ACTA BIOLÓGICA COLOMBIANA
http://www.revistas.unal.edu.co/index.php/actabiol

Facultad de Ciencias
Departamento de Biología
Sede Bogotá

UNIVERSIDAD NACIONAL DE COLOMBIA

NOTA BREVE / SHORT NOTE

ECOLOGÍA

DISTRIBUTION EXTENSION OF *Atractus potschi* (SQUAMATA, DIPSADIDAE), WITH REMARKS ON ITS RANGE

Extensión de distribución de *Atractus potschi* (Squamata, Dipsadidae), con observaciones sobre su alcance

Afonso Santiago de Oliveira MENESES[1,2]*, Nathalie Kaladinsky CITELI[2], Ana Lúcia da Costa PRUDENTE[2], Reuber Albuquerque BRANDÃO[2]

1. Museu Paraense Emílio Goeldi, Departamento de Zoologia, Laboratório de Herpetologia, Avenida Perimetral 1901, CEP 66040-170, Belém, Pará, Brazil
2. Universidade de Brasília, Departamento de Engenharia Florestal, Laboratório de Fauna e Unidades de Conservação, l3 norte, CEP 709191-970, Brasília, Distrito Federal, Brazil

*** For correspondence:** afonso.santiago06@gmail.com

Received: 25th may 2021. **Returned for revision:** 11th August 2021. **Accepted:** 24 th August 2021.
Associate Editor: Martha Ramírez Pinilla

Citation/ citar este artículo como: Meneses, A. S. O., Citeli, N. K., Prudente, A. L. C., y Brandão, R. A. (2022). Distribution extension of *Atractus potschi* (Squamata, Dipsadidae), with remarks on its range. *Acta Biológica Colombiana, 27*(3), 468-471. https://doi.org/10.15446/abc.v27n3.96081

ABSTRACT

Atractus potschi is a small Brazilian endemic snake. Its distribution is restricted to Brazil´s Northeastern Atlantic Rain Forest and Caatinga biomes, in the States of Alagoas, Bahia, and Sergipe. Herein, we expanded its distribution in hinterlands by 270 km from the nearest previous record. This is also a new occurrence on the left bank of the São Francisco River.
Keywords: Atlantic Rain Forest, Caatinga, São Francisco River, Snakes.

RESUMEN

Atractus potschi es una pequeña serpiente endémica de Brasil. Su distribución está restringida a los biomas Mata Atlántica y Caatinga, en los estados de Alagoas, Bahia y Sergipe. Expandimos su distribución en el interior en 270 km desde el registro más cercano. Esto es también un nuevo registro en la margen izquierda del río São Francisco.
Palabras clave: Mata Atlántica, Caatinga, Río São Francisco, Serpientes.

Atractus Wagler 1828 is a highly diverse Dipsadid genus, with 143 valid species distributed throughout South America (Passos et al., 2010; Uetz et al., 2021). It consists of small to moderate sized snakes, with cryptozoic or semi-fossorial habits, that prey on invertebrates (Cunha and Nascimento, 1993; Martins and Oliveira, 1993; Passos et al., 2010; 2016a). Due to their secretive habits, several species of this genus have been found only in a few localities, and many of those are known only from type material (Passos and Fernandes, 2008; Prudente and Passos, 2008; Passos et al., 2010).

Atractus potschi Fernandes, 1995, the species of the *A. paraguayensis* group with the Northernmost distribution in South America (Passos et al., 2013; Nogueira et al., 2019) was described based on 12 individuals from Alagoas and Sergipe, Brazil, with only one location record per state (Fernandes, 1995). Lima et al. (2000) extended its distribution to the State of Bahia, whereas Passos et al. (2010), in a checklist and revision of Atlantic Rain Forest *Atractus* species, presented five new records of *A. potschi* in Northeastern Brazil. More recently, Nogueira et al. (2019) provided new accounts on the distribution of *A. potschi*. Since the species´ original description, most of its distribution records are on the right bank of the São Francisco River (SFR) (Nogueira et al., 2019). Herein we present a new record of *A. potschi*, and an updated distribution map, including a new locality on the left bank of the SFR.

During a field expedition in Feira da Mata, State of Bahia, Brazil (14°06'46.1" S, 44°14'22.2" W; 40 m a.s.l.), on 29 October 2020, we found an individual of *Atractus* under logs in the leaf litter, in a "mata de Caatinga" physiognomie, a

Table 1. Pholidosis data for comparisons between *Atractus potschi*, *Atractus* species of the *paraguayensis* group and sympatric species following distribution maps provided by Nogueira et al. (2019).

TAXA	DORSAL SCALES ROWS	VENTRALS	SUBCAUDALS	REFERENCES
Atractus caete Passos, Fernandes, Bérnils & Moura-Leite, 2010	17/17/17	♀ 160 ♂ ?	♀ 16? -19 ♂ ?	Passos *et al.* 2010
Atractus guentheri (Wucherer, 1861)	17/17/17	♀ 147-149 ♂ 136-145	♀ 20-23 ♂ 29-32	Passos *et al*. 2010
Atractus maculatus (Günther, 1858)	17/17/17	♀ 165 ♂ 19	♀ 146-151 ♂ 27-30	Passos *et al.* 2010
Atractus paraguayensis Werner, 1924	15/15/15	♀ 147-167 ♂ 136-162	♀ 19-29 ♂ 21-31	Passos *et al.* 2010
Atractus potschi Fernandes, 1995	15/15/15	♀ 147-166 ♂ 140-160	♀ 19-28 ♂ 24-31	Passos *et al*. 2010; Passos *et al*. 2016; present study
Atractus ronnie Passos, Fernandes & Borges-Nojosa, 2010	17/17/17	♀ 146-163 ♂ 129-151	♀ 16-23 ♂ 20-25	Passos *et al.* 2010

semi-decidual forest habitat. The specimen was collected, euthanized with lidocaine (7 %) injection in its coelom, fixed with 10 % formalin, and stored in 70 % ethanol. The species was identified as *A. potschi* according to Fernandes (1995) and Passos et al. (2010, 2013, 2016a, 2016b), with the following diagnostic characters: 15/15/15 smooth dorsal scale rows, 147–166 ventral scales in females and 140–160 in males, 19–25 subcaudal scales in females and 24–31 in males, two postoculars, loreal long, temporals 1+2, six or seven supralabials, seven infralabials, venter immaculate white, dorsal coloration with black color and black dots, occasionally merging into blotches or crossbands, juveniles with white collar (Table 1). The specimen was deposited in the herpetology collection of Museu Paraense Emílio Goeldi (Voucher MPEG27250). The collection took place under license SISBIO 28190–2, granted by the Brazilian Institute for Biodiversity Conservation - ICMBio. We generated distribution maps using QGIS v. 2.18 software (QGIS Development Team 2018) and previous literature records (Fernandes, 1995; Lima et al., 2000; Passos et al., 2010; Nogueira et al., 2019).

Figure 1. a. Detail of the head of the live specimen. b. Detail of the body, showing the coloration pattern and the tail of the live specimen.

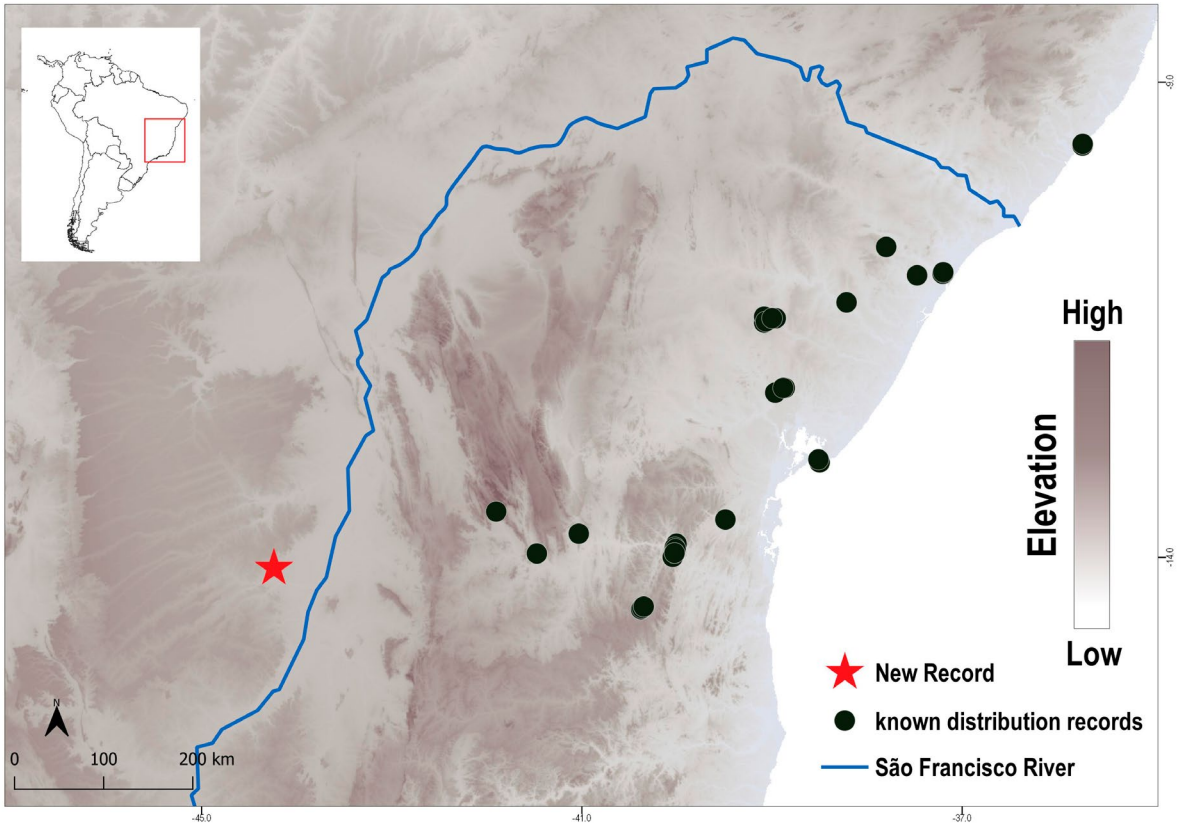

Figure 2. Geographical distribution of *Atractus potschi* from northeastern Brazil. Black dots represent literature records, red star represent the new record.

The individual was a juvenile female *A. potschi* (Fig. 1a and 1b). The specimen has the following characteristics: 15/15/15 smooth dorsal scale rows; 157 ventral scales; 28 subcaudal scales; seven supralabials (third and fourth contacting the orbit); six infralabials; temporals 1+2; two postoculars; loreal long; the color pattern composed by transverse blotches forming crossbands, with two nuchal black collars and a white occipital band, venter immaculate cream white; 150 mm snout-vent length; 15 mm tail length; 8.6 mm head length; 3.5 mm head height; and 3.6 mm head width .

Our distribution extension represents *A. potschi´*s furthest inland record, placed 270 km from the nearest known occurrence, and across the SFR (Fig. 2). In addition to our record, there are only one other record on the left bank of the SFR, in Maceió, Alagoas state, 1061 km from our record (Fig. 2), and close to the São Francisco River mouth in the Atlantic Ocean.

Although our specimen presents a higher number of subcaudal scales (28) than the recorded range from the literature (19–25, Passos et al., 2016), small variations such as this one are expected with analysis from new individuals. In the revision of the Atlantic Forest species of *Atractus* made by Passos et al. (2010) the range found in 21 individuals of *A. potschi* was 153–165 ventrals scales in females, 141–150 in males, and 22–25 subcaudal scales in females, 27–32 in males. However, Passos et al. (2016), with the analysis of 90 individuals of *A. potschi*, increased the range of both ventral and subcaudal scales, with 147–166 ventral scales in females, 140–160 in males, and 19–25 ventral scales in females, 24–31 in males. Therefore, the variation within subcaudal scales in *A. potschi* females increases from 19–25 (Passos et al., 2016) to 19–28.

ACKNOWLEDGMENTS

We thank Júlia de Gois, Pedro Vogeley, and Matheus Carvalho for the assistance and companionship during fieldwork. We are also thankful to Raimundo Primo and Fazenda Limoeiro, for support during fieldwork. RAB thanks to Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) for Productivity Research Grant (process #306644/2020-7).

DISCLOSURE OF INTEREST

The authors declare that there is no conflict of interest.

REFERENCES

Cunha, O. R., and Nascimento, F. P. (1993). Ofídios da Amazônia. As cobras da região leste do Pará. *Boletín del Museo del Paraense Emílio Goeldi*, *9*, 1–191.

Fernandes, R. (1995). A new species of snake in the genus *Atractus* (Colubridae: Xenodontinae) from the northeastern Brazil. *Journal of Herpetology*, *29*(3), 416–419. https://doi.org/10.2307/1564992

Lima, F. M. P., and Juncá, F. A. (2000). *Atractus potschi*. Geographical distribution. *Herpetological Review*, *31*, 254.

Martins, M., and Oliveira, M. E. (1993). The snakes of the genus *Atractus* Wagler (Reptilia: *Squamata*: Colubridae) from the Manaus region, central Amazonia, Brazil. *Zoologische Mededelingen*, *69*, 21–40.

Nogueira, C. C., Argôlo, A. S. J., Arzamendia, V., Azevedo, J. A., Barbo, F. E., Bérnils, R. S., Bolochio, B. E., Borges-Martins, M., Brasil-Godinho, M., Braz, H., Buononato, M. A., Cisneros-Heredia, D. F., Colli, G. R., Costa, H. C., Franco, F. L., Giraudo, A., Gonzalez, R. C., Guedes, T., Hoogmoed, M. S., Marques, O. A. V., Montingelli, G. G., Passos, P., Prudente, A. L. C., Rivas, G. A., Sanchez, P. M., Serrano, F. C., Silva Jr., N. J., Strussmann, C., Vieira-Alencar, J. P. S., Zaher, H., Sawaya, R. J., and Martins, M. (2019). Atlas of Brazilian snakes: Verified point-locality maps to mitigate the Wallacean shortfall in a megadiverse snake fauna. *South American Journal of Herpetology*, *14*(Sp1), 1–274. https://doi.org/10.2994/SAJH-D-19-00120.1

Passos, P., and Fernandes, R. (2008). A new species of the Colubrid snake genus *Atractus* (Reptilia: Serpentes) from central Amazon of Brazil. *Zootaxa, 1849*(1), 59–66. https://doi.org/10.11646/zootaxa.1849.1.4

Passos, P., Fernandes, R., Bérnils, R. S., and Moura-Leite, J. C. (2010). Taxonomic revision of the Brazilian Atlantic Forest *Atractus* (Reptilia: Serpentes: Dipsadidae). *Zootaxa*, *2364*(1), 1–63. https://doi.org/10.11646/zootaxa.2364.1.1

Passos, P., Teixeira Jr., M., Recoder, R. S., Sena, M. A., Vechio, F. D., Pinto, H. B. A., Mendonça, S. H. S. T., Cassimiro, J., and Rodrigues, M. T. (2013). A new species of *Atractus* (Serpentes: Dipsadidae) from Serra do Cipó, Espinhaço range, southeastern Brazil, with proposition of a new species group to the genus. *Papéis Avulsos de Zoologia*, *53*(6), 75–85. https://doi.org/10.1590/S0031-10492013000600001

Passos, P., Martins, A., and Pinto-Coelho, D. (2016a). Population morphological variation and natural history of *Atracuts potschi* (Serpentes: Dipsadidae) in Northeastern Brazil. *South American Journal of Herpetology*, *11*(3), 188–211. https://doi.org/10.2994/SAJH-D-16-00034.1

Passos, P., Prudente, A. L. C., and Lynch, J. D. (2016b). Redescription of *Atractus punctiventris* and description of two new *Atractus* from Brazilian Amazonia. *Herpetological Monographs, 30*(1), 1–20. https://doi.org/10.1655/HERPMONOGRAPHS-D-14-00009

Prudente, A. L. C., and Passos, P. (2008). New species of *Atractus* Wagler, 1828 (Serpentes: Dipsadinae) from Guyana Plateau in Northern Brazil. *Journal of Herpetology*, *42*(4), 723–732. https://doi.org/10.1670/07-115R3.1

(QGIS) Development Team. Quantum GIS Geographic Information System. (01 de enero de 2018). Version 2.18. http://www.qgis.org

Uetz, P., Freed, P., and Hosek, J. (20 de abril de 2021.). The Reptile Database. 2020. https://www.reptile-database.org