Podocnemis unifilis Troschel, 1848 (Testudines, Podocnemididae) – distribution extension and new state record in Brazil

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The "yellow spotted Amazon river turtle" or "tracajá" (for other common names, see Vogt, 2008), *Podocnemis unifilis* Troschel, 1848, has an extensive distribution in the tropical flood plains of the Amazon and Orinoco rivers in northern South America, including Bolivia, northern Brazil, eastern Colombia, eastern Ecuador, French Guiana, Guyana, northeastern Peru, Suriname, and western Venezuela (Vogt, 2008; Rhodin et al., 2017). In Brazil, the species was registered in the states of Acre, Amapá, Amazonas, Goiás, Mato Grosso, Maranhão, Pará, Rondônia, Roraima, and Tocantins (Rhodin et al., 2017) (Fig. 1). A recent register for Northeastern Brazil, in Recife, state of Pernambuco, was admittedly an artificial introduction (Souza et al., 2019). During the First Scientific Expedition to Serra do Amolar, sponsored by the Serra do Amolar Institute, one specimen of *Podocnemis unifilis* was obtained during the fish collection efforts.

The Serra do Amolar region (Fig. 2) is located on the border between the states of Mato Grosso and Mato Grosso do Sul in Brazil, and Bolivia. Although located in the general area of the Pantanal Matogrossense, the region is unusual because it does not directly undergo the effects of the water cycles of flooding and drying, but remains flooded all year. The region is also unique by having several mountain formations, locally called "morrarias" (Novos Dourados, Santa Teresa, Castelo, and others), which regulate the local temperature and humidity, benefiting the formation of forests, which serve as shelters for animals escaping the Pantanal floodings. The region acts as a corridor connecting the Amazon and Prata river basins. The main rivers in the region, Paraguay and its tributary Taquari river, flow in a lowland area and the mountains help in to dam the water, forming two bays (Infinita and Burro bays) and three large lakes (Mandioré, Gaiva, and the huge Uberaba).

On 09 February 2019, a specimen of *Podocnemis unifilis* (Fig. 3) was collected in an unnamed small black water river (18°06′56″S, 57°22′57″W, Datum WGS 84; elevation ca. 90 m), tributary of the João river, on the right margin of the Paraguay river, in the region of the Serra do Amolar, municipality of Corumbá, state of Mato Grosso do Sul, Brazil (Fig. 1). According to local inhabitants, the level of the main river, tributaries, and inundated areas was exceptionally low for the season. The specimen was accidentally obtained with a fishing net exploring the submerged roots of aquatic plants (*Eichornia crassipes*, Pontederiaceae) during fish collection efforts. The specimen is housed in the herpetological collection of the Museu Nacional, Rio de Janeiro, Brazil (MNRJ 27117; Fig. 4). Measurements (mm): carapace length, 135.0; carapace width, 109.5; carapace height, 60.5; plastron length, 113.0; plastron width, 82.5; head length, 31.0; head width, 24.5; tail length, 26.0.

The unsexed specimen is a juvenile. According to Vogt (2008), males are smaller than females; carapace length of male specimens from Guaporé river (State of Amazonas, Brazil) measured 98–369 mm (n = 747) and of the females measured 124–465 mm (n = 88). The smallest reproductive female, in Brazil, measured 313 mm in carapace length. Moreover, Vogt (2008) stated that *Podocnemis unifilis* is found in several habitats, including rivers of white, clear, and black water, lakes, meandering lakes, swamps, pools, and lagoons. Young specimens are more common in small lagoons and bays, whereas adults prefer large water bodies. The collected specimen conforms to this information.

This specimen extends the geographical distribution of the species approximately 850 km southeast of the current known range in Central Bolivia and about 930 km southwest of the current known range in the northwestern part of Goiás, Brazil. This represents the first report for the state of Mato Grosso do Sul, Brazil.

Since only one specimen was found and since it is so far outside the known native range, it is possible that it is not a natural native population. However, the Serra do Amolar region is a pristine and preserved area, with very low human population density. Local inhabitants do not maintain captive chelonians. There is suitable aquatic habitat connecting the current known distribution of the species and the region of the new record. More trapping should be considered in the region and in the intermediate distributional gap to determine whether there is actually a natural population in the area. Furthermore, the large distributional gaps in northern South America and in central Brazil (southern areas of Amazonas and Pará, and in Mato Grosso) may contain data deficiencies that could be rectified through new collection efforts.

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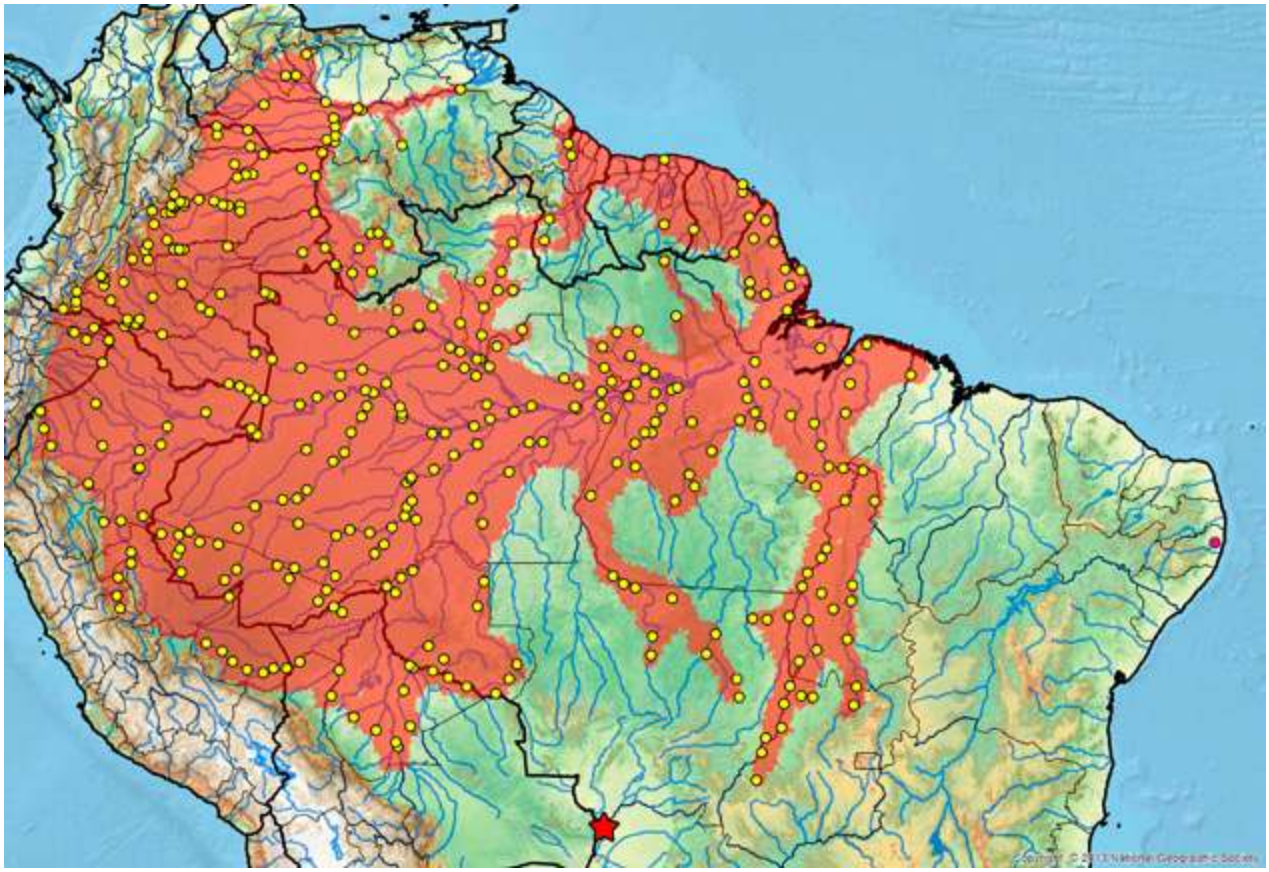

Figura 1. General distribution map (red area and yellow dots for native records, red dot for introduced record) and new record (red star) of *Podocnemis unifilis*. Map based on Rhodin et al. (Turtle Taxonomy Working Group, in preparation).





Figura 2. General view of the Serra do Amolar region (A) and detail of the main mountain range (B). Photos: Glauco Oliveira.



Figura 3. Podocnemis unifilis (MNRJ 27117) in life. Photo: Glauco Oliveira.

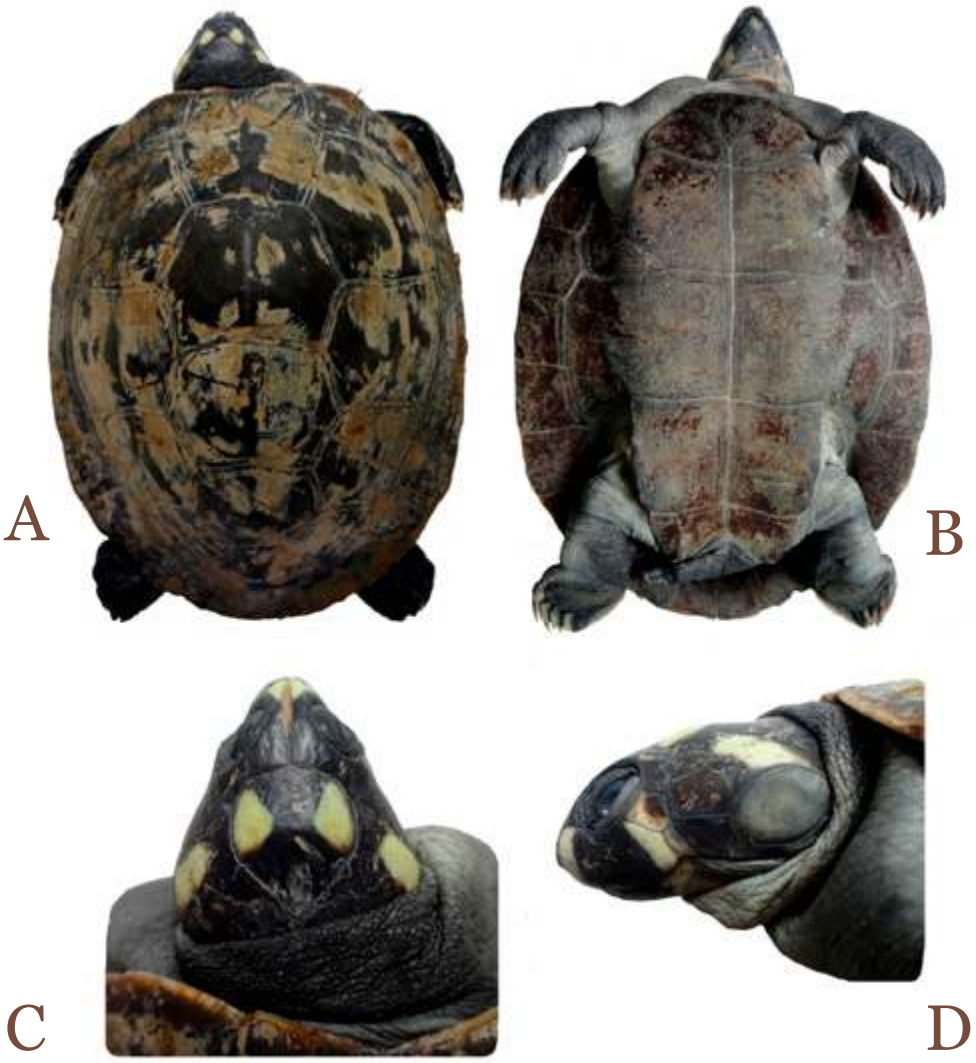

Figura 3. Podocnemis unifilis (MNRJ 27117): (A) Dorsal view; (B) Ventral view; (C) Dorsal view of head; (D) Lateral view of head. See text for measurements.