

A NEW SPECIES OF *GARI* (*GOBRAEUS*) (BIVALVIA, TELLINOIDEA, PSAMMOBIIDAE) FROM BAHIA COAST, BRAZIL

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Abstract *Gari* (*Gobraeus*) *linhares* n. sp. is described based on two whole shells collected in Salvador, Bahia, Brazil. The genus is reported for the first time from the Western Atlantic.

Key words *Gari linhares* n. sp., *Psammobiidae*, Brazil.

INTRODUCTION

The family *Psammobiidae* is represented in the Caribbean Sea by three species [*Sanguinolaria sanguinolenta* (Gmelin, 1791); *Asaphis deflorata* (Linné, 1758) and *Heterodonax bimaculatus* (Linné, 1758)] (Warmke & Abbott, 1962) and on the Brazilian coast by *S. cruenta* (Lightfoot, 1796) as well as the three above cited species (Rios, 1994). Species of the genus *Gari* Schumacher, 1817 [type *G. vulgaris* (= *Solen amethystus* Wood, 1815)] were, until now, not known from the Western Atlantic area (Abbott, 1974).

From a project designed by professional and amateur malacologists to extend the knowledge on the malacofauna from Bahia State, Brazil, several new occurrences and species have been discovered. This paper reports on one of those discoveries, a rare, infratidal bivalve belonging to genus *Gari* reported for first time in the Western Atlantic.

Species of *Gari* are relatively abundant on the west coast of North and Central America with Keen (1971) listing seven species. In the Eastern Atlantic, including the Atlantic coast of Europe, the Mediterranean Sea and the West Africa coast, 10 *Gari* species occur (Nicklès, 1950; Cosel, 1989; Poppe & Gotto, 1993). The present discovery is the first to record the genus from the north-western Atlantic.

The genus *Gari* groups several subgenera (Moore, 1969: 631; Willan, 1993), and of these, the present species has an affinity to *Gobraeus* Brown, 1844 (type *Solen vespertinus* Gmelin, 1791).

No information on the inner anatomy is possible with the available material, which consists of shells only.

SYSTEMATICS

TELLINOIDEA
PSAMMOBIIDAE

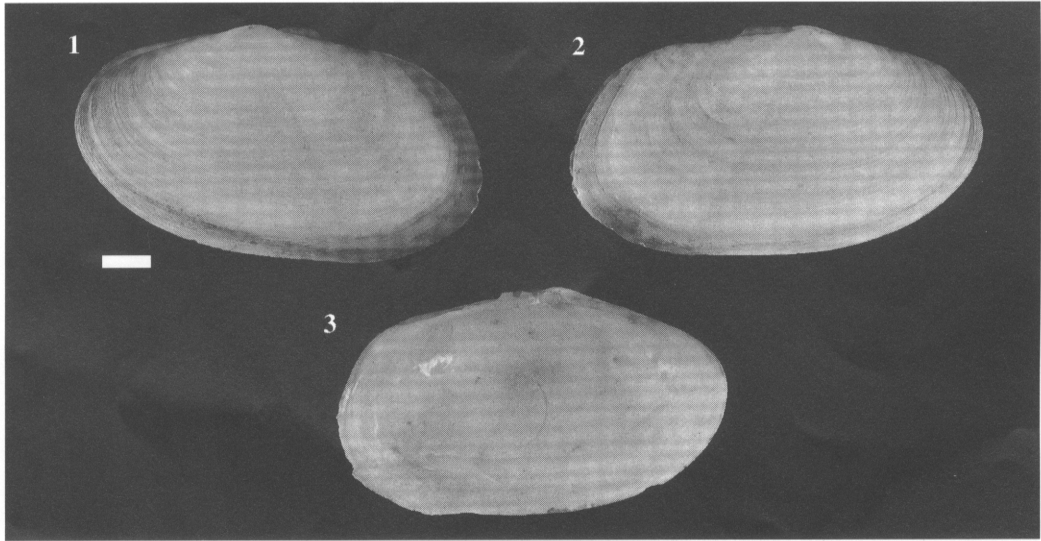
Gari (*Gobraeus*) *linhares* n. sp.
Figs 1-4

Holotype From Museu de Zoologia da Universidade de São Paulo, MZSP 28785.

Paratype MZSP 28786.

Type locality Brazil, Bahia, Salvador city, off Barra beach, about 5 m depth.

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Figs 1–3 *Gari (Gobraeus) linhares* n. sp. 1 Holotype, lateral view of left valve 2 same, right valve 3 Paratype, inner view of left valve. Scale = 5 mm.

Measurements Respectively length, height and width in mm. Holotype: 44.5 by 25.0 by 13.3; paratype: 40.7 by 25.7 by 12.8.

Description Shell of medium size (up to 50 mm), elliptical, laterally compressed, equiv-alve; umbo central; colour opaque, white near umbo, gradually become pale beige towards margins with one or two posterior radial bands. Periostracum very scanty, only present near ventral and posterior margins, thin, velvet-like, dark brown. Anterior margin somewhat similar to posterior margin, but narrower and more rounded. Sculpture of concentric, shallow undulations and growth lines (Figs 1–2); posterior slope with superficial oblique-radial striae. Pedal aperture very narrow. Ligament just posterior to umbo, set on a shelf-like nymph (Fig. 4: pt). Hinge of right valve (RV) with a pair of somewhat similar, divergent, tall cardinal teeth (t1, t2). Hinge of left valve with three cardinal teeth; anterior tooth tall, laminar, concave in dorsal surface (t3), in a shallow concavity of RV, this articulation restricted to its dorsal surface; middle tooth tall, triangular, tip broader than its base (t4), fitting between both cardinal teeth of RV; posterior tooth long, oblique, ridge-like, shallow (t5), fitting in a shallow furrow of RV. Anterior adductor scar large, somewhat triangular (Fig. 3). Pallial line well marked; pallial sinus large, about half width of shell, anterior limit below beaks; lower limb of pallial sinus confluent with pallial line for half its length. Posterior scar of adductor muscle rounded, somewhat small (about half of anterior scar area), situated approximately in middle level of postero-dorsal margin.

Derivation of name The name refers both to its discoverer, Bernardo **Linhares** de Albuquerque, and the Latin *linea* (line) referring to concentric undulations of its sculpture.

Habitat The double-valved shells were collected on sand near rocks, about 5 m depth.

Geographic range Known only from type locality.

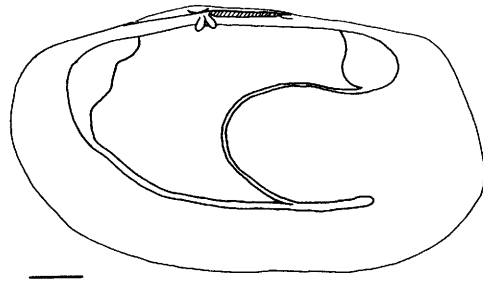
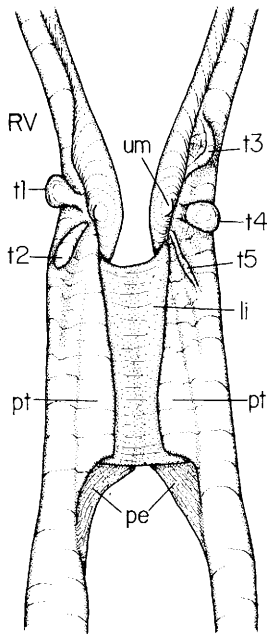


Fig. 5 *Gari (Gobreaeus) linhares* n. sp., right valve, inner view, showing muscular scars. Scale = 5 mm.

Fig. 4 *Gari (Gobreaeus) linhares* n. sp., detail of hinge in camera lucida. Scale = 2 mm. Abbreviations: li ligament; pe periostracum; pt platform-like nymph; RV right valve; t1-t2 hinge teeth of right valve; t3-t5 hinge teeth of left valve; um umbo.

DISCUSSION

The absence of *Gari* species on the Western Atlantic coast (Warmke & Abbott, 1962; Abbott, 1974; Rios, 1994) was a surprising phenomenon in view of the presence of several species on the West Coast of the Americas and on the Europe-Africa coast. The present discovery in part fills this apparent gap. No fossil *Gari* species have been discovered in Brazilian formations (Simone & Mezzalira, 1994), however, three species from the Tertiary of Patagonia is the closest known occurrence (Ihering, 1907).

Gari linhares cannot be confused with any Brazilian species of related bivalves, nor with the remainder of Atlantic species. From them, apparently the closest species is the Mediterranean/West African *G. depressa* (Pennant, 1777) (Nicklès, 1950: 216; Cosel, 1989: 703; Poppe & Goto, 1993: 114), from which, *G. linhares* differs in being more compressed laterally, poorly coloured and by having a smaller anterior region. *G. linhares* also differs from *G. castrensis* (Spengler, 1794) (cf. Cosel, 1989) in having larger dorso-ventral distance and absence of colour; from *G. tellinella* (Lamarck, 1819) (cf. Cosel, 1989) in being longer dorso-ventrally; and from *G. gofasi* Cosel, 1989 by its more central umbo and shorter outline. From the remainder Atlantic *Gari* species, *G. linhares* differs in lacking a developed sculpture. From the species of the Pacific Coast of the Americas, *G. linhares* cannot be confused with any other. It differs from *G. fuscata* (Hinds, 1844), *G. helenae* Olsson, 1961 and *G. panamensis* Olsson, 1961 by having not such a long outline; from *G. lata* (Deshayes, 1855) and *G. maxima* (Deshayes, 1855) by a longer antero-posterior outline; from *G. regularis* (Carpenter, 1864) by narrower posterior margin, lack of posterior carina and by the striae in posterior slope. However, *G. regularis* appears to be the most similar West Pacific *Gobreaeus* species.

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