

## New data on the genus *Rhytidicolus* (Aranei: Rhytidicolidae), with redescription of *R. structor* Simon, 1889 and description of a new species

### Новые данные по паукам рода *Rhytidicolus* (Aranei: Rhytidicolidae), с переописанием *R. structor* Simon, 1889 и описанием нового вида

Duniesky Ríos-Tamayo<sup>1,2</sup>

Д. Риос-Тамайо<sup>1,2</sup>

Instituto de Invertebrados, Fundación Miguel Lillo – Miguel Lillo 251, CP 4000, San Miguel de Tucumán, Tucumán, Argentina. Unidad Ejecutora Lillo (CONICET–Fundación Miguel Lillo) – Miguel Lillo 251, CP 4000, San Miguel de Tucumán, Tucumán, Argentina.

Duniesky Ríos-Tamayo riostamayo.dnk@gmail.com ORCID 0000-0002-6042-1873

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КЛЮЧЕВЫЕ СЛОВА: Таксономия, морфология, Аранеае, мигаломорфные пауки, Неотропический регион.

**ABSTRACT.** The type species of the previously monotypic genus *Rhytidicolus* Simon, 1889, *R. structor* Simon, 1889 (Venezuela), is redescribed from the female type series. Additionally, a new species of the genus, *R. hoferi* sp.n., based on males, is described from Manaus, Amazonas in Brazil. The two species can be well distinguished one from another in their dissimilar structure of the cheliceral rastellum (biserial vs. uniserial in the former and latter species, respectively). The previously unknown male belonging to the genus is described for the first time.

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**РЕЗЮМЕ.** Типовой вид ранее монотипичного р. *Rhytidicolus* Simon, 1889, *R. structor* Simon, 1889 (Венесуэла), — переписывается по типовой серии самок. Дополнительно из Манауса (Бразилия) описывается по самцам второй вид рода, *R. hoferi* sp.n. Оба вида хорошо отличаются друг от друга различной структурой хелицерального растеллума (с двумя рядами шипов у первого и одним таким рядом у второго вида). Впервые описываются неизвестные ранее самцы, принадлежащие к данному роду.

#### Introduction

The family Rhytidicolidae Simon, 1903 currently hold the genera *Fufus* Simon, 1888 and *Rhytidicolus* Simon, 1889 [Montes de Oca *et al.*, 2022; WSC, 2023]. Simon erected the genus *Rhytidicolus* in 1889 to house the species *R. structor* Simon 1889. It was discovered in Venezuela, and described only from females. Later, Simon [1903] described the tribe Rhytidicoleae in the subfamily Ctenizinae under the family Aviculariidae to hold *Rhytidicolus*. Years later, Raven [1985] transferred this tribe to Cyrtachenidae synonymizing it with the

subfamily Aporoptychinae Simon, 1889. Recently, the tribe Rhytidicoleae was resurrected and given the family status Rhytidicolidae Simon, 1903 by Montes de Oca *et al.* [2022]. Molecular data was used to support this change in family.

We recently examined abundant material on loan to Pablo A. Goloboff from the Staatliches Museum für Naturkunde Karlsruhe, Germany and from the Muséum national d’Histoire naturelle, France. We found the female syntypes of *R. structor* and two males from Brazil that is believed to belong to a new species. With the goal to expand the knowledge of the genus, we present the description of a new species and the first description of males for the genus.

#### Material and Methods

The specimens used in this study are deposited in arachnid collection of the Muséum national d’Histoire naturelle (MNHN), France (curator: Christine Rollard) and Instituto Nacional de Pesquisas da Amazônia (INPA), Brasil (curator: Marcio Luiz de Oliveira). All measurements are given in millimeters (mm) and were taken on the right side of the specimen. Total lengths were taken without including chelicerae or spinnerets. Measurements of leg and palp segments is presented as length of femur, patella, tibia, metatarsus (absent for palp), tarsus, total. Reference points for measurements followed Coyle [1974]. Specimens were measured and photographed with a Leica M205C stereomicroscope. All descriptions were made with a MOTIC trinocular/SMZ-168 stereoscope.

Abbreviation and notation for leg spines follow Goloboff and Platnick [1987]; describing the legs from I to IV and from proximal to distal (i.e., from femur to tarsus within each leg, from basal to apical within each segment); the sequence prolateral-ventral-retrolateral-dorsal (P-V-R-D) is always followed, using lowercase letters (p-v-r-d), when referring to bristles instead of spines. Spermathecae was clarified by immersion in clove oil, thus making the opaque glandular tissues transparent that cover the structure. The copulatory bulb was separated using a microscalpel. The approach of Goloboff [1995] for positioning the bulb in illustrations was followed when taking photographs.

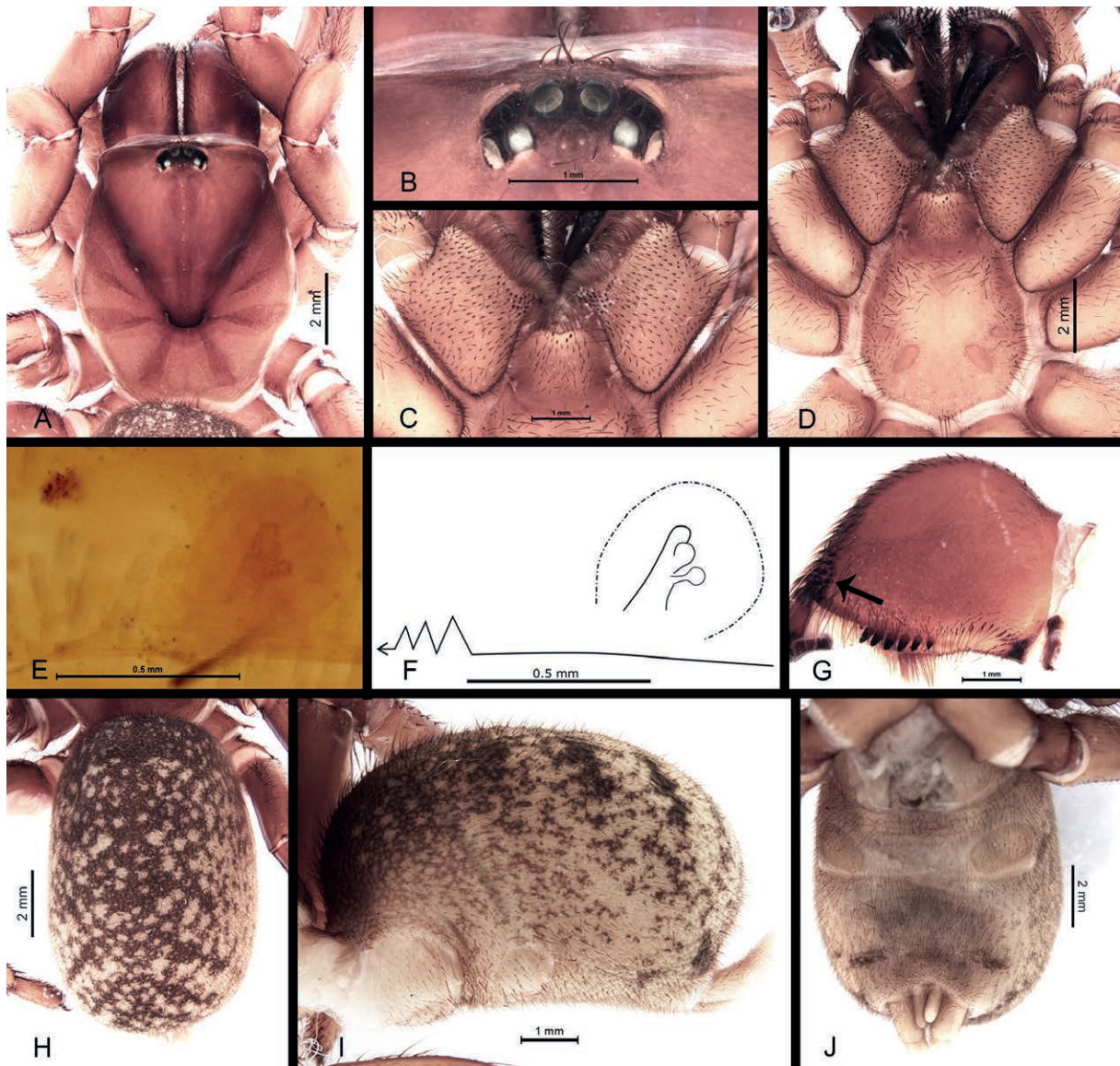


Fig. 1. *Rhytidicolus structor* Simon, 1889, female syntypes (MNHN 17013). A, D — cephalothorax, dorsal and ventral aspects, respectively; B — ocular pattern, dorsal; C — labium and maxillae, ventral; E, F — spermathecae, dorsal (internal) aspect; G — chelicerae, prolateral, arrow indicate the rastellum; H — abdomen, dorsal; J — same, latero-ventral; J — same, ventral.

Рис. 1. *Rhytidicolus structor* Simon, 1889, самки синтипы (MNHN 17013). А, D — головогрудь соответственно сверху и снизу; В — глазная область сверху; С — лабиум и максиллы, снизу; Е, F — сперматеки, вид сверху (с внутренней стороны); G — хелицера с внутренней стороны, растеллум обозначен стрелкой; H — abdomen сверху; J — то же, снизу-сбоку; J — то же, снизу.

using the subtegulum to position the bulb, instead of the general form of the bulb.

Abbreviations used in species descriptions are as follows: ALE — anterior lateral eyes; AME — anterior median eyes; D — dorsal; DAnt — dorsal anterior, DB — dorsal basal; ITC — inferior tarsal claw; P — prolateral; PA — prolateral apical; PLE — posterior lateral eyes; PLS — posterior lateral spinnerets; PME — posterior median eyes; PMS — posterior median spinnerets; PSup — prolateral superior; R — retrolateral; RM — retrolateral medial; RA — retrolateral apical; STC — superior tarsal claw; VAnt — ventral anterior; VB — ventral basal; VPost — ventral posterior. In the notation of leg spines, an expression like PSup–DAnt indicates that the spines occupy the prolateral superior to dorsal anterior surfaces; 1:2 Ant, 1:3 A indicates that the spines or scopula referred to are on the anterior half or apical one-third. In the description of the

STC teeth an expression like I 5/5, IV P (4E/3I) indicates that the STC present 5 teeth on each side of the first leg claw or that the IV leg are composed in the prolateral claw (P) by 4 teeth on the external side and 3 on the internal side.

## Taxonomy

Family Rhytidicolidae Simon, 1903  
Genus *Rhytidicolus* Simon, 1889

*Rhytidicolus* Simon, 1889: 185; Raven, 1985: 132; Montes de Oca *et al.*, 2022: 15.

TYPE SPECIES: *Rhytidicolus structor* Simon, 1889, by monotypy.

DIAGNOSIS (modified from Raven, 1985): Differs from the other genus in the family, *Fufius*, by their very spinose tarsi

(more abundant in males, Fig. 2I), rastellum present on inner distal surface of chelicerae (Figs 1G, 2F), tibia I of males unmodified (Fig. 2H, J); fovea procurved (Figs 1A, 2A), absence of preening combs (both sexes) and STC less dentate.

**REDESCRIPTION** (modified from [Raven, 1985]): Medium-sized (10–17 mm) spiders. Cephalothorax glabrous, narrow; caput arched (Fig. 2B); fovea broad, transverse, U-shaped (Figs 1A, 2A); clypeus absent. Eye group rectangular (Figs 1B, 2C), tubercle raised, well defined. Chelicerae broad; rastellum consisting of several short, strong spines on low mound on inner distal surface (Figs 1G, 2F); teeth in females only on promargin of furrow, on both sides in males; fangs short with noticeably diagonal orientation. Labium subquadrate, longer than wide, with only few cuspules. Maxillae broad, almost square; anterior lobe slightly projected; serrula absent; numerous cuspules on inner angle. Sternum posteriorly broad; posterior sigilla moderately large, oval, submarginal to subcentral. STC with a single line of teeth in females, with two rows in males; ITC curved, bare. Legs I and II as thick as legs III and IV. Male tibia I unmodified. Scopulae divided by setae on tarsi I and II of females, and sparse in males; elsewhere absent. Spines numerous, short, strong on all leg tarsi. Tarsal organ low, indistinct. Preening combs absent. PMS at most one diameter apart; PLS short, apical segment short but digitiform. Two spermathecal receptacula, each with short indistinct lobes.

**COMPOSITION:** *Rhytidicolus structor* Simon, 1889 and *R. hoferi* sp.n.

**DISTRIBUTION:** Known only from Venezuela and Brazil.

#### *Rhytidicolus structor* Simon, 1889

Fig. 1

*Rhytidicolus structor* Simon, 1889: 186 (♀); Raven, 1985: 132, figs 213–218 (♀).

**MATERIAL EXAMINED.** Lectotype ♀ (MNHN 17013), VENEZUELA, San Sebastian. Paralectotypes: 1 ♀ (MNHN 17014) and 7 ♀♀ (MNHN 9865), same locality.

**DIAGNOSIS.** Females of *R. structor* can be identified by their rastellum formed by two rows of short spines on the distal surface of the chelicerae (Fig. 1G). Cheliceral teeth in a continuous row and numerous denticles on the cheliceral furrow.

**DESCRIPTION** (female syntypes, MNHN 17013). Total length 16.97. Cephalothorax length 7.29, width 6.14. Cephalic region: 4.75 length. Carapace (Fig. 1A) glabrous; caput arched; with lines of bristles reaching until thoracic fovea. Fovea short, strongly procurved, 1.25 wide. Clypeus absent. Eyes tubercle well defined (Fig. 1B). Anterior eye row straight, posterior row recurved. Eye group 0.67 long, 1.49 wide, with 6 bristles anterior of AME and 4 between posterior eyes. Eye measurements: AME 0.24, ALE 0.40, PME 0.25, PLE 0.27; AME–ALE 0.13, PME–PLE 0.07, AME–PME 0.13, ALE–PLE 0.12, AME–AME 0.14, PME–PME 0.60. Labium (Fig. 1C): width 1.37, length 1.61; broad, trapezoidal, with an invagination in the superior part and with 4 cuspules. Maxillae (Fig. 1C): anterior length 1.93, posterior length 2.64, with 30/32 (right/left) cuspules. Chelicerae (Fig. 1G): dorsally with dark bristles; rastellum present on the inner distal surface, consisting of 12 strong and short spines; promargin with a long row of 6 large teeth with 8 denticles on the basal area of furrow. Sternum (Fig. 1D) 3.56 long, 3.22 wide, with short setae. Sigilla small, oval, first pair separated from the others; third pair longer. Abdomen (Fig. 1H–J) 9.68 long. Spinnerets: PMS: length 0.23; PLS: length of basal, median, apical segments 0.97, 0.44, 0.43, respectively.

**Legs:** glabrous, with few bristles. Leg formula 4123. Legs and palp measurements: I — 4.96, 2.97, 3.53, 2.92, 1.63, 16.01; II — 4.21, 2.78, 2.74, 2.67, 1.50, 13.90; III — 3.82, 2.39, 1.87, 2.68, 1.36, 12.12; IV — 5.03, 2.56, 3.52, 4.08, 1.72, 16.91; palp — 3.44, 2.05, 2.24, –, 1.93, 9.66.

**Chaetotaxy.** Femora I–IV unarmed. Leg I: patella 0; tibia 0; metatarsus 1-1-2 V; tarsus 0. Leg II: patella 0; tibia 1 P (1:2 ANT); metatarsus 1-1 P, 1-0-2-1-3 V; tarsus 0-1-2-2 V. Leg III: patella 16 P<sup>Sup</sup>-DAnt, 1-1 D; tibia 1-1 P, 1-2-1-1 D, 2 VAnt, 1-1 V; metatarsus 1-1-1-1-1 P, 2-1-1-1-1 D, 2-1-4-4 V; tarsus 10 VAnt, 7 VPost, divided by abundant thick bristles distributed throughout the segment. Leg IV: patella 0; tibia 1 V (1:3 Ant), 1-3 V; metatarsus 1 PA, 1-1 D, 1-1-2-1-4 V; tarsus 10 VAnt, 4 VPost, divided by abundant thick bristles distributed throughout the segment. Palp: tibia 1 PA, 2 VA; tarsus: 1-1 P.

**Scopulae:** Metatarsus: Leg I, sparse (1:3 A); Leg II–IV, absent. Tarsus: Leg I, dense and uniformly distributed throughout the segment, extended to the P and R sides; divided by a band of thick bristles; Leg II, sparse, extended P (2:3 A); Legs III–IV absent. **Claws:** STC with 3 small basal teeth on the outer face of all legs. ITC from all legs small and bare. Palp with single claw without tooth.

**Trichobothria** (all filiform except 3 clavate on palpal tarsus): tibiae (in two rows) — palp 7/7, I 8/9, II 8/8, III 7/7, IV 8/8; metatarsi (long row directed retrolaterally) — I 13, II 14, III 9, IV 12; tarsi (divided by line of bristles) — palp 4/4, I 5/5, II 7/7, III–IV 5/6.

**Spermathecae** (Fig. 1E, F): two small, with three small lobes.

**Color** (in alcohol): carapace, chelicerae and legs orange-reddish. Abdomen dorsally (Fig. 1H) light brown with a white mottled, two darker posterior lines can be observed; ventrally (Fig. 1J) and spinnerets yellowish.

**MALE:** Unknown.

**DISTRIBUTION:** Venezuela.

#### *Rhytidicolus hoferi* sp.n.

Figs 2, 3.

**MATERIAL EXAMINED.** Holotype ♂, BRAZIL, Amazonas, Manaus, Reserva Florestal Adolpho Ducke, 2.93133°S, 59.9746°W, 15.10.1991, W. Paarmann (INPA ARA 008803). Paratype: 1 ♂, same data as holotype (INPA ARA 008804).

**ETYMOLOGY.** The specific name is a patronym in honor of Huber Höfer, head of the Department of Life Sciences and curator of Arachnids in the Staatliches Museum für Naturkunde Karlsruhe, Germany.

**DIAGNOSIS.** Males of *R. hoferi* sp.n. can be identified by their rastellum formed by a row of short spines separated and distributed on the upper edge of the chelicerae (Fig. 2E). Presence of two rows of cheliceral teeth (retromarginal teeth are bigger and separated from each other) and absence of denticles on the cheliceral furrow.

**DESCRIPTION** (male holotype, INPA ARA 008803). Total length 10.81. Cephalothorax length 5.87, width 5.03. Cephalic region: 3.73 long. Carapace (Fig. 2A) glabrous; caput arched (Fig. 2B); with lines of bristles reaching until thoracic fovea. Fovea (Fig. 2A) short, strongly procurved, 0.75 wide. Clypeus absent. Eyes on well defined tubercle (Fig. 2C). Anterior eye row straight, posterior row recurved. Eye group: length 0.46, width 1.16, with one strong bristle anterior of AME and two between posterior eyes. Eye measurements: AME 0.22, ALE 0.26, PME 0.14, PLE 0.16; AME–ALE 0.07, PME–PLE 0.04, AME–PME 0.10, ALE–PLE 0.09, AME–AME 0.11, PME–PME 0.59. Labium (Fig. 2D): width 0.97, length 0.71; broad, trapezoidal, with an invagination in the superior part and one small cuspule. Maxillae (Fig. 2D): anterior length 1.44, posterior length 1.72, with 13/15 (right/left) small cuspules. Chelicerae (Fig. 2E): dorsally with small bristles; rastellum present on the inner distal surface, consisting in a line of 7 strong and short spines; promargin with a row of 6 strong promarginal teeth and 8 small retromarginal teeth. Sternum (Fig. 2D): 2.82 length, 2.48 width; longer than

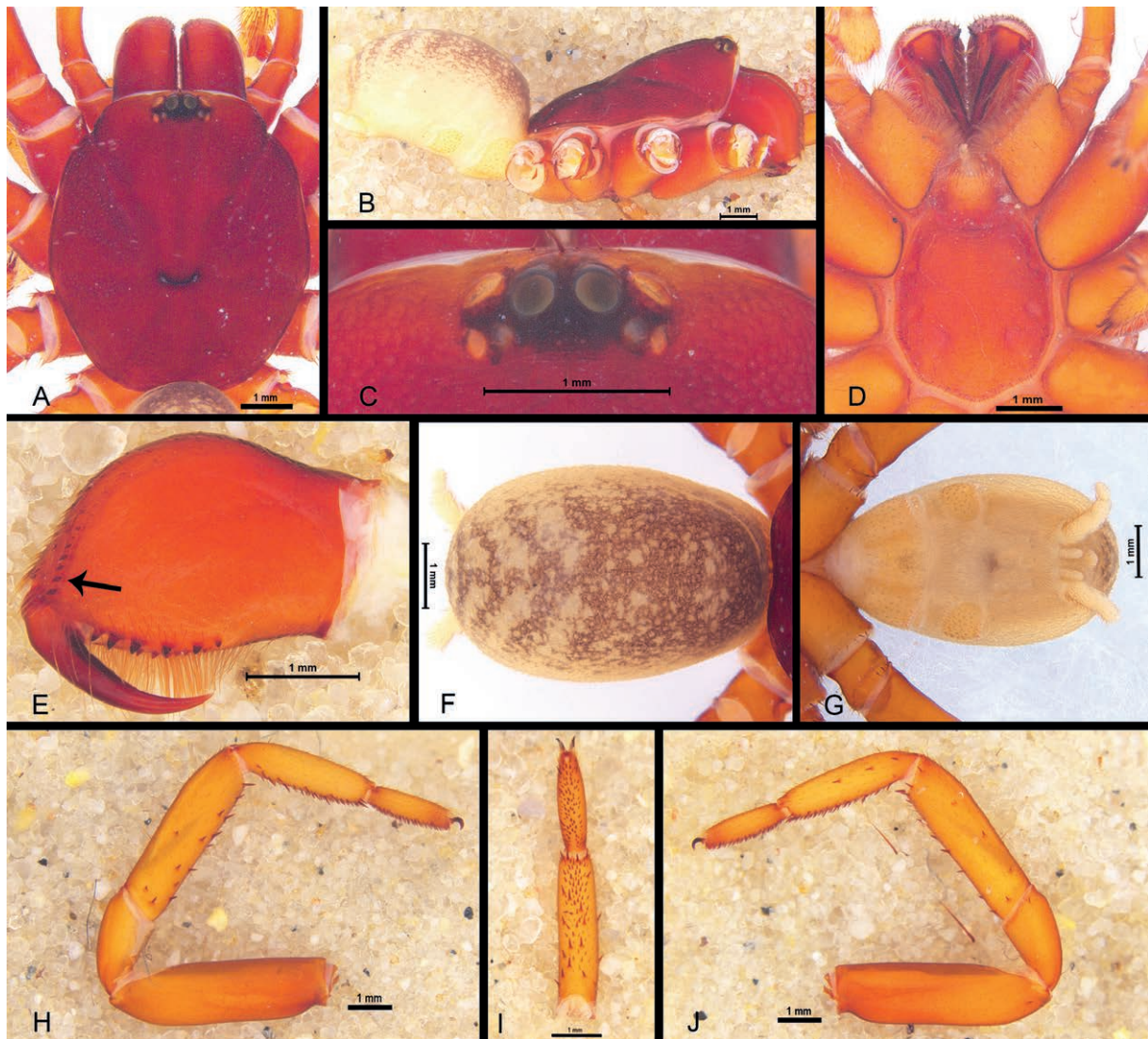


Fig. 2. *Rhytidicolus hoferi* sp.n., male holotype (INPA ARA 008803). A, D — cephalothorax, dorsal and ventral aspects, respectively; B — body in lateral aspect; C — eye area, dorsal; E — chelicerae, prolateral, arrow indicate the rastellum; F — abdomen, dorsal; G — same, ventral; H, J — leg I, retrolateral and prolateral, respectively; I — metatarsus and tarsus I, ventral.

Fig. 2. *Rhytidicolus hoferi* sp.n., самец голотип (INPA ARA 008803). A, D — головогрудь соответственно сверху и снизу; B — тело сбоку; C — глазная область сверху; E — хелицера с внутренней стороны, растеллум обозначен стрелкой; F — abdomen сверху; G — то же, снизу; H, J — нога I, соответственно внешний и внутренний вид сбоку; I — предлапка и тапка I снизу.

wide; with short setae. Sigilla small, oval, first pair separated from the others; third pair longer. Abdomen (Fig. 2F, G): 4.94 long. Spinnerets (Fig. 2G): PMS: length 0.48; PLS: length of basal, medial, apical segments: 0.58, 0.46, 0.47, respectively.

**Legs:** glabrous, with few bristles. Leg formula 4123. Legs and palp measurements: I — 5.00, 2.52, 4.03, 3.40, 1.77, 16.72; II — 4.35, 2.32, 3.21, 3.44, 1.81, 15.12; III — 3.52, 1.96, 2.24, 3.03, 1.76, 12.51; IV — 4.83, 2.19, 4.06, 4.68, 2.00, 17.76; palp — 2.55, 1.42, 2.00, —, 1.00, 6.97. Tibia I simple, unmodified (Figs. 2H, I). Segments of leg I a little thickened than other legs.

**Chaetotaxy.** Palp unarmed. Leg I: femur 1 PA; patella 1 PA; tibia 1-1-1-1-1 P, 1-0-1-0-1 VAnt, 1-1-2-1-1-2-1-1 VPost, 2-0-1 R (1:2 B); metatarsus 2-1-1 P (1:3 B), 82 V (17 larger with 4 of them apical and 65 short distributed throughout the segment); tarsus 97 V short (Fig. 2 I). Leg II: femur 0; patella 1 PA; tibia 1-1 P, 3-2-3-2-3 V; metatarsus 2-1-1-0-1 P, 1-1-2-1-1-2-1-1-4 V; tarsus 4 VAnt, 4 VPost. Leg III (left): femur 0;

patella 1-1-1-1 P, 1 DAnt; tibia 1-1-1 P, 1-1-1 D, 1-1 R, 2-3-3 V; metatarsus 1-1-1-1-1 P, 1-1 D (1:2 A), 2-0-1-1 R, 2-0-2-1-3 V; tarsus 1-1-1-1-1 P, 1-0-1-1-1-1 R. Leg IV: femur 0; patella 0; tibia 0-1-1-0 P, 2-1-2-2 V, 1 R (2:3 A); metatarsus 1-1-0-1 P, 1-1-3 V, 1-1-1-1-1 D; tarsus 1-1-1-1 P, 1-1-1-1 R.

**Scopulae:** all metatarsi — absent; tarsus I — sparse, uniformly distributed throughout the segment and between the short spines; tarsi II–IV — dense and distributed throughout the segment.

**Claws:** STC with two rows of teeth on each claw. Leg I–II 5/5, III 4/4, IV P (4E/3I) R (3E/2I). ITC from all legs small and bare.

**Trichobothria** (all filiform except 3 clavate on palpal tarsus): tibiae (in two rows) — palp 5/5, I 6/6, II 7/7, III 6/6, IV 7/7; metatarsi (long row retrolaterally directed) — I 9, II–III 8, IV 7; tarsi (divided by line of bristles) — palp 4/4, I 6/6, II 5/5, III–IV 4/4.

**Palp** (Fig. 3A–C): short without spines. Copulatory bulb (Fig. 3D–G): small, simple; tegulum rounded with a short embolus without keels.

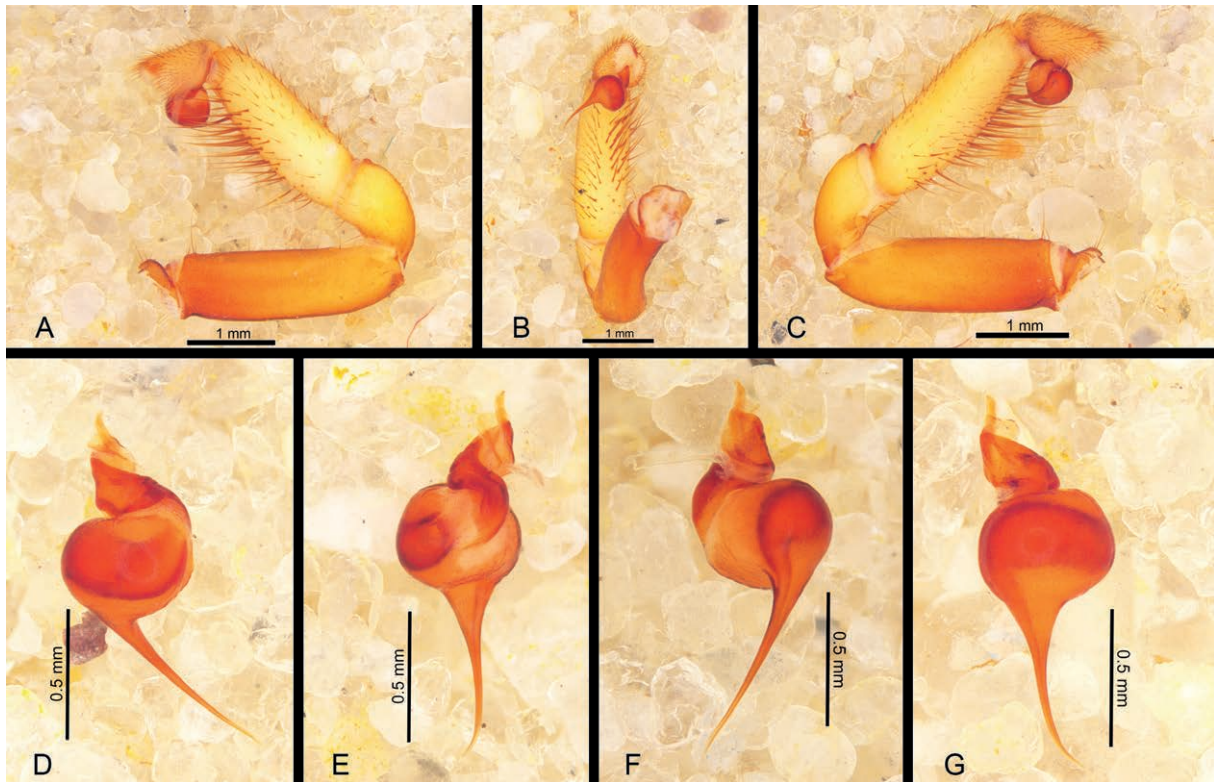


Fig. 3. *Rhytidicolus hoferi* sp.n., male holotype (INPA ARA 008803). A — right palp, prolateral view; B — same, ventral; C — same, retrolateral; D — right copulatory bulb, retrolateral; E — same, ventral; F — same, prolateral; G — same, dorsal.

Fig. 3. *Rhytidicolus hoferi* sp.n., самец голотип (INPA ARA 008803). А — правая палпа сбоку с внутренней стороны; В — то же, снизу; С — то же, сбоку с внешней стороны; D — правый копулятивный бульбус сбоку с внешней стороны; E — то же, снизу; F — то же, сбоку с внутренней стороны; G — то же, сверху.

*Color* (in alcohol): carapace, chelicerae and trochanter red-dish orange. Legs yellowish orange. Abdomen dorsally (Fig. 2F) light brown with a white mottled, four darker posterior lines can be observed; ventrally (Fig. 2G) and spinnerets yellowish.

FEMALE: Unknown.

DISTRIBUTION: Brasil.

### Final Comments

The redescription of the female of *R. structor* includes the illustration of their spermathecae depicted herein for the first time, and thus contributes to the knowledge of the genus. In addition, the description of *R. hoferi* sp.n. concurrently represents the first description of a male in the genus, previously known only by females. In view of the new data provided here, we can have access to new important characters in the diagnosis of the genus and future research.

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