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A new species of Hastula (Gastropoda: Conoidea: Terebridae) from Príncipe Island

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Abstract: *Hastula sandrogorii* sp. nov. is described and compared with its morphologically closest relatives.

Introduction: The hastulid fauna of the West African coast is well documented (Bouchet, 1983; Terryn & Ryall, 2014). Currently eight species from W Africa are regarded to belong to this genus: Hastula aciculina (Lamarck, 1822), Hastula cuspidata (Hinds, 1844), Hastula daniae (Aubry, 2008), Hastula denizi Rolán & Gubbioli, 2000, Hastula exacuminata Sacco, 1891, Hastula knockeri (E. A. Smith, 1872), Hastula leloeuffi Bouchet, 1983 and Hastula lepida (Hinds, 1844); although the presence of H. daniae remains unconfirmed besides the type material.

At present we add another species to the list, which is probably endemic to Príncipe Island in the Gulf of Guinea.

The islands of São Tomé and Príncipe lie along a magmatic geological feature known as the Guinea Line (or Cameroon Volcanic Line), which is a flaw in the African tectonic plate over 1000 km long that has served as a channel for magma for millions of years. The Guinea Line extends across the ocean-continent transition, and magmatic extrusions up through it have given rise to major oceanic and continental topographic relief extending from southwest to northeast including the oceanic islands of Annobón, São Tomé, Príncipe, the recent continental island of Bioko (known in colonial times as Fernando Poo), and the mainland features of Mount Cameroon, the various ranges that comprise the

Cameroon Highlands, and the Jos Plateau of Nigeria (extract from Drewes & Wilkinson, 2004). Príncipe Island is separated from the other islands and from the West African coast by depths exceeding 2000 m.



Gulf of Guinea

Source: https://en.wikipedia.org/wiki/Gulf_of_Guinea#/media/File:Gulf_of_Guinea (English).jpg

Abbreviations:

JR: Private collection José Rosado, PortugalMNHN: Muséum national d'Histoire naturelle, Paris,

France

PR: Private collection Peter Ryall, Maria Rain,

Austria

SG: Private collection Sandro Gori, Livorno, Italy YT: Private collection Yves Terryn, Gent, Belgium

SYSTEMATICS

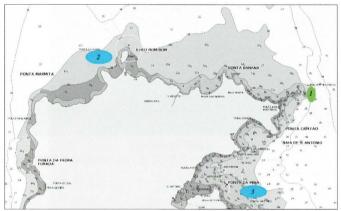
Class **GASTROPODA** Cuvier, 1797 Order **NEOGASTROPODA** Wenz, 1938 Superfamily **CONOIDEA** Fleming, 1822 Family **TEREBRIDAE** Mörch, 1852 Genus *Hastula* H. & A. Adams, 1853

Hastula sandrogorii sp. nov. Pl. 1, Figs 1-5

Type material: Holotype: MNHN-IM-2000-33699, 16.0 mm; Paratypes: Gulf of Guinea, Sao Tomé & Príncipe, Príncipe Island, Mosteiros Islet, 01°41'231"N-7°28'360"E, 25FEB2013, 12-16 m (1): Paratypes 1-3: SG, 10.6-16.5 mm (10.6; 13.0; 16.5); Paratypes 4-6: JR, 16.1, 16.6, 17.3 mm; Paratype 7: PR, 18.5 mm; Paratypes 8-10: YT, 14.2; 14.4; 15.6 mm. - Gulf of Guinea, Sao Tomé & Príncipe, Príncipe Island, Ponta Marmita, 01°40'951"N-7°22'140"E, 26FEB2013, 13 m (2): Paratypes 11-13: SG, 11.4, 13.3, 14.6 mm; Paratype 14: YT, 12.9 mm. - Gulf of Guinea, Sao Tomé & Príncipe, Príncipe Island, San Antonio Bay, 8-12 m (3): Paratype 15: JR, 13.4 mm; Paratype 16: PR, 16.8 mm.

Additional material: Gulf of Guinea, Sao Tomé & Príncipe, Príncipe Island, Mosteiros Islet, 1°41'231"N-7°28'360"E, 25FEB2013, 12-16 m (*I*): SG, 4 d, 16.6-19.0 mm.

Type locality: Gulf of Guinea, Sao Tomé & Príncipe, Príncipe Island, Mosteiros Islet, 01°41'231"N-7°28'360"E, 12-16 m (*I*).



Detail N Príncipe Island – types' localities (approximations) green: type locality; blue: localities of paratypes Source: Navionics (adapted)

Description (*holotype*): Shell shiny, colour light yellowish cream with a distinct subsutural band formed by irregularly spaced white flecks. Protoconch glassy white, bulbous, consisting of about 1.5-2.0 whorls, transition to teleoconch gradual. Outline of whorls straight to slightly convex. Spiral sculpture absent. Axial sculpture consists of angular, somewhat arcuate riblets; often sharp at the suture and fading abapically. Aperture elongate, columella short with an internal spiral; discernable where bordering the adaptical part of the columella.

Additional information: Largest (dead-collected) specimen known is 19.0 mm. Although the majority of specimens have a pale, yellowish or light cream coloration, a few specimens collected at Ponta Marmita stand out for their contrasting colours: two white specimens, an orange specimen and a brown specimen. The white flecks on the subsutural band are more evident in darker-coloured specimens. The protoconch consists of about 1.5-2.0 whorls, consistent with a probably restricted range for a *Hastula*.

Distribution: Only known from N and NE Príncipe Island, Gulf of Guinea. Several localities on Príncipe Island were sampled during a number of expeditions, but the species seems to be restricted to discrete habitats/localities off the northern and northeastern part of the island.

Comparison and discussion: *H. sandrogorii* bears resemblances in shell morphology to a number of West African *Hastula* species such as *H. knockeri* (E. A. Smith, 1872), *H. leloeuffi* Bouchet, 1983 and *H. lepida* (Hinds, 1844), but differs in protoconch shape and size: the protoconch of *H. sandrogori* is porcellaneous or glassy white, somewhat bulbous and of only 1.5-2.0 whorls, while the protoconches of *H. leloeuffi* and *H. knockeri* are comparable in size and shape and of 4 convex whorls, similar to *H. lepida* but the latter has a deeply incised suture of the more convex protoconch whorls (Bouchet, 1982). Besides this obvious difference, the axial ribbing is much less coarse than in *H. sandrogorii*.

H. knockeri and H. leloeuffi are closely related species, which may be difficult to identify at subadult or juvenile stages, but shell morphology becomes more distinguishable in maturity. Some text names relating to the corresponding illustrations in Terryn & Ryall (2014: pl. 6) were inadvertently mixed. The first four illustrations are H. leloeuffi (pl. 6, figs 28-31), whilst the other four are of H. knockeri (pl. 6, figs 32-35). H. leloeuffi is the larger species (reaching 46 mm, PR) with an elongate profile and pointed, evenly tapering teleconch with dark brown protoconch; H. knockeri has a much smaller adult size (reaching 22 mm, PR), it has a high gloss, with a more robust profile, the teleconch becomes bulbous in the third whorl with a mauve-black protoconch. A feature helpful in distinguishing them from one another is the shape, size and direction of the axial ribs: often somewhat curved, thin to inconspicuous in H. lelloeuffi and straight and thickened and widened in H. knockeri, whilst extending well below the aperture in final whorl. It can also be noted that the colour and formation at the base of the columella are quite different

Derivatio nominis: The species *H. sandrogorii* is named in honour of Mr Sandro Gori, an Italian naturalist and diver, who participated in many field expeditions to Sao Tomé & Príncipe islands that led to the discovery of the species.

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Plate

1-5: Hastula sandrogorii sp. nov.

1a: Holotype, MNHN IM-2000-33699, 16.0 mm

1b: detail of protoconch and first teleoconch whorls

- 2: Paratype 3, SG, 16.5 mm
- 3: Paratype 12, SG, 13.3 mm
- 4: Paratype 8, YT, 14.2 mm
- 5: Paratype 16, PR, 16.8 mm

6: Hastula lepida (Hinds, 1844)

YT, Senegal, trawled off Dakar at 10-30 m, 27.0 mm.

7: Hastula leloeuffi Bouchet, 1983

YT, Angola, Luanda, Santiago, dredged at 3-5 m, 22.2 mm.

8: Hastula knockeri (E. A. Smith, 1872)

YT, Ghana, Mudrachmi Bay, dredged at 15-20 m, 16.0 mm.

