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A NEW SPECIES OF THE GENUS *Macrinus* SIMON, 1887 (ARACHNIDA: ARANEAE: SPARASSIDAE) FROM NORTHERN BRAZIL

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ABSTRACT

The genus *Macrinus* Simon currently includes six species occurring mostly in South America, with records from the island of Tobago, Venezuela, Guyana, Ecuador, Bolivia and Brazil. A single species is found in the Mohave desert in California, USA. In this paper, I describe a new species of *Macrinus* based on a single female from the state of Pará, northern Brazil. The new species can be easily distinguished from its congeners by the shape of the median septum in the epigyne resembling a chess pawn. In addition, I provide new records for *M. succineus* Simon, *M. pollexensis* (Schenkel) and *M. jaegeri* Rheims and an updated distribution map for all South American species.

Key words: *Macrinus aisenbergae* spec. nov., Neotropical region, new records. taxonomy.

RESUMEN

Una nueva especie de género *Macrinus* Simon, 1887 (Arachnida: Araneae: Sparassidae) del norte de Brasil. El género *Macrinus* Simon incluye actualmente seis especies que se encuentran principalmente en Sudamérica, con registros en la isla de Tobago, Venezuela, Guyana, Ecuador, Bolivia y Brasil. Una sola especie se encuentra en el desierto de Mojave en California, EE.UU. En este trabajo, describo una nueva especie de *Macrinus* basada en una hembra única del estado de Pará, en el norte de Brasil. La nueva especie se distingue fácilmente de sus congéneres por la forma del septo medio en el epigino, que se asemeja a un peón de ajedrez. Además, proporciono nuevos registros para *M. succineus* Simon, *M. pollexensis* (Schenkel) y *M. jaegeri* Rheims, así como un mapa de distribución actualizado para todas las especies sudamericanas.

Palabras clave: *Macrinus aisenbergae* spec. nov., región Neotropical, nuevos registros, Taxonomía.

INTRODUCTION

The genus *Macrinus* Simon, 1887, was originally proposed to include the type species, *M. succineus* Simon, 1887, and two additional Brazilian species. It was later included in *Sparassus* Walckenaer, 1805 by Simon (1897), synonymized with *Olios* Walckenaer, 1837 by Petrunkevitch (1911) and implicitly revalidated by Caporiacco (1955). After this relatively confusing taxonomic history, *Macrinus* was revised by Rheims (2007) and redefined to include *M. succineus*, *M. pollexensis* (Schenkel, 1953), transferred from *Olios*, and the newly described *M. jaegeri* Rheims, 2007. A few years later, Rheims (2010) transferred *M. mohavensis* (Fox, 1937) from *Olios* and added *M. bambuco* Rheims, 2010, *M. calypso* Rheims, 2010, defining the genus to comprise the six currently valid species (World Spider Catalog, 2024).

While examining material deposited in the Museu Paraense Emílio Goeldi, I detected a single female, belonging to the genus *Macrinus*, that could not be attributed to any of the known species. Further examination of the female genitalia, using the protocol of enzymatic tissue digestion proposed by Alvarez-Padilla and Hormiga (2007) revealed additional characters that were not observed in the previous descriptions. Thus, in this paper, I provide the description of the new species and an emended diagnosis of the female genitalia for the genus. Additionally, I provide new records for *M. succineus*, *M. pollexensis* and *M. jaegeri* and an updated distribution map for all South American representatives.

MATERIAL AND METHODS

Material examined is deposited in the following institutions (curator in parenthesis): CHNUFPI—Coleção de História Natural da Universidade Federal

do Piauí, Floriano (L.S. Carvalho); IBSP—Instituto Butantan, São Paulo (A.D. Brescovit); MPEG—Museu Paraense Emilio Goeldi, Belém (A.B. Bonaldo); UFMG—Centro de Coleções Taxonômicas da Universidade Federal de Minas Gerais, Belo Horizonte (A.J. Santos). Format of descriptions and terminology follow Rheims (2007). Leg spination pattern follows Petrunkevitch (1925). Morphological observations were made using a Leica M165C stereomicroscope. All measurements are in millimeters (mm). Leg measurements are listed as: total length (femur, patella, tibia, metatarsus, tarsus); eye diameters as AME, ALE, PME, PLE and interdistances as AME-AME, AME-ALE, PME-PME, PME-PLE, AME-PME, ALE-PLE. Coloration patterns are described based on specimen preserved in 75% ethanol. The female epigynal plate was dissected and the soft tissues were digested for 48 hours in a solution of pancreatin, following Álvarez-Padilla and Hormiga (2007). The digested structure was immersed in clove oil, following Levi (1965), for better visualization of internal structures. In schematic courses of female internal duct system, copulatory openings are marked with a circle, glandular appendages with a "T", and the end of the fertilization duct in direction of the uterus externus with an arrow. Illustrations were made using a Leica M165C stereomicroscope, with camera lucida. Photographs of genital structures and specimen were taken with a Leica DFC 500 digital camera, attached to a Leica MZ 205A stereomicroscope. Extended focal range images were composed with the program Leica Application Suite version 2.5.0. Geographic coordinates of collection locality were obtained from the label. Distribution maps were created using SimpleMappr (Shorthouse, 2010).

Abbreviations used throughout the text: ALE—anterior lateral eye; AME—anterior median eye; d—dorsal; Dh—hyaline part of IDS; Ds—sclerotized part of IDS; EF—epigynal field; FD—fertilization duct; GP—glandular projection; IDS—internal duct system; LL—lateral lobe; MAB—muscle attachment bands; MS—median septum; PLE—posterior lateral eye; PME—posterior median eye; p—prolateral; r—retrolateral; v—ventral.

RESULTS

Taxonomy

Macrinus Simon, 1887

Macrinus Simon, 1887: 470 (type species by original designation: *M. succineus* Simon, 1887).

Sparassus Walckenaer, 1805: 39; Simon, 1897: 37 (in part).

Olios Walckenaer, 1837: 202; Petrunkevitch, 1911: 503 (in part).

Diagnosis and description. See Rheims (2007, 2010).

Emended diagnosis. Female vulva with IDS comprised of a proximal, medially fused, expanded hyaline part (Dh) connected to CO and to distal sclerotized part (Ds) with first winding posteriad, opening into a wider, irregular part that connects to the FD; GP arising from Ds, close to Dh (Figs. 5-6).

Distribution. Mostly South America, with records from the island of Tobago, Venezuela, Guyana, Ecuador, Colombia, Bolivia and Brazil (Fig. 7). A single species is found in California, USA.

Composition. *Macrinus aisenbergae* spec. nov., *M. bambuco* Rheims, *M. calypso* Rheims, *M. jaegeri* Rheims, *M. mohavensis* (Fox), *M. pollexensis* (Schenkel) and *M. succineus* Simon.

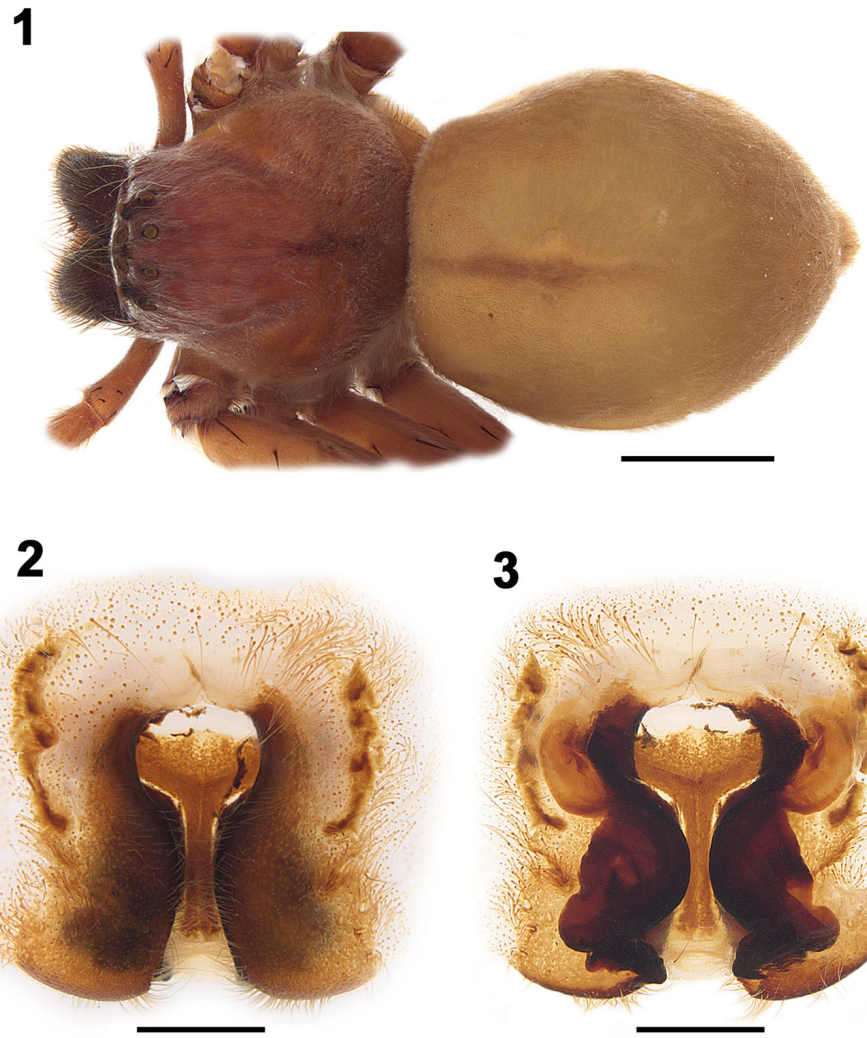
Macrinus aisenbergae spec. nov.

Type material. Female holotype from BRAZIL. *Pará*: Novo Progresso, Campo de Provas Brigadeiro Velloso, Serra do Cachimbo, 09º21'46" S, 55º00'52" W, September 2003, A.B. Bonaldo, D.R. Santos-Souza and D.D. Guimarães leg., deposited in MPEG 15606.

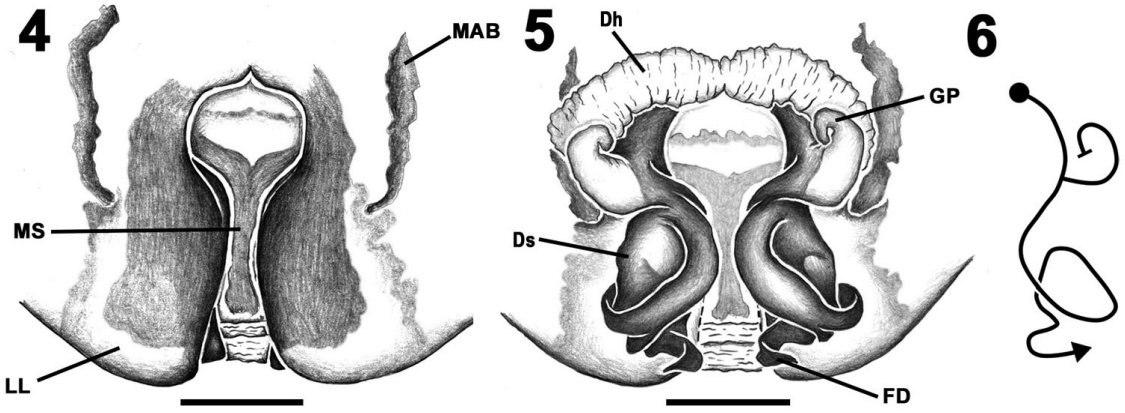
Etymology. The species name honours Dr. Anita Aisenberg from the Instituto de Investigaciones Biológicas Clemente Estable, Montevideo, Uruguay, in recognition of her significant contributions to Uruguayan arachnology. It also acknowledges her dedication to advancing female representation in science and her active involvement in outreach efforts that promote greater accessibility and engagement with science in the community.

Diagnosis. *Macrinus aisenbergae* spec. nov. resembles *M. mohavensis* (Rheims, 2010: figs. 1-2) by the anterior margins of the epigyne with a strong median constriction. It can be distinguished from the latter species by the MS more than three times longer than wide, with anterior part roughly round, slightly wider than long, and posterior part strongly narrowed (Figs. 2, 4) and by the vulva with GP with a wide base, narrowed and curved distally, resembling a flexed biceps (Figs. 3, 5) (MS slightly over two times longer than wide, with the same width throughout and GP reduced to a small elevated area in *M. mohavensis*).

Description. **Female (holotype):** Coloration pattern as in Fig. 1, with prosoma brown, slightly darker at eye area and down lateral margins of cephalic region; fovea dark brown; eye borders reddish brown; clypeus white; chelicerae dark reddish brown; legs and pedipalps brown; labium and endites dark brown, distally brownish yellow; sternum brown with slightly lighter, more sclerotized margins; opisthosoma yellowish brown; dorsally with brown cardiac mark; ventrally yellowish brown; spinnerets yellowish brown. Total length 26.5. Prosoma length 10.0, width 9.6. Opisthosoma length 16.3, width 11.6. Eyes: diameters: 0.75, 0.66, 0.50, 0.64; interdistances: 0.35, 0.30, 1.0, 0.9, 0.5, 0.48. Legs (2143): I: - (12.6, 5.2, 10.8, 11.8, tarsus absent); II 45.9 (13.4, 4.9, 12.0, 12.4, 3.2); III: 35.0 (11.4, 4.3, 9.2, 7.7, 2.4); IV: 38.4 (11.7, 4.2, 9.7, 10, 2.8). Spination pattern:



Figs. 1-3. *Macrinus aisenbergae* spec. nov., female 1 Habitus, dorsal view; 2 Epigyne, ventral view; 3 Vulva, dorsal view. Scale lines: 1: 5 mm; 2-3: 1 mm.



Figs. 4-6. *Macrinus aisenbergae* spec. nov., female 4 Epigyne, ventral view; 5. Vulva, dorsal view; 6 Schematic course of IDS. Scale lines: 1 mm. Dh = hyaline part of IDS; Ds = sclerotized part of IDS; FD = fertilization duct; GP = glandular projection; LL = lateral lobe; MAB = muscle attachment bands; MS = median septum.

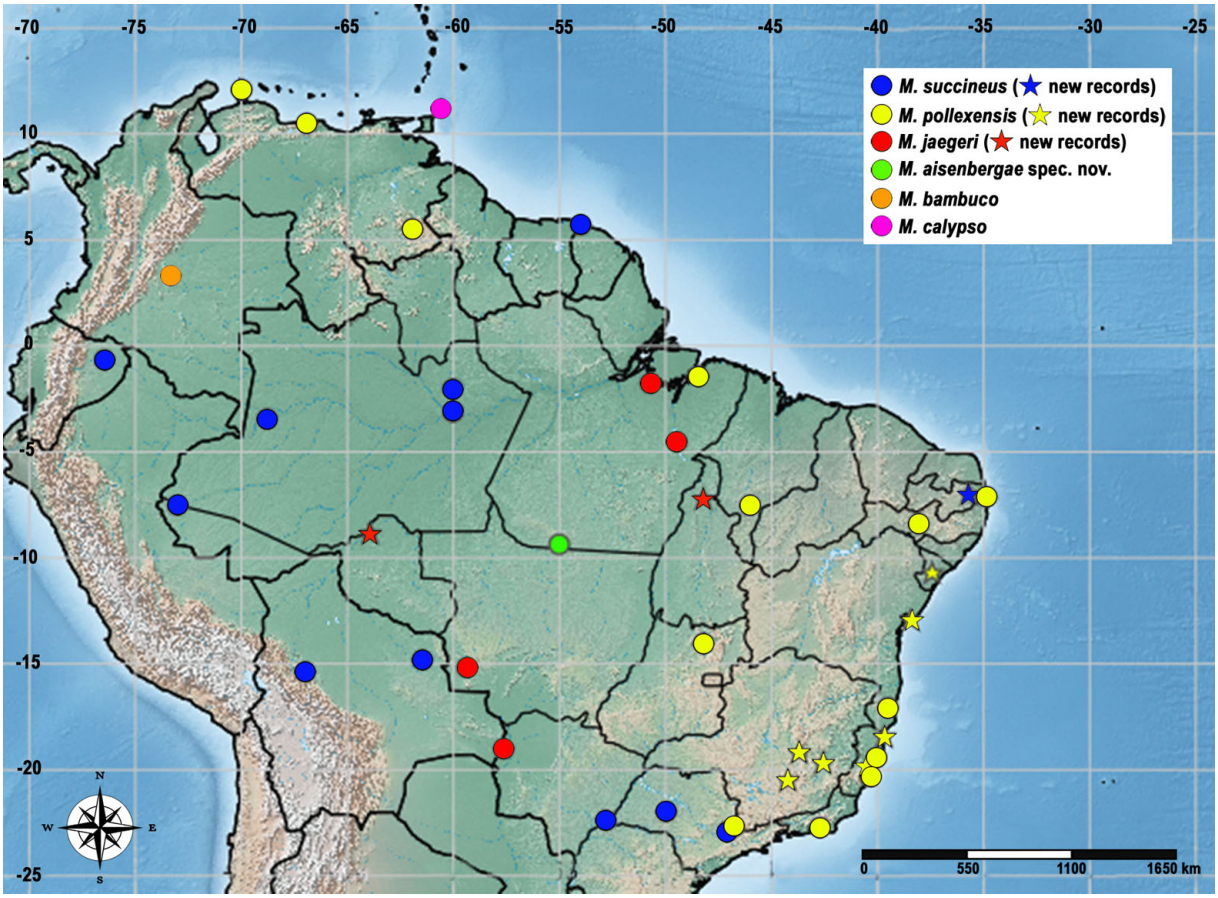


Fig. 7. Updated distribution map for all South American species of *Macrinus*.

femora I-III: p1-1-1, d0-1-1, r1-1-1; femur IV: p1-1-1; d0-1-1; r0-0-1; patellae I-IV: p0, d0; tibiae I-IV: p1-0-1; r1-0-1; v2-2-0; metatarsi I-III: p1-1-0; r1-1-0; v2-2-0; metatarsus IV: p1-1-0; r1-1-1; v2-2-0. Epigyne: EF ill defined, mostly visible on posterior half; one long MAB present on each side; LL rounded posteriorly, partially covering the MS; MS shaped as a chess pawn (Figs. 2, 4). Vulva: IDS with hyaline part long and slender, fused in the middle, each side three times longer than wide, lying parallel to the anterior margin of the MS; sclerotized part running parallel to lateral margins with a large loop close to FD; GP with wide base and narrow tip, arising from sclerotized part of IDS close to hyaline part; FD hook-shaped, laterad (Figs. 3, 5-6).

Male. Unknown.

Distribution. Only known from the type locality (Fig. 7).

New Records

Macrinus pollexensis (Schenkel, 1953)

Material examined: BRAZIL. *Sergipe*: 1♀, Itabaiana, Parque dos Falcões (10º41'06" S, 37º25'31" W), December 2005, S.C. Dias leg. (MPEG 22572); *Bahia*: 1♂, Salvador, Jardim Botânico de Salvador [12º55'S, 38º26'W], 22 February 2007, I. Daniel leg. (IBSP 132521); *Espírito Santo*: 1♂, Conceição da Barra, Parque Estadual de Itaúnas (18º25' S, 39º42' W) 15 December 2002 - 6 March 2003, Equipe Biota leg. (IBSP 54325); 1♂, 1♀, Aracruz, REMFU Morro do Ariacanga (19º49'07" S, 40º19'48" W), 14-16 October 2005, T. Souza et al. leg. (IBSP 133436); *Minas Gerais*: 1♂, Santana do Riacho [19º10' S, 43º42' W], 2002-2003, Equipe Biota leg. (IBSP 98957); 1♀, Marliéria, Parque Estadual do Rio Doce (19º39'31"S, 42º34'28"W), 24 September 2006, U. Oliveira leg. (UFMG 6286); 1♂, Piedade dos Gerais (20º28'17"S, 44º13'38"W), 13 July 2005, L. Veiga leg. (UFMG 1835).

Macrinus jaegeri Rheims, 2007

Material examined: BRAZIL. *Rondônia*: 1♂, Porto Velho, Universidade Federal de Rondônia [08º50'S, 63º56'W], 2006-2007, L. Salvatierra leg. (IBSP 144708); *Tocantins*: 1♂, Araguaina [07º12'S, 48º13'W], September 2011, S. Barros & S. Santos leg. (IBSP 237284).

***Macrinus succineus* Simon 1887**

Material examined: BRAZIL. *Paraíba*: 1♂, Areia, Mata Estadual Mata do Pau Ferro (06º58'38.6" S, 35º42'25" W), 28 September 2011, F.S. Silva & A.M. Araújo leg. (CHNUFPI 452).

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