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A new species of *Ami* Pérez-Miles, 2008 (Araneae: Mygalomorphae: Theraphosidae) from the Amazon rainforest, Brazil

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Abstract: A new species of *Ami* Pérez-Miles, 2008 is described from the state of Amazonas in Brazil based on three males from Manaus. *Ami valentinae* **sp. nov.** is closely related to *A. armihuariensis* and *A. caxiuana* by the presence of a granular area on the embolus, but it differs from the first species by the presence of two retrolateral process on the male palpal tibia and differs by the latter by the morphology of the male palpal organ. *A. valentinae* **sp. nov.** is the first species of *Ami* reported for the Amazonas state and second species described for Brazil.

Key words: Amazonia, tarantula, theraphosids, diversity

The mygalomorph family Theraphosidae is currently composed of 1000 species and 147 genera (World Spider Catalog, 2019). The largest species of spiders in the world belong to this family and are usually called tarantulas. However, some species of theraphosids are small in size (Pérez-Miles et al., 2008; Almeida et al., 2018). The genus *Ami* Pérez-Miles, 2008 belongs to the subfamily Theraphosinae and is composed of small-sized tarantulas (ranging between 11 and 20 mm), with current known distribution in Brazil, Colombia, Ecuador, Panama, Costa Rica, Peru, and Venezuela (Pérez-Miles et al., 2008; Kaderka, 2014; Lapinski et al., 2018; World Spider Catalog, 2019). The genus comprises eight species: *Ami amazonica* Jimenez and Bertani, 2008; *A. armihuariensis* Kaderka, 2014; *A. bladesi* Pérez-Miles, Gabriel & Gallon, 2008; *A. caxiuana* Pérez-Miles, Miglio & Bonaldo, 2008; *A. obscura* (Ausserer, 1875); *A. pijaos* Jimenez & Bertani, 2008; *A. weinmanni* Pérez-Miles, 2008; and *A. yupanquii* Péres-Miles, Gabriel & Gallon 2008. *Ami* differs from all other genera of theraphosids by the presence of one or two subconical processes on the retrolateral male palpal tibia and the palpal organ morphology having prolateral keels that are more or less convergent; females differ by their characteristic spermathecae with paired ventral receptacles attached to an almost discrete, semicircular, sclerotized back-plate (Pérez-Miles et al., 2008; Lapinski et al., 2018); and both males and females differ by the presence of modified type I abdominal urticating setae (Bertani and Guadanucci, 2013).

The present work describes a new species of *Ami* based on three males from Manaus, Amazonas, Brazil.

The material was deposited in the collection of invertebrates of the National Institute of Amazonian Research (INPA), Manaus, Amazonas, Brazil. All measurements are in millimeters. Digital images were taken using a Leica M205A stereomicroscope equipped with a Leica DFC425 camera (Leica Microsystems, Wetzlar, Germany). The images were edited in Adobe Photoshop CC (2017). The left male palp was photographed in prolateral and retrolateral views. The total length was taken with the spider in the dorsal position.

The description followed Pérez-Miles et al. (2008) and the layout pattern of the legs spines was described according to Petrunkevitch (1925), with modifications proposed by Bertani (2001). The terminologies of copulatory bulb structures and characters followed Bertani (2000).

Abbreviations used in the descriptions and illustrations: ALE, anterior lateral eyes; AME, anterior median eyes; d, dorsal; Fe, femur; INPA, National Institute of Amazonian Research; Me, metatarsus; OQ, ocular quadrangle; p, prolateral; Pa, patella; PI, prolateral inferior keel; PLE, posterior lateral eyes; PME, posterior median eyes; PS, prolateral superior keel; r, retrolateral; Ta, tarsus; Ti, tibia; UFAM, Federal University of Amazonas; v, ventral.

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Family Theraphosidae Thorell, 1869
Subfamily Theraphosinae Thorell, 1869
Genus *Ami* Pérez-Miles**, 2008**

Ami valentinae **sp. nov.** (Figures 1A–1D and 2A–2G)

Type material. Holotype: 1♂, **BRAZIL, Amazonas,** Manaus, Fazenda Experimental da UFAM, 2°38′00.0″S, 60°03′00.0″W, 01.xii.2018, M.Q. Almeida leg., deposited in INPA (9074). Paratypes: 2♂, same collector and date, deposited in INPA (9075).

Diagnosis. Males of *Ami valentinae* **sp. nov.** (Figure 1A) resemble those of *A. armihuariensis* and *A. caxiuana* by the presence of granular area on embolus, but differ by the granular area composed by minuscule granulations (Figure 2E), and by prolateral inferior keel curved (Figure 2C). It also differs from *A. armihuariensis* by the presence of two retrolateral processes on the male palpal tibia (Figure 2F), and from *A. caxiuana* by the terminal embolic, in the prolateral region, slightly diagonally in relation to the palpal organ axis (Figures 2C and 2D).

Etymology. The specific name is in honor of Valentina Moroni Almeida, the first author's daughter.

Description (♂ Holotype). Total length: 12.9 (excluding chelicerae and spinnerets), carapace length 6.6, width 6.1. Fovea transverse, width 0.8. Clypeus 0.1. Labium length 0.7, width 0.8, with 20 cuspules. Left maxilla with 44 and right maxilla 43 cuspules (Figures 1B and 1C). Sternum length 3.7, width 2.7. Right chelicera with 9 teeth on the promargin and 9 small teeth on proximal retromargin, and left chelicera with 8 teeth on the promargin and 9 small teeth on the proximal retromargin. All tarsal claws with two teeth. **Coloration:** Color in alcohol, carapace, legs yellowish brown, and abdomen dark brown (Figure 1A). **Eyes: Diameters:** AME 0.22 (circular), ALE 0.11 (oval), PME 0.20 (oval), PLE 0.20 (oval) (Figure 1D). **Interdistances:** AME–AME 0.16, AME–ALE 0.09, PME–PME 0.56, PME–PLE 0.06, ALE–PLE 0.08. **OQ:** Length 1.16, width 0.52. **Ocular tubercle:** Length 1.16, width 0.72. **Legs:** Ventral tibial apophysis on the first pair of legs with robust apical spine (Figure 2G). **Leg and palp measurements:** Palp: Femur 3.5; Patella 1.7; Tibia 3.5; Tarsus 1.4. Legs: Femur I 6.8, II 5.9, III 5.3, IV 5.6; Patella I 3.6, II 3.3, III

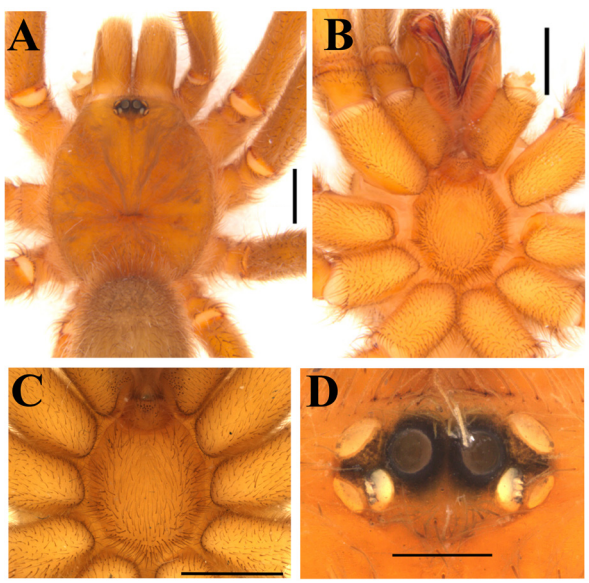

Figure 1. *Ami valentinae* **sp. nov.**, body, male. A) Carapace, dorsal view; B) sternum, chelicerae, labium, coxae and trochanters, ventral view; C) sternum, ventral view; D) eye group. Scale bar: A–C 2.0 mm; D 0.5 mm.

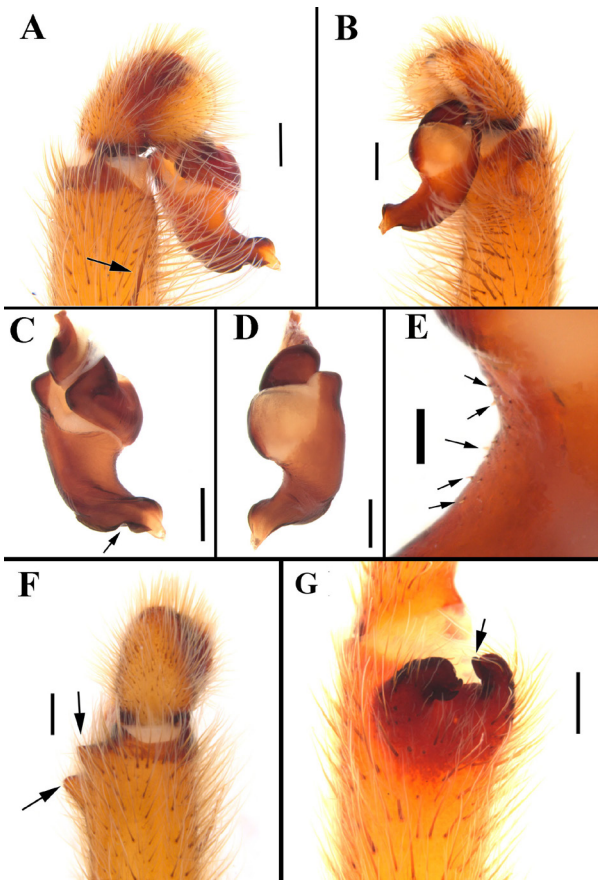

Figure 2. *Ami valentinae* **sp. nov.**, left male palp. A) Prolateral view, the arrow shows spine in prolateral of tibial palp; B) retrolateral view; C) palpal bulb, prolateral view, the arrow shows curved prolateral inferior keel; D) palpal bulb, retrolateral view; E) left embolus, the arrows show granular area; F) left palp, dorsal view, the arrow shows two distal conical processes on retrolateral surface; G) left leg I showing tibial apophyses and proventral view, the arrow shows apical spine. Scale bar: A–D and F–G 0.5 mm; E 0.1 mm.

2.7, IV 2.9; Tibia I 6.6, II 5.5, III 4.7, IV 6.6; Metatarsus I 5.1, II 5.2, III 5.8 IV 8.4; Tarsus I 3.1, II 3.7, III 3.2, IV 3.5. **Spinulation:** Femora I–IV and femora of palps 0; patella I–IV 0 and patella of palps 0; tibia I v0-0-1ap, II v0-0-1, III v0-0-3ap, p0-1-0, IV v0-0-3ap, r0-1-0 and tibia of palps p0-1-0; metatarsi I v0-0-1ap, II v0-0-2ap, III v0-4-3ap, r0-1-1, p0-1-1; IV v0-4-3ap, p0-1-1, r0-1-1; tarsi I-IV and tarsi of palps 0. **Palp:** Palpal organ piriform (Figures 2A–2D). Palpal tibia with two distal conical processes on retrolateral surface (Figure 2F) and one spine in prolateral of tibial palp (Figure 2A). Keels absents between the PS and PI keels on embolus (Figure 2C). Presence of microspikes (granulation) in tegular area of bulb (Figure 2E).

Female. Unknown.

Distribution. Known only from the type locality.

Natural history: The males were collected by pitfall trap in a primary rainforest.

Ami valentinae **sp**. **nov**. is the first species of *Ami* reported in the state of Amazonas and the second species described for Brazil. Biogeographically, there is a gap of 1.151 km between the type locality of *Ami valentinae* **sp. nov.** and its Colombian congener, *A. amazonica*, only known by females; thus, it can be assumed that they are a distinct species.

Remarks: Males of *Ami valentinae* **sp. nov.** can also differ from *A. armihuariensis* and *A. pijaos* by the presence of two retrolateral processes on the male palpal tibia (Figure 2F), from *A. weinmanni* by the number of cuspules on the labium (20 in *A. valentinae* and 4 in *A. weinmanni*), and from *A. caxiuana*, *A. yupanquii*, *A. bladesi*, and *A. obscura* by the morphology of the male palpal organ (Figure 2A).

Nomenclatural acts: This work and the nomenclatural acts it contains have been registered in ZooBank. The ZooBank Life Science Identifier (LSID) for this publication is :http://zoobank.org/urn:lsid:zoobank.org:pub:F861FD8F-13D0-4904-9A29-C5B3DFA6E6A0

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