

A NEW OXYCHONA SPECIES (GASTROPODA: PULMONATA: ORTHALICIDAE) FROM BAHIA STATE, BRAZIL

RODRIGO BRINCALEPE SALVADOR & DANIEL CARACANHAS CAVALLARI

Museu de Zoologia da Universidade de São Paulo, Avenida Nazaré, 481, Cx. Postal 42494, 04218-970, São Paulo, SP, Brazil

Abstract Part of the private collection of the late public health physician and shell collector Jorge Faria Vaz was recently donated to the Museu de Zoologia da Universidade de São Paulo (MZSP; São Paulo, Brazil). A new species of pulmonate land snail, *Oxychona maculata* sp. nov. (Orthalicidae), was found in this collection and is herein described. The species stems from Bahia state, Brazil, a place that has been revealing many new land snail species, which also shows how little this fauna is known. Finding a new species in an old collection is a stark reminder of the importance of museum collections. Unfortunately, it is not known if *Oxychona maculata* can still be found in the wild, but it is a reminder that the remaining fragments of the Atlantic forest can house many endemic species and, therefore, should be properly preserved.

Key words Bulimulinae, Ilhéus, Bahia State, *Oxychona maculata* sp. nov.

INTRODUCTION

A part of the private collection belonging to the late public health physician and shell collector Jorge Faria Vaz, especially rich in land snails, was recently donated to the Museu de Zoologia da Universidade de São Paulo (MZSP; São Paulo, Brazil). Among the shells of this collection, one specimen was found that belongs to a new species of the genus *Oxychona* Mörch 1852 (Pulmonata: Orthalicidae). Moreover, a careful review of the MZSP collection revealed a second specimen with similar traits. This new species is formally named and described below.

MATERIALS AND METHODS

The two specimens are dry shells stemming from Bahia state, Brazil, and are housed at the MSZP collection. Unfortunately, since the material belonged to private collections, more precise habitat and locality data remain unknown.

ABBREVIATIONS

H shell length,
D shell greatest width,
S spire length (excluding aperture),
S' spire length (excluding body whorl),
H aperture height,
D aperture width.

SYSTEMATICS

Family Orthalicidae

Subfamily Bulimulinae

Genus *Oxychona* Mörch 1852

Oxychona maculata sp. nov.
(Figs 2–11)

Types Holotype, MZSP 108005 (Figs 2–6). Paratype, MZSP 74500 (1 shell), from different locality (Figs 7–11).

Type locality Brazil, Bahia State, Ilhéus municipality, 14°47'S 39°2'W.

Material examined Holotype, 1 shell, from type locality (A. Bodart coll., xii.1994); paratype 1 shell, from the municipality of Itapetinga, Bahia State, 15°15'S 40°15'W, taken on trees after heavy rain (C. Lima coll., i.2007).

Diagnosis Band of light brown spots running parallel above carina on last 2.5 whorls. Higher and more acuminate spire. Aperture more elongated laterally; greatly prosocline in relation to columellar axis. Basal portion of aperture more rounded.

Description Shell medium-sized, conical, broader than taller; shell length ~0.9 width. Base colour opalescent white; last 2.5 whorls with band of light brown spots running parallel above carina; body whorl with two narrow reddish brown bands (that may join near the aperture)

running parallel below carina. Spire angle $\sim 70^\circ$. Protoconch (1.5 whorl) micro-reticulate (a “grating sculpture of axial riblets and spiral striae that are of equal strength” *sensu* Breure, 1979); transition to teleoconch unclear. Teleoconch smooth, except for growth lines. Whorls profile slightly convex, strongly keeled. Suture well-marked, slightly oblique (diagonal) to columellar axis. Aperture medium-sized, fusiform (with rounded basal portion), greatly prosocline ($\sim 55^\circ$ to 65° with columellar axis), with slight constriction (narrowing and elongation) near the encounter of palatal and basal regions of peristome; $\sim 1/3$ shell length, $\sim 1/2$ shell width. Peristome thickened, reflected (expanded below the carina but not above it); color light pink to bright orange red. Body whorl $\sim 1/2$ shell length. Umbilicus imperforate.

Measurements (in mm) Holotype: $6\frac{1}{2}$ whorls; H = 17.9; D = 19.8; S = 12.0; S' = 9.2; h = 5.3; d = 11.2. Paratype: 6 whorls, H = 16.1; D = 18.4; S = 11.2; S' = 8.9; h = 6.1; d = 9.3.

Distribution Brazil, known only from the state of Bahia, from the municipalities of Ilhéus (type locality) and Itapetinga (Fig. 1).



Figure 1 Map showing the municipalities where *Oxychona maculata* sp. nov. occurs. Modified from <http://commons.wikimedia.org>. Abbreviations of states: MA, Maranhão; PI, Piauí; PE, Pernambuco; AL, Alagoas; SE, Sergipe; TO, Tocantins; GO, Goiás; MG, Minas Gerais; ES, Espírito Santo.

Habitat Data recorded on specimens' labels points towards a tree-dwelling species.

Etymology The specific epithet is from the Latin *macula*, meaning “spots”; a reference to the brown coloured spotted spiral band diagnostic of the species.

Remarks The paratype shows marks of attempted predation: two diametrically opposed holes on the top of the spire (Figs 7, 9, 11). Unfortunately, it is presently not possible to determine the predator based solely on these marks.

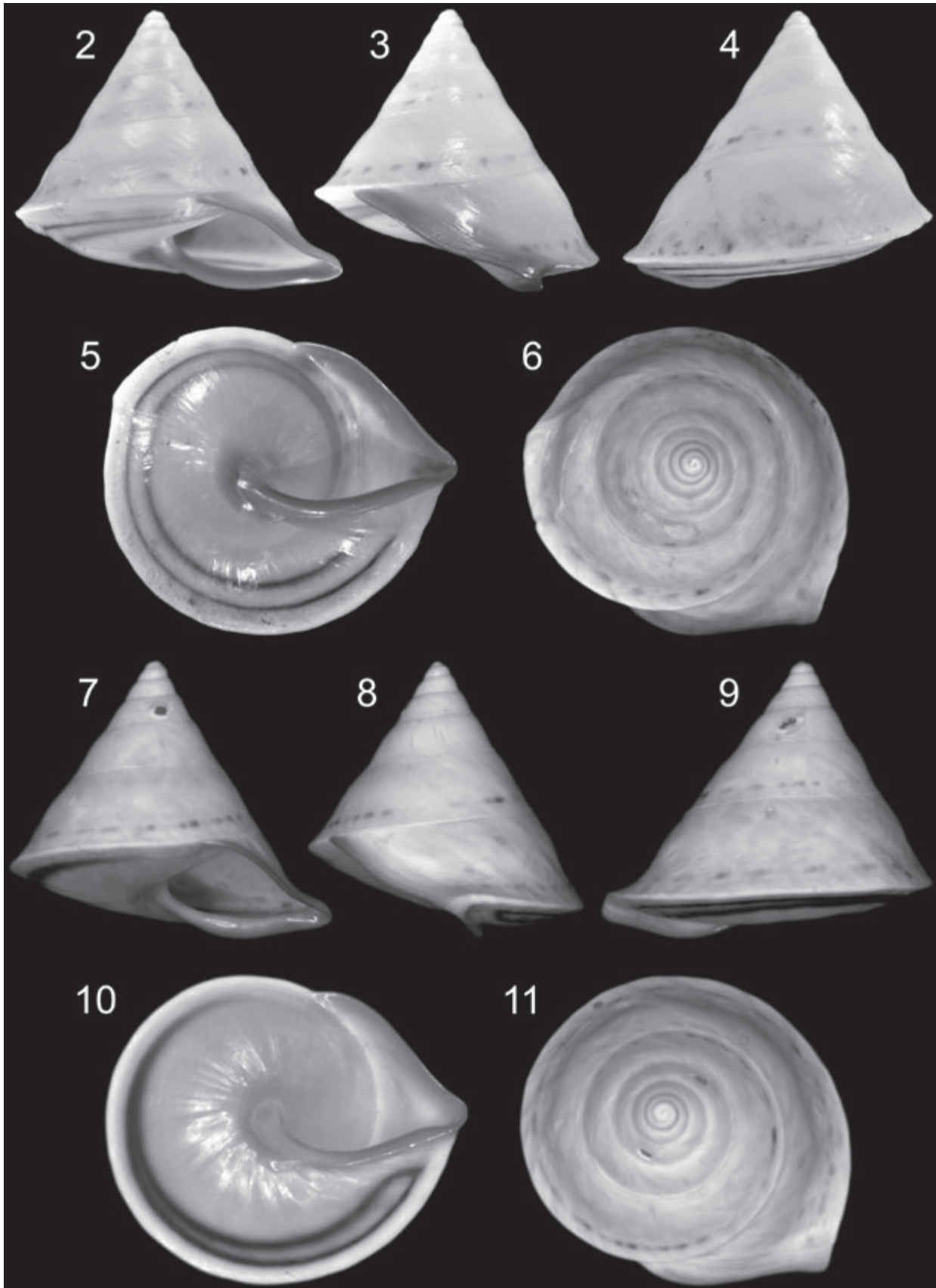
DISCUSSION

Oxychona is a genus of tree-living snails typical of eastern Brazil (Pilsbry, 1897–98; Breure, 1979), although Simone (2006) indicates a possible occurrence of *O. bifasciata* (Burrow 1815), type species of the genus, in Bolivia.

Oxychona maculata sp. nov. resembles those species with flatter shell profiles, like *Oxychona currani* (Bartsch 1916) and *Oxychona pyramidella* (Spix 1827), but it can be easily distinguished by its distinct dorsal and ventral color pattern and slightly more convex whorls. Moreover, it can be distinguished from *O. currani* by having a rounder aperture, with a less pronounced constriction on its distal portion, and thicker peristome and from *O. pyramidella* by its reddish peristome.

A very similar species is *O. bifasciata*. However, *O. maculata* can be easily distinguished by: its color pattern (band of brown spots parallel to carina); a more acuminate spire; a more laterally elongated aperture, with a more pronounced narrowing; a much more prosocline aperture in relation to the columellar axis; a more rounded basal portion of aperture; a more reddish peristome. Curiously, one of the specimens of *O. bifasciata* figured by Pilsbry (1989: pl. 57, figs 36–37) in his description clearly belongs to the new species *O. maculata* (the others are indeed *O. bifasciata*).

O. maculata is more easily differentiated from the other *Oxychona* species by its overall shell profile and colour pattern and by: larger size and a larger number of whorls, flatter whorl profile, less conspicuous sculpture, a lower and more acute aperture, and a non-reflected peristome above the carina, distinguishing it from *Oxychona gyrina* (Deshayes 1850); a much taller and narrower outline, a white apex, a larger number of whorls, and a reddish peristome, distinguishing



Figures 2–11 *Oxychona maculata* sp. nov. 2–6. Holotype (MZSP 108005; shell length 17.9 mm). 7–11. Paratype (MZSP 74500; shell length 16.1 mm). Notice the diametrically opposed holes, marks of predation, on Figs 7, 9 and 11.

it from *Oxychona lonchostoma* (Manke 1828). Moreover, *O. lonchostoma* is the only species in the genus in which the body whorl abruptly turns ventrally near the region of the aperture, resulting in a somewhat "displaced" aperture. Thus, the position of the aperture seems to be a very important character in the genus and so, the greatly prosocline aperture of *O. maculata* is its most striking diagnostic character.

Concluding remarks *Oxychona maculata* stems from Bahia state, a place that lately has been the source of many new land snail species (see, for instance, Salvador & Simone, submitted, for a nearby locality). Casually finding a new species in an old collection serves a dual purpose: (1) it shows how little the Brazilian land molluscan fauna is known (Simone, 1999); (2) it is a stark reminder of the importance of museum collections, not only for information storage, but also for new discoveries (Allmon, 1994).

The collection dates of the presently described specimens are not very old (1994 and 2007). Still, there are no current records of *Oxychona maculata* found in the wild and there is always the fear that amazing species such as this might be endangered. The Atlantic rain forest has been fiercely degraded throughout the few centuries of Brazilian history and, mostly, only scattered fragments remain. Each of these fragments most certainly houses a handful of endemic land snail species (Salvador & Simone, submitted) and, as such, should be the target of a specific legislation and properly preserved. The first step towards

this goal is a precise knowledge of the fauna of each place.

ACKNOWLEDGEMENTS

We are deeply grateful to Mr. Vaz's family for the donation of his private collection to the MZSP, and to Barbara M. Tomotani (MZSP) and Daniel Abbate (MZSP) for the photos (Figs 2–5 and 6–11, respectively).

REFERENCES

- ALLMON WD 1994 The value of natural history collections. *Curator* 37(2): 83–89.
- BREURE ASH 1979 Systematics, phylogeny and zoogeography of Bulimulinae (Mollusca). *Zoologische Verhandelingen* 168: 1–215.
- PILSBRY HA 1989 *Manual of Conchology. Second Series: Pulmonata. Vol. V. Helicidae: Vol. III.* Academy of Natural Sciences of Philadelphia, Philadelphia, USA. 216 pp. + 64 pls.
- PILSBRY HA 1897–98 *Manual of Conchology. Second Series: Pulmonata. Vol. XI. American Bulimulidae: Bulimulus, Neopetraeus, Oxychona, and South American Drymaeus.* Academy of Natural Sciences of Philadelphia, Philadelphia, USA. 339 pp. + 51 pls.
- SIMONE LRL 1999 Mollusca Terrestres In BRANDÃO, CR & CANCELLO, EM (eds). *Invertebrados Terrestres*, Vol. 5: 3–8. Biodiversidade do Estado de São Paulo, Brasil: síntese do conhecimento ao final do século XX. FAPESP, São Paulo, Brazil.
- SIMONE, LRL 2006 *Land and freshwater mollusks of Brazil.* EGB, FAPESP, São Paulo, Brazil. 390 pp.
- SALVADOR, RB & SIMONE, LRL (submitted) Taxonomical study on a sample of land snails from Alcobaça (Bahia, Brazil), with description of four new species. *American Malacological Bulletin*.