

A NEW SPECIES OF *EUGLANDINA* (PULMONATA, SPIRAXIDAE) FROM BRAZIL

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Abstract *Euglandina irakita* is a new species described from the state of Pará, Northern Brazil, collected in the Amazon Rainforest. The description is based on shell features, and some striking differences from the other species were detected. The new species is the second record of this genus in Brazilian territory. It is characterized by a relatively small size, with an oblong outline, deep sutures and a narrow aperture. A comparison with other species of *Euglandina* is provided.

Key words *Euglandina irakita* n. sp., Pulmonata, Amazon Rainforest, Brazil

INTRODUCTION

The genus *Euglandina* Fischer & Crosse 1870 is endemic to the American continent (Crosse & Fischer, 1890; Dall, 1908; Bartsch, 1909; Piaget, 1913; Dall, 1926; Pérez *et al.*, 2007; Oliva-Oliveira & Real, 2009) and perhaps restricted to regions with a high level of moisture, near lakes and rivers (Goodrich & Schalie, 1937). Species of *Euglandina* are characterized by voracious predatory behaviour and generally feed on other land snail species. Some species, such as *E. rosea* (Férussac 1821), have been intentionally introduced to other countries to exert predation pressure on invasive species such as *Achatina fulica* Bowdich 1822 (Basch, 1959; Cowie, 1998, 2001; Mito, 2006; Coote, 2007; Roll *et al.*, 2009).

The Amazon Rainforest is a relatively poorly known area, especially concerning its molluscan fauna. Considering this, and the constant, rapid degradation of the forest, many organisms are probably doomed to extinction before they have been described (Williams, 2006; Simone, 2010). For this reason, and considering the apparent rarity of land gastropods in the Amazon Rain Forest, any discovery of a new morphotype should be quickly reported (e.g. Simone, 2010).

The present study sample was collected in Floresta Nacional (National Forest) Tapirapé-Aquiri, an ecological reserve located in Pará state, northern Brazil. This area is located between two other reserves, the Floresta Nacional de Carajas to the northwest, and Reserva Biológica de Tapirapé to the north, respectively an ecological and a biological reserve. The sampling site is

located from 05°52' to 06°31'N and from 49°53' to 50°45'S. Climate in both areas has two distinct seasons, the dry season from June to September, with an average precipitation of about 32 mm, and the wet season from November to April, with an average precipitation of about 248 mm.

The genus *Euglandina* is represented by 13 extant species: *E. cumingi* (Beck 1837); *E. aurata* (Morelet 1849); *E. aurantiaca* (Angas 1879); *E. anomala* (Angas 1879); *E. broctontomlini* (Pilsbry 1926); *E. cumingi* (Beck 1837); *E. cylindracea* (Phillips 1846); *E. gigantea* Pilsbry 1926; *E. isabelina* (Pfeiffer 1846); *E. mitriformis* (Angas 1879); *E. monilifera* (Pfeiffer 1845); *E. pittieri* (Martens 1901) (Barrientos, 2003); with one species identified from Brazil, *Euglandina striata* (O.F. Müller 1774) having a geographical range which includes Guyana and Suriname to Amazonas and Roraima states, Brazil (Simone, 2006).

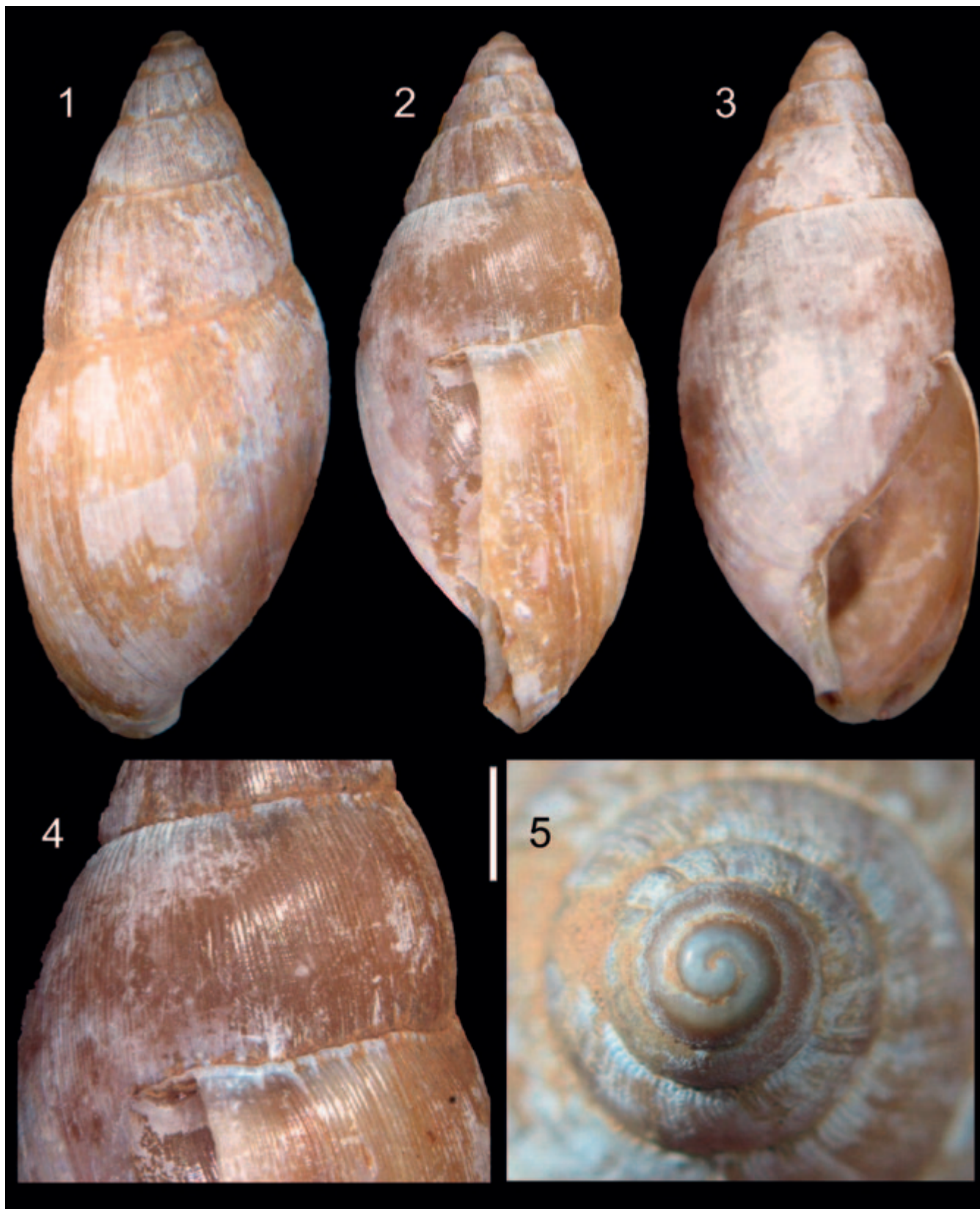
SYSTEMATICS

Euglandina irakita sp. nov.
(Figs 1–5)

Holotype MZSP 97238.

Type locality Brazil, Pará, Floresta Nacional Tapirapé-Aquiri (Jaime Jardim & Daniel Abbate col. 15/ix/2010). 2°56'00"S 51°52'00"W.

Diagnosis Shell beige, opaque; sculpture homogeneous along entire surface, composed of parallel weakly irregular fissures; protoconch glossy, ~1.5 whorls; sutures shallow; aperture elongated, lower half portion weakly concave, upper half concave.



Figures 1–5 *Euglandina irakita* sp. nov. Holotype 1–5: 1 dorsal view of shell; 2 lateral view (right side) of shell; 3 aperture view showing inner and outer lips; 4 corporal whorl with detail of sculpture between initial portion of the whorl and final portion of the outer lips of the species; 5 detail of protoconch and adjacent region. Scale bar 5 mm.

Description Shell (Figs 1–5) elliptical, length about three times longer than maximum diameter; whorls weakly convex (Figs 1–3). Colour a uniform beige, with weakly darker brown spiral stripes. Walls relatively fragile, opaque; periostracum very thin (Figs 1–2), beige. Protoconch ~1.5 whorls, smooth, dome-shaped, suture somewhat deep; width ~1/5 shell width; transition of protoconch–teleoconch clear, orthocline (Fig. 5). Teleoconch sculptured by shallow, narrow, weakly irregular, numerous vertical fissures (Fig. 4); suture shallow; subsutural lines present, shallow and conspicuous; with about five whorls. Aperture elliptical, orthocline, length about half of total shell length; about twice longer than wide (Fig. 3). Outer lip fragile, with cutting edge (Fig. 2); inner lip glossy, lower half portion weakly concave; inferior half almost straight, upper half broadly convex. Aperture inferior region possessing weak, broad canal, mainly discernible in right side, in region closer to umbilicus (Figs 2, 3).

Measurements (in mm) Holotype 39.2 by 16.7.

Distribution Only known from the type locality.

Habitat Amongst vegetation, close to soil, on litter over opened trails in the forest.

Material examined Type.

Etymology The specific epithet refers to the size of the animal. In Tupy, “Irakita” means little, of reduced size.

DISCUSSION

Some authors mention the Euglandininae as inner taxa of the family Oleacinidae (Bouchet & Rocroi, 2005). However, following the classification proposed by Thompson (2010), as well other authors (Cowie, 1997, 1998; Barrientos, 2003; Mito, 2006; Simone, 2006) Euglandininae is included in the Spiraxidae.

The present taxon was classified within the genus *Euglandina* by the possession of a sculpture of longitudinal, shallow striae, and of a spire which is shorter than the aperture. This differs from the characters observed in *Varicocella* Pilsbry 1907 which possesses longitudinal varices and has a rather high spire. The genus *Varicoglandina* Pilsbry 1907 was described as intermediate between *Varicella* and *Euglandina*, in the original description (Pilsbry, 1907). The description

mentions great variation between *Euglandina* and *Varicella*, allowing a clear distinction between these genera, but reports how difficult it is to differentiate *Varicoglandina* from *Varicella*.

Euglandina irakita differs from *E. striata*, from the same region (Ramírez, Paredes & Arenas, 2003; Simone, 2006), in having a larger (taller) shell. The periostracum is a darker beige with axial dark brown stripes, and a more reduced upper portion of the inner lip. The protoconch has fewer whorls and whorl length overall is shorter, sculpture shallower and the subsutural groove is shallower. The aperture is narrower and more elliptical, weakly arched in the outer lip, with lower portion of the inner lip narrower and the upper portion slightly wider. The outer lip is similar in both species.

From the remaining species of the genus that occur in other regions, *E. irakita* has a superficial resemblance to *E. rosea* from which it differs in presenting a thinner and more oblong shell. The periostracum is a darker beige with axial stripes. Subsutural grooves are present, the body whorl is more elliptical, the inner lip straight, the upper portion of the outer lip wider and arched, the protoconch has more whorls, whorl length is shorter and surface sculpture is shallower.

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