

# Reptilia, Testudines, Geoemydidae, *Rhinoclemmys punctularia* (Daudin, 1801): Distribution extension

Marcélia Basto da Silva<sup>1\*</sup>, Izabela Maria de Castro Resende<sup>2</sup>, Janete Diane Nogueira Paranhos<sup>2</sup> and Larissa Barreto<sup>3</sup>

- 1 Programa de Pós-graduação em Zoologia, Universidade Federal do Pará/Museu Paraense Emilio Goeldi. CEP 66077-830. Belém, PA, Brasil.  
2 Universidade Federal do Piauí, Centro de Ciências da Natureza, Departamento de Biologia. CEP 64049-555. Teresina, PI, Brasil.  
3 Universidade Federal do Maranhão, Departamento de Biologia, Centro de Ciências Biológicas e da Saúde. CEP 65000-000. São Luis, MA, Brasil.  
\* Corresponding author. E-mail: [marceliabasto@gmail.com](mailto:marceliabasto@gmail.com)

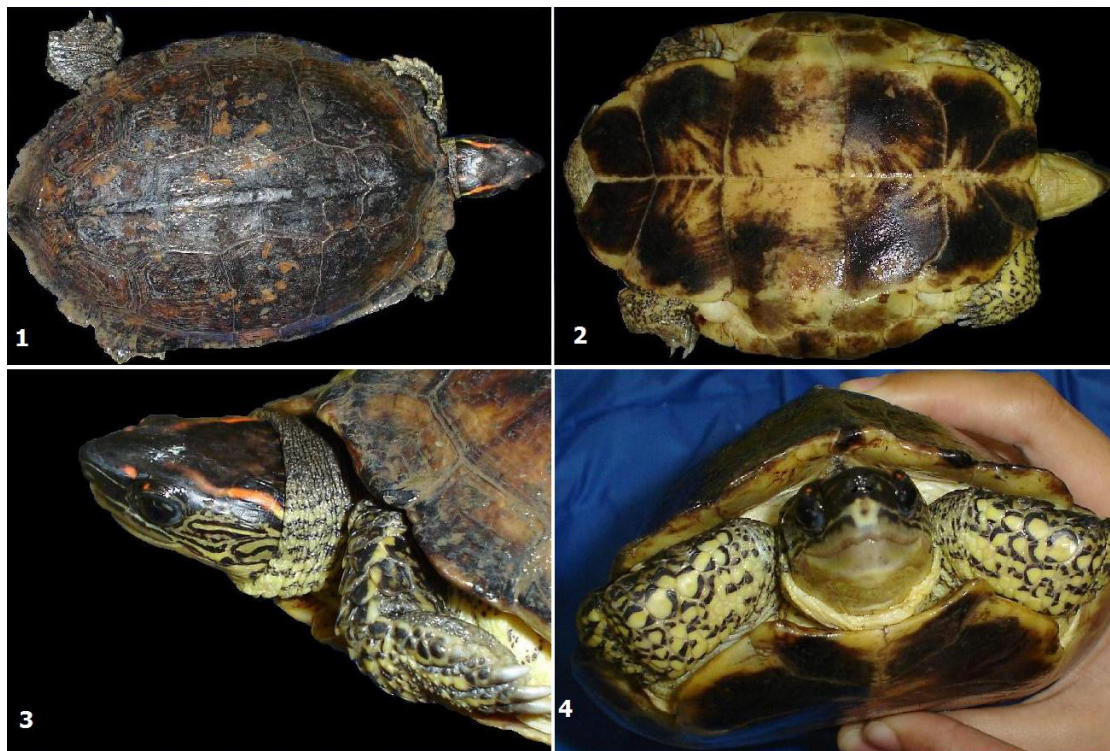
**ABSTRACT:** We report the first record of *Rhinoclemmys punctularia* (Daudin, 1801) for Maranhão state, northeast Brazil. This record extends the geographical distribution of the species in *ca.* 689 km to the east from Vila Nova Vida (Maranhão).

The state of Maranhão is located in an area under the influence of the three major morphoclimatic domains of Brazil (Ab'Saber 1977): The Amazon, the Caatinga and the Cerrado. Consequently, the state represents an ecotonal zone of these biomes, composed of 14 vegetational formations (IBGE 1993), which reflects this transition between the humid and the semi-arid. The Cerrado area is also under significant deforestation pressure due to its agricultural potential, and special governmental incentives.

The Cerrado biome presents one of the richest biodiversities on the planet, and is considered a hotspot

area for biodiversity conservation (Myers *et al.* 2000). It is considered the second largest Brazilian biome, occupying more than 200,000,000 ha (25% of the country's territory) (Klink and Machado 2005). In Maranhão, the Cerrado occupies 60% of the total area, being the main biome in the state (Barreto 2007). As an ecotonal area, Maranhão may have several areas that serve as ecological pathways, affecting not only the species distribution process but the natural ecosystem's dynamics (Barreto 2007).

Turtles are currently represented in Brazil by 36 species of 18 genera, belonging to eight families (Bérnils 2010). *Rhinoclemmys punctularia* (Daudin, 1801),



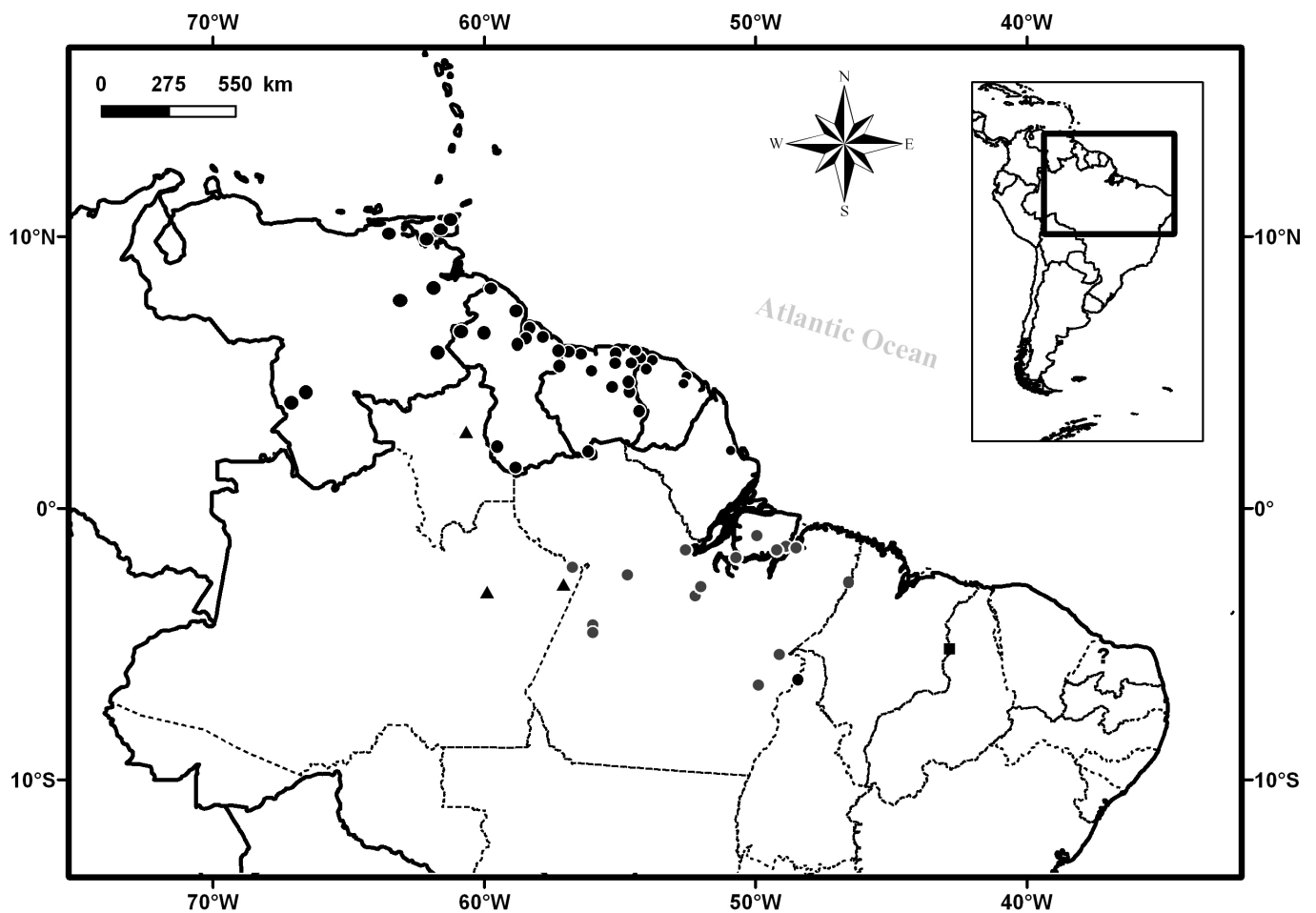
**FIGURE 1.** Adult specimen of *Rhinoclemmys punctularia* registered at the municipality of Timon, Maranhão state: ventral (1) and dorsal (2) views of the body, lateral (3) and frontal (4) views of the head.

popularly known as *aperema*, is the only member of the family Geoemydidae in Brazil. The *aperema* lives inside or around rivers or lakes, has small orange spots on the dorsal surface of the head and is distributed over the South America (Gans 1980; Ernst and Barbour 1989). It is more common in coastal regions at least as far east of Belém, with few reports in Central Amazonia, between the states of Maranhão and Pará, and a doubtful record from eastern Rio Grande do Norte (Pritchard and Trebbau 1984; Schneider et al. 2007; Ávila-Pires et al. 2010; Dornas et al. 2011).

One adult of *Rhinoclemmys punctularia* was photographed (Figure 1) during field work at Sítio Gameleira (05°09'33.1" S, 42°50'16" W), located in municipality of Timon, state of Maranhão, northeast of Brazil, in July 11, 2005. The capture site has a typical Cerrado biome aspect, with predominance of the

physiognomy vegetation of savanna woodland (*Cerradão*) and palm tree forest (*Mata dos Cocais*, a forest with predominance of *Arecaceae* species). The specimen was captured, marked, photographed and released. Collecting permits were authorized by Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis – IBAMA (Proc. # 001/05 RAN). The photograph was verified by Dr. Richard Vogt, from the Instituto Nacional de Pesquisas da Amazônia, (INPA, Manaus, Brazil) and was incorporated to the Acervo Fotográfico of that institution (INPA-HF25). The specimen was not collected, being the photograph enough for the proper identification.

This new record of *R. punctularia* in the state of Maranhão extends the known geographical distribution of this species in ca. 506 km to the east from Vila Nova Vida (Maranhão), contributing for the knowledge of the fauna of this state (Figure 2).



**FIGURE 2.** Distribution map of *Rhinoclemmys punctularia* in South America. Black circles represent literature records: Pritchard and Trebbau 1984; Schneider et al. 2007; Ávila-Pires et al. 2010; Dornas et al. 2011. Gray circles represent records from the Museu Paraense Emílio Goeldi (MPEG) collection; the question mark represents a doubtful record from the state of Rio Grande do Norte (Pritchard and Trebbau 1984). Triangles represent records from the Instituto Nacional de Pesquisas da Amazonia (INPA) collection. Square represents the new record (municipality of Timom, state of Maranhão).

**ACKNOWLEDGMENTS:** The authors wish to thank L. S. Carvalho for comments and suggestions, Ana Prudente for access to the specimens at MPEG and Richard Vogt for information about the specimens at INPA.

#### LITERATURE CITED

Ab'Saber, A.N. 1977. Os Domínios Morfoclimáticos na América do Sul. Primeira aproximação. *Geomorfologia* (52): 1-21.  
 Ávila-Pires, T.C.S., M.S. Hoogmoed and W.A. Rocha. 2010. Notes on the Vertebrates of northern Pará, Brazil: a forgotten part of the Guianan Region, I. Herpetofauna. *Boletim do Museu Paraense Emílio Goeldi. Série Ciências Naturais* 5 (1):13-112.

Barreto, L. 2007. *Cerrado Norte do Brasil*. Pelotas: USEB. 378 p.  
 Bérnils. 2010. *Brazilian reptiles – List of species*. Accessible at <http://www.sbherpetologia.org.br>. Sociedade Brasileira de Herpetologia. Captured on 14 Mar 2010.  
 Dornas, T., A. Malvasio and R.T. Pinheiro. 2011. Reptilia, Testudines, Geoemydidae, *Rhinoclemmys punctularia* (Daudin, 1802): New Geographical distribution and first record for the state of Tocantins, Brazil. *Check List* 7(1): 49-51.  
 Ernst, C.H. and R.W. Barbour. 1989. *Turtles of the world*. Washington: Smithsonian Institution Press. 313 p.  
 Gans, C. 1980. *Répteis do Mundo*. São Paulo: Universidade de São Paulo. 159 p.

- IBGE (Instituto Brasileiro de Geografia e Estatística). 1993. *Mapa de vegetação do Brasil*. Rio de Janeiro: Fundação IBGE. 153 p.
- Iverson, J.B. 1992. *A revised checklist with distribution maps of the turtles of the world*. Richmond: Privately Printed. 374 p.
- Klink, C.A. and R.B. Machado. 2005. Conservation of the Brazilian Cerrado. *Conservation Biology* 19 (3): 707-713.
- Myers, N., R.A. Mittermeier, C.G. Mittermeier, G.A.B. Fonseca and J. Kents. 2000. Biodiversity hotspots for conservation priorities. *Nature* (403): 853-858.
- Pritchard, P.C.H. and P. Trebbau. 1984. *The Turtles of Venezuela. Contributions to Herpetology 2*. Ithaca: Society for the Study of Amphibians and Reptiles. 403 p.
- Schneider, L., A.A. Kuniy and R.C. Vogt. 2009. *Rhinoclemmys punctularia* (Spot-legged Turtle). *Herpetological Review* 40 (4): 449.

RECEIVED: October 2010

LAST REVISED: December 2010

ACCEPTED: January 2011

PUBLISHED ONLINE: February 2011

EDITORIAL RESPONSIBILITY: Mara Cíntia Kiefer