

The genus *Stenoterommata* Holmberg, 1881 (Araneae, Pycnothelidae) in the Cerrado and Atlantic Forest from Southeastern and Central Brazil: description of four new species

Victor Morais GHIROTTO,
José Paulo Leite GUADANUCCI &
Rafael Prezzi INDICATTI

DIRECTEUR DE LA PUBLICATION / *PUBLICATION DIRECTOR*: Bruno David
Président du Muséum national d'Histoire naturelle

RÉDACTRICE EN CHEF / *EDITOR-IN-CHIEF*: Laure Desutter-Grandcolas

ASSISTANTE DE RÉDACTION / *ASSISTANT EDITOR*: Anne Mabilie (zoosyst@mnhn.fr)

MISE EN PAGE / *PAGE LAYOUT*: Anne Mabilie

COMITÉ SCIENTIFIQUE / *SCIENTIFIC BOARD*:

Nesrine Akkari (Naturhistorisches Museum, Vienne, Autriche)
Maria Marta Cigliano (Museo de La Plata, La Plata, Argentine)
Serge Gofas (Universidad de Málaga, Málaga, Espagne)
Sylvain Hugel (CNRS, Université de Strasbourg, France)
Marco Isaia (Università degli Studi di Torino, Turin, Italie)
Rafael Marquez (CSIC, Madrid, Espagne)
Jose Christopher E. Mendoza (Lee Kong Chian Natural History Museum, Singapour)
Annemarie Ohler (MNHN, Paris, France)
Jean-Yves Rasplus (INRA, Montferrier-sur-Lez, France)
Wanda M. Weiner (Polish Academy of Sciences, Cracovie, Pologne)

COUVERTURE / *COVER*:

Habitus of *Stenoterommata neodiplornata* Ghirotto & Indicatti, n. sp., male holotype.

Zoosystema est indexé dans / *Zoosystema is indexed in*:

- Science Citation Index Expanded (SciSearch®)
- ISI Alerting Services®
- Current Contents® / Agriculture, Biology, and Environmental Sciences®
- Scopus®

Zoosystema est distribué en version électronique par / *Zoosystema is distributed electronically by*:

- BioOne® (<http://www.bioone.org>)

Les articles ainsi que les nouveautés nomenclaturales publiés dans *Zoosystema* sont référencés par /
Articles and nomenclatural novelties published in Zoosystema are referenced by:

- ZooBank® (<http://zoobank.org>)

Zoosystema est une revue en flux continu publiée par les Publications scientifiques du Muséum, Paris / *Zoosystema is a fast track journal published by the Museum Science Press, Paris*

Les Publications scientifiques du Muséum publient aussi / *The Museum Science Press also publish*:

Adansonia, Geodiversitas, Anthropolozologica, European Journal of Taxonomy, Naturae, Cryptogamie sous-sections *Algologie, Bryologie, Mycologie*.

Diffusion – Publications scientifiques Muséum national d'Histoire naturelle
CP 41 – 57 rue Cuvier F-75231 Paris cedex 05 (France)
Tél. : 33 (0)1 40 79 48 05 / Fax: 33 (0)1 40 79 38 40
diff.pub@mnhn.fr / <https://sciencepress.mnhn.fr>

© Publications scientifiques du Muséum national d'Histoire naturelle, Paris, 2021
ISSN (imprimé / *print*): 1280-9551/ ISSN (électronique / *electronic*): 1638-9387

The genus *Stenoterommata* Holmberg, 1881 (Araneae, Pycnothelidae) in the Cerrado and Atlantic Forest from Southeastern and Central Brazil: description of four new species

Victor Morais GHIROTTTO
José Paulo Leite GUADANUCCI

Departamento de Biodiversidade, Universidade Estadual Paulista “Júlio de Mesquita Filho”,
Rio Claro, São Paulo (Brazil)
victorghiotto@hotmail.com (corresponding author);
joseguadanucci@gmail.com

Rafael Prezzi INDICATTI

Laboratório Especial de Coleções Zoológicas, Instituto Butantan, São Paulo, São Paulo (Brazil)
and Departamento de Biodiversidade,
Universidade Estadual Paulista “Júlio de Mesquita Filho”,
Rio Claro, São Paulo (Brazil)
indicatti@gmail.com

Submitted on 18 August 2020 | Accepted on 23 October 2020 | Published on 15 June 2021

urn:lsid:zoobank.org:pub:7C484284-5BD4-410A-BB6E-0AF98E4F0357

Ghirotto V. M., Guadanucci J. P. L. & Indicatti R. P. 2021. — The genus *Stenoterommata* Holmberg, 1881 (Araneae, Pycnothelidae) in the Cerrado and Atlantic Forest from Southeastern and Central Brazil: description of four new species. *Zoosystema* 43 (17): 311–339. <https://doi.org/10.5252/zoosystema2021v43a17>. <http://zoosystema.com/43/17>

ABSTRACT

Four new species of the mygalomorph spider genus *Stenoterommata* Holmberg, 1881 are described from Southeastern and Central Brazil. They are among the first described species that occur in the Brazilian Cerrado: *S. neodiplornata* Ghirotto & Indicatti, n. sp. from São Paulo state, in areas of Atlantic Forest, of savanna and of seasonal forest (*Cerradão*); *S. chavarii* Ghirotto & Indicatti, n. sp. from Botucatu, São Paulo state, in ecotonal areas of Atlantic Forest and Cerrado, as well as open anthropized areas similar to savannas; *S. bodoquena* Ghirotto & Indicatti, n. sp. from Bonito, Mato Grosso do Sul state, in areas of Atlantic Forest with Cerrado influences and seasonal forest; *S. egric* Ghirotto & Indicatti, n. sp. from Ibitipoca mountain range, Lima Duarte, Minas Gerais state, in Atlantic Forest and savanna areas. All new species are differentiated by the unique morphology of genitalia. Information on the natural history of *S. neodiplornata* Ghirotto & Indicatti, n. sp., *S. bodoquena* Ghirotto & Indicatti, n. sp. and *S. egric* Ghirotto & Indicatti, n. sp. is provided. *Stenoterommata neodiplornata* Ghirotto & Indicatti, n. sp. is the third species of the genus that can inhabit trunks and upper branches of the highest part of the trees. In addition, it is presented the first record of the genus for the Central Brazil, *S. bodoquena* Ghirotto & Indicatti, n. sp. from Mato Grosso do Sul.

KEY WORDS
Mygalomorphae,
Pycnothelinae,
Neotropics,
South America,
biodiversity,
savanna,
mygalomorph spiders,
new record,
new species.

RÉSUMÉ

Le genre Stenoterommata Holmberg, 1881 (Araneae, Pycnothelidae) dans le Cerrado et la forêt atlantique du sud-est et du centre du Brésil : description de quatre nouvelles espèces.

Quatre nouvelles espèces d'araignées mygalomorphes du genre *Stenoterommata* Holmberg, 1881 sont décrites du sud-est et centre du Brésil. Elles sont parmi les premières espèces décrites du Cerrado Brésilien : *S. neodiplornata* Ghirotto & Indicatti, n. sp. de l'État de São Paulo, des zones de Forêt atlantique, de savane et de forêt saisonnière (*Cerradão*) ; *S. chavarii* Ghirotto & Indicatti, n. sp. de Botucatu, État de São Paulo, dans les zones écotonales de la Forêt atlantique et du Cerrado, ainsi que dans les zones anthropisées ouvertes, semblables aux savanes ; *S. bodoquena* Ghirotto & Indicatti, n. sp. de Bonito, État du Mato Grosso do Sul, dans les zones de Forêt atlantique subissant l'influence du Cerrado et en forêt saisonnière ; *S. egric* Ghirotto & Indicatti, n. sp. de la chaîne de montagnes d'Ibitipoca, Lima Duarte, État de Minas Gerais, en Forêt atlantique et dans des zones de savane. Toutes les nouvelles espèces se différencient par la morphologie unique des genitalia. Des informations sur l'histoire naturelle de *S. neodiplornata* Ghirotto & Indicatti, n. sp., *S. bodoquena* Ghirotto & Indicatti, n. sp. et *S. egric* Ghirotto & Indicatti, n. sp. sont présentées. *Stenoterommata neodiplornata* Ghirotto & Indicatti, n. sp. est la troisième espèce du genre qui habite les troncs et les branches supérieures de la partie la plus élevée des arbres. De plus, *S. bodoquena* Ghirotto & Indicatti, n. sp. du Mato Grosso do Sul représente la première signalisation du genre pour le Brésil central.

MOTS CLÉS
Mygalomorphae,
Pycnothelinae,
région néotropicale,
Amérique du Sud,
biodiversité, savane,
araignées mygalomorphes,
signalisation nouvelle,
nouvelles espèces

RESUMO

O gênero Stenoterommata Holmberg, 1881 (Araneae, Pycnothelidae) no Cerrado e Mata Atlântica do Sudeste e Brasil Central: descrição de quatro espécies novas.

Quatro espécies novas de aranhas migalomorfas do gênero *Stenoterommata* Holmberg, 1881 são descritas para o Sudeste e Brasil Central. Elas estão entre as primeiras espécies descritas que ocorrem no Cerrado: *S. neodiplornata* Ghirotto & Indicatti, n. sp. do interior do estado de São Paulo em áreas de Mata Atlântica, de Cerrado savânico, e Cerrado florestal (*Cerradão*, ou Floresta sazonal); *S. chavarii* Ghirotto & Indicatti n. sp. de Botucatu, estado de São Paulo, em florestas ecotonais de Mata Atlântica e Cerrado, além de ambientes abertos antropizados similares ao Cerrado savânico; *S. bodoquena* Ghirotto & Indicatti n. sp. de Bonito, estado do Mato Grosso do Sul, em áreas de Mata Atlântica com influência do Cerrado e Cerrado florestal; *S. egric* Ghirotto & Indicatti n. sp. da Serra do Ibitipoca, Lima Duarte, estado de Minas Gerais, em áreas de Mata Atlântica e de savana. Todas as novas espécies são diferenciadas pela morfologia única da genitalia. Informações sobre história natural de *S. neodiplornata* Ghirotto & Indicatti, n. sp., *S. bodoquena* Ghirotto & Indicatti n. sp. e *S. egric* Ghirotto & Indicatti n. sp. são apresentadas. *Stenoterommata neodiplornata* Ghirotto & Indicatti n. sp. é a terceira espécie do gênero que pode habitar troncos e galhos superiores da parte mais alta das árvores. Além disso, é apresentado o primeiro registro do gênero para o Brasil Central, *S. bodoquena* Ghirotto & Indicatti n. sp. do Mato Grosso do Sul.

PALAVRAS-CHAVE
Mygalomorphae,
Pycnothelinae,
neotropicos,
América do Sul,
biodiversidade,
savana,
aranhas migalomorfas,
novo registro,
espécies novas.

INTRODUCTION

Pycnothelidae Chamberlin, 1917 was recently reestablished to the family level by Opatova *et al.* (2020) based on molecular analysis. Neotropical pycnothelids are represented by very small to medium sized spiders (Goloboff 1995; Indicatti *et al.* 2015). They are ground-dwelling, inhabiting the leaf litter, under fallen trunks and rocks, or in excavated burrows, open or closed with trapdoors or debris (Goloboff 1995).

Among the Neotropical pycnothelid genera is *Stenoterommata*, which was proposed by Holmberg (1881) to accommodate a new species, *Stenoterommata platensis* Holmberg, 1881, based on a male and female from the Pampas grasslands of Argentina. Currently, the genus comprises 20 described species, 14 of which occur in Brazil. The first species described from Brazil for the genus (although originally not described in it), were *Stenoterommata maculata* (Bertkau, 1880) and *Stenoterommata leporina* (Simon, 1891), both for the Atlantic

Forest. All *Stenoterommata* species described to date occur either in humid (ombrophilous) Atlantic Forest of Argentina or Southern and Southeastern Brazil, or in the Pampas grasslands of Argentina, Brazil and Uruguay, except for *Stenoterommata quena* Goloboff, 1995, occurring in the seasonally dry Chaco of northwestern Argentina. Many species are sympatric, and most of the Brazilian species were described very recently, indicating the high potential for new species yet to be found (Indicatti *et al.* 2008, 2017). Although the Atlantic Forest in the southeastern Brazil borders the Cerrado domain, and even when *S. quena* occurs in the Argentinean Chaco which is similar to the Cerrado, to date there are no *Stenoterommata* species occurring in Cerrado areas, nor in ecotonal zones with the more hygrophilous Atlantic Forest (Goloboff 1995; Indicatti *et al.* 2008; Ferretti & Pomposi 2016; Indicatti *et al.* 2017; Bertani *et al.* 2017). Also, no species of the genus are recorded for the more inland, dryer types of Atlantic Forest, such as deciduous or semideciduous forests.

The Brazilian Cerrado covers almost one quarter of country territory (Sano *et al.* 2009), and is historically and very frequently treated as a single biome. However, recently it has been noted that the Cerrado is, instead, a complex phytogeographical domain that comprises three major different biomes, savanna formations, open grasslands and seasonal forests (*Cerradão*) (Batalha 2011). In the state of São Paulo, there are few remains of the already scarce original Cerrado coverage, mostly represented by seasonal forests or ecotonal zones with Atlantic Forest fragments scattered through the state (Ratter *et al.* 1997). Such an environment is protected at the Floresta Nacional de Ipanema, which harbors seasonal and semideciduous forests and small patches of savannas (Albuquerque & Rodrigues 2000; IBAMA 2006). The Estação Ecológica de Itirapina (ESEC Itirapina) comprises one of the largest protected Cerrado areas in the state. Most of the ESEC Itirapina area is covered by open grasslands and savanna formations, but small fragments of seasonal forests are present (Brasileiro *et al.* 2005; IF 2006). In the state of Minas Gerais, the Ibitipoca mountain range bears an interesting mosaic area comprising ombrophilous and semideciduous Atlantic Forest patches that infiltrate towards a rocky terrain covered in savanna (Borges *et al.* 2010; Moreira *et al.* 2018). In the state of Mato Grosso do Sul, there are more areas of Cerrado coverage, mainly dense savanna and seasonal forests. Moreover, there are also some Atlantic Forest relictual patches as the Parque Nacional da Serra da Bodoquena, which is a semideciduous forest surrounded by seasonal forests and savannas, thus heavily influenced by the Cerrado (Damasceno-Júnior *et al.* 2000; Seixas 2005; ICMBio 2013).

In this study, four new species of *Stenoterommata* are described, found in Cerrado, Atlantic Forest (semideciduous forests), or ecotonal zones. In addition, new information on the natural history for the genus is provided, as well as the first record of *Stenoterommata* for the Central Brazil.

MATERIAL AND METHODS

ABBREVIATIONS AND ACRONYMS

Institutions

CAD	Coleção Aracnológica Diamantina, Universidade Estadual Paulista “Júlio de Mesquita Filho”, Rio Claro;
IBSP	Instituto Butantan, São Paulo;
MACN	Museo Argentino de Ciencias Naturales “Bernardino Rivadavia”, Buenos Aires;
MCN	Museu de Ciências Naturais, Porto Alegre;
MCTP	Museu de Ciências e Tecnologia, Pontifícia Universidade Católica, Porto Alegre;
MNRJ	Museu Nacional do Rio de Janeiro, Rio de Janeiro;
MZUSP	Museu de Zoologia da Universidade de São Paulo, São Paulo.

General structures

ALE	anterior lateral eyes;
AME	anterior median eyes;
ITC	inferior tarsal claw;
PLE	posterior lateral eyes;
PLS	posterior lateral spinnerets;
PME	posterior median eyes;
PMS	posterior median spinnerets;
STC	superior tarsal claws.

Spines and other setae

ap	apical;
d	dorsal;
i	inferior;
p	prolateral;
r	retrolateral;
sap	subapical;
s	superior;
v	ventral;
VP	ventro-prolateral;
VR	ventro-retrolateral.

TERMINOLOGY, MEASUREMENTS

AND PROCEEDINGS FOR PREPARATION OF MATERIAL

Terminology for general structures follows Goloboff (1995) and Indicatti *et al.* (2017). Spine notation follows Petrunkovitch (1925). All measurements are in millimeters (mm). Leg segment length was measured between joints in dorsal view. Total body length includes chelicerae but not the pedicel and spinnerets. Measurements and pictures were taken with a Leica MC170 digital camera mounted on a Leica M205 C stereomicroscope, LAS Core software. Palpal bulbi were carefully removed with tweezers and photographed in ventral, prolateral, retrolateral and dorsal view. Spermathecae were dissected and immersed in an enzyme (Ultrazyme®) for 24–48 h to digest the soft tissue and photographed in dorsal view.

SYSTEMATICS

Infraorder MYGALOMORPHAE Pocock, 1892

Family PYCNOTHELIDAE Chamberlin, 1917

Subfamily PYCNOTHELINAE Chamberlin, 1917

Genus *Stenoterommata* Holmberg, 1881

Stenoterommata Holmberg, 1881: 125. — Raven 1985: 106. — Goloboff 1995: 57. — Indicatti *et al.* 2017: 436. — World Spider Catalog 2020.

TYPE SPECIES. — By original designation, *Stenoterommata platensis* Holmberg, 1881.

DIAGNOSIS. — See Goloboff (1995: 57) and Indicatti *et al.* (2017: 436).

Stenoterommata neodiplornata

Ghirotto & Indicatti, n. sp.

(Figs 1A–C; 2–9)

urn:lsid:zoobank.org:act:D5921D02-2B53-4879-B850-822C1675C920

TYPE MATERIAL. — **Holotype.** Brazil • 1 ♂; São Paulo, Itirapina, Estação Ecológica de Itirapina; 22°14'47.1"S, 47°49'18.2"W; 07-08.X.2018; V. M. Ghirotto, E. F. Trova & R. P. Indicatti leg.; excavated from burrow; CAD 763.

Paratypes. Brazil • 1 ♀, 1 ♂; same data as the holotype; CAD (1 ♀ CAD 764); IBSP (1 ♂) • 1 ♂; same data as the holotype; 07-08.X.2018; kept alive, became adult in 01.X.2019, died in XI.2019; MCTP • 1 ♀; São Paulo, Itirapina, Estação Ecológica de



FIG. 1. — Habitus of the *Stenoterommata* Holmberg, 1881 new species: **A–C**, *Stenoterommata neodiplornata* Ghirotto & Indicatti, n. sp., male holotype (**A**), female paratype, CAD 764 (**B**), subadult male (**C**); **D, E**, *Stenoterommata bodoquena* Ghirotto & Indicatti, n. sp., male paratype, CAD 775 (**D**); juvenile male (**E**); **F**, *Stenoterommata chavarrii* Ghirotto & Indicatti, n. sp., male paratype, CAD 777; **G, H**, *Stenoterommata egric* Ghirotto & Indicatti, n. sp., specimens, male holotype (**G**); female paratype, CAD 781 (**H**). Scale bars: 5 mm. Photos: A, B, Rafael P. Indicatti; C, E, G, H, Wolf J Moeller; D, F, Victor M. Ghirotto.



FIG. 2. — *Stenoterommata neodiplornata* Ghiretto & Indicatti, n. sp., male holotype, body: **A**, carapace, dorsal view; **B**, cephalothorax, ventral view; **C**, **D**, abdomen, dorsal view (**C**), ventral view (**D**). Abbreviations: **pls**, posterior lateral spinnerets; **pms**, posterior median spinnerets; **ra**, rastellum. Scale bars: 1 mm.

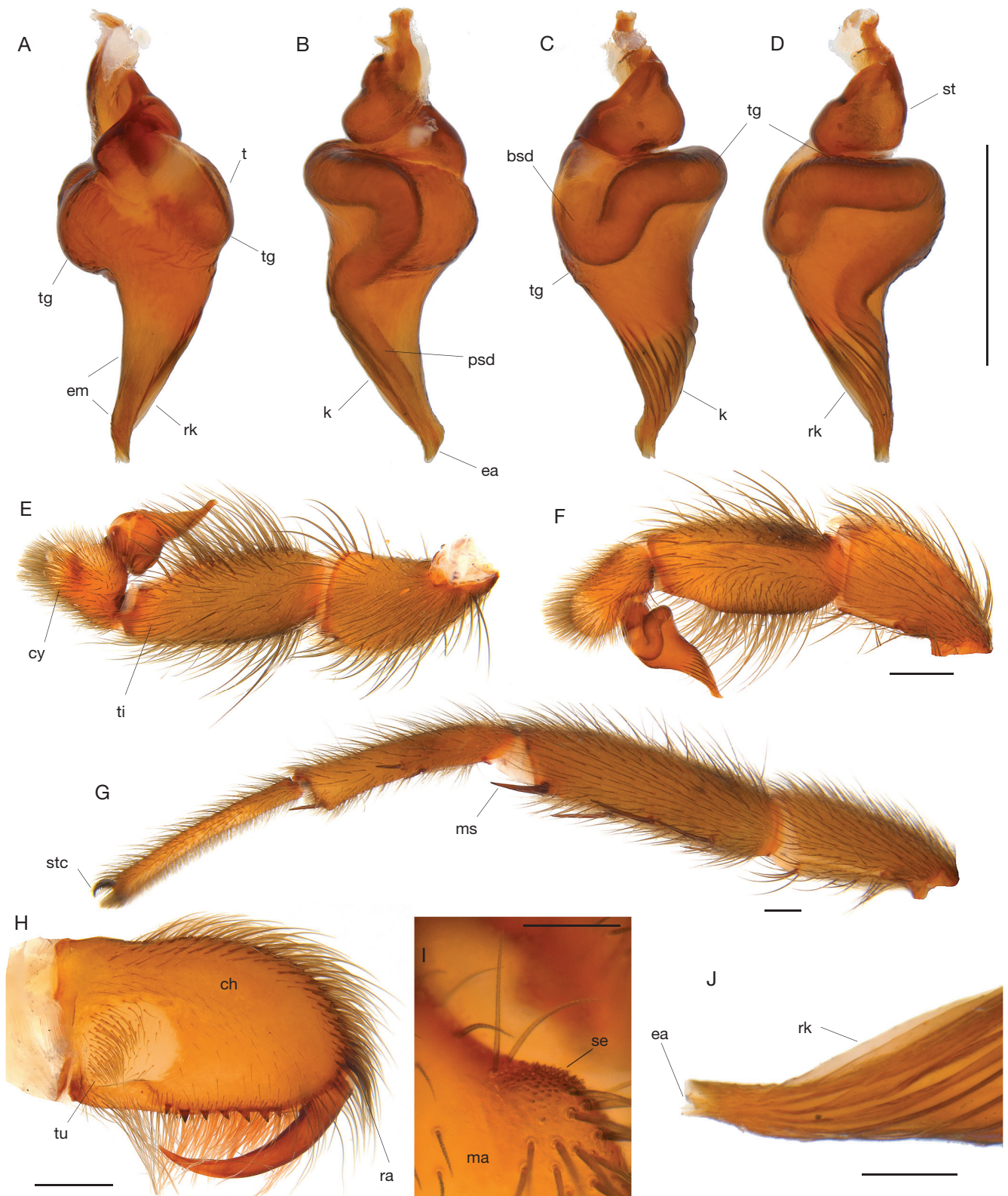


FIG. 3. — *Stenoterommata neodiplornata* Ghirotto & Indicatti, n. sp., male: **A-G, J**, male holotype; **H, I**, paratype, CAD 765; **A-D**, left palpal bulb, ventral view (**A**), prolateral view (**B**), retrolateral view (**C**), dorsal view (**D**); **E**, left palp, prolateral view; **F**, right palp, retrolateral view (mirrored); **G**, left leg I, retrolateral view; **H**, left chelicera, prolateral view; **I**, serrula on maxilla, anterior-frontal view; **J**, left bulb embolus, detail on dorsal view. Abbreviations: **bsd**, basal region of palpal seminal duct; **ch**, chelicera; **cy**, cymbium; **ea**, embolic aperture; **em**, embolus; **k**, keels; **ma**, maxilla; **ms**, megaspine; **psd**, palpal seminal duct; **ra**, rastellum; **rk**, retrolateral keel; **se**, serrula; **st**, subtegulum; **stc**, superior tarsal claws; **t**, tegulum; **tg**, tegular grooves; **ti**, palpal tibia; **tu**, intercheliceral tumescence. Scale bars: **A-H**, 0.5 mm; **I, J**, 0.1 mm.



FIG. 4. — *Stenoterommata neodiplornata* Ghirotto & Indicatti, n. sp., female body, paratype CAD 764: **A**, carapace, dorsal view; **B**, cephalothorax, ventral view; **C**, **D**, abdomen, dorsal view (**C**), ventral view (**D**). Scale bars: 1 mm.

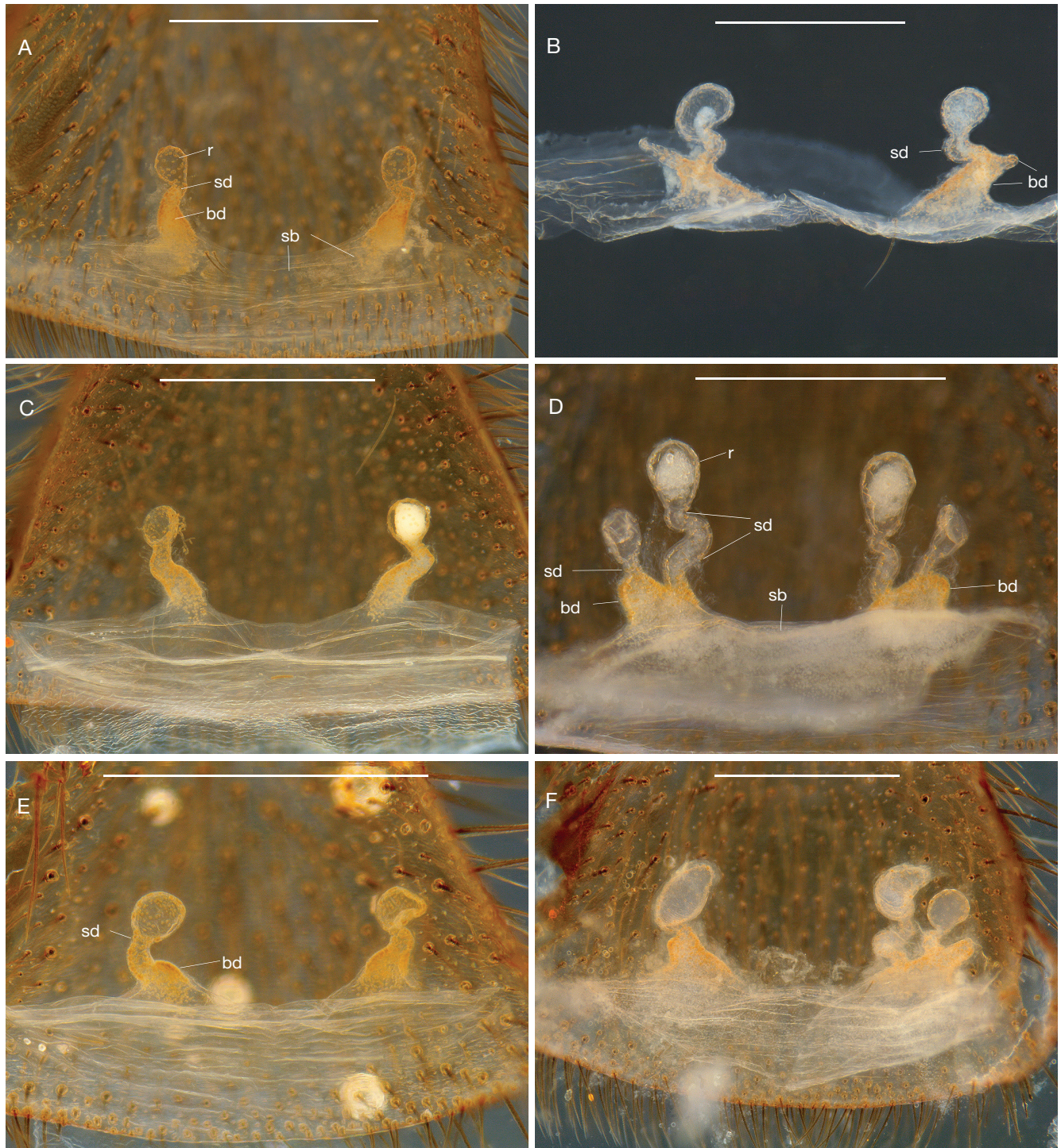


FIG. 5. — *Stenoterommata neodiplornata* Ghirotto & Indicatti, n. sp., female spermathecae variation: **A, C, E**, from Estação Ecológica de Itirapina; **B, D, F**, from Floresta Nacional de Ipanema; **A**, paratype, CAD 764; **B**, paratype CAD 766; **C**, paratype MZUSP; **D**, paratype IBSP; **E**, specimen CAD 768; **F**, paratype MNRJ 7688. Abbreviations: **bd**, spermathecal basal dome; **r**, receptaculum; **sb**, spermathecal base; **sd**, spermathecal duct. Scale bars: 0.5 mm.

Itirapina; 22°14'47.1"S, 47°49'18.2"W; 09.X.2018; E. F. Trova & R. P. Indicatti leg.; excavated from burrow; MZUSP • 2 ♂, 3 ♀; São Paulo, Iperó, Floresta Nacional de Ipanema, near Mirante do Cruzeiro; 23°26'01.4"S, 47°36'54.8"W; 10-14.X.2019; J. P. L. Guadanucci, A. Galletti-Lima, R. P. Indicatti leg.; CAD (1 ♂ CAD 765, 1 ♀ CAD 766), IBSP (1 ♀ IBSP), MNRJ (1 ♂ MNRJ 7687, 1 ♀ MNRJ 7688) • 1 ♂; São Paulo; São Paulo; Morumbi; 10.XII.2016; R. P. Indicatti leg.; MZUSP

ADDITIONAL MATERIAL EXAMINED. — **Brazil.** 1 ♀, 1 juv.; same data as the holotype; CAD 767 • 1 ♀; same locality as holotype; 22°13'53.7"S, 47°53'40.8"W; 06.X.2018; E. F. Trova & R. P. Indicatti leg.; "campo sujo"; CAD 768 • 3 ♂, 3 juv.; São Paulo, Iperó, Floresta Nacional de Ipanema, near Mirante do Cruzeiro; 23°26'01.4"S, 47°36'54.8"W; 10-14.X.2019; J. P. L. Guadanucci, A. Galletti-Lima, R. P. Indicatti leg.; CAD (3 ♂ CAD 769-771, 3 juv. CAD 772) • 1 juv.; São Paulo; Ipeúna; 2017; V. M. Ghirotto leg.; immature male; CAD 773.

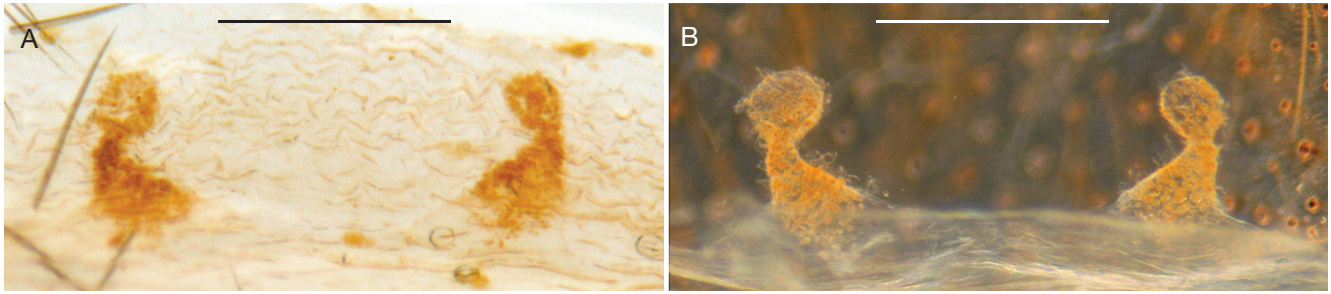


FIG. 6. — *Stenoterommata neodiplornata* Ghiorotto & Indicatti, n. sp., female spermathecae development in the same juvenile female, CAD 767: **A**, first obtained exuvia; **B**, subsequent exuvia. Scale bars: 0.2 mm.

DIAGNOSIS. — Males, females and juveniles of *S. neodiplornata* Ghiorotto & Indicatti, n. sp. can be easily distinguished from all the species of the genus by the combination of striped coloration on tibiae and metatarsi (Fig. 1A-C) and the dark brown stains reaching all abdomen ventrally (Figs 2D; 4D), more evident in live specimens. Males resemble those of *S. arnolisei* Indicatti, Lucas, Ott & Brescovit, 2008, *S. curyi* Indicatti, Lucas, Ott & Brescovit, 2008, *S. grimpa* Indicatti, Lucas, Ott & Brescovit, 2008, *S. gugai* Indicatti, Chavari, Zucatelli-Júnior, Lucas & Brescovit, 2017, *S. leticiae* Indicatti, Chavari, Zucatelli-Júnior, Lucas & Brescovit, 2017 and *S. uruguai* Goloboff, 1995 by the palpal bulb with thick, conical embolus, but can be distinguished by the duct slightly curved in the basal region (Fig. 3C), embolus bearing strong and slightly sinuous keels, and the blunt, keeled tip, not acutely ending (Fig. 3A-D, J). Females differ from those of *S. crassimana* (Mello-Leitão, 1923) by the wider base and shorter or thinner basal dome projection of the spermathecae (Fig. 5A-F); from *S. grimpa* by the unfused spermathecal basal dome (Fig. 5A-F); from *S. gugai*, *S. pavesii* Indicatti, Chavari, Zucatelli-Júnior, Lucas & Brescovit, 2017 and *S. pescador* Indicatti, Chavari, Zucatelli-Júnior, Lucas & Brescovit, 2017 by the curved receptacula ducts (Fig. 5A-F); from *S. iguazu* Goloboff, 1995 by having a single basal dome on each side of the spermathecae (Fig. 5A-F); from *S. arnolisei* by the shorter basal dome and more rounded receptacula (Fig. 5A-F); from *S. tenuistyla* Goloboff, 1995 by the longer and developed ducts (Fig. 5A-F); from *S. palmar* Goloboff, 1995 and *S. sevegnaniae* Indicatti, Chavari, Zucatelli-Júnior, Lucas & Brescovit, 2017 by the longer ducts and shorter basal dome, apically connecting to the ducts (Fig. 5A-F); from all remaining *Stenoterommata* by having one or two receptacula on each side of the spermathecae (Fig. 5A-F).

ETYMOLOGY. — The specific epithet is a composite name combining half the name of a genus of Neotropical Barychelidae spiders, *Neodiplothele* Mello-Leitão, 1917, and the latin word *ornatus*, meaning ornate as a *Neodiplothele*, in reference to their very similar general color pattern. At first sight in nature, before closer examination the first two authors thought they were collecting *Neodiplothele* spiders.

DESCRIPTION

Male (holotype)

Color pattern: in life, chelicerae and carapace black covered with golden brown setae, femora black covered on 5/6 with black setae, 1/6 apical with golden brown setae (Fig. 1A), trochanter, patellae, tibiae, metatarsi and tarsi dark brown mostly covered with golden brown setae or black setae combined with darker patches mainly on basal region of segments, lighter in the patellae (Fig. 1A). Sternum, maxillae and coxae yellowish light brown. Abdomen dorsally brownish with black stains covered by golden brown setae,

laterally and ventrally brownish with many black stains (Fig. 1A); in ethanol, carapace (Fig. 2A) and legs reddish brown with symmetric dark brown mottles covered by golden setae. Abdomen dorsally yellowish light brown with black mottling forming discrete chevron (Fig. 2C), laterally and ventrally yellowish light brown with many symmetric black stains (Fig. 2). Femora, patellae, tibiae and metatarsi brown yellowish with some darker patches, yellower in the patellae. Total length 12.20. Chelicerae 1.28 long, 0.88 wide (only left side). Carapace 5.50 long, 4.11 wide, with very narrow, procurved fovea, 0.35 wide. Abdomen 5.42 long, 3.45 wide. Thoracic region slightly raised. Clypeus narrow, 0.04 long. Eye tubercle 0.67 long, 1.04 wide, slightly elevated. Anterior eye row slightly procurved, posterior recurved (Fig. 2A). Eye sizes: AME 0.33, ALE 0.35, PME 0.22, PLE 0.22. Chelicerae with 7 teeth in prolateral row, with *c.* 10 basal smaller teeth, rastellum weak formed by long thin setae (Figs 2B; 3H). Intercheliceral tumescence large, pale yellow, covered with few setae on basal region (Fig. 3H). Labium 0.40 long, 0.75 wide, without cuspules (Fig. 2B). Maxillae with *c.* 36 blunt cuspules on internal basal angle (Fig. 2B), becoming thin and very elongated at inner margin edge. Serrula developed (Fig. 3I). Sternum oval, 2.87 long, 2.23 wide. Labial sigilla distant from margin by *c.* 0.1 × its length, larger than sternal sigilla. Sternal sigilla (Fig. 2B): anterior slightly smaller than medium, posterior the largest; anterior distant from margin by *c.* 1 × length, medium and posterior by *c.* 0.5 × length. Measurements: palp: femur 2.30/ patella 1.35/ tibia 1.43/ cymbium 0.74/ total 5.82; legs: I: femur 4.43/ patella 2.83/ tibia 3.44/ metatarsus 3.21/ tarsus 2.84/ total 16.75; II: 4.25/ 2.45/ 3.06/ 3.25/ 2.50/ 15.51; III: 3.74/ 1.96/ 2.62/ 3.77/ 2.39/ 14.48; IV: 5.20/ 2.52/ 4.14/ 5.04/ 2.60/ 19.50. Spination: palp: femur: d0-0-2; legs: femora: I: d0-0-0-1p-1p; II: d0-0-0-1p-1p; III: d0-2-2-2; IV: d1-0-2-2; patellae: III: p1-1-1; IV: r0-1-0; tibiae: I: v2-1r-1p-1ap + 1r megaspine (Fig. 3G), p0-1-1-0; II: v1r-1r-0-2ap, p0-1-1-0; III: d0-1, v2-1r-2ap, p0-1-1-0, r0-1-1-0; IV: v1r-1r-2ap, p1-0-1-0, r1-0-1-0; metatarsi: I: v0-1r-0-1rap, p0-1-1, r0-1-0; II: v0-1r-1r-1p-0-2ap, p0-1-0-0-1ap, r0-0-1-0-1; III: d1r-1p-0-2, v2-2-3ap, p1-1-0-1-0, r0-1-0; IV: d1r-0-1p-0-2, v2-1r-1p-3ap, p1-1-1, r0-1-0. Metatarsal preening combs: III: 3VR, 3VP; IV: 3VR, 3VP. Combs of leg IV are formed by thicker setae. Tarsi I-IV



FIG. 7. — Collecting site of *Stenoterommata neodiplornata* Ghirotto & Indicatti, n. sp.: **A, B**, Estação Ecológica de Itirapina, anthropic area of Atlantic Forest (Flresta Estacional Semidecidual) (**A**), Cerrado (savanna, "campo sujo") (**B**); **C-E**, Floresta Nacional de Ipanema, Cerrado (savanna, in rocky soil) (**C, D**), anthropic area (**E**), both in state of São Paulo, Brazil. Photos: Rafael P. Indicatti.

flexible (Fig. 3G, tarsus I). Scopulae on tarsi I-IV light and symmetric; I, II divided by sparse row of thin setae; III, IV divided by three rows of thicker setae. Scopulae on full length of metatarsi I and on 1/5 of metatarsi II; I, II divided by

3-5 sparse rows of thicker setae; III, IV absent. STC large with double row of teeth: I: 6, 7, 8, 7; II: 7 in each row; III: 7, 7, 8, 7; IV: 7, 8, 8, 7. ITC on tarsus IV. Tricobothria with rounded, elevated bases as in *S. pavesii* (Indicatti *et al.*



FIG. 8. — *Stenoterommata neodioplornata* Ghirrotto & Indicatti, n. sp.: **A**, general aspect of burrows in a ravine (yellow arrows indicate burrows of females or juveniles specimens, white arrow indicate a wandering male); **B**, detail of burrow entrance in a ravine; **C**, **D**, female within a fallen log, detail of entrance (**D**); **E**, **F**, burrows between rocks crevices, juvenile (**E**), female (**F**). Scale bars: A, 50 mm, B-F, 10 mm. Photos: Rafael P. Indicatti.

2017: fig. 34). Around 40 epiandric spigots. Four spinnerets (Fig. 2D): PMS 0.37 long, with pumpkiniiform spigots on apical half. PLS: basal segment 1.05, median 0.80, apical triangular, 0.46 long, with band of pumpkiniiform spigots on inner edge of all segments. Palp (Fig. 3E-F): cymbium

with elongate dense setae, denser at tip (Fig. 3E, F); tibia with shallow ventral excavation on apical third (Fig. 3E, F); tibial excavation and basal region of tegulum with grooves (Fig. 3A-D); bulb piriform, ventrally curved, thick embolus, with *c.* 13 retrodorsal parallel keels (Fig. 3A-D, J).



FIG. 9. — *Stenoterommata neodiplornata* Ghirotto & Indicatti, n. sp., burrows within live trees: **A**, burrow, c. 3 m high, **arrow** indicate female specimen; **B**, burrow entrance in exotic *Pinus* sp., 50 cm high; **C**, same, with the tree bark removed, **yellow arrow** indicate the original entrance and upper **white arrow** shows remains of prey exoskeleton and inferior arrow old exuviae in the end of chamber; **D**, burrows in native Cambará tree *Gochnatia polymorpha* (Less.) Cabrera, c. 2 m high, **white arrow** shows a male resting at side of a juvenile burrow (**black arrow**) and **yellow arrow** indicates a female within a trunk; **E**, male resting on trunk (**yellow arrow**); **F**, detail of a female's burrow entrance. Scale bars: A, B, D-F 50 mm; C, 20 mm. Photos: Rafael P. Indicatti.

Female (paratype CAD 764)

Color pattern as in male, but slightly darker in general (Fig. 4A-D), and carapace bordered with golden red setae in

live specimen (Fig. 1B). Total length 18.20. Chelicerae 2.75 long, 1.60 wide (only left side). Carapace 6.90 long, 5.32 wide, with narrow, procurved fovea, 0.58 wide. Abdomen

8.55 long, 5.52 wide. Thoracic region slightly raised. Clypeus narrow, 0.17 long. Eye tubercle 0.88 long, 1.32 wide, slightly elevated. Anterior eye row slightly procurved, posterior recurved (Fig. 4A). Eye sizes: AME 0.32, ALE 0.39, PME 0.24, PLE 0.32. Chelicerae with 7 teeth in prolateral row, with *c.* 10 basal smaller teeth, rastellum weak, formed by long thin setae (Fig. 4B). Labium 0.60 long, 1.20 wide, with 1 cuspule (Fig. 4B). Maxillae with *c.* 80 blunt cuspules on internal basal angle (Fig. 4B). Serrula developed (similar to male, Fig. 3I). Sternum oval, 3.63 long, 2.92 wide. Labial sigilla distant from margin by *c.* 0.1 × its length, larger than anterior sternal sigilla. Sternal sigilla (Fig. 4B): anterior slightly smaller, medium and posterior about the same size; anterior distant from margin by *c.* 1 × length, medium by *c.* 0.5 × length, and posterior *c.* 1.2 × length. Measurements: palp: femur 2.92/ patella 1.99/ tibia 1.88/ tarsus 1.78/ total 8.57; legs: I: femur 4.24/ patella 2.98/ tibia 3.06/ metatarsus 2.54/ tarsus 1.78/ total 14.60; II: 4.10/ 2.84/ 2.64/ 2.40/ 1.90/ 13.88; III: 3.67/ 2.32/ 2.05/ 3.10/ 1.89/ 13.03; IV: 4.92/ 2.88/ 3.63/ 4.17/ 2.10/ 17.70. Spination: palp: femur: d0-0-0-0-1p-0; tibia: p0-1-0, v1r-1r-1p-0-3ap; legs: femora: I, II: d0-0-0-0-1p-0; III, IV: 0; patellae: III: p1-1-1; tibiae: III: v0-0-0-2ap, p0-1-1-0, r0-1-0; IV: v0-1r-0-2ap, r1-0-1-0; metatarsi: I: v0-1-0-0-1ap; II: v0-2-0-0-2ap; III: d0-2-0-1p2, v0-1-2-0-2-0-3ap, p1-1-1-1-0, r0-1-0; IV: d0-1r-1p-0-1p-0-2, v0-2-0-1r-1p-0-0-3ap, p1-1-1-0, r0-0-1-0. Metatarsal preening combs: II: 3VP thin setae; III: 4VP, 4VR; IV: 3VP, 3VR. Retrolateral combs are formed by thicker setae. Tarsi I, II rigid; III, IV flexible. Scopulae on tarsi I undivided, II divided by 1-2 rows of thin setae; III, IV by 3-4 rows of thicker setae; palp and legs I, II dense and symmetric; III, IV less dense than anterior tarsi. Scopulae on full length of metatarsi I, II; III only on 1/6 of lateral sides; I, II divided on basal third by 3-4 rows of thicker setae; IV absent. STC with double row of teeth: I: 5, 7, 6, 5; II: 6, 6, 7, 6; III: 5, 7, 6, 5; IV: 5, 8, 6, 5. ITC on tarsus IV. Palpal claw with 5 teeth on promargin. Tricobothria with rounded, elevated bases. Four spinnerets (Fig. 4D): PMS 0.76 long, with pumpkiniiform spigots on distal half. PLS: basal segment 1.57, median 1.04, apical triangular, 0.56 long, with band of pumpkiniiform spigots on inner edge of all segments. Spermathecae with a single receptacula on each side; base inclined outwards; basal dome elevated, ducts curved, receptacula rounded, basally constricted at the ducts (Fig. 5A).

VARIATION. — Males (*n* = 7): total length 8.02-12.40; carapace 3.73-5.56 long; maxillae with 32-51 cuspules, sometimes elongate and thin or clavate; palpal tibia with spine r0-0-1. Females (*n* = 6): total length 11.60-20.36; carapace 4.67-7.41; labium with 1-3 cuspules; maxillae with 80-95 cuspules. Spermathecae either with one or two receptacula on each side; basal dome inclined outwards, either elevated to ducts base, rounded or pointed; curved ducts; receptacula rounded, basally constricted at the ducts (Fig. 5A-F).

NOTE. — Examination of two exuviae from consecutive molts of a juvenile female from ESEC Itirapina showed little variation in the spermathecae, even in size (Fig. 6A, B). The cephalothorax size of the exuvia of the first molt is 3.21 long; second molt, 4.46 long; the current size in life is 5.54 long.

DISTRIBUTION. — Southeastern Brazil, state of São Paulo: Itirapina, Ipeúna, Iperó and São Paulo.

HABITAT. — This species inhabits distinct environments, showing habitat plasticity (Fig. 7A-E). Specimens occurs in anthropized zones of seasonal forest (Fig. 7A), bordered in part by exotic *Pinus* and *Eucalyptus* forestry, as well in native savanna formations (Fig. 7B) at ESEC Itirapina (see Brasileiro *et al.* 2005; IF 2006 for more details). At FLONA Ipanema, specimens occur in savanna formations within rock outcrops (Fig. 7C-D), bordered by seasonal forest (mostly Atlantic Forest (*Floresta Estacional semidecidual*), see Albuquerque & Rodrigues 2000; IBAMA 2006 for more details) and anthropized areas (Fig. 7E). The species also occur in the city of São Paulo, in a hygrophilous Atlantic Forest urban fragment; historically, this area had great influence and presence of savanna formations (Hueck 1956; Catharino & Aragaki 2008), which could explain the spider's current distribution in this more humid area.

NATURAL HISTORY

These spiders construct a single open burrow lined with fine silk in the soil (Fig. 8A, B), within fallen logs (Fig. 8C, D), rocks crevices (Fig. 8E, F) and loose rugose tree bark (Fig. 9A-C). At ESEC Itirapina, most specimens were found in small ravines slopes in an anthropized area presenting earthy soil covered with leaf litter (Fig. 7A), contrasting with the typical sandy open areas of savanna formations of the remaining of the reserve (Fig. 7B), where only one individual was found. The anthropized area is similar to close by seasonal forest areas. In some areas, spiders occurred in high density populations of at least five individuals per square meter, where large and some small open burrows (Fig. 8A-D) are visible even during the day. Many more small to medium sized juvenile spiders were revealed by carefully disassembling the soil from the ravines. At FLONA Ipanema, specimens were found in savanna formations within rock outcrops, bordered by Atlantic Forest and seasonal forest areas (Fig. 7C, D). Few specimens were found in ravines, in an anthropized area. Most burrows were found in tree trunks (Fig. 9A-F) and between the rock crevices (Fig. 8E, F). In the trees, the burrows occurred at different heights, from the ground near roots up to six meters. Most specimens were found in Cambará trees, *Gochnatia polymorpha* (Less.) Cabrera (Fig. 9D-F), a typical Cerrado species with very rugose thick bark (ridges with 20-50 mm). This allow the spiders to survive fires, which naturally occurs in savannas or forests, even when burning the tree bark (R. P. Indicatti, personal observ.) (Fig. 9D). Although not common for the genus, the behavior of inhabiting live trees also can be observed in *S. arnolisei* and *S. palmar* (Indicatti *et al.* 2008; 2017), as well as an undescribed species from Parque Nacional do Itatiaia, Rio de Janeiro state, indicating that activity flow between soil and upper branches of the highest part of the trees may take place. This behavior has not yet been observed in any other Pycnothelidae genus, in which other known representatives always inhabits burrows associated with the soil (Goloboff 1995; Lucas *et al.* 2008; Indicatti 2013; Pérez-Miles *et al.* 2014; Ferretti 2015; R. P. Indicatti, pers. obs.). Within live tree barks the spiders behaves the same as those that live in the ground or ravines, as observed when the tree barks are removed (Fig. 9C), exposing remains of prey exoskeleton

and old exuviae in end of chamber (Fig. 9C). The same occurs with some males, which could be observed resting near juvenile and female burrows (Fig. 9D, E).

Individuals kept alive in the laboratory constructed burrows in the soil, lined with fine silk, with 1-2 openings. The openings were sometimes observed to be closed with silk and soil for some days to few weeks, when the spider reopened the burrow. They were able to take down large prey (roaches, moths, crickets), *c.* 1.5 × their total body size.

Stenoterommata bodoquena

Ghirrotto & Indicatti, n. sp.

(Figs 1D, E; 10-12)

urn:lsid:zoobank.org:act:041B0EC6-EED9-41B7-9F63-E7328D0068F7

TYPE MATERIAL. — **Holotype.** Brazil • 1 ♂; Mato Grosso do Sul, Bonito, Parque Nacional da Serra da Bodoquena, Três Morros, Fazenda Marambaia trail; 20°58'13.4"S, 56°43'03.3"W; 05.VIII.2019; V. M. Ghirrotto, R. F. Ferreira, J. F. J. Mendes & M. J. A. Morales leg.; under fallen log; CAD 774.

Paratype. Brazil • 1 ♂; Mato Grosso do Sul, Bonito, near Jaraguá cave; 21°05'26.9"S, 56°34'30.6"W; 03.VIII.2019; V. M. Ghirrotto, R. F. Ferreira, J. F. J. Mendes & M. J. A. Morales leg.; under fallen log; CAD 775.

DIAGNOSIS. — Males of *S. bodoquena* Ghirrotto & Indicatti, n. sp. resemble those of *S. pavesii*, *S. guguai*, *S. peri* Indicatti, Chavari, Zucatelli-Júnior, Lucas & Brescovit, 2017 and *S. egric* Ghirrotto & Indicatti, n. sp. by the elongated and thicker embolus (Fig. 11A-D, J), but can be distinguished by palpal duct with basal and middle region strongly curved (Fig. 11B-D) and embolus with dorsoventrally compressed keel at the tip (Fig. 11A-D, J). Additionally, it can be distinguished by having 6 spines (p1-2-2-1) on prolateral region of patellae III.

ETYMOLOGY. — The specific name is a noun in apposition from the type locality, Parque Nacional da Serra da Bodoquena, in the Bodoquena mountain range, in Mato Grosso do Sul, Brazil.

DESCRIPTION

Male (holotype)

Color pattern: in life, chelicerae, carapace black, legs dark brown, all covered with golden and brown setae (similar to paratype, Fig. 1D). Abdomen dorsally brown with many black stains not forming a chevron, covered with black setae; in ethanol, chelicerae, carapace and legs reddish brown covered with golden setae (Fig. 10A). Sternum, maxillae and coxae reddish light brown (Fig. 10B). Abdomen dorsally yellowish light brown with many dark brown stains not forming a chevron, covered with golden and black setae (Fig. 10C), and ventrally yellowish light brown with few posterior black stains (Fig. 10D). Total length 15.99. Chelicerae 2.20 long, 1.27 wide (only left side). Carapace 6.94 long, 5.33 wide, with narrow, procurved fovea, 0.75 wide. Abdomen 6.45 long, 4.41 wide. Thoracic region slightly raised. Clypeus narrow, 0.11 long. Eye tubercle 0.82 long, 1.01 wide, slightly elevated. Anterior eye row procurved, posterior recurved (Fig. 10A). Eye sizes: AME 0.33, ALE 0.36, PME 0.24, PLE

0.26. Chelicerae with 8 teeth in prolateral row (Fig. 11H), with *c.* 25 basal smaller teeth, rastellum weak formed by long thin setae (Figs 10B; 11H). Intercheliceral tumescence medium, with few setae on basal region (Fig. 11H). Labium 0.60 long, 1.16 wide, without cuspules (Fig. 10B). Maxillae with 105/110 blunt and clavate cuspules on internal basal angle (Fig. 10B), becoming thin and elongated at inner margin edge. Serrula developed (Fig. 11I). Sternum oval, 3.46 long, 2.86 wide. Labial sigilla distant from margin by *c.* 0.1 × its length, same size as anterior sternal sigilla. Sternal sigilla (Fig. 10B): anterior slightly smaller than medium, posterior the largest; anterior and medium distant from margin by *c.* 0.5 × length, posterior by *c.* 1 × length. Measurements: palp: femur 2.95/ patella 1.43/ tibia 1.67/ cymbium 0.84/ total 6.89; legs: I: femur 5.01/ patella 3.41/ tibia 3.84/ metatarsus 3.63/ tarsus 2.51/ total 18.40; II: 4.73/ 2.95/ 2.96/ 3.57/ 2.36/ 16.57; III: 4.59/ 2.46/ 2.73/ 4.23/ 2.32/ 16.33; IV: 6.16/ 2.95/ 4.37/ 6.12/ 2.73/ 22.33. Spination: palp: femur: d0-0-0-0-2, tibia: p1ap, r1ap; legs: femora: I: d0-0-0-2-2; II: d0-1p-1p-1p; III: d0-0-2-2-2; IV: d1-1p-2-2; patellae: II: p0-0-1s-1s; III: p1-2-2-1, r0-1-0; IV: r0-1-0; tibiae: I: v2r-2-1ap + 1r megaspine (Fig. 11G), p0-1-1-0; II: v1p-2r-0-1-0-2ap, p0-1-1-0; III: d0-0-1-0, v3-3-3ap, p0-1-1-0, r0-1-1-0; IV: v3-3-3ap, p0-1-1-0, r1-1-1; metatarsi: I: v0-1-0-0-1ap, p0-1-0-1; II: d0-0-1p-0-0, v0-1r-1r-0-0-3ap, p1-1-0-0-1, r0-0-1-0; III: d1r-1-1-0-2ap, v0-2-2-2, p1-1-1, r1-1-0-1; IV: d1r-1-1-0-1rap, v0-2-1p-1r-3ap, p1-1-1-1, r1-0-1-0-1. Metatarsal preening combs: III: 5VR, 6VP; IV: 5VR, 4VP. Combs of leg IV are formed by thicker setae. Tarsi I-IV flexible (Fig. 11G, tarsus I). Scopulae on tarsi I-IV light and symmetric; I, II divided by 2 rows of thicker setae; III divided by 3-4 rows; IV divided by 4-5 rows. Scopulae on 1/8 of metatarsi I, II; divided by 4-5 sparse rows of thicker setae; III, IV absent. STC large with double row of teeth: I: 8, 5, 5, 8; II: 8, 6, 6, 7; III: 7, 5, 5, 7; IV: 8, 5, 5, 8. ITC on tarsus IV. Tricobothria with rounded, elevated bases. Around 32 epiandric spigots. Four spinnerets (Fig. 10D): PMS 0.77 long, with pumpkiniform spigots on apical half. PLS: basal segment 1.41, median 1.02, apical triangular, 0.66 long, with band of pumpkiniform spigots on inner edge of all segments. Palp (Fig. 11E-F): cymbium with elongate dense setae, denser at tip (Fig. 11E, F); tibia with shallow ventral excavation on apical third (Fig. 11E, F); tibial excavation and basal region of tegulum (Fig. 11A-D) with grooves; bulb piriform, ventrally curved, embolus with *c.* 15 parallel keels mainly located retrodorsally (Fig. 11A-D, J).

VARIATION. — Males (*n* = 2): total length 13.00-15.99; carapace 6.44-6.94 long; maxillae with 82-110 cuspules.

DISTRIBUTION. — Known only from Bonito, state of Mato Grosso do Sul, Central Brazil.

HABITAT. — Individuals were found in two nearby although distinct forest areas, 20 km apart. The Parque Nacional da Serra da Bodoquena consists of a relictual Atlantic Forest patch (semideciduous forest), surrounded and heavily influenced by the Cerrado. The area near Jaraguá cave is a fragment of deciduous Cerrado forest (seasonal forest), with low canopy and dryer conditions (Fig. 12A-C).



FIG. 10. — *Stenoterommata bodoquena* Ghirotto & Indicatti, n. sp., male holotype, body: **A**, carapace, dorsal view; **B**, cephalothorax, ventral view; **C**, **D**, abdomen, dorsal view (**C**), ventral view (**D**). Scale bars: 1 mm.

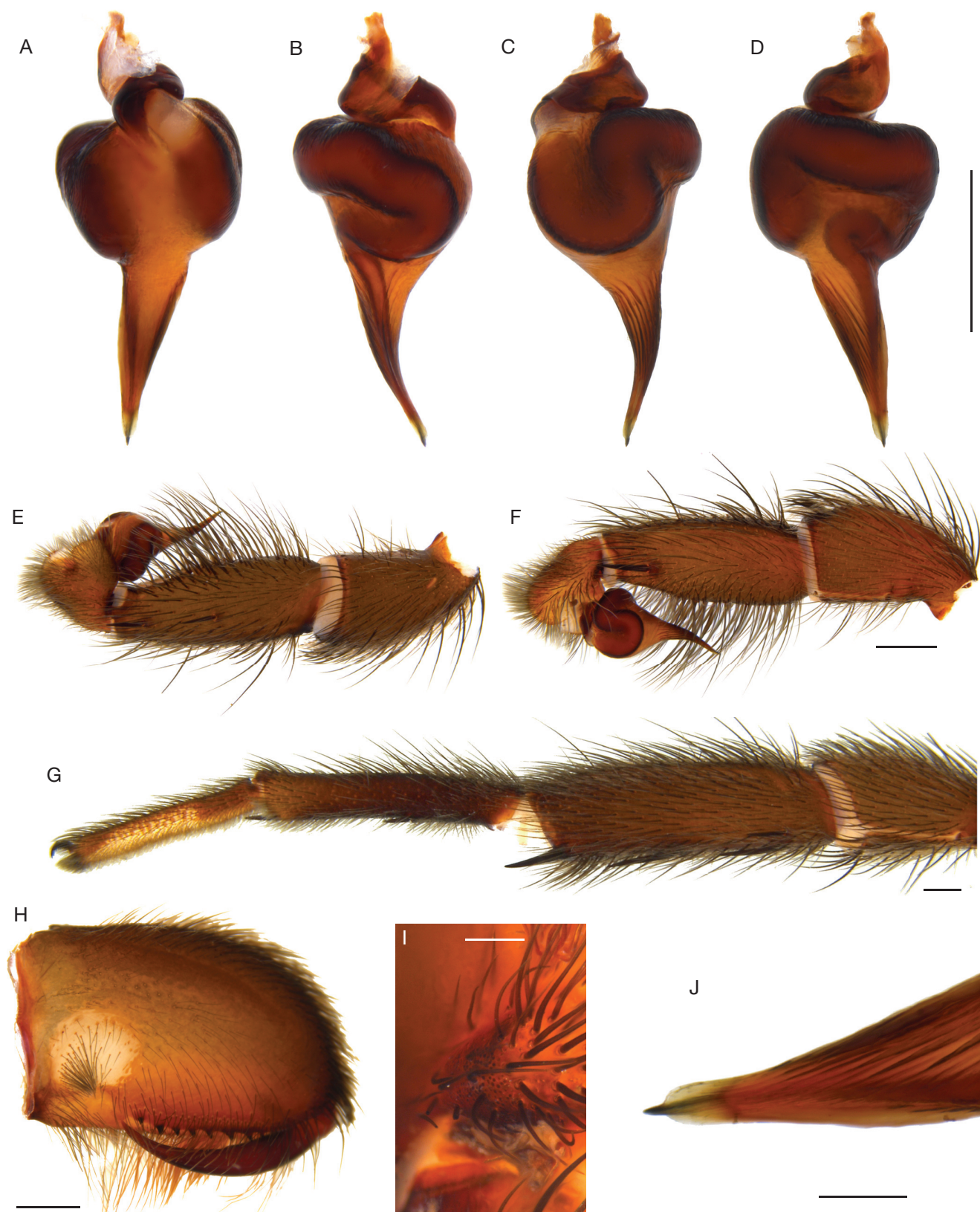


FIG. 11. — *Stenoterommata bodoquena* Ghirotto & Indicatti, n. sp., male: **A-G, J**, male holotype; **H, I**, paratype, CAD 775; **A-D**, left palpal bulb, ventral view (**A**), prolateral view (**B**), retrolateral view (**C**), dorsal view (**D**); **E, F**, left palp, prolateral view (**E**), retrolateral view (**F**); **G**, left leg I, retrolateral view; **H**, left chelicera, prolateral view; **I**, serrula on maxilla, frontal view; **J**, left bulb embolus, detail on dorsal view. Scale bars: A-H, 0.5 mm; I, J, 0.1 mm.



FIG. 12. — Collecting site of *Stenoterommata bodoquena* Ghiorotto & Indicatti, n. sp. paratype: **A**, pasture with Cerrado (seasonal forest) in the background; **B**, **C**, Cerrado (seasonal forest); **D**, **E**, juvenile collected within a fallen log, all near Jaraguá cave, Bonito, in state of Mato Grosso do Sul, Brazil. Scale bars: D, 50 mm, E, 10 mm. Photos: Victor M. Ghiorotto.

NATURAL HISTORY

Only two males and two juveniles were found by active search. The juveniles were found inside fallen rotting logs (Fig. 12 D, E), which were already soft and loose, where they supposedly

constructed burrows (as they were visible after splitting the log, no such burrows could be seen). Both adult males were found underneath fallen logs. In the areas they were found, no burrows were visible in the soil.

Stenoterommata chavarii Ghirotto & Indicatti, n. sp.
(Figs 1F; 13-17)

urn:lsid:zoobank.org:act:42DEC204-EE4C-4001-81B7-E6A946F23BE9

TYPE MATERIAL. — **Holotype.** Brazil • 1 ♂; São Paulo, Botucatu, Fazenda Experimental Edgárdia; 22°48'28.5"S, 48°23'36.6"W; 02.VI.2014; R. C. B. Paradero leg.; restoration area, collected with pitfall traps; CAD 585.

Paratypes. Brazil • 1 ♀; same data as the holotype; CAD 776 • 6 ♂; same data as the holotype; CAD (1 ♂ CAD 777), IBSP (1 ♂), MZUSP (1 ♂), MNRJ (1 ♂ MNRJ 7689), MCTP (1 ♂), MCN (1 ♂) • 1 ♂; same locality and leg. as holotype; 21.XI.2013; pasture area; CAD 591 • 1 ♂, same locality and collector as the holotype; 18.VIII.2015; forest area; CAD 577.

ADDITIONAL MATERIAL EXAMINED. — **Brazil** • 8 ♂; same data as the holotype; CAD (2 ♂ CAD 778, 2 ♂ CAD 779), IBSP (2 ♂), MZUSP (1 ♂), MNRJ (1 ♂ MNRJ 7690) • 2 ♂; same locality as the holotype; 11.XI.2013; CAD 587.

DIAGNOSIS. — Males of *S. chavarii* Ghirotto & Indicatti, n. sp. resemble those of *S. crassimana*, *S. palmar*, *S. sevegnaniae* and *S. tenuistyla* by the palpal bulb with thin, filiform embolus (Fig. 14A-D, J). It can be distinguished from *S. sevegnaniae* and *S. tenuistyla* by the curved embolus at the tip (Fig. 14A-D, J); from *S. crassimana* by the palpal duct much less curved in medial region (Fig. 14B, D) and lacking stains ventrally on abdomen (Fig. 14D); from *S. palmar* by the palpal tibia with 2 spines on prolateral-medial region (Fig. 14E) and presence of ITC on legs III, IV. Females can be distinguished from the remaining species of the genus, except from *S. quena* Goloboff, 1995, by the presence of metatarsal preening combs on leg I and on VP and VR sides of leg II; differs from *S. quena* and resembles *S. platensis* Holmberg, 1881 and *S. iguazu* by the spermathecae with two independent bases on each side (Fig. 16) and prolateral spines 1-1-1 on patella III; differs from them by the elongated basal dome, metatarsal preening combs on all legs and anterior eye row slightly recurved (Fig. 15A).

ETYMOLOGY. — The specific name is a patronym in honor of João Lucas Chavari, friend of the last authors and collector of several mygalomorph spiders from Brazil.

DESCRIPTION

Male (holotype)

Color pattern: in ethanol, chelicerae, carapace reddish brown covered with golden setae (Fig. 13A), legs brown, covered with black and golden setae. Sternum, maxillae and coxae yellowish brown (Fig. 13B). Abdomen yellowish light brown with dark brown mottling forming discrete chevron (Fig. 13C). Total length 10.23. Chelicerae 0.90 long, 0.75 wide (only left side). Carapace 5.08 long, 3.64 wide, with narrow, procurved fovea, 0.48 wide. Abdomen 3.98 long, 2.25 wide. Thoracic region raised. Clypeus very narrow, 0.06 long. Eye tubercle 0.59 long, 0.86 wide, slightly elevated. Anterior eye row slightly procurved, posterior slightly recurved (Fig. 13A). Eye sizes: AME 0.19, ALE 0.28, PME 0.19, PLE 0.21. Chelicerae with 8 teeth in prolateral row, with *c.* 20 basal smaller teeth, rastellum weak formed by long thin setae (Figs 13B; 14H). Intercheliceral tumescence small, with few setae on basal region (Fig. 14H). Labium 0.35 long, 0.76 wide, without cuspules (Fig. 13B). Maxillae with 48/54 blunt and clavate cuspules on internal basal angle (Fig. 13B), becoming thin and very elongated at inner margin edge. Serrula developed (Fig. 14I). Sternum oval, 2.38 long, 1.99 wide. Labial sigilla distant from margin by *c.* 0.1 × its length, same

size as anterior sternal sigilla. Sternal sigilla (Fig. 13B): anterior slightly smaller than medium, posterior the largest; anterior and posterior distant from margin by *c.* 1 × length, medium by *c.* 0.5 × length. Measurements: palp: femur 1.97/ patella 1.00/ tibia 1.17/ cymbium 0.56/ total 4.70; legs: measurements: I: femur 3.46/ patella 2.18/ tibia 2.45/ metatarsus 2.36/ tarsus 1.72/ total 12.17; II: 3.13/ 1.92/ 1.95/ 2.24/ 1.76/ 11.00; III: 3.09/ 1.67/ 1.78/ 2.78/ 1.82/ 11.14; IV: 4.04/ 2.08/ 2.77/ 4.04/ 2.02/ 14.95. Spination: palp: femur: d0-0-0-0-0-2-2; patella: p0-0-1; tibia: p0-0-2-0-2, r1sap; legs: femora: I: d0-0-0-0-1r-2; II: d0-1r-1r-2-2; III: d0-0-2-2-2; IV: d0-0-2-0-2-2; patellae: I: p0-0-1; II: p0-0-1; III: p1-1-1, r0-0-1-0; IV: r0-0-1-0; tibiae: I: v1-0-1-2-0-1p + 1r megaspine (Fig. 14G), p0-0-1-1-0; II: v1-1-0-3ap, p0-0-1-1-0; III: d0-1, v2-3-0-3ap, p0-1-1-0, r0-1-0; IV: v2-2-0-3ap, p0-1-1-0, r1-1-0-1-0; metatarsi: I: v0-2-0-1ap, p0-1-0-1ap, r0-0-0-1-0; II: d0-1-0, v0-1r-1r-1p-0-3ap, p1-1-0-1, r0-0-1-0; III: d1r-1r-1p-0-2-0-0-2, v2-2-3ap, p1-0-1-1, r1-1-0; IV: d2-1p-0-1r-1p-0-2, v0-2-0-1p-1r-1p-3ap, p1-1-1, r1-0-1-0. Metatarsal preening combs: III: 3VR, 4VP; IV: 4VR, 3VP. Combs of leg IV are formed by thicker setae. Tarsi I-IV flexible (Fig. 14G, tarsus I). Scopulae on tarsi I-IV light and symmetric; I, II divided by 2 sparse rows of thin setae; III divided by 4-5 rows; IV divided by 5 rows, III, IV divided by thicker setae. Scopulae on 1/3 of metatarsi I, II, divided by 2 rows of thicker setae; III, IV absent. STC large with double row of teeth: I: 6, 6, 5, 6; II: 7, 6, 6, 6; III: 8, 8, 6, 7; IV: 9, 8, 7, 8. ITC on tarsi III, IV. Tricobothria with rounded, elevated bases. Around 20 epiandric spigots. Four spinnerets (Fig. 13D): PMS 0.44 long, with pumpkiniform spigots on apical half. PLS: basal segment 0.92, median 0.56, apical triangular short, 0.36 long, with wide band of pumpkiniform spigots on inner edge of all segments. Palp (Fig. 14E, F): cymbium with elongate dense setae, denser at tip (Fig. 14E, F); tibia ventrally with a shallow excavation on apical third (Fig. 14E, F); tibial excavation and basal region of tegulum with grooves (Fig. 14A-D); bulb piriform, thin embolus curved at the tip, with *c.* 20 parallel keels (Fig. 14A-D, J).

Female (paratype CAD 776)

Color pattern: in ethanol, chelicerae reddish dark brown, carapace (Fig. 15A) and legs brown, covered with few black and golden setae, Sternum, coxae, and maxillae yellowish brown (Fig. 15B). Abdomen dorsally light yellowish brown with dark brown mottling forming a chevron (Fig. 15C), ventrally light yellowish brown (Fig. 15D). Total length 12.68. Chelicerae 1.70 long, 1.12 wide (only left side). Carapace 5.12 long, 3.50 wide, with narrow, procurved fovea 0.45 wide. Abdomen 5.86 long, 3.58 wide. Thoracic region slightly raised. Clypeus narrow 0.10 long. Eye tubercle 0.45 long, 0.85 wide, slightly elevated. Anterior eye row slightly recurved, posterior recurved (Fig. 15A). Eye sizes: AME 0.20, ALE 0.27, PME 0.17, PLE 0.20. Chelicerae with 8 teeth in prolateral row, with *c.* 20 basal smaller teeth, rastellum weak, formed by long thin setae (Fig. 15B). Labium 0.47 long, 0.84 wide, with 2 cuspules (Fig. 15B). Maxillae with 72/73 blunt cuspules on internal basal angle (Fig. 15B). Serrula weak. Sternum oval, 2.68 long, 2.15 wide. Labial sigilla distant from margin by *c.* 0.1 × its length, larger than anterior ster-



FIG. 13. — *Stenoterommata chavarii* Ghiorro & Indicatti, n. sp., male holotype, body. **A**, carapace, dorsal view; **B**, cephalothorax, ventral view; **C**, **D**, abdomen, dorsal view (**C**), ventral view (**D**). Scale bars: 0.5 mm.

nal sigilla. Sternal sigilla (Fig. 15B): anterior almost round, slightly smaller than medium; posterior $c. 2 \times$ larger; all distant from margin by $c. 1 \times$ its length. Measurements: palp: femur 2.34/ patella 1.32/ tibia 1.51/ tarsus 1.46/ total 6.63; legs: I: femur 3.56/ patella 2.25/ tibia 2.42/ metatarsus 2.13/ tarsus 1.44/ total 11.80; II: 3.16/ 2.02/ 2.10/ 2.00/ 1.54/ 10.82; III: 2.70/ 1.81/ 1.50/ 1.85/ 1.55/ 9.41; IV: 3.53/2.05/2.34/

3.12/ 1.27/ 12.31. Spination: palp: tibia: v0-2-0-3ap; tarsus: r1i-0-0-0; legs: femora: I: d1p sap; II-IV: 0; patellae: I, II: 0; III: p1-1-1, r0-1-0; IV: r0-1-0; tibiae I, II: 0; III: d0-1, v2ap, p1-1, r-0-1s-0; IV: v2ap, pli-1i, r1s-1s; metatarsi: I: v1ap; II: v1r-1r-1p-0-2ap; III: d1r-1r-1p-2-0-2, v2-2-0-3ap, p1-1-1-1; IV: d0-1r-1p-2-0-2, v2-0-1p-1r-1p-3ap, r1s-1s-0, p1-1-1-0. Metatarsal preening combs: I: 2VP thin setae; II:

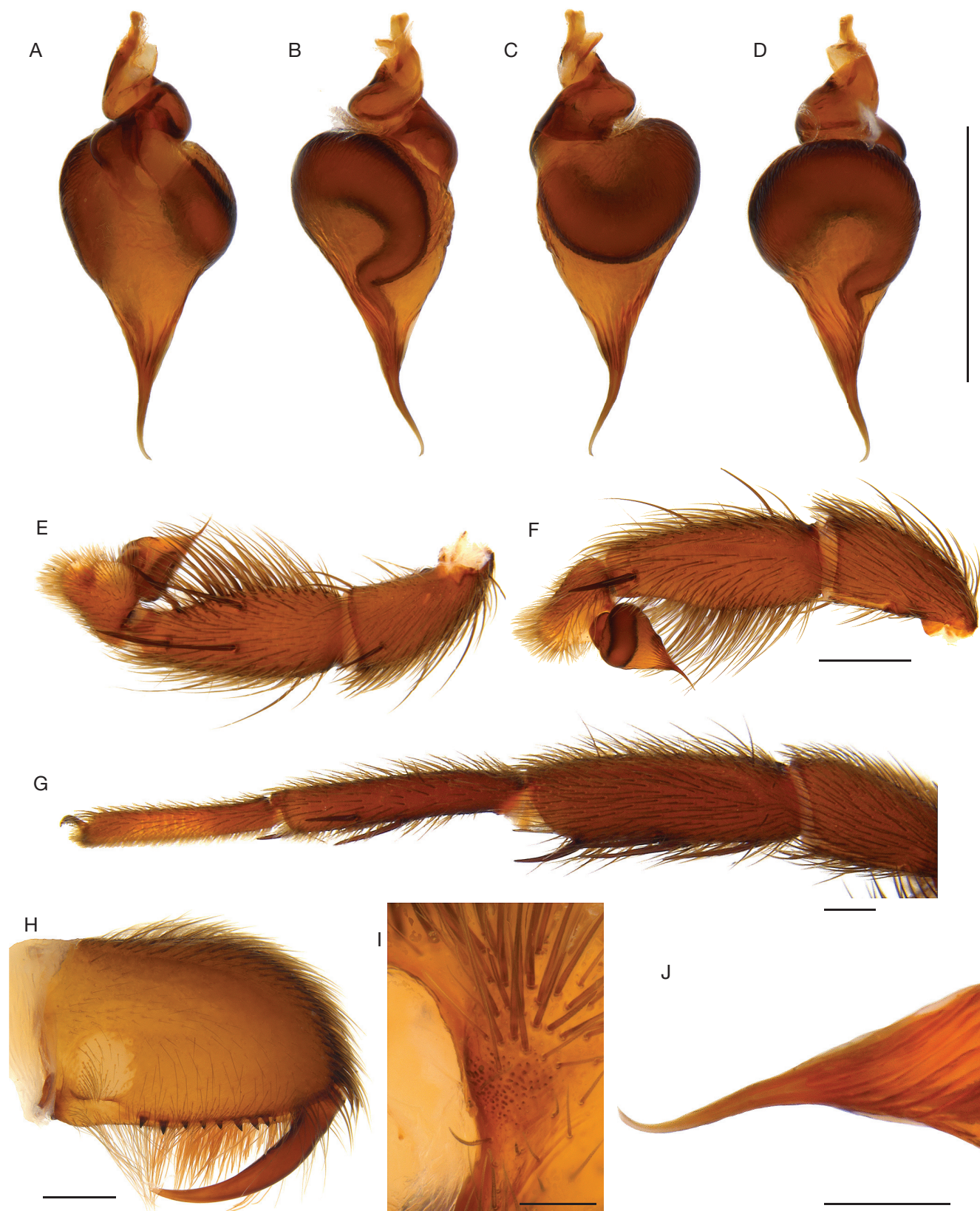


FIG. 14. — *Stenoterommata chavarii* Ghirotto & Indicatti, n. sp., male: **A-G, J**, male holotype; **H, I**, paratype CAD 777; **A-D**, left palpal bulb, ventral view (**A**), prolateral view (**B**), retrolateral view (**C**), dorsal view (**D**); **E, F**, left palp, prolateral view (**E**), retrolateral view (**F**); **G**, left leg I, retrolateral view; **H**, left chelicera, prolateral view; **I**, serrula on maxilla, frontal view; **J**, left bulb embolus, detail on dorsal view. Scale bars: A-H, 0.5 mm; I, J, 0.1mm.



FIG. 15. — *Stenoterommata chavarii* Ghiretto & Indicatti, n. sp., female body, paratype, CAD 776: **A**, carapace, dorsal view; **B**, cephalothorax, ventral view; **C**, **D**, abdomen, dorsal view (**C**), ventral view (**D**). Scale bars: 1 mm.

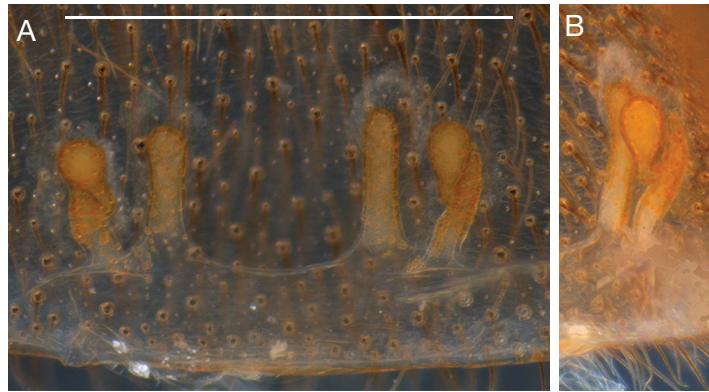


FIG. 16. — *Stenoterommata chavarrii* Ghirotto & Indicatti, n. sp., female paratype, CAD 776: **A**, spermathecae, dorsal view; **B**, lateral view, detail. Scale bar for both figures: 0.5 mm.



FIG. 17. — Collecting site of *Stenoterommata chavarrii* Ghirotto & Indicatti, n. sp.: **A**, **B**, Atlantic Forest (semideciduous forest), near Jardim Botânico Rubião Júnior (**A**), Fazenda Experimental Edgárdia (**B**), both from Universidade Estadual Paulista, Botucatu, São Paulo, Brazil. Photos: A, Rafael P. Indicatti; B, João L. Chavari.

4VP in one line, 4VR in two lines; III: 4VP, 5VR; IV: 4VP, 4VR, III, IV in one line. Tarsi I-IV rigid. Scopulae on tarsi I divided by 2-3 rows of setae, II by 4 rows, III, IV divided by 8 rows of thicker setae; palp and I, II dense and symmetric; III, IV light, only lateral sides. Scopulae on 4/5 of metatarsi I and 2/5 on II, divided by 1-2 rows of thicker setae on leg I and 2-3 on II; III, IV absent. STC with double row of teeth: I: 4, 5, 5, 4; II: 4, 5, 5, 5; III: 4, 6, 6, 4; IV: 6, 7, 7, 6. ITC on tarsi III, IV. Palpal claw with 3 teeth on promargin. Tricobothria with rounded, elevated bases. Four spinnerets (Fig. 15D); PMS 0.38 long, with pumpkiniiform spigots on apical 2/3. PLS: basal segment 0.89, median 0.58, apical triangular, short, 0.35 long, with wide band of pumpkiniiform spigots on inner edge of all segments. Spermathecae with two independent bases on each side (Fig. 16); the external side has an elongated basal dome with one globose receptaculum arising from the median area; the internal side has an elongated basal dome not presenting a receptaculum; both very sclerotized (Fig. 16).

VARIATION. — Males ($n = 15$): total length 8.26-10.94; carapace 3.71-5.10 long; labium with 0-2 cuspules; maxillae with 46-58 cuspules, sometimes elongated.

DISTRIBUTION. — Known only from the type locality, Fazenda Experimental Edgárdia, Botucatu, São Paulo state, Brazil.

HABITAT. — These spiders were collected by pitfall traps in ecotonal zones between seasonal forest (Cerrado) and Atlantic Forest (Fig. 17A, B), in Fazenda Experimental Edgárdia, where both vegetation types are present. In addition, they were also captured in restoration and pasture areas, which have similar local conditions to Cerrado formations, indicating that the species probably also occur in strictly Cerrado areas, as *S. bodoquena* Ghirotto & Indicatti, n. sp.

Stenoterommata egric Ghirotto & Indicatti, n. sp.
(Figs 1G, H; 18-22)

urn:lsid:zoobank.org:act:B04C1562-E4F5-478A-B836-FE850178AB6E

TYPE MATERIAL. — **Holotype.** Brazil • 1 ♂; Minas Gerais, Lima Duarte, Conceição do Ibitipoca, Ibitipoca mountain range; 21°41'14.7"S, 43°53'46.9"W; 11.I.2017; V. M. Ghirotto leg.; under stone, kept alive, became adult in 01.X.2017; CAD 780.

Paratypes. Brazil • 2 ♀; same data as the holotype; CAD (1 ♀ CAD 781, 1 ♀ CAD 782) • 8 ♂, 1 ♀; Parque Estadual do Ibitipoca; 21°42'55.4"S, 43°53'56.9"W; IX.1997; 1380 m a.s.l.; A. de Oliveira & B. M. Sousa leg.; sucupira area, collected with pitfall traps; IBSP (6 ♂, 1 ♀ IBSP 108383, 2 ♂ IBSP 108458).



FIG. 18. — *Stenoterommata egric* Ghirrotto & Indicatti, n. sp., male holotype, body: **A**, carapace, dorsal view; **B**, cephalothorax, ventral view; **C**, **D**, abdomen, dorsal view (**C**), ventral view (**D**). Scale bars: 1 mm.

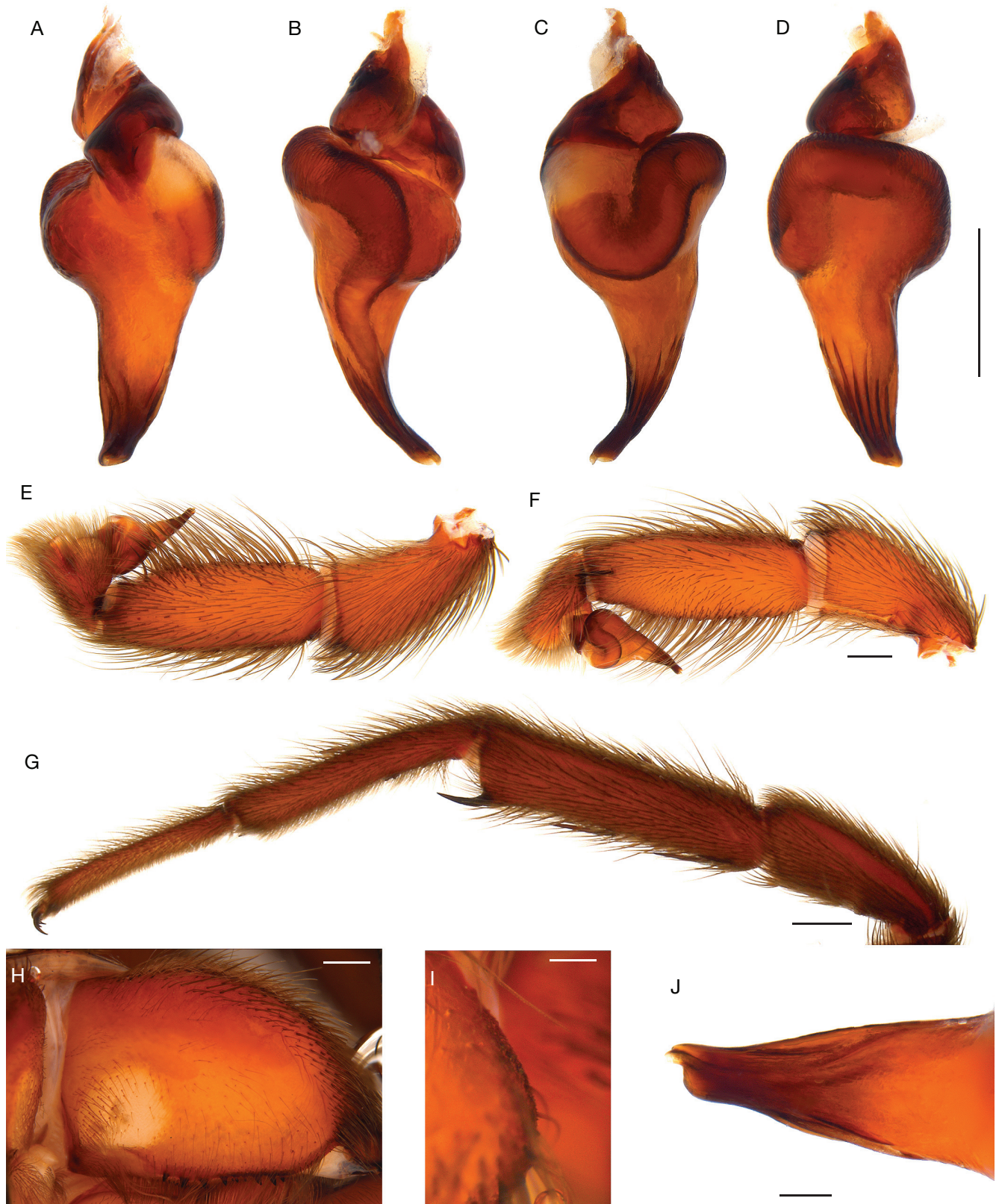


FIG. 19. — *Stenoterommata egric* Ghirotto & Indicatti, n. sp., male holotype: **A-D**, left palpal bulb, ventral view (**A**), prolateral view (**B**), retrolateral view (**C**), dorsal view (**D**); **E**, left palp, prolateral view; **F**, right palp, retrolateral view (mirrored); **G**, left leg I, retrolateral view; **H**, left chelicera, prolateral view; **I**, serrula on maxilla, anterior view; **J**, left bulb embolus, detail on ventral view (not dorsal to better show details). Scale bars: A-H, 0.5 mm; I, J, 0.1 mm.



FIG. 20. — *Stenoterommata egric* Ghirotto & Indicatti, n. sp., female body, paratype, CAD 781: **A**, carapace, dorsal view; **B**, cephalothorax, ventral view; **C**, **D**, abdomen, dorsal view (**C**), ventral view (**D**). Scale bars: 1 mm.

ADDITIONAL MATERIAL EXAMINED. — **Brazil** • 39 ♂, 1 j; Minas Gerais, Lima Duarte, Conceição do Ibitipoca, Parque Estadual do Ibitipoca; 21°42'55.4"S, 43°53'56.9"W; 1380 m a.s.l.; IX.1997;

A. de Oliveira & B. M. Sousa leg.; sucupira area, collected with pitfall traps; IBSP (2 ♂ IBSP 108377, 1 ♂ IBSP 108379, 1 ♂ IBSP 108380, 1 ♂ IBSP 108405, 1 ♂ IBSP 108407, 1 ♂ IBSP 108415,

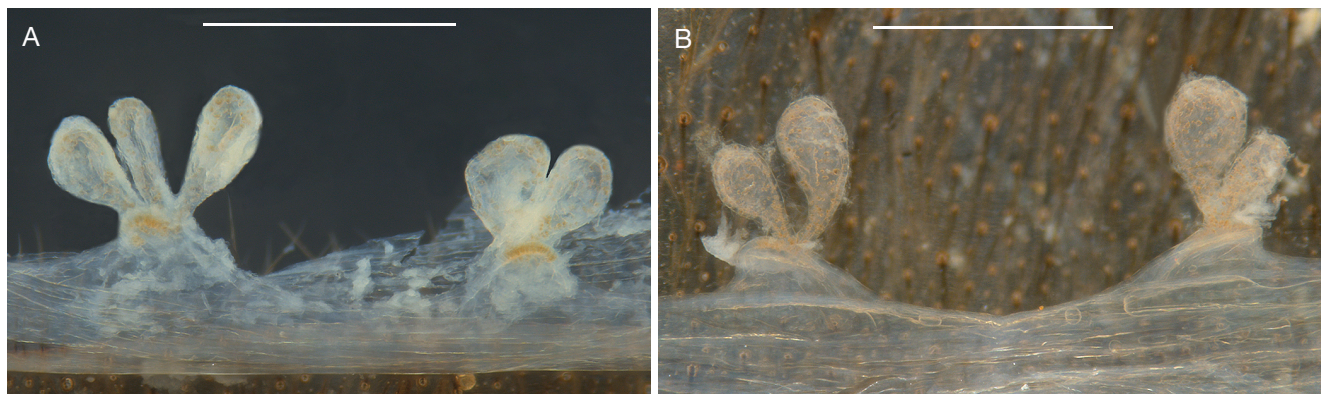


FIG. 21. — *Stenoterommata egric* Ghirotto & Indicatti, n. sp., females, spermathecae, dorsal view: **A**, paratype CAD 781. **B**, paratype CAD 782. Scale bars: 0.5 mm.

4 ♂ IBSP 108431, 1 ♂ IBSP 108433, 1 ♂ IBSP 108434, 1 ♂ IBSP 108437, 9 ♂ IBSP 108448, 5 ♂ IBSP 108463, 1 ♂ IBSP 108465, 3 ♂ IBSP 108475, 2 ♂, 1 j IBSP 108476, 3 ♂ IBSP 108477-108479, 1 ♂ IBSP 108486, 1 ♂ IBSP 110531).

DIAGNOSIS. — Males of *S. egric* Ghirotto & Indicatti, n. sp. resembles those of *S. pavesii*, *S. gugai*, *S. peri* and *S. bodoquena* Ghirotto & Indicatti, n. sp. by the elongated and thicker embolus (Fig. 19A-D, J); differ from *S. pavesii* by the thicker embolus, not curved at the tip (Fig. 19A-D, J); from *S. gugai*, *S. peri* and *S. bodoquena* Ghirotto & Indicatti, n. sp. by the thicker embolus tip (Fig. 19A-D, J). Females differ from *S. gugai* and *S. pescador* by the receptacula with shorter and thicker ducts (Fig. 21A, B); from those of *S. arnolisei*, *S. iguazu* and *S. tenuistyla* by having 2-3 receptacula on each side (Fig. 21A, B); from *S. pavesii* by the basal dome slight inclined outwards (Fig. 21A, B); from all remaining *Stenoterommata* species by the shorter and less sclerotized basal dome (Fig. 21A, B). Additionally, individuals can be distinguished from most species by the dark coloration in life (Fig. 1G, H) and by the greater size, both sexes averaging significantly larger than most species of the genus (Fig. 1, note scales).

ETYMOLOGY. — The specific epithet is an acronym taken from “Espeleo Grupo Rio Claro - EGRIC” which organized the expedition to Ibitipoca mountain range that led the first author to collect the type specimens, and in recognition of their efforts in the study and preservation of Brazilian caves.

DESCRIPTION

Male (holotype)

Color pattern: in life, chelicerae, carapace and legs black, abdomen dorsally yellowish brown with dark brown mottling forming a chevron with wide bands. Body covered by black setae (Fig. 1G); in ethanol, chelicerae, carapace (Fig. 18A) and legs reddish brown covered with black and golden setae. Sternum, maxillae and coxae reddish light brown (Fig. 18B). Abdomen dorsally yellowish brown with dark brown mottling forming a chevron with wide bands, densely covered with dark brown setae (Fig. 18C), and ventrally yellowish light brown with few posterior brown stains (Fig. 18D). Total length 15.35. Chelicerae 1.55 long, 1.36 wide (only left side). Carapace 7.56 long, 5.92 wide, with narrow, procurved fovea, 0.77 wide. Abdomen 6.24 long, 3.40 wide. Thoracic region slightly raised. Clypeus narrow, 0.05 long. Eye tubercle 0.78 long, 1.30 wide, slightly ele-

vated. Anterior eye row recurved, posterior slightly recurved (Fig. 18A). Eye sizes: AME 0.34, ALE 0.42, PME 0.26, PLE 0.27. Chelicerae with 10 teeth in prolateral row (Fig. 19H), with *c.* 35 basal smaller teeth, rastellum weak formed by long thin setae (Figs 18B, 17H). Intercheliceral tumescence small with few setae on basal region (Fig. 19H). Labium 0.57 long, 1.13 wide, with 2 cuspules (Fig. 18B). Maxillae with 84/90 blunt cuspules on internal basal angle. Serrula weak (Fig. 19I). Sternum oval, 3.58 long, 2.92 wide. Labial sigilla distant from margin by *c.* 0.1 × its length, larger than sternal sigilla. Sternal sigilla (Fig. 18B): anterior and medium of the same size, posterior *c.* 2 × larger; anterior and medium distant from margin by *c.* 0.5 × length, posterior *c.* 1 × length. Measurements: palp: femur 3.68/ patella 2.29/ tibia 2.51/ cymbium 1.17/ total 9.65; legs: I: femur 6.32/ patella 3.69/ tibia 5.17/ metatarsus 4.68/ tarsus 3.66/ total 23.52; II: 6.03/ 3.38/ 4.30/ 5.26/ 3.10/ 22.07; III: 5.65/ 2.78/ 3.60/ 5.38/ 3.15/ 20.56; IV: 7.01/ 3.19/ 5.20/ 7.25/ 3.29/ 25.94. Spination: palp: femur: d0-0-2; tibia: r1sap; legs: femora: I: d0-0-0-2-2; II: d0-1r-1p-1r-2-2; III: d1-2-2-2; IV: d1-1p-0-2-2; patellae: I: p0-0-1; II: p0-1-1; III: p1-1-1, r0-1; tibiae: I: v3-0-1r-1p-2p ap + 1r megaspine (Fig. 19G), p0-1-1-0; II: v3-0-1r-1p-3ap, p0-1-1-0; III: d0-1, v3-2-3ap, p0-1-1-0, r0-1-1-0; IV: v4-2-3ap, p1-1, r1-1; metatarsi: I: d0-1p-0-1p, v0-1r-0-0-1ap; II: d0-1p-0-1p, v2-2-0-2ap, r0-0-1-0; III: d1-1r-1p-2-0-2, v2-2-3ap, p1-1-0-1; IV: d2-2-1, v2-0-2-3ap, p1-1-1. Metatarsal preening combs: III: 5VR, 5VP; IV: 7VR, 7VP. Tarsi I-IV flexible (Fig. 19G, tarsus I). Scopulae on tarsi I-IV light and symmetric; I, II divided by 3 rows of thin setae; III, IV divided by 4 rows of thicker setae. Scopulae on full length of metatarsi I and on apical 1/5 of metatarsi II, both divided by 3 sparse rows; III, IV absent. STC large with double row of teeth: I: 9, 6, 4, 8; II: 8, 6, 6, 8; III: 8, 6, 7, 8; IV: 9, 7, 6, 7. ITC on tarsus IV. Tricobothria with rounded, elevated bases. Around 60 epiandric spigots. Four spinnerets (Fig. 18D): PMS 0.81 long, with pumpkiniform spigots on 2/3 apical. PLS: basal segment 1.19, median 0.71, apical triangular, 0.60 long, with band of pumpkiniform spigots on inner edge of all segments. Palp: cymbium with elongate dense setae, denser at tip (Fig. 19E, F); tibia ventrally with a shallow excavation on apical third

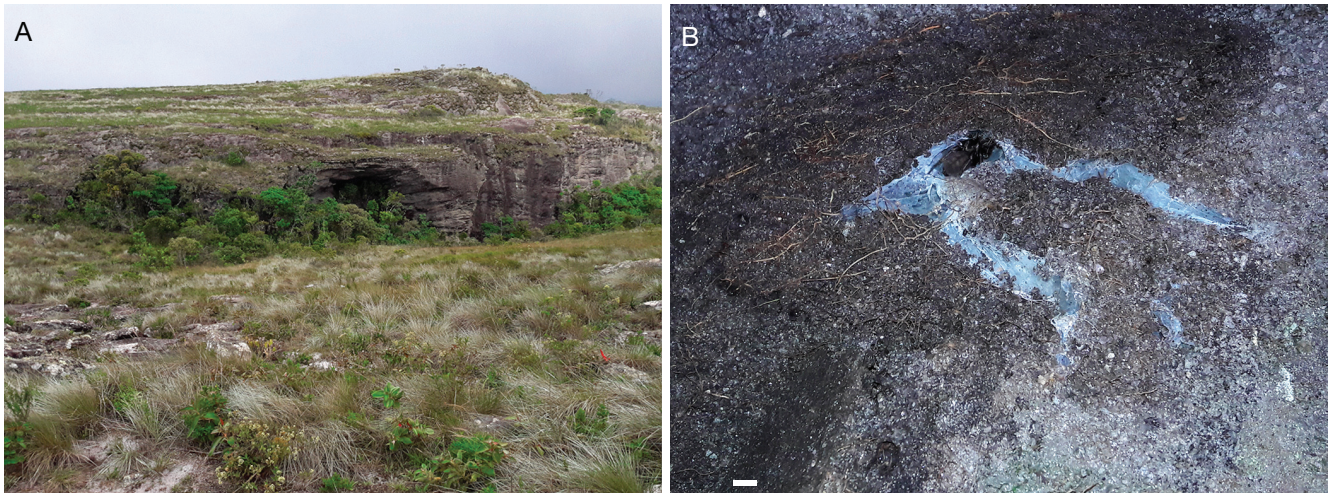


FIG. 22. — Habitat of *Stenoterommata egric* Ghiorotto & Indicatti, n. sp.: **A**, savannic Cerrado with Atlantic Forest in the background, Parque Estadual do Ibitipoca, similar to type locality; **B**, burrow of female paratype under stone; both from Ibitipoca mountain range, Lima Duarte, Minas Gerais, Brazil. Photos: Victor M. Ghiorotto.

(Fig. 19E, F); tibial excavation and basal region of tegulum with grooves (Fig. 19A-D); bulb piriform, ventrally curved, with embolus thick, dorso-ventrally flattened, with *c.* 12 parallel keels (Fig. 19A-D).

Female (paratype CAD 781)

Color pattern: in life as in male; in ethanol, chelicerae reddish dark brown, carapace (Fig. 20A) and legs reddish brown, covered with black and golden setae, Sternum, coxae, and maxillae slightly lighter than the carapace (Fig. 20B). Abdomen dorsally yellowish brown with dark brown mottling forming a chevron with wide bands (Fig. 20C), ventrally yellowish brown (Fig. 20D). Total length 25.01. Chelicerae 3.90 long, 2.65 wide (only left side). Carapace 9.35 long, 7.78 wide, with narrow, procurved fovea 1.10 wide. Abdomen 11.76 long, 7.69 wide. Thoracic region slightly raised. Clypeus narrow 0.24 long. Eye tubercle 1.14 long, 1.59 wide, slightly elevated. Anterior eye row slightly recurved, posterior slightly recurved (Fig. 20A). Eye sizes: AME 0.38, ALE 0.55, PME 0.39, PLE 0.35. Chelicerae with 11 teeth in prolateral row, with *c.* 35 basal smaller teeth, rastellum weak, formed by long thin setae (Fig. 20B). Labium 1.06 long, 1.92 wide, with 2 cuspules (Fig. 20B). Maxillae with *c.* 110 blunt cuspules on internal basal angle (Fig. 20B). Serrula weak. Sternum oval, 4.67 long, 4.32 wide. Labial sigilla distant from margin by *c.* 0.1 $\times$ its length, larger than anterior sternal sigilla. Sternal sigilla (Fig. 20B): anterior almost round, slightly smaller than medium; posterior *c.* 2 $\times$ larger; all distant from margin by *c.* 0.5 $\times$ length. Measurements: palp: femur 5.11/ patella 3.01/ tibia 3.43/ tarsus 3.16/ total 14.71; legs: I: femur 7.26/ patella 4.79/ tibia 5.09/ metatarsus 4.36/ tarsus 3.20/ total 24.70; II: 6.34/ 4.27/ 4.26/ 4.02/ 3.30/ 22.19; III: 5.48/ 3.22/ 3.30/ 4.51/ 2.48/ 18.99; IV: 7.46/ 4.01/ 5.45/ 6.40/ 2.62/ 25.94. Spination: palp: tibia: v2-1r-1p-4ap, p0-1-0; legs: femora: I, II: d1p sap; III: d0-0-2; patellae: I, II: p0-0-1; III: p1-1-1, r0-1-0; tibiae: I: v1r-1r-2ap, p0-1-1-0; II: v1r-1r-2ap,

p0-1-1-0; III: d0-1, v2-1r-2ap, p1-1, r0-1-0; IV: v1-1-2ap, r1-1; metatarsi: I: v1r-0-1r ap; II: v1r-2-0-0-2ap, p0-1-0-0; III: d1r-1r-1p-2-0-2, v2-2-3ap, p1-1-1; IV: d0-1r-1p-2-0-2, v2-1p-1r-1p-0-3ap, p0-1-1. Metatarsal preening combs: III: 12VP, 12VR, joined; IV: 4VP, 8VR. Tarsi I, II rigid; III, IV flexible. Scopulae on tarsi I undivided; on tarsi II divided by 2 rows of sparse setae; III divided by 6 rows, IV by 8 rows; III, IV divided by thicker setae; palp and I, II dense and symmetric; III, IV moderate. Scopula on full length of metatarsi I, II, undivided; III, IV absent. STC with double row of teeth: I: 7, 5, 3, 5; II: 6, 4, 3, 7; III: 7, 5, 4, 6; IV: 6, 4, 4, 7. STC on legs III, IV, the latter larger. ITC on tarsus IV. Palpal claw with 5 teeth on promargin. Tricobothria with rounded, elevated bases. Four spinnerets (Fig. 20C, D): PMS 1.03 long, with pumpkiniform spigots on apical 2/3. PLS: basal segment 1.86, median 1.23, apical triangular, 0.81 long, with band of pumpkiniform spigots on inner edge of all segments. Spermathecae with 2 receptacula on the right side, 3 on the left side; very small basal dome, inclined outwards, sclerotized at the top, ducts very short, receptacula rounded (Fig. 21A).

VARIATION. — Females (*n* = 2): total length 25.24–28.74; carapace 9.35–9.92; maxillae with 100–110 cuspules. Spermathecae with 2–3 receptacula (Fig. 21B).

DISTRIBUTION. — Known only from Ibitipoca mountain range, Lima Duarte, Minas Gerais state, Brazil.

HABITAT. — This species inhabits different formations at the type locality. They were found in small forest patches of the Atlantic Forest biome in deeper soils and also savanna formations at the border of the main formation of the Ibitipoca mountain range. These forest patches penetrate and are surrounded by savannas of the Cerrado domain (Fig. 22A). In the Parque Estadual do Ibitipoca, all the specimens of *S. egric* Ghiorotto & Indicatti, n. sp. were collected in similar habitats as for the holotype (Sousa & Cruz 2008: 261). Individuals of this species were seen (but not collected) at cave entrances in the Parque Estadual do Ibitipoca.

NATURAL HISTORY

Individuals were found in burrows lined with dense silk underneath stones. The burrow constitutes of one or two entrances (Fig. 22B). Due to few opportunities of active search at night, it is not unlikely that individuals also construct burrows directly in the soil, as does several *Stenoterommata* species (e.g. *S. neodiplornata* Ghirotto & Indicatti, n. sp.). In the Parque Estadual do Ibitipoca, the specimens of *S. egric* Ghirotto & Indicatti, n. sp. were collected with pitfall traps by Sousa & Cruz (2008); they represented one of the most common mygalomorph species in the region (47 ♂, 1 ♀, 1 juv.), after *Homoeomma montanum* (Mello-Leitão, 1923) (153 ♂, 2 ♀, 2 juv.), Theraphosidae Thorell, 1869 and *Idiops camelus* (Mello-Leitão, 1937) (109 ♂, 1 ♀, 1 juv.), Idiopidae Simon, 1889 (Sousa & Cruz 2008; R. P. Indicatti pers. obs.). *Stenoterommata* spiders, despite being a potential prey for small vertebrates, were not found within the stomach contents of the lizards *Enyalius perditus* Jackson, 1978 (Sousa & Cruz 2008). On the other hand, curiously, 13.33% (n = 4) of the sampled lizards had juveniles of the trapdoor spider genus *Idiops* Perty, 1833 in its stomach contents (Sousa & Cruz 2008). In addition, these lizards are diurnal, sleeping on the tip of the branches of shrubs and trees at night (Sturaro & Silva 2010), while juveniles and females of *Idiops* usually are nocturnal, living within trapdoor burrows (Indicatti 2013: figs 12, 13; Ferretti *et al.* 2017: fig. 3 b, c), making the encounter even more difficult. Probably encounters occurred at dusk, during which the two could be active. Although the *Idiops* have a nocturnal habit, some specimens can be found at dusk on the edge, or even entirely outside their burrows, as observed in several areas of Cerrado and Atlantic Forest in southeastern Brazil (R. P. Indicatti pers. obs.).

Acknowledgements

We thank all the curators for providing a repository or loan of the specimens. We are grateful to E. F. Trova for aiding in fieldwork in ESEC Itirapina; Arthur Galleti-Lima for aiding in fieldwork in FLONA Ipanema; Rafael F. Ferreira, Jair F. J. Mendes, Milke J. A. Morales for aiding in fieldwork in Bonito; Wolf J. Moeller for taking high quality photos of specimens habitus; Gabriel P. Sabino for help in habitat interpretations; Rafael C. B. Paradero for providing habitat information on specimens from Botucatu; João L. Chavari for providing a picture of the type locality of *S. chavarii*; Espeleo Grupo Rio Claro (EGRIC) for organizing a fieldtrip to Ibitipoca mountain range; Instituto Chico Mendes de Conservação da Biodiversidade (ICMBio), especially to Rodrigo Vilares and Comissão Técnico-Científica do Instituto Florestal (COTEC) for issuing the permits for the collecting localities. We are also thankful to Pablo A. Goloboff and an anonymous reviewer for helpful comments on the manuscript. Financial support: Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP, grant number 2003/05487-3, 2012/18287-1, RPI; 2017/11985-9, JPLG, RPI; 2018/03428-5, Vera N. Solferini (Universidade Estadual de Campinas) for financial support in fieldtrip in Mato Grosso do Sul).

REFERENCES

- ALBUQUERQUE G. B. & RODRIGUES R. R. 2000. — A vegetação do Morro de Araçoiaba, Floresta Nacional de Ipanema, Iperó (SP). *Scientia Forestalis* 58: 145-159.
- BATALHA M. A. 2011. — O cerrado não é um bioma. *Biota Neotropica* 11 (1). <https://doi.org/10.1590/S1676-06032011000100001>
- BERTANI R., MORI A. & FUKUSHIMA C. S. 2017. — Spiders of the São Paulo state islands, Brazil: redescription of *Stenoterommata crassimana* (Mello-Leitão, 1923) n. comb. (Araneae, Nemesiidae). *Zootaxa* 4363 (2): 237-248. <https://doi.org/10.11646/zootaxa.4363.2.4>
- BORGES R. A. X., SAAVEDRA M. M., NAKAJIMA J. N. & FORZZA R. C. 2010. — The Asteraceae flora of the Serra do Ibitipoca: analyses of its diversity and distribution compared with selected areas in Brazilian mountain ranges. *Systematics and Biodiversity* 8 (4): 471-479. <https://doi.org/10.1080/14772000.2010.517573>
- BRASILEIRO C. A., SAWAYA R. J., KIEFER M. C. & MARTINS M. 2005. — Amphibians of an open cerrado fragment in South-eastern Brazil. *Biota Neotropica* 5: 2. <https://doi.org/10.1590/S1676-06032005000300006>
- CATHARINO E. L. M. & ARAGAKI S. 2008. — A vegetação do município de São Paulo: de Piratininga à metrópole paulistana, in MALAGOLI L. R., BAJESTEIRO F. B. & WHATELY, M. (eds), *Além do concreto: contribuições para a proteção da biodiversidade paulistana*. Instituto Socioambiental, São Paulo: 54-91.
- DAMASCENO-JÚNIOR G. A., NAKAJIMA J. N. & REZENDE U. M. 2000. — A floristic survey of the Rio Negro, Rio Aquidauana and Rio Miranda watersheds (headwaters) of the Pantanal, Mato Grosso do Sul, Brazil, in WILLINK P. W., CHERNOFF B., ALONSO L. E., MONTAMBAULT J. R. & LOURIVAL R. (eds), *A biological assessment of the aquatic ecosystems of the Pantanal, Mato Grosso do Sul, Brazil*. RAP Bulletin of Biological Assessment 18. Conservation International, Rapid Assessment Program, Washington: 34-43.
- FERRETTI N. 2015. — Cladistic reanalysis and historical biogeography of the genus *Lycinus* Thorell, 1894 (Araneae: Mygalomorphae: Nemesiidae) with description of two new species from western Argentina. *Zoological Studies* 54 (11): 1-15. <https://doi.org/10.1186/s40555-014-0083-6>
- FERRETTI N. & POMPOZZI G. 2016. — Description of the male of *Stenoterommata uruguayi* (Araneae: Mygalomorphae: Nemesiidae) from northeastern Argentina, with notes on its natural history. *Revista Mexicana de Biodiversidad* 87 (2): 527-530. <https://doi.org/10.1016/j.rmb.2015.12.002>
- FERRETTI N., NIME M. & MATTONI C. 2017. — Three new *Idiops* (Mygalomorphae: Idiopidae) from Argentina and redescription of the male of *I. hirsutipedis* Mello-Leitão, 1941. *Journal of Natural History* 51: 17-18, 975-994. <https://doi.org/10.1080/00222933.2017.1319516>
- GOLOBOFF P. A. 1995. — A revision of the South American spiders of the family Nemesiidae (Araneae, Mygalomorphae). Part I: species from Peru, Chile, Argentina, and Uruguay. *Bulletin of the American Museum of Natural History* 224: 1-189.
- HOLMBERG E. L. 1881. — Géneros y especies de arácnidos argentinos nuevos ó poco conocidos. *Anales de la Sociedad Científica Argentina* 11: 125-133.
- HUECK K. 1956. — Mapa fitogeográfico do Estado de São Paulo. *Boletim Paulista de Geografia* 8 (2): 19-25.
- IBAMA - INSTITUTO BRASILEIRO DO MEIO AMBIENTE E DOS RECURSOS NATURAIS RENOVÁVEIS. 2006. — Plano de Manejo da Floresta Nacional de Ipanema. *Ministério do Meio Ambiente e dos Recursos Hídricos Renováveis*, IBAMA, Brasília, 99 p.
- ICMBIO - INSTITUTO CHICO MENDES DE CONSERVAÇÃO DA BIODIVERSIDADE. 2013. — Plano de Manejo do Parque Nacional da Serra da Bodoquena. Encarte 2. *Ministério do Meio Ambiente*, ICMBio, Brasília, 85 p.

- IF - INSTITUTO FLORESTAL. 2006. — Plano de Manejo Integrado: Estações Ecológica e Experimental de Itirapina-SP. *Secretaria Estadual do Meio Ambiente, IF*, São Paulo, 257p.
- INDICATTI R. P. 2013. — Aranhas do Parque Nacional do Itatiaia, Rio de Janeiro/Minas Gerais, Brasil. *Boletim de Pesquisa do Parque Nacional do Itatiaia* 16: 1-35.
- INDICATTI R. P., LUCAS S. M., OTT R. & BRESCOVIT A. D. 2008. — Litter dwelling mygalomorph spiders (Araneae: Microstigmatidae, Nemesiidae) from Araucaria forests in southern Brazil, with the description of five new species. *Revista Brasileira de Zoologia* 25 (3): 529-546. <https://doi.org/10.1590/S0101-81752008000300021>
- INDICATTI R. P., FOLLY-RAMOS E., LUCAS S. M., VARGAS A. B. & BRESCOVIT A. D. 2015. — Two new tiny Nemesiidae species from Reserva Biológica do Tinguá, Rio de Janeiro, Brazil (Araneae: Mygalomorphae). *Zoologia* 32 (2): 123-138. <https://doi.org/10.1590/S1984-46702015000200003>
- INDICATTI R. P., CHAVARI J. L., ZUCATELLI-JUNIOR M., LUCAS S. M. & BRESCOVIT A. D. 2017. — Six new species of silk-lined burrow spider genus *Stenoterommata* Holmberg, 1881 (Araneae, Nemesiidae) from southern Brazil. *Zootaxa* 4254 (4): 435-456. <https://doi.org/10.11646/zootaxa.4254.4.2>
- LUCAS S. M., PASSANHA V., JANINI C. V. & INDICATTI R. P. 2008. — On the genus *Neotothis* Vellard (Araneae, Nemesiidae). *Journal of Arachnology* 36: 472-475. <https://doi.org/10.1636/CA07-107.1>
- MOREIRA B., CARVALHO F. A., MENINI NETO L. & SALIMENA F. R. G. 2018. — Phanerogamic flora and phytogeography of the Cloud Dwarf Forests of Ibitipoca State Park, Minas Gerais, Brazil. *Biota Neotropica* 18 (2): e20170506. <https://doi.org/10.1590/1676-0611-BN-2017-0506>
- OPATOVA V., HAMILTON C. A., HEDIN M., MONTES-DE-OCA L., KRAL J. & BOND J. E. 2020. — Phylogenetic systematics and evolution of the spider infraorder Mygalomorphae using genomic scale data. *Systematic Biology* 64 (4): 671-707. <https://doi.org/10.1093/sysbio/syz064>
- PÉREZ-MILES F., COSTA F. G. & MONTES-DE-OCA L. 2014. — *Bayana labordai*, new genus and species of Nemesiidae (Araneae: Mygalomorphae) from Northern Uruguay and Southern Brazil. *Journal of Natural History* 48: 1937-1946. <https://doi.org/10.1080/00222933.2014.908970>
- PETRUNKEVITCH A. 1925. — Arachnida from Panama. *Transactions of the Connecticut Academy of Arts and Sciences* 27: 51-248.
- RATTER J. A., RIBEIRO J. F. & BRIDGEWATER S. 1997. — The Brazilian Cerrado vegetation and threats to its biodiversity. *Annals of botany* 80 (3): 223-230.
- RAVEN R. J. 1985. — The spider infraorder Mygalomorphae (Araneae): cladistics and systematics. *Bulletin of the American Museum of Natural History* 182: 1-180.
- SANO E. E., ROSA R., BRITO J. L. S., FERREIRA L. G. & BEZERRA H. D. S. 2009. — Mapeamento da cobertura vegetal natural e antrópica do bioma Cerrado por meio de imagens Landsat ETM+. *Anais do Simpósio Brasileiro de Sensoriamento Remoto*. INPE, Natal 1199-1206.
- SEIXAS G. H. F. 2005. — Corredor de Biodiversidade Bodoquena Miranda – Fase I: Características e Oportunidades. Fundação Neotrópica do Brasil e Conservação Internacional, Campo Grande: 203-262.
- SOUSA B. M. DE & CRUZ C. A. G. 2008. — Hábitos alimentares de *Enyalius perditus* (Squamata, Leiosauridae) no Parque Estadual do Ibitipoca, Minas Gerais, Brasil. *Iheringia* 98 (2): 260-265. <https://doi.org/10.1590/S0073-47212008000200015>
- STURARO M. J. & SILVA V. X. DA. 2010. — Natural history of the lizard *Enyalius perditus* (Squamata: Leiosauridae) from an Atlantic Forest remnant in southeastern Brazil. *Journal of Natural History* 44: 19-20, 1225-1238. <https://doi.org/10.1080/00222930903499796>
- WORLD SPIDER CATALOG. 2020. — World Spider Catalog. Version 21.0. Natural History Museum Bern, online at <http://wsc.nmbe.ch> (version 21.0, accessed on 14 June 2020). <https://doi.org/10.24436/2>

Submitted on 18 August 2020;
accepted on 23 October 2020;
published on 15 June 2021.