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Odostomella carceralis spec. nov. from Ilha Grande, SE Brazil (Gastropoda, Heterobranchia, Pyramidellidae)

Alexandre D. PIMENTA

Laboratório de Malacologia, Departamento de Zoologia, Instituto de Biologia, C.C.S., Universidade Federal do Rio de Janeiro, CEP: 21941-570 Rio de Janeiro, RJ, Brazil; e-mail: alexpim@biologia.ufrj.br

Ricardo S. ABSALÃO

At the above address, and: Departamento de Biologia Animal e Vegetal, Instituto de Biologia, Universidade do Estado do Rio de Janeiro, 20550 Rio de Janeiro, RJ, Brazil

& Alexandre S. ALENCAR

Departamento de Biologia Animal e Vegetal; Instituto de Biologia; Universidade do Estado do Rio de Janeiro, 20550 Rio de Janeiro, RJ, Brazil

Odostomella carceralis spec. nov. is described from Ilha Grande, Rio de Janeiro State, SE Brazil. The only previous record of a Recent species of this genus from the Western Atlantic concerns *O. doliolum*. *O. bartschiana* and *O. mogindo* are fossil species from Santo Domingo, which differ from *O. carceralis* spec. nov. in shell shape and sculpture.

Key words: Gastropoda, Pyramidellidae, *Odostomella*, taxonomy, Atlantic Ocean, South America, Brazil.

INTRODUCTION

Traditionally, the Pyramidellidae is considered one of the taxonomically most problematic marine molluscan families in the world. There are over 300 generic and subgeneric nominal taxa (Schander et al., 1999), many of which are ill-defined. Only 12 genera (46 species) of the family are reported from Brazil (Rios, 1994; Absalão et al., 1996). Our recent studies concerning the taxonomy of the Pyramidellidae from Brazil have showed however, that those numbers are too low.

The only previous study of the marine molluscs of Ilha Grande, an island off Rio de Janeiro State, Brazil, was that of Haas (1953), who listed no pyramidellids. Recent studies on the benthic, marine, molluscan fauna of Ilha Grande yielded a new pyramidellid species, which we classify with the genus *Odostomella* Bucquoy, Dautzenberg & Dollfus, 1883.

MATERIAL AND METHODS

Shells of the new species were collected by dredging in the inlet of Dois Rios, Ilha Grande, southcoast of Rio de Janeiro State (23°11'.2 S 44°11'.0 W) (fig. 1). Sampling was carried out in November 1996, at six benthic stations with fine sand at depths from 2 to 15 m.

The terminology used to characterize the protoconchs is that proposed by Van Aartsen (1981), modified after Van der Linden & Eikenboom (1992) and Schander (1994). The measurements were based on Powell (1981) and Van der Linden & Eikenboom (1992).

Abbreviations: ANSP, Academy of Natural Sciences of Philadelphia, Philadelphia, USA; BMNH, British Museum (Natural History), London, United Kingdom; IBUERJ, Instituto de Biologia, Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Brazil; IBUFRJ, Instituto de Biologia, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil; MACN, Museu Argentino de Ciencias Naturales, Buenos Aires, Argentina; MNHN, Muséum National d'Histoire Naturelle, Paris, France; MNRJ, Museu Nacional do Rio de Janeiro, Rio de Janeiro, Brazil; MORG, Museu Oceanográfico "Eliézer de Carvalho Rios" da Fundação Oceanográfica do Rio Grande, Rio Grande, Brazil; MZUSP, Museu de Zoologia da Universidade de São Paulo, São Paulo, Brazil; USNM, National Museum of Natural History, Washington, USA; ZMA, Zoölogisch Museum Amsterdam, Amsterdam, The Netherlands.

SYSTEMATICS

Family Pyramidellidae Gray, 1840

Genus *Odostomella* Bucquoy, Dautzenberg & Dollfus, 1883

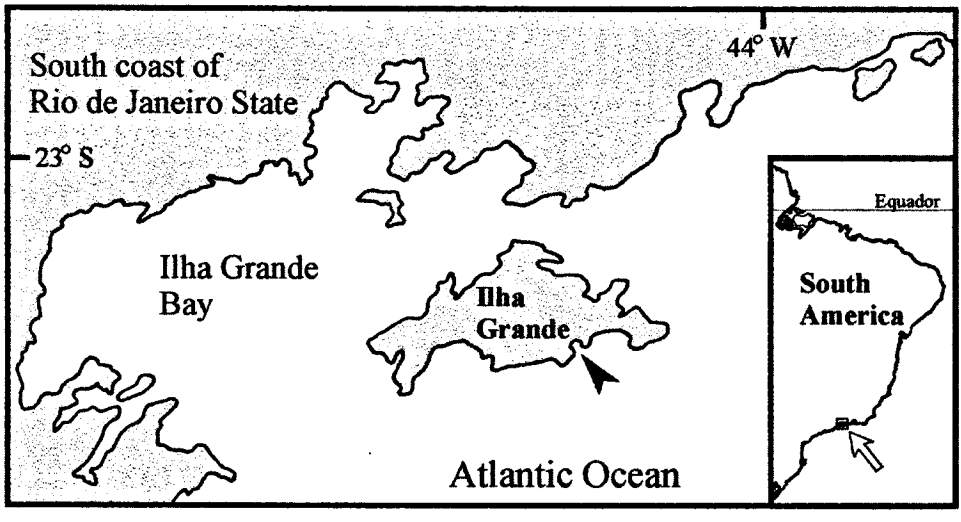


Fig. 1. South coast of Rio de Janeiro State, Brazil. The full arrow indicates the inlet of Dois Rios (type locality of *Odostomella carceralis* spec. nov.).

Odostomella carceralis spec. nov. (figs 2-7)

Type material. – Holotype: MORG 38648. Paratypes (two shells in each lot): MORG 38649; MNRJ 8080; IBUFRJ 10848; USNM 880648; ANSP 403169; MNHN; MACN 34507; MZUSP 30900; ZMA 4.00.001; BMNH 19991576; IBUERJ 1518. All types from type locality; collected by the IBUERJ team, November 1996.

Description. – Shell white, semi-transparent and slightly cyrtoconoid, up to 3.1 mm in length. Protoconch of type A-I, tilted forward and sunken in first teleoconch whorl. Teleoconch with 5-6 slightly convex whorls; sutures straight. Axial ribs orthocline, slightly sinuous in some specimens, continuing on the shell base, where they fade before reaching the parietal region. Ribs next to the outer lip become faint; interspaces as wide as ribs. Spiral sculpture absent. Basal area of last whorl elongate, with faint ribs. Aperture oval, elongate, narrow, pointed apically. Outer lip thin; inner lip well projected over parietal region. Columellar fold very conspicuous. No umbilical fissure.

Holotype 3.0 mm long and 0.86 mm wide on the fifth whorl; with 5 ¾ teleoconch whorls; protoconch 206 mμ in width; 5th whorl with 15 ribs.

Character (N = 23)	Mean	Range	S. D.
Number of teleoconch whorls	5.5	5 - 6	0.2
Total length	2.86	2.64 - 3.10	0.15
Length apex - 4th whorl inclusive	1.13	1.00 - 1.22	0.05
Length apex- 5th whorl inclusive	1.72	1.52 - 1.84	0.08
Width of the 4th whorl	0.72	0.66 - 0.78	0.03
Width of the 5th whorl	0.83	0.74 - 0.90	0.04
Width of the protoconch	0.21	0.199 - 0.224	0.01
Number of axial ribs on 4th whorl	13.74	12 - 15	0.81
Number of axial ribs on 5th whorl	14.96	13 - 16	0.88

Table 1. *Odostomella carceralis* spec. nov. Shell measurements (mm) and rib numbers in the type series.

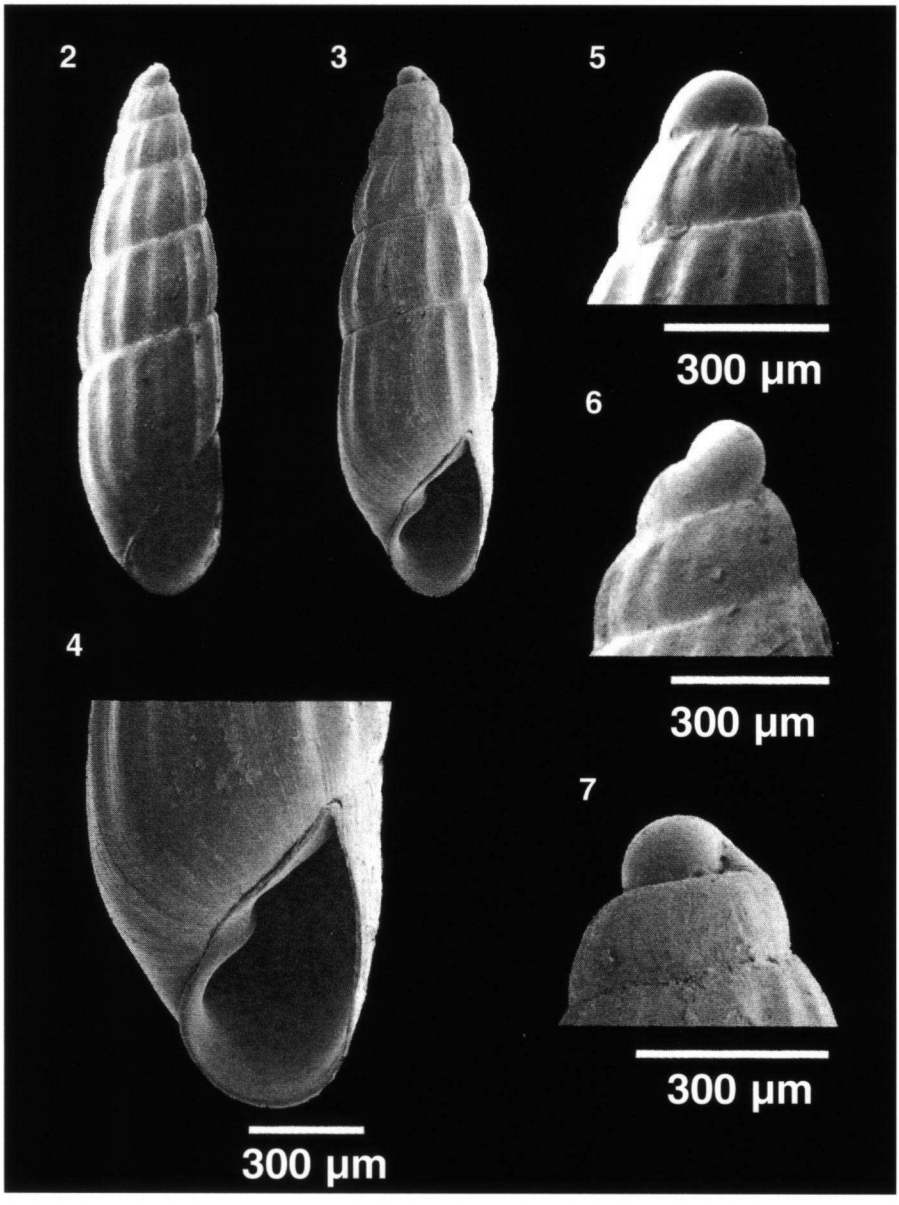
Type locality. – Dois Rios inlet, Ilha Grande, Rio de Janeiro State, Brazil (23° 11'.2 S 044° 11'.0 W) (fig. 1).

Etymology. – *Carceralis* (Latin): belonging to a prison. A reference to a prison which existed in the adjacent area to Dois Rios inlet, Ilha Grande, and was closed in 1992.

DISCUSSION

Odostomella carceralis spec. nov. fits well in the concept of the genus *Odostomella* given by Schander et al. (1999). It shares some characters with *O. doliolum* (Philippi, 1844), type species of the genus, such as protoconch type, columelar fold, a somewhat pupoid shell and axial sculpture continuing on the shell base (although less prominent in *Odostomella carceralis*). Nevertheless, the generic assignment should be considered a provisional one until a more complete revision of the supraspecific systematics of the family Pyramidellidae be made.

The systematics and phylogeny of the genus *Odostomella* was reviewed by Schander et



Figs 2-7. *Odostomella carceralis* spec. nov. 2, 6, holotype, MORG 38648 (length 3.0 mm); 3-4, 7, paratype, IBUFRJ 10848 (length 2.95 mm); 5, paratype, MORG 38649. 4, shell base and aperture; 5-7, protoconchs.

al. (1999), who defined the subfamily Odostomellinae and listed c. 14 species from many localities around the world as belonging to this genus. The only previous records of *Odostomella* to the Western Atlantic are *O. doliolum* and *Odostomella* spec., both from the Gulf of Mexico (Odé, 1993).

Odostomella carceralis can be distinguished easily from *O. doliolum* as figured by Van der Linden & Eikenboom (1992: 54, figs 13-15), Schander (1994: 66, fig. 7b) and Peñas et al. (1996: 17, figs 8-9) by its more slender and fusiform shell, with less clearly shouldered whorls, weaker ribs on the base and no spiral color bands. The columellar fold of *O. carceralis* is stronger than that of *O. doliolum.*

Two fossil species from Santo Domingo, Caribbean Sea, *Odostomia (Odostomidea) bartschiana* Pilsbry & Johnson, 1917, and *Odostomia (Odostomidea) mogindo* Pilsbry, 1922, described by Pilsbry & Johnson (1917: 182) and Pilsbry (1922: 393), respectively, are also similar to *Odostomella carceralis.* The shells have a very similar aperture and columellar fold, but differ in number and spacing of the axial ribs, shape of the suture, and profile of the whorls, which are less convex and less clearly shouldered in *O. carceralis.* The holotype of *O. bartschiana* has eight ribs on the last, i.e. the fourth whorl, while *O. carceralis* has almost twice as much ribs (13-15) on the fourth whorl. In *O. bartschiana* and *O. mogindo* the suture is somewhat sinuate because of the ribs projection over it, while in *O. carceralis* the sutures are consistently straight.

Odostomella carceralis can be distinguished from *Turbonilla (Ugartea) juani* Bartsch, 1917 (Magdalena Bay, California) by its less shouldered whorls and by the three ridges in the outer lip of *T. juani.*

Little intraspecific variation was observed in the studied population of *Odostomella carceralis.* The shape (figs 2-3) and dimensions (table 1) of the shells are very constant. The sculpture is also only moderately variable, with the number of ribs varying from 13 to 16 on the fifth whorl.

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REFERENCES

AARTSEN, J.J. VAN, 1981. European Pyramidellidae: II. *Turbonilla.* – Bollettino Malacologico 17: 61-68.

ABSALÃO, R.S., A.D. PIMENTA & P.M.S. COSTA, 1996. Novas ocorrências de gastrópodes na litoral do Rio de Janeiro (Brasil). – Nerítica 10: 57-68.

BARTSCH, P., 1917. Description of new West American marine molluscs and notes on previously described forms. – Proceedings of The United States National Museum 52: 637-681.

HAAS, F., 1953. Mollusks of Ilha Grande, Rio de Janeiro, Brazil. – Fieldiana, Zoology 34: 203-209.

LINDEN, J. VAN DER, & J.C.A. EIKENBOOM, 1992. On the taxonomy of the Recent species of the genus *Chrysallida* Carpenter from Europe, the Canary Islands and the Azores. – Basteria 56: 3-63.

ODÉ, H., 1993. Distribution and records of the marine Mollusca in the northeast Gulf of Mexico (a continuing monograph). – Texas Conchologist 29: 53-65.

PEÑAS, A., J. TEMPLADO & J.L. MARTÍNEZ, 1996. Contribucíon al conocimiento de los Pyramidelloidea (Gastropoda: Heterostropha) del Mediterráneo español. – Iberus 14: 1-82.

PILSBRY, H.A., 1922. Revision of W.M. Gabb's Tertiary Mollusca of Santo Domingo. – Proceedings of The Academy of Natural Sciences of Philadelphia 73: 305-435.

——, & C.W. JOHNSON, 1917. New Mollusca of the Santo Domingo Oligocene. – Proceedings of The Academy of Natural Sciences of Philadelphia 69: 150-202.

POWELL, E.N., 1981. Three *Turbonilla* (Pyramidellidae, Gastropoda) of North Carolina, with comments on Pyramidellidae systematics. – Journal of The Elisha Mitchell Scientific Society 97: 37-54.

RIOS, E.C., 1994. Seashells of Brazil (2nd ed.): 1-368, pls 1-113. Rio Grande.

SCHANDER, C., 1994. Twenty-eighth new species of Pyramidellidae (Gastropoda, Heterobranchia) from west Africa. – Notiziario CISMA 15: 11-78.

SCHANDER, C., S. HORI & J. LUNDBERG. 1999. Anatomy, phylogeny and biology of *Odostomella* and *Herviera*, with the description of a new species of *Odostomella* (Mollusca, Heterostropha, Pyramidellidae). – Ophelia 51: 39-76.