

# New records of *Imantodes lentiferus* (Cope, 1894) (Squamata: Dipsadidae) from the states of Pará and Mato Grosso, Brazil

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**Abstract:** The arboreal snake *Imantodes lentiferus* (Cope, 1894) is distributed in lowland rainforests of the Amazon basin and Guiana region, reported from Colombia, Ecuador, Peru, Suriname, French Guiana, Guyana, Bolivia, Venezuela, and Brazil. In Brazil it occurs in the north and central-west regions, in the states of Acre, Rondônia, Amazonas, Pará, and Mato Grosso. This study reports new records of *Imantodes lentiferus* from Pará and Mato Grosso. These new records fill a large gap in the known distribution of this species.

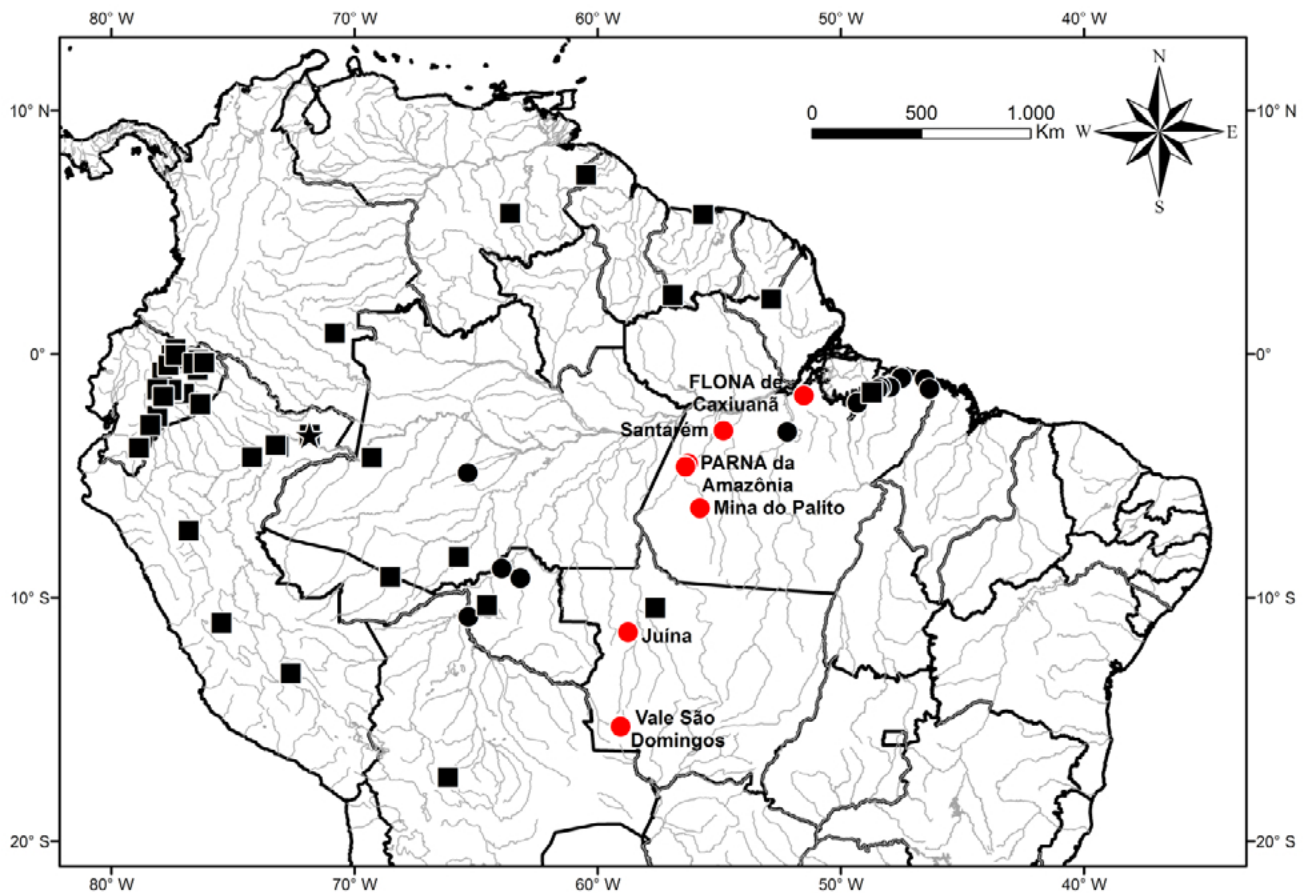
**Key words:** Distribution, Imantodini, Amazon Forest, meristic data, arboreal snakes

*Imantodes* currently comprises seven species of highly arboreal to nearly terrestrial snakes — e.g., *I. gemmistratus* (Cope, 1861) — that occur from Mexico, Central America, to the southern South America (Myers 1982; Torres-Carvajal et al. 2012): *I. cenchoa* (Linnaeus, 1758), *I. gemmistratus*, *I. tenuissimus* (Cope, 1866), *I. lentiferus* (Cope, 1894), *I. inornatus* (Boulenger, 1896), *I. phantasma* Myers, 1982 and *I. chocoensis* Torres-Carvajal, Yáñez-Muñoz, Quirola, Smith and Almendáriz, 2012. The arboreal species *Imantodes lentiferus* is distributed in lowland rainforests of the Amazon basin and Guiana region, reported from Colombia, Ecuador, Peru, Suriname, French Guiana, Guyana, Bolivia, Venezuela, and Brazil (states of Acre, Rondônia, Amazonas, Pará, and Mato Grosso) (Myers 1982; Dixon and Soini 1986; Pérez-Santos and Moreno 1988; Duellman 1990; Donnelly and Myers 1991; Cunha and Nascimento 1993; Castaño-M et al. 2004; Avila-Pires et al. 2009; Prudente et al. 2010; Ávila and Kawashita-Ribeiro 2011; Silva et al. 2011; Sampaio and

Maciel 2012; Cole et al. 2013). *Imantodes lentiferus* differs from all congeners by the number of dorsal scale rows in the middle of the body (15 in *I. lentiferus* vs. 17 in all other species of *Imantodes*) and color patterns of head and body (Myers 1982). This species feeds primarily on anurans and secondarily on lizards (Duellman 1978; Cunha and Nascimento 1993), and lays two or three eggs that hatch from July to October (Duellman 1978; Myers 1982). In this study, we present new records of *Imantodes lentiferus* ( $n = 8$ ) from six localities in the states of Pará (Lower Amazon, Southwest and Marajó mesoregions) and Mato Grosso (North and Southwestern mesoregion) Brazil (Figure 1). Specimens were collected under permit number 19117-1 and 23830-1, issued by IBAMA (Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis). Six specimens were deposited in the Coleção Herpetológica “Oswaldo Rodrigues da Cunha” at the Museu Paraense Emílio Goeldi (MPEG), Belém, Pará, and two specimens were deposited in the Universidade Federal do Mato Grosso (UFMT), Cuiabá, Mato Grosso, Brazil.

The specimens MPEG 25238 and MPEG 25239 were collected in the Parque Nacional da Amazônia (PARNA), municipality of Itaituba, state of Pará, Brazil. This protected area is characterized by having a Submontane Dense Ombrophilous Forest. The specimen MPEG 25238 was found on 4 July 2009 at 19:24 h, in primary forest (04°29'10.8" S, 056°17'00" W) and was active on vegetation 1.7 m above the ground. The specimen MPEG 25239 was found on July 23<sup>rd</sup> 2010 at 21:15 h, in primary forest (04°37'38" S, 056°23'13" W) and was also active on vegetation 2.1 m above the ground.

The specimen MPEG 25708 was found on 12 September 2013 and MPEG 25709 on September 10<sup>th</sup> 2013, both



**Figure 1.** Records of *Imantodes lentiferus* in Amazonia. Red circles = new records for municipalities of Itaituba (PARNA da Amazônia and Mina do Palito), Santarém, and Melgaço (FLONA de Caxiuana), state of Pará, and Juína and Vale São Domingos, state of Mato Grosso; black star = type locality (Cope 1894); black circles = specimens examined; black squares = data from Myers (1982), Dixon and Soini (1986), Donnelly and Myers (1991), Cunha and Nascimento (1993), Avila-Pires et al. (2009), Prudente et al. (2010), Ávila and Kawashita-Ribeiro (2011), Silva et al. (2011), Sampaio and Maciel (2012), Torres-Carvajal et al. (2012), Cole et al. (2013).

specimens collected in Mina do Palito ( $06^{\circ}19'34''$  S,  $055^{\circ}47'47''$  W), municipality of Itaituba, state of Pará, Brazil, without specific collection data.

The specimen MPEG 19049 was collected at the municipality of Santarém ( $03^{\circ}8'48''$  S,  $054^{\circ}49'46''$  W), state of Pará, on 27 February 1995. There is no specific data of the collection site of this specimen.

The specimen MPEG 20483 was collected on 12 July 2002, in the Floresta Nacional de Caxiuana ( $01^{\circ}48'$  S,  $050^{\circ}43'$  W), municipality of Melgaço, state of Pará, at the Xingu-Tocantins interfluve, Brazil. The vegetation at Caxiuana is a lowland Tropical Rain Forest, with patches of Open Tropical Rain Forest/Submontane, growing on yellow latosols of tertiary origin. Environments of dense forest and low plateaus (upland), flooded forests (lowlands), savanna-like vegetation (non-forest) and secondary vegetation (*capoeira*) are also found (Lisboa et al. 1997).

Two specimens were collected in the state of Mato Grosso, in the municipalities of Vale de São Domingos ( $15^{\circ}17'38''$  S,  $059^{\circ}03'39''$  W; UFMT 1994) and Juína ( $11^{\circ}22'40''$  S,  $058^{\circ}44'27''$  W; UFMT 4869). There is no specific data on the collection sites of these specimens.

The meristic and morphometric data of the eight specimens examined of *I. lentiferus* are summarized in Table 1.

These new records fill a large gap in the known distribution of this species (Figure 1). The gaps between records may be because of the low number of appropriate inventory surveys, as well as a possible low density of this species, making it difficult to find in the wild, especially in the arc of deforestation, in the south Pará. The new record from the locality Vale São Domingos, extended the distribution of *I. lentiferus* 560 km for southwestern of the state of Mato Grosso, Brazil.

Numerous specimens of *Imantodes lentiferus* have been collected in the Western Amazon region (adjacent to the Andes), from Ecuador, Colombia, and Peru, suggesting that the species is more abundant there than in the eastern region (Duellman 1978; Myers 1982; Dixon and Soini 1986; Torres-Carvajal et al. 2012). In the Eastern Amazon region this species is considered rare, having a low occurrence or being absent in many sites (e.g., Cunha and Nascimento 1993; Martins and Oliveira 1999; Frota et al. 2005; França et al. 2006; Vogt et al. 2007; Prudente et al. 2010; Silva et al. 2011; Ávila

**Table 1.** Meristic data of *Imantodes lentiferus* specimens from Central-eastern Amazon. The SVL and TL are presented in millimeters (mm). Numbers in parentheses represent the just scales in contact with “eye” and “chin”, counted in the right side of the head. Transversal bar correspond the variation of right/left sides. Legend: SVL= snout-vent length; TL= tail length; SL= supralabial scales; eye= supralabial scales in contact with the eye; IL= infralabial scales; chin= infralabial scales in contact with the first pair of chinshields; VE= number of ventral scales; SC= number of subcaudal scales; Dorsal blotches = number of dorsal blotches; Tail blotches = number of tail blotches.

Specimen number	Sex	SVL/TL	SL (eye)	IL (chin)	VE	SC	Dorsal blotches	Tail blotches
MPEG 25238	F	564/264	8/8 (3–5)	11/11 (1–5)	233	150	46	26
MPEG 25239	M	661/-	9/8 (3–6/3–5)	12/11 (1–6)	235	–	46	–
MPEG 19049	M	644/302	8/9 (3–5/3–6)	11/10 (1–6/1–5)	235	148	50	34
MPEG 20483	M	597/288t	8/8 (3–5)	11/11 (1–6)	231	159	42	24
MPEG 25708	M	602/264	8/8 (3–5)	11/11 (1–6)	234	138	40	22
MPEG 25709	M	592/259	8/8 (3–5)	11/11 (1–6)	235	139	46	27
UFMT 1994	M	624/291	9/ – (4–6)	11/11 (1–6)	235	154	39	24
UFMT 4869	M	601/298	8/8 (3–5)	11/11 (1–6)	234	150	41	29

and Kawashita-Ribeiro 2011; Maschio et al. 2012). The hypothesis of low occurrence is supported by the few records present in the MPEG since 1970 and UFMT ( $n = 29$ ) (Appendix 1).

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**Authors' contribution statement:** JGF conceived the research. JF, AM, AP designed the research, analyzed the data, and prepared the figure and table. JF, AM, AP, MC wrote the paper. All authors read and approved the final manuscript.

#### APPENDIX 1

Specimens of *Imantodes lentiferus* examined ( $n = 29$ ).

BRAZIL. AMAZONAS: Unknown specific locality (MPEG 20326); Coari,

Porto Urucu (MPEG 22228, 23553). MATO GROSSO: Juína (UFMT 4869); Vale São Domingos (UFMT 1994). PARÁ: Acará (MPEG 10802); Altamira (MPEG 23572); Ananindeua (MPEG 4699, 18527, 19255); Augusto Corrêa, Cacoal (MPEG 2577); Belém, Mocambo (MPEG 15176); Belém (MPEG 16650, 21282, 21744); Castanhal, Boa Vista (MPEG 1557, 2667); Itaituba, Parque Nacional da Amazônia (MPEG 25238-9); Itaituba, Mina do Palito (MPEG 25708-9); Maracanã (MPEG 2107); Melgaço, Floresta Nacional de Caxiuanã (MPEG 20483); Santarém (MPEG 19049); Viseu (MPEG 5159). RONDÔNIA: U.H.E. Jirau, Madeira River (MPEG 21107); Guajará-Mirim, Parque Estadual de Guajará-Mirim (MPEG 19463); Itapuã do Oeste, Floresta Nacional de Jamari (MPEG 25806); Porto Velho, U.H.E. Santo Antonio (MPEG 25602).