

Reptilia, Testudines, Geoemydidae, *Rhinoclemmys punctularia* (Daudin, 1802): New geographical distribution and first record for the state of Tocantins, Brazil

Túlio Dornas^{1*}, Adriana Malvasio^{2,3} and Renato T. Pinheiro⁴

- 1 Programa de Pós-Graduação em Ciências do Ambiente, Universidade Federal do Tocantins, Campus de Palmas, Laboratório de Ecologia e Ornitologia, Estação experimental. Avenida NS 15, 109 Norte, Bloco IV, CEP 77120-020 Palmas, TO, Brasil.
 - 2 Universidade de São Paulo, Escola Superior de Agricultura "Luiz de Queiroz", Departamento de Ciências Biológicas, Laboratório de Ecologia Animal. Avenida Pádua Dias, 11, Caixa Postal 09. CEP 13418-900, Piracicaba, SP, Brasil.
 - 3 Programa de Pós-Graduação em Ciências do Ambiente, Universidade Federal do Tocantins, Campus de Palmas, Laboratório de Ecologia e Zoologia, Estação Experimental. Avenida NS 15, 109 Norte, Bloco IV, CEP 77120-020 Palmas, TO, Brasil.
 - 4 Programa de Pós-Graduação em Ecologia de Ecótonos, Universidade Federal do Tocantins, Campus Porto Nacional, Laboratório de Ecologia e Ornitologia, Estação experimental. Avenida NS 15, 109 Norte, Bloco IV, CEP 77120-020 Palmas, TO, Brasil.
- * Corresponding author. E-mail: tuliodornas@yahoo.com.br

ABSTRACT: We present new records of the Spot-legged Turtle (*Rhinoclemmys punctularia*) for the states of Pará and Tocantins, Brazil. These records increase the known geographical distribution of *R. punctularia* ca. 500 km southward, reaching the southeastern extreme of the Amazon biome. The Tocantins records are from Amazon rainforests habitats as in most of the known range of the species. These new findings highlight the importance of future investigations in order to better understand the distribution of *R. punctularia* in the South Amazon Basin and ecotones areas.

Popularly known in Brazil as Aперема, *Rhinoclemmys punctularia* (Daudin, 1802), is a semi-aquatic turtle, found in environments such as rivers, lakes, streams and swamps, as well as in terrestrial environments, such as primary and secondary forests, gallery forests, savannah areas and even in disturbed sites (Pritchard and Trebbau 1984; Ernst and Baubor 1989; Rueda-Almonacid *et al.* 2007). The species feeds on animal and plant material (Pritchard and Trebbau 1984) and it is mainly characterized by its black head with yellow to red spots in the dorsal region of the head (Pritchard and Trebbau 1984; Ernst and Baubor 1989; Rueda-Almonacid *et al.* 2007).

Rhinoclemmys punctularia occurs in the southwest of Venezuela, near the Colombia border, in the lower Orinoco River, at the eastern border of Venezuela, extending to Trinidad and Tobago, Suriname and Guyana, and reaching the north-northeast of Brazil (Pritchard and Trebbau 1984; Ernst and Barbour 1989; Iverson 1992; Ouboter *et al.* 2007; Rueda-Almonacid *et al.* 2007; Watling and Ngadino 2007). In Brazil, the species was hitherto reported for the states of Amazonas, Amapá, Pará, and Maranhão (Pritchard and Trebbau 1984; Iverson 1992; Rueda-Almonacid *et al.* 2007; Schneider *et al.* 2009a; Schneider *et al.* 2009b; Vogt *et al.* 2009; Ávila-Pires *et al.* 2010). An additional record from the state of Rio Grande do Norte, in the northeast of the country (Schmidt and Inger 1951) is considered doubtful (Pritchard and Trebbau 1984).

For many years, the geographical distribution of many Brazilian freshwater turtles was poorly known with few references about this subject (Pritchard and Trebbau 1984; Iverson 1992; Vanzolini 1994). However, information about geographical distribution and biogeography have been considerably updated for many species in recent

years (*e.g.* Bour and Zaher 2005; Souza 2005; Loebmann *et al.* 2006; Souza and Molina 2007; Batistella *et al.* 2008; Loebmann 2008; Ferronato and Molina 2009; Molina *et al.* 2009; Costa *et al.* 2010).

In order to improve the understanding of the geographical distribution of Brazilian turtles, we present new and unpublished records of the Spot-legged Turtle *Rhinoclemmys punctularia* for the states of Pará and Tocantins, updating the known geographical distribution of this species. We discuss habitat affinities and propose a new geographic distribution map for the species.

While compiling records of the turtles of state of Tocantins (T. Dornas unpublished data), present in herpetological collections from several Brazilian institutions (Museu de Zoologia da Universidade de São Paulo - MZUSP, Museu Nacional, Rio de Janeiro - MNRJ and Museu Paraense Emilio Goeldi - MPEG), TD found two specimens of *R. punctularia* (MPEG 54 and 67) from Serra Norte locality, Itacaiúnas River region, in the Serra dos Carajás, state of Pará. These findings were never reported in literature and confirm the occurrence of the species in upstream areas of the Tocantins River basin, since the previously known records were based on two specimens from the region of Janaguara, in the mouth of the Tocantins River, near Marajó island (MZUSP 3030 and 3031) (Iverson 1992).

In addition we have now obtained the first two records of *R. punctularia* in the northern region of the state of Tocantins. The first record was made on 20 April 2009 in the region of the São Francisco Ranch, municipality of Ananás (06°06'14" S, 48°15'43" W). The nestling (Figure 1) was photographed but not collected by RTP and his team members, near a stream, a tributary of the Araguaia

river. The individual was found on a road surrounded by well-preserved forest patches, about 500 m from the stream bank, which was far approximately 2 km from Araguaia River. Riparian vegetation in this location was well preserved, becoming more disturbed downstream, where bordering pastures could be found.



FIGURE 1. *Rhinoclemmys punctularia* nestling, recorded at the São Francisco ranch, municipality of Ananás, state of Tocantins. Photos: Renato T. Pinheiro.

The second record occurred in the limits of the Castanhão Ranch, also in the municipality of Ananás (06°14'02" S, 48°22'03" W) (Figure 2). On 22 August 2009, TD found one road-killed individual on a dirt road which overpasses the stream Tira-fato. The specimen (a male with carapace measuring 20 cm long, 14 cm wide, and 7.5 cm high), was deposited in the herpetological collection of the Museum of Zoology José Hidasí, in Porto Nacional municipality, state of Tocantins (voucher specimen: MZJH 0086). Topography at the location was irregular, with several water springs resulting from slope drainage. Most of the original forest cover had been replaced by pasture, and even riparian vegetation was secondary, consisting of few trees and palms. *Cecropia* sp. pioneer trees and herbaceous and shrub species such as *Heliconia* sp. (Heliconiaceae), as well as extensive grasslands (Poaceae) were abundant.

The records presented here show that *R. punctularia* apparently has a good resilience to habitat degradation, being found from a well-preserved to highly disturbed areas. A possible factor in the presence of species in the region is the fact that in the past the northern state of Tocantins was completely covered by Amazon rainforest (SEPLAN 2008).

Together with the two specimens from Serra Norte, in the region of Itacaiúnas River, these two new records of *R. punctularia* in the state of Tocantins increase its known geographic distribution southward in about 500 km straight line from the previous known records: the region of Janaguara (MZUSP 3030 and 3031) and indigenous village Igarapé Gurupi-Una in the boundaries of the states of Maranhão and Pará (MZUSP 2212) (Iverson 1992). The records from the state of Tocantins allow a range extension of *R. punctularia* to the southeastern limit of the Amazon biome.

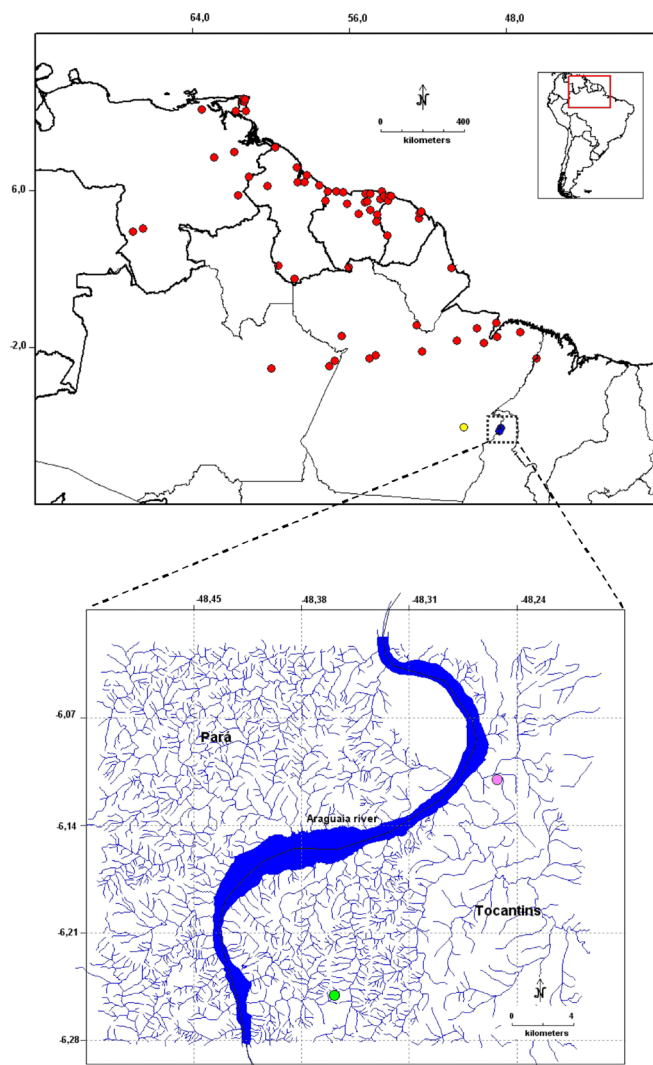


FIGURE 2. Top: current known geographic distribution of *Rhinoclemmys punctularia*. Red spots: records from Pritchard and Trebbau (1984), Iverson (1992), Ouboter *et al.* (2007), Watling and Ngadino (2007), Schneider *et al.* (2009a; b) and Ávila-Pires *et al.* (2010). Yellow spot: previously unpublished record in Serra Norte, Itacaiúnas River, Serra dos Carajás region, state of Pará. Blue spot: new records from Tocantins state. Bottom: detailed map showing the locations of the new records in northern Tocantins. Pink spot: São Francisco ranch (specimens not collected; see Figure 1). Green spot: Tira-fato stream at the Castanhão ranch (MZJH 0086).

Although *R. punctularia* is an Amazonian species and the Tocantins records are from Amazon rainforests habitats as in most of the known range of the species, it might occur in transitional areas between Amazon and Cerrado biomes. We consider this a possibility because *R. punctularia* has been recorded in gallery forests in southwestern Venezuela (Pritchard and Trebbau 1984), an area with similar physiognomy of *veredas* habitat in Brazilian Cerrado. Therefore, in order to better understand the distribution of *R. punctularia*, we recommend further searches along the rivers Tocantins and Araguaia and their tributaries, as well as in transitional areas of savannahs in north of Tocantins state to be performed.

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