventral view) of *Murex hystricosus* n.sp. (holotype)
 2. Protoconch (paratype coll. B. Dharma). Scale bar : 0.5 mm.

Siphonal canal narrow, narrowly open, straight, long, about 56-65% of total shell length, with 6-8 primary spiral cords giving rise to long spines, weakly adaperturally bent at tip. Three adapertural spines (ADP, MP, ABP) longest, approximately of same length and strength. Other spines decreasing in length abapically. Single secondary cord and 2 tertiary cords between each pair of primary cords. Secondary cords giving rise to short, narrow, very strongly adaperturally bent spinelets. Arranged as follows (holotype) : ADP, tsab, ads, tsad, MP, tsab, ms, tsad, ABP, tsab, abs, tsad, EAB1, t, eabs1, t, EAB2, t, eabs2, t, EAB3, t, eabs3, t, EAB4.

Aperture moderately large, ovate; columellar lip narrow, flaring, smooth, rim partially erect, adherent at adapical extremity; anal notch broad, deep; outer lip erect, crenulate with weak labral tooth between P4 and P5. Presence of small denticles (D1-D6 split), weakly and shortly lirated within.

Brown or dark brown with lighter colored spiral cords. Siphonal canal and aperture dark brown. Columellar lip glossy bluish-white. Operculum and radula unknown.

Remarks.

Murex aduncospinosus (Sowerby, 1841) has almost the same color pattern, especially in the Fijian specimens (Figs 9-10) but *M. hystricosus* constantly differs in having more numerous and longer spines on the whorls and more numerous, longer, more adaperturally recurved spines on the siphonal canal. *M. hystricosus* also has more numerous split denticles within the aperture. *M. aduncospinosus* has fewer and much shorter spines originating from secondary cords on last whorl and 3-5 almost straight spines on the siphonal canal.

M. hystricosus differs from *Murex spicatus* Ponder & Vokes, 1988 in having shorter, less adapically bent primary spines, more numerous and longer secondary spines and more apparent axial sculpture. It also constantly differs in the color pattern, *M. spicatus* being creamy white, with slightly darker colored spiral cords and a white aperture.

It differs from *Murex spectabilis* Ponder & Vokes, 1988 especially in having the siphonal spines in a straight row, contrasting with the curving plane with reference to the axis of the shell in *M. spectabilis*. *M.*

hystricosus also has much shorter spines on the teleoconch whorls and comparatively broader, heavier, straighter and much less adaperturally curved spines on the last whorl.

M. hystricosus differs from *M. pecten soelae* Ponder & Vokes, 1988 in having shorter primary spines, a lower spire, and fewer, more widely scattered spines on the siphonal canal. *M. pecten soelae* has 7-11 long spines covering only 75% of the adapertural part of the canal.

No other Recent or fossil species need to be compared here as they differ in many characters such as protoconch, number, size and position of spines, axial and/or spiral sculpture.

Etymology : *hystricosus* (L) : prickly, thorny.

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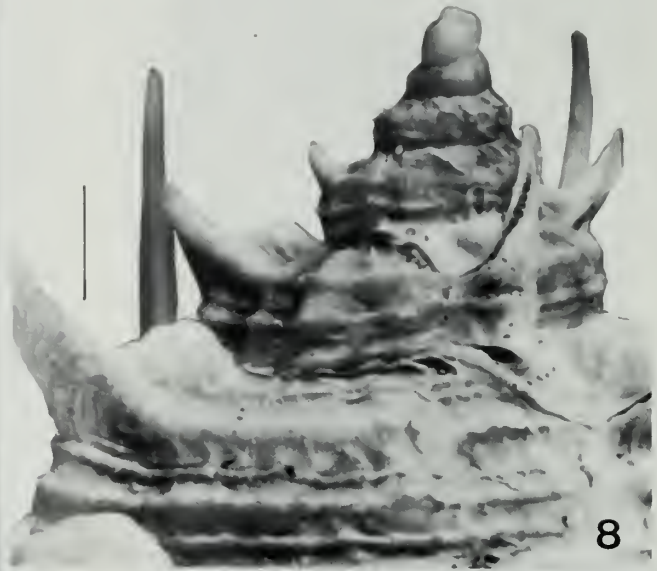
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**Figures.**

- 3-6. *Murex hystricosus* n.sp. Bengkulu, Sumatra, Indian Ocean
3-4. 72.4 X 36.3 mm, holotype IRSNB IG 29304/491.
5-6. 80.1 mm X 42.1 mm, paratype coll. Roland Houart.



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Figures.

7-8. *Murex hystricosus* n.sp. Bengkulu, Sumatra, Indian Ocean

7. 65.2 X 33 mm, paratype AMS C.204774.

8. Detail of early spire whorls, paratype coll. B. Dharma. Scale bar : 2 mm.

9-10. *Murex aduncospinosus* Sowerby, 1841, Fiji, Viti Levu, 17°53.5' S, 177°13.6' E, 25 m, 75.3 X 45.4 mm, MNHN.