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A NEW SPECIES OF JUMPING SPIDERS OF THE GENUS *CORYTHALIA* C. L. KOCH, 1850 (ARANEAE: SALTICIDAE: EUOPHRYINI) FROM THE CENTRAL BRAZILIAN CERRADO

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Abstract: *Corythalia pequii* **sp. n.** from the central Brazilian Cerrado is described and illustrated. The known distributions of *Corythalia conferta* Bayer, Höfer & Metzner, 2020, and *Encolpius guaraniticus* Galiano, 1968 are extended to include the State of Goiás. Additionally, descriptions and illustrations of both species are provided. Ecological comments and photos of the microhabitat are included.
Key words: Araneae, Salticidae, *Corythalia*, new species, taxonomy, microhabitat, Neotropical, zoogeography, Brazil, Goiás.

Una especie nueva de araña saltarina (Araneae: Salticidae: Euophryyini) del Cerrado central brasileño
Resumen: Se describe e ilustra *Corythalia pequii* **sp. n.** del Cerrado central de Brasil. Se amplía la distribución conocida de *Corythalia conferta* Bayer, Höfer & Metzner, 2020, y *Encolpius guaraniticus* Galiano, 1968 para incluir el estado de Goiás. Adicionalmente, se brindan descripciones e ilustraciones de ambas especies. Se incluyen comentarios ecológicos y fotos del microhábitat.
Palabras clave: Araneae, Salticidae, *Corythalia*, especie nueva, taxonomía, microhábitat, neotropical, zoogeografía, Brasil, Goiás.

Taxonomy / Taxonomía: *Corythalia pequii* **sp. n.**

Introduction

The Salticidae, commonly known as jumping spiders, is one of the most diverse families of spiders that groups 664 genera and 6431 species (World Spiders Catalog, 2022). They are characterized by occupying most ecological niches and defined microhabitats exhibiting a combination of narrow space niches occupied by most species in various microhabitats (Cumming & Wesolowska, 2004).

Most jumping spiders are poor dispersers, but some can be dispersed through rafting, ballooning, and human intervention (Richardson *et al*., 2006; Foelix 2011). Each microhabitat offers specific dispersal possibilities, the inhabitants of the leaf litter or the bark are individuals with low dispersal compared to the salticids of open areas or the canopy of trees (Richardson *et al*. 2006). In tropical rainforests, wind currents are too weak and limited to the highest canopy level, and most species are too narrow niche specialists (Richardson *et al*., 2006; Argañaraz *et al*., 2017).

The Ecological and Scientific Reserve (REC) of the State University of Goiás (UEG), is mainly composed of native vegetation, which has three types of phytophysiognomies, Cerrado sensu strictu (CS), Mata Seca (MS), and Mata de Galeria (MG); the forest formations of the Cerrado include vegetation with a predominance of tree species and canopy formation. The MG, for example, is a physiognomy associated with water courses that can occur in drained lands or not, on the other hand, the Dry Forest and the Restricted Sense of Cerrado occurs in Inter flows in drained lands, which reinforces the existence of peculiarities among the Phytophysiognomies (Klink & Machado, 2005).

Salticids comprise a taxonomic group that has been extensively studied, comprising the most diverse group of spiders (World Spiders Catalog, 2022), so the fauna of jumping spiders in Brazil is represented by 440 species and 129 genera (Brescovit *et al*., 2020; World Spiders Catalog, 2022). Considering the number of microhabitats present in Brazil and the diversity of this family of spiders, there is still much pending information about it, since there was no solid base of studies in the ecological reserve studied here. Therefore, in the present study, the species *Corythalia pequii* **sp. n.** is described as new species, likewise, the known distribution of the species *Corythalia conferta* Bayer, Höfer & Metzner, 2020, and *Encolpius guaraniticus* Galiano, 1968 is extended to include the state of Goias, Brazil. Moreover, ecological comments are included, being key to the implementation of monitoring plans and biodiversity conservation of the State University of Goias.

Materials and Methods

The material was observed under a Carl Zeiss stereomicroscope, Axiostar, with ocular 10X oculars reaching up to 80X. The examined specimens are deposited in the arachnological collection of the Laboratory of Behavioral Ecology of Arachnids (LECA), at the State University of Goias, Anápolis, Goias, Brazil. The epigynum was dissected as described in Levi (1965), treated with 10% of Lactic Acid to digest soft tissue, and then cleared in clove oil. Multifocal photographs of the genitalia were taken at the Laboratory of Behavioral Ecology of Arachnids (LECA) of the State University of Goias, Anápolis, Goias, Brazil, with an HD digital camera attached to a Carl Zeiss stereomicroscope, Axiostar, and then composited with the image stacking software AxioVision Carl Zeiss SE64 (Rel. 4.9.1. SP2). Measurements in millimeters were taken using an attached micrometer, in conjunction with software AxioVision Carl Zeiss SE64 (Rel. 4.9.1. SP2).

Classification of salticid tribes was based on the following order of priority: Maddison (2015), and Maddison & Szüts (2019). Morphological terms follow Galiano (1963) and Bayer *et al*. (2020). Measurements follow Galiano (1963), except PMEP which follows Edwards (2004). Spina-

tion was described according to Petrunkevitch (1925), with a few modifications as described by Bustamante & Ruiz (2017), who proposed using an asterisk (*) to denote the spines that differ in size from the others. However, leg spination pattern descriptions for *Corythalia* follow Bayer (2012) and Bayer *et al*. (2020). For leg/palp spination, articles are listed in the following sequence: femur, patella, tibia, metatarsus, and tarsus. First, all spines on the prolateral surface of the respective article are counted and listed, followed by the dorsal, the retrolateral, and ultimately, the ventral surface. Thus, the resulting number is generally 4-digit. If a spination pattern of a certain article differs between the left and right sides, the pattern for the left side is followed by the pattern of the right side in curved brackets, without a blank. Palp and leg lengths are listed as: total [femur, patella, tibia, metatarsus, tarsus]. Geographical coordinates were obtained with a Garmin GPS (± 15m). Maps were generated using software QGIS 3.16.14 (QGIS Development Team 2021).

Abbreviations used in the text and figures. **AEMD**, anterior eyes median diameter; **AERW,** anterior eye row width; **AL,** abdomen length; **ALE,** anterior lateral eyes; **AMW**, Anterior margin of epigynal window; **B,** bulb; **C,** cymbium; **Car,** carina; **CH,** caparace height (~maximum); **CL,** caparace length; **Cly,** Clypeus height; **CW,** caparace width; **CD,** copulatory ducts; **CY,** Cymbium; **D,** denticles on serrated inner edge of fang; **DST**, Connective duct between primary and secondary spermatheca; **E,** embolus; **EGF,** Epigastric furrow; **F,** femur; **FD,** fertilization duct; **HS,** Head of (secondary) spermatheca; **LOQ,** length of ocular quadrangle (ALE-PLE inclusive); **M,** metatarsus; **CO**; Copulatory opening; **P,** patella; **PH**, prosoma height; **PERW,** posterior eye row width; **PMEP,** posterior median eye position (as ratio of ALE-PME distance to ALE-PLE distance); **PLE,** posterior lateral eyes; **PS,** Primary spermathecae; **PT,** prolateral tooth; **PTL,** (Retrolatero-) proximal tegulum lobe; **RT,** retrolateral tooth; **RTA,** retrolateral tibial apophysis; **SD,** sperm duct; **SS;** Secondary spermatheca; **SW,** Septum of epigynal windows; **T,** tibia; **TL,** total length; **TU,** tuberosity; **W**, Epigynal window.

Taxonomy

Family Salticidae Blackwall, 1841

Subfamily Salticinae Blackwall, 1841

Tribe Amycini F.O. Pickard-Cambridge, 1900

Genus *Encolpius* Simon, 1900

Encolpius Simon 1900: 27-61 [Type species: *Encolpius albobarbatus* Simon 1900d: 59 (Dm); Simon 1901: 427, f. 474 (m); Galiano 1963: 348, pl. XIX, f. 6-10 (m); Galiano 1968: 311 (description of genus).

Encolpius guaraniticus Galiano 1968

Encolpius guaraniticus Galiano 1968: 313, figs 48–58 (description of male and female). Prószynski 2017: 61, fig. 27E (description of male and female after Galiano 1968).

Figs. 1-11, 30, 31

MATERIAL EXAMINED. Female: Brazil, Goiás, Anápolis: Reserva Ecológica e Cientifica Trilha do Tatu 16°23'00.9"S 48°56'37.8"W, 1075 m, 15-X-2019, dry forest, agitation of foliage, E. Bedoya-Roqueme, R. F. Ribeiro col. (LECA; ARA-031). Brazil, Goiás, Anápolis: Reserva Ecológica e Cientifica Trilha do Tatu [16°23'2.69"S, 48°56'39.36"W], [1075 m], 20-XI-2019, dry forest, agitation of foliage, E. Bedoya-Roqueme, R. F. Ribeiro col. (LECA; ARA-032).

DIAGNOSIS. According to Galiano (1968) the females of *Encolpius guaraniticus* Galiano 1968 can be easily identified by the combination of characters such as: the light-spot located on the stria thoracic, is broader and extends in the form of a band along the thoracic slope (Fig. 1); abdomen whitish with olive-brown spots located mainly on sides, leaving an irregular, whitish median band (Fig. 1-2); Chelicerae with anterior face somewhat convex on the outer edge, apically, in the nail groove, long white silky hairs (Figs.6-7), prolateral margin with 6 teeth, of which the third and fourth are larger, retrolateral margin with seven teeth, located very close together, the ones closest to the base of the fang being larger (Figs.6-7); epigyne (see Galiano, 1969; figs. 48,49,58).

SHORT DESCRIPTION. Coloration in alcohol. Carapace dark brown (Figs. 1-2), ocular quadrangle pale with light scales (Fig. 1), light brown abdomen, with blackish spots on sides, light brown with some dark dorsal markings (Fig. 2). Legs with striped pattern, femur I pigmented more homogeneously darker than the other legs (Figs. 1, 3). Chelicerae dark brown (Fig. 4). Sternum light brown, heart-shaped (Fig. 5). Epigynum sclerotized (Figs. 8-9), thin copulatory duct, well sclerotized, folded together and giving rise to a well-sclerotized spermatheca (Figs. 10-11). Fertilization duct anterior and dorsal to the spermatheca (Figs. 9, 11).

Total length 4.371. Carapace 1.635 long, 1.381 wide, 1.471. Ocular quadrangle 0.792. AREW 1.119. Chelicerae paturon (Fig. 6), with five prolateral teeth, which decrease in size, and seven retrolateral teeth on the chelicera (Fig. 7). Length femur I 0.713, II 0.732, III 0.913, IV 1.022; patella + tibia I 1.823, II 1.671, III 1.613, IV 1.523; metatarsus + tarsus I 1.201, II 1.231, III 1.423, IV 1.543. Leg formula 4132. Leg spination: Leg I femur d0-1-1-1, p1di, r0; patela d0, p1, r0; tibia d0, p0, r0, v 2-2-2; Metatarsus v 2-2. Leg II femur d1-1-1-0, p1di, r0; patela d0, p1, r0; tibia d0, p0, r0, v 2-2-2; Metatarsus v2-2. Leg III femur d0-1-1-1, p1, r1; patella p0-1-0, r0-1-0, v1; tibia p0-1-0, v1-0-1, d0, v1-1-1; metatarsus p1-1, r1-1, v2. Leg IV femur d0-1-1-1, p1, r1; patella p0-1-0, r0-1-0, v1; tibia p0-1-0, v1-0-1, d0, v1-1-1; metatarsus p1-1, r1-1, v2.

Epigynum with two large copulatory openings (CO) (Fig. 8), directly connected to the CDs (Fig. 9), which fold several times on themselves (Figs. 10-11), culminating in a highly sclerotized and bilobed spermathecae (SP) (Figs. 9, 11), with the fertilization ducts (FD) on the anterior and dorsal part (Figs. 9, 11).

MEASUREMENTS (MM): TL= 4.43; CL= 1.72; CW= 1.33; AL= 2.75; AERW= 1.19; PERW= 1.47; LOQ= 0.79; PMEP= 0.43; eyes of the second row separated from the ALE by 0.25 mm and from the PLE by 0.27 mm. Spination: Leg formula 4132. Leg spination: Leg I femur d0-1-1-1, p1di, r0; patela d0, p1, r0; tibia d0, p0, r0, v 2-2-2; Metatarsus v 2-2. Leg II femur d1-1-1-0, p1di, r0; patela d0, p1, r0; tibia d0, p0, r0, v 2-2-2; Metatarsus v2-2. Leg III femur d0-1-1-1, p1, r1; patella p0-1-0, r0-1-0, v1; tibia p0-1-0, v1-0-1, d0, v1-1-1; metatarsus p1-1, r1-1, v2. Leg IV femur d0-1-1-1, p1, r1; patella p0-1-0, r0-1-0, v1; tibia p0-1-0, v1-0-1, d0, v1-1-1; metatarsus p1-1, r1-1, v2.

NATURAL HISTORY. (Fig. 31). These spiders were collected in the shrub stratum of the dry forest, during the morning hours, of the rainy season.

DISTRIBUTION**.** Argentina, Bolivia, Brazil.

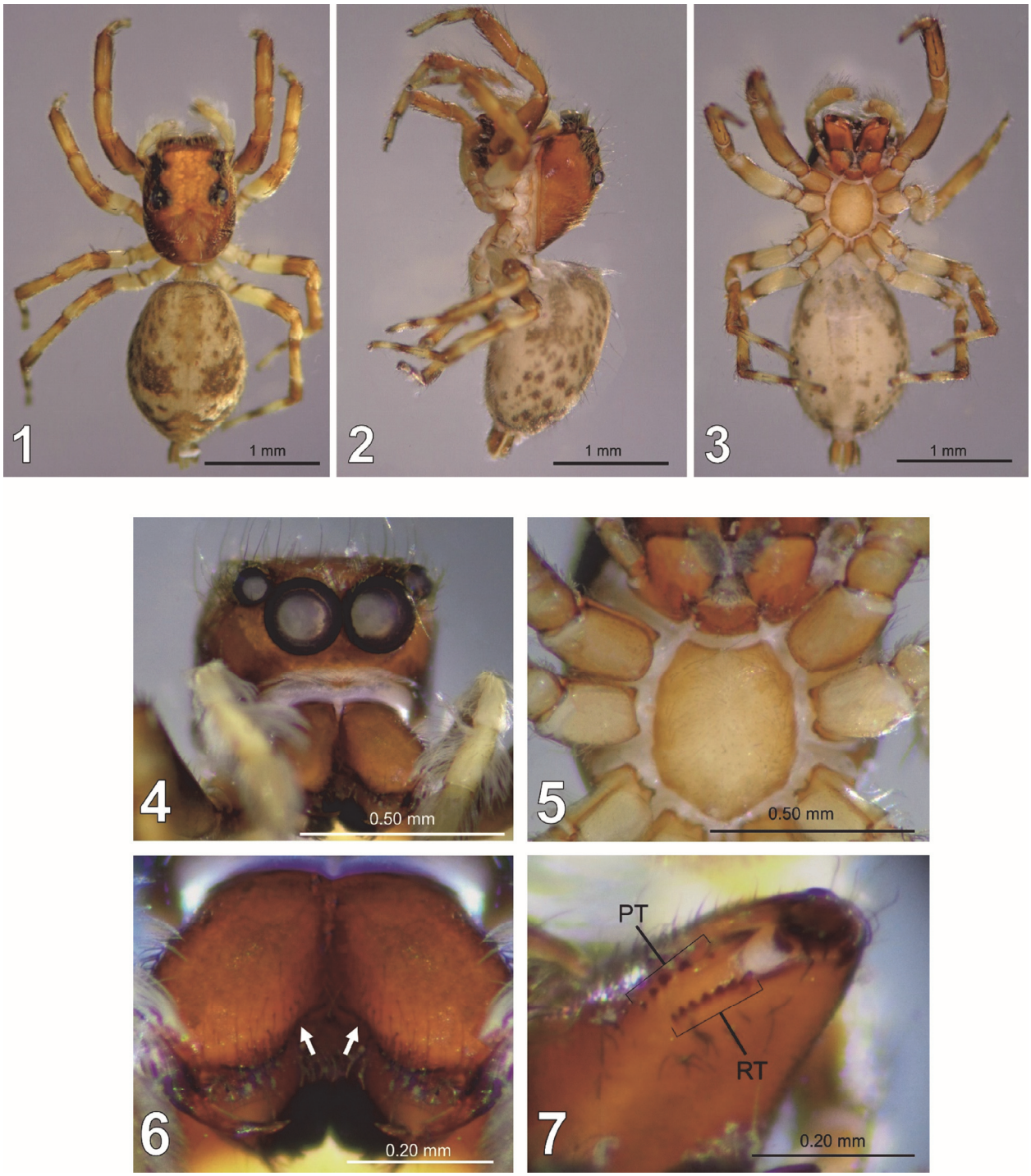


Fig. 1-3. Habitus, *Encolpius guaraniticus* Galiano, 1968: 1, dorsal view. 2, lateral view. 3, ventral view. **Fig. 4-7.** *Encolpius guaraniticus* Galiano, 1968: 4, frontal view. 5, sternum, ventral view. 6, Chelicerae, white arrows show spine-like setae. 7, right chelicerae, teeth aspect. PT= prolateral teeth; RT= retrolateral teeth.

Tribe Euophryini Simon, 1901

Genus *Corythalia* C. L. Koch, 1850

Corythalia C.L. Koch 1850: 67 [type species: *Euophrys latipes* C.L. Koch 1846, transferred to *Corythalia* by C.L. Koch (1850)]; Simon 1901: 652, 654-655, 657; Chickering 1946: 125; Crane 1948: 3; Kraus 1955: 62; Galiano 1962: 15; Zhang & Maddison 2012: 30; Zhang & Maddison 2015: 15; Bayer *et al*. 2020: 9.

Dynamius Simon 1888: 204 [type species: *Jotus opimus* Peckham & Peckham, 1885, transferred to *Dynamius* by Simon (1888)]; Simon 1901: 652, 654-655, 657 (synonymy, transfer of *Dynamius opimus* to *Corythalia*); Bayer *et al*. 2020: 10 (confirmation of synonymy with *Corythalia*).

Escambia Peckham & Peckham 1896: 41 [type species: *Escambia conspecta* Peckham & Peckham, 1896]; Simon 1901: 652, 655, 657 (synonymy, transfer of *Escambia conspecta* to *Corythalia*); Bayer *et al*. 2020: 10 (confirmation of synonymy with *Corythalia*).

Makthalia Badcock, 1932: 45 [type species: *Makthalia cincta* Badcock, 1932]; Mello-Leitão 1939: 84 (synonymy, formal transfer of *Makthalia cincta* to *Corythalia*); Bayer *et al*. 2020: 10 (confirmation of synonymy with *Corythalia*).

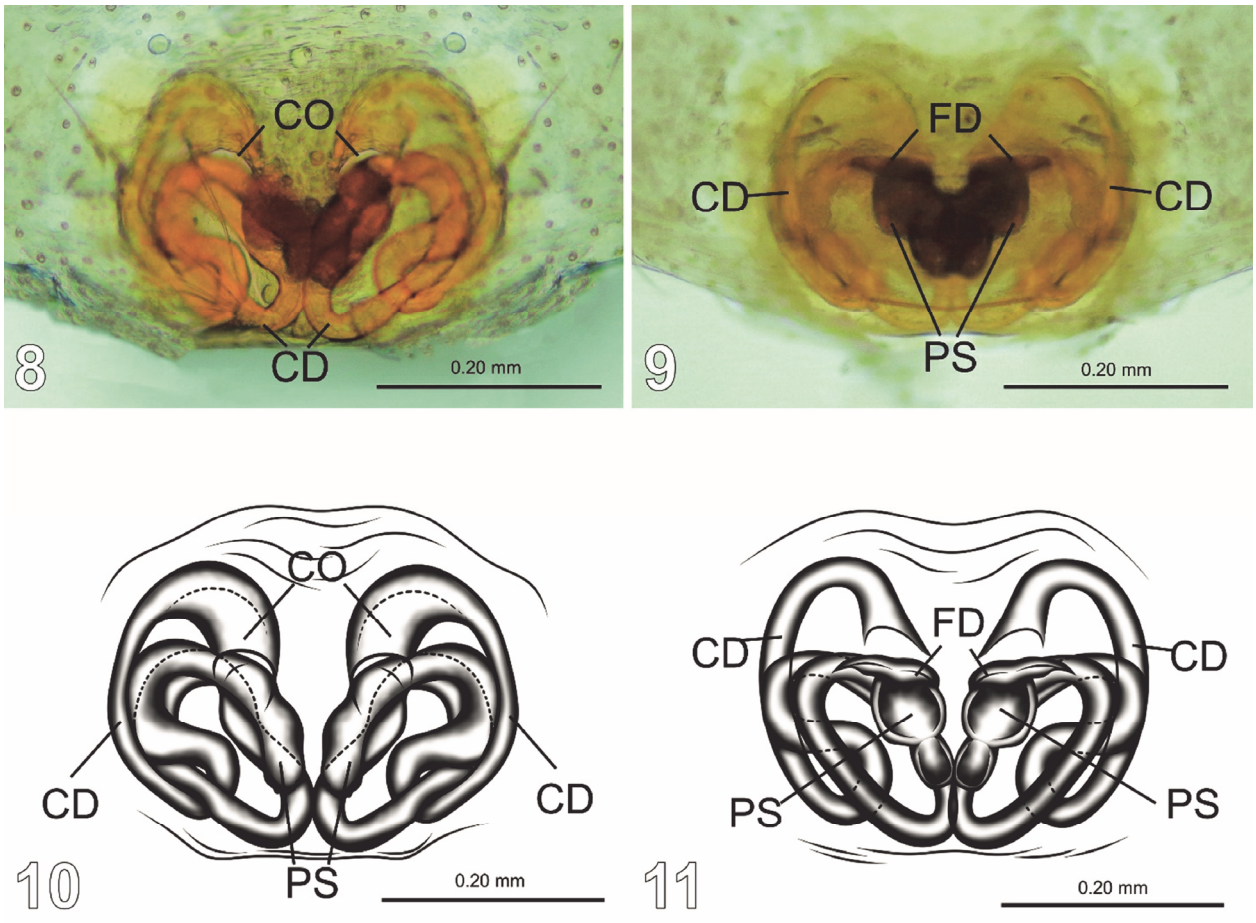


Fig. 8-9. *Encolpius guaraniticus* Galiano, 1968: 8, epigyne, ventral view. 9, same, cleared, dorsal view. CD: Copulatory duct; CO: Copulatory opening; FD: Fertilization duct; PS: primary spermatheca. **Fig. 10-11.** *Encolpius guaraniticus* Galiano, 1968: 10, epigyne, ventral view. 11, same, cleared, dorsal view. CD: Copulatory duct; CO: Copulatory opening; FD: Fertilization duct; PS: primary spermatheca.

Taeoma Mello-Leitão 1939: 89 [type species: *Taeoma circumflexa* Mello-Leitão, 1939]; Galiano 1962: 15 (synonymy, transfer of *Taeoma circumflexa* and *Taeoma barbipes* Mello-Leitão, 1939 to *Corythalia*); Bayer *et al*. 2020: 10 (confirmation of synonymy with *Corythalia*).

Dinattus Bryant 1943: 482 [type species: *Dinattus heros* Bryant, 1943]; Zhang & Maddison 2015: 15 (synonymy, formal transfer of all *Dinattus* species to *Corythalia*); Bayer *et al*. 2020: 10 (confirmation of synonymy with *Corythalia*).

DIAGNOSIS. According to Bayer *et al*. (2020) the jumping spiders of the genus *Corythalia* C. L. Koch 1850 can be easily distinguished from other salticids by the cheliceral fangs very short retromargin of the cheliceral furrow with one very small and slim tooth (Fig. 17), promargin either with one tooth or, more rarely, with two teeth located very close together, anterior surface of cheliceral base medio-distally with small lobe with several hairs (Fig. 15). The Males with embolus coiled, at least at its disc-shaped base (Fig. 25), tegulum proximally extending beyond proximal margin of cymbium and partly covering palpal tibia (Figs 24), generally in form of a proximal lobe at retrolateral section, RTA mostly with dorsal serration (Fig. 25-26). The female with epigynal windows (Figs. 28), separated by a longitudinal septum, primary and secondary spermatheca (the former mostly larger than the latter), both connected by a narrow and long duct, often longer than the diameter of primary spermatheca (Figs. 29).

***Corythalia pequii* sp. n.**
Figs. 12-21, 30, 31

TYPE MATERIAL. Female holotype: Brazil, Goiás, Anápolis: Reserva Ecológica e Cientifica Trilha do Tatu [16°23'2.69"S, 48°56'39.36"W], [1075 m], 5-X-2019, dry forest, agitation of foliage, E. Bedoya-Roqueme, R. F. Ribeiro col. (LECA; B2A1-3). Female paratype: Brazil, Goiás, Anápolis: Reserva Ecológica e Cientifica Trilha do Tatu [16°23'2.69"S, 48°56'39.36"W], [1075 m], 20-XI-2019, dry forest, agitation of foliage, E. Bedoya-Roqueme, R. F. Ribeiro col. (LECA; C2003).

ETYMOLOGY. The specific name (*pequii*) refers to the "*Pequi*", a name commonly used for *Caryocar brasiliense* Cambess, 1828, whose name comes from "*Tupi*" and means thorny skin. It is a native tree from Brazilian Cerrado whose fruit is widely consumed in the region where the specimens were collected.

DIAGNOSIS. Females of *Corythalia pequii* **sp. n.** differ from the other *Corythalia* species by the following aspects of the epigynum and vulva, which have to be regarded in combination (Figs. 18-19, 20-21): epigynal windows (W) roughly broad longitudinal oval (not distinctly longer than wide) (Figs. 18-19); septum of epigynal windows (SW) extremely narrow (Figs. 18, 20); the anterior part of the septum is diverging abruptly, and two rims run laterally and then turn



Fig. 12-13. Habitus, *Corythalia pequii* **sp. n.,** female holotype: 12, dorsal view. 13, ventral view. **Fig. 14-17.** *Corythalia pequii* **sp. n.,** female holotype: 14, lateral view. 15, frontal view. 16, sternum, ventral view. 17, Chelicerae, white arrows show teeth aspect.

dorsally, copulatory ducts very broad (at initial section about as broad as diameter of SS); secondary spermathecae (SS) rounded (Figs. 19, 21), primary spermathecae (PS) small (less than 5x broader than DST, and just slightly broader than SS) and longitudinal oval (Figs. 19, 21); connective ducts between both spermathecae (DST) quite narrow and arising latero-posteriorly on SS and meeting PS ventro-anteriorly (Figs. 19, 21).

DESCRIPTION. Female holotype (male unknown). *Coloration in alcohol*. Carapace dark brown, ocular quadrangle even darker than further proximal sections (Fig. 12), with light scales, the latter in small patches (Fig. 12), with scales white more densely arranged on the margin of the carapace (Figs. 14-15). Coxae, trochanters, and sternum lighter brown than carapace and legs (Figs. 13, 16). Chelicerae dark red brown (Fig. 15); sternum yellowish-brown, slightly darker on lateral margins (Fig. 16). Abdomen dorsally dark brown with three light transverse bands (Fig. 12); anterior most of such broadest, but not as light as central one, being second broadest and containing dark chevron-like patch centrally, posterior-most band narrowest (Fig. 12). Legs dark brown; coxae, patellae,

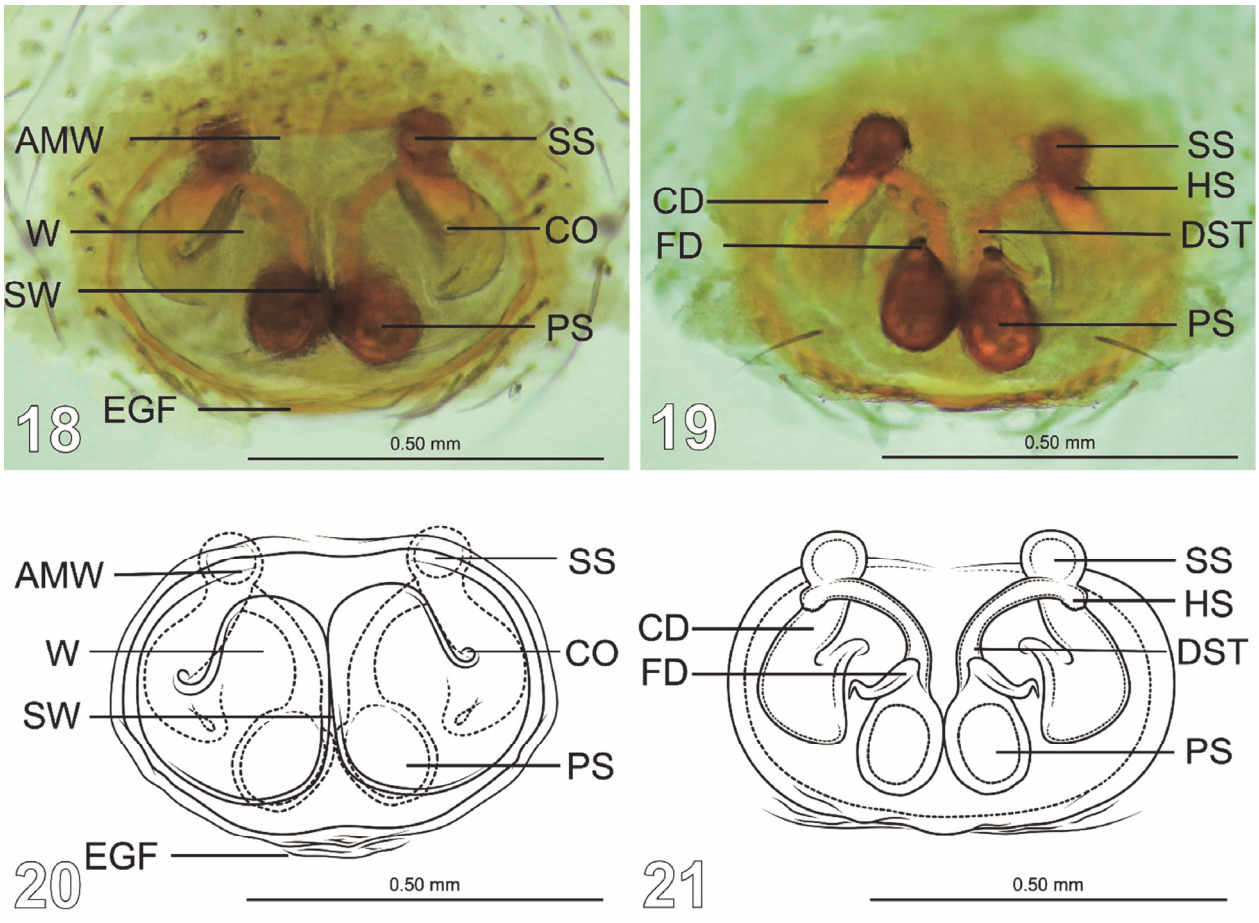


Fig. 18-19. *Corythalia pequii* **sp. n.**, female holotype: 18, epigyne, ventral view. 19, same, cleared, dorsal view. AMW: Anterior margin of epigynal window; CD: Copulatory duct; CO: Copulatory opening; DST: Connective duct between primary and secondary spermatheca; EGF: Epigastric furrow; FD: Fertilization duct; HS: Head of (secondary) spermatheca; PS: primary spermatheca; SS: Secondary spermatheca; SW: Septum of epigynal windows; W: Epigynal window. **Fig. 20-21.** *Corythalia pequii* **sp. n.,** female holotype: 20, epigyne, ventral view. 21, same, cleared, dorsal view. AMW: Anterior margin of epigynal window; CD: Copulatory duct; CO: Copulatory opening; DST: Connective duct between primary and secondary spermatheca; EGF: Epigastric furrow; FD: Fertilization duct; HS: Head of (secondary) spermatheca; PS: primary spermatheca; SS: Secondary spermatheca; SW: Septum of epigynal windows; W: Epigynal window.

and distal parts of tibiae, as well as tarsi, slightly lighter (Fig. 13). Anterior lateral spinnerets longer than broad and slightly conical (Fig. 14), posterior median and posterior lateral spinnerets distinctly slenderer and more cylindrical, about as long as anterior lateral spinnerets (Fig. 14).

Female medium sized, carapace widened in the posterior part (Fig. 12), posterior median eyes slightly closer to posterior lateral eyes than to anterior lateral eyes (Fig. 12); dorsal margin of carapace running parallel to the longitudinal axis, decreasing abruptly behind, and decreasing rather smoothly in front (Fig. 14); Clypeus below anterior median eyes narrow (Fig. 15). Cheliceral claws short and weak, cheliceral base with promargin with two teeth and retromargin with one tooth, all teeth very slim and small (tiny) (Fig. 17); cheliceral base dorso-medio-distally with lobe carrying several long hairs that are sometimes slightly curved (Fig. 15). Labium approximately as long as wide; endites longer than wide, Sternum shield-shaped (Fig. 16). Spination: palps no spines. Leg spination: Leg I: femur 1500; patella 0100; tibia 2002; metatarsus 2003; tarsus 0000. Leg II femur 1500; patella 1000; tibia 2002; metatarsus 3134; tarsus 0000. Leg III femur 1600; patella 0101; tibia 2004; metatarsus 2134; tarsus 0000. Leg IV femur 2300; patella 1010; tibia 2004; metatarsus 3042; tarsus 0000. Leg formula 4321. Epigynum with windows (W) roughly longitudinal oval (slightly longer than wide) (Figs. 18-19); septum of epigynal windows (SW) extremely narrow, the septum is continuous, even though in posterior half it is becoming broader, and an additional lateral ridge appears very close to the actual septum (Figs 20-21), centrally and in the anterior half the septum is extremely narrow but it is existent over the entire longitudinal distance (Figs. 18, 20), distance of posterior margin of epigyne to EGF 0.420 mm, primary spermathecae, visible through cuticle of W (Figs. 19, 21).

Measurements of female holotype (mm): TL= 5.160; CH=1.173; CL= 2.313; Cly = 0.229; W= 1.710; AL= 2.071; AERW= 1.382; PERW= 1.321; LOQ= 0.751; AEMD= 0.413; MEP= 0.38; eyes of the second row separated from the ALE by 0.131 mm and from the PLE by 0.181 mm. Legs: Leg I: femur 1.193/0.521; patella 0.762/0.431; tibia 0.712; metatarsus 0.673; tarsus 0.521. Leg II: femur 1.262/0.513; patella 0.627/0.491; tibia 0.643; metatarsus 0.648; tarsus 0.451. Leg III: femur 1.239/0.571; patella 0.771/0.349; tibia 0.821; metatarsus 1.071; tarsus 0.571. Leg IV: 1.441/0.553; patella 0.741/0.381; tibia 0.861; metatarsus 1.130; tarsus 0.613.

Measurements of female paratype (mm): TL= 5.210; CH=1.182; CL= 2.341; Cly = 0.237; W= 1.814; AL= 2.181; AERW= 1.452; PERW= 1.461; LOQ= 0.841; AEMD=

0.453; MEP= 0.37; eyes of the second row separated from the ALE by 0.142 mm and from the PLE by 0.185 mm. Legs: Leg I: femur 1.296/0.541; patella 0.862/0.531; tibia 0.812; metatarsus 0.683; tarsus 0.551. Leg II: femur 1.272/0.533; patella 0.667/0.541; tibia 0.653; metatarsus 0.658; tarsus 0.551. Leg III: femur 1.269/0.581; patella 0.741/0.339; tibia 0.861; metatarsus 1.171; tarsus 0.561. Leg IV: 1.541/0.563; patella 0.761/0.481; tibia 0.861; metatarsus 1.140; tarsus 0.683.

REMARKS. In most *Corythalia* only the elongated margin of posterior margin of W build up the septum and is continuous then, even though in many species the septum is not reaching as far anterior then the anterior margins of W, so that a "gap" within the epigynal window exists, only in some species you have "real" epigynal windows (two "closed" circles or oval circles), (e.g., *C. antepagmenti* Bayer, Höfer & Metzner 2020, *C. circumflexa* (Mello-Leitão 1939) or *C. placata* (Peckham & Peckham 1901)) (Bayer com pers.). In *C. pequii* **sp. n.** the septum is continuous, even though in posterior half it is becoming broader, and an additional lateral ridge appears very close to the actual septum, centrally and in the anterior half the septum is extremely narrow but it is existent over the entire longitudinal distance. This sense, examples for an uncontinuous septum can be found (e.g., in the species *C. concinna* Bayer, Höfer & Metzner 2020 or *C. noda* (Chamberlin, 1916)) (Bayer *et al*., 2020; figs. 8A & 9A). In these cases, the anterior margin of W bents posteriorly in medial position, so that the anterior "half" of the septum is built by it, and the posterior half is built by the elongated posterior margin of W which is bent anteriorly in medial position (Bayer com pers.). Therefore, relationships of this species are difficult to assess because of the broad CD and the strange initial section of DST after arising at SS (running directly along the posterior-dorsal surface of the SS).

NATURAL HISTORY. (Fig. 31). These spiders were collected in the shrub stratum of the dry forest, during the morning hours, in the rainy season.

DISTRIBUTION. Only known from the type locality in Goiás in Brazil (Fig. 30).

***Corythalia conferta* Bayer, Höfer & Metzner 2020**

Corythalia conferta Bayer, Höfer & Metzner 2020: 16, figs 7A–E, 57B, 61B, 64B–D, 68B, 71B, 75 B–E (description and illustration of male and female). Baigorria *et al*. 2021: 1, figs 1a–g, 2a–h, 3a–h (illustration of male and female). Pett, Rubio & Stolar 2021: 929, figs 9F–G, I (illustration of male).

Figs. 22-29, 30, 32

MATERIAL EXAMINED**.** Female: Brazil, Goiás, Anápolis: Reserva Ecológica e Cientifica Trilha do Tatu [16°23'2.69"S, 48°56'39.36"W], [1075 m], 20-XI-2019, dry forest, agitation of foliage, E. Bedoya-Roqueme, R. F. Ribeiro col. (LECA; ARA-032). Male: Brazil, Goiás, Anápolis: Antônio Marmo Canedo Park [16°18'28.4"S 48°57'20.6"W], [1035 m], 02-II-2020, Gallery Forest, collected by hand, E. Bedoya-Roqueme col. (LECA; ARA-033). Male: Brazil, Goiás, Anápolis: Antônio Marmo Canedo Park [16°23'2.69"S, 48°56'39.36"W], [1075 m], 24-VII- 2021, Gallery Forest, collected by hand, E. Bedoya-Roqueme col. (LECA; ARA-034).

DIAGNOSIS. See Bayer *et al*. (2020).

MEASUREMENTS OF FEMALE EXAMINED (MM): TL= 6.511; CH=1.82; CL= 2.641; Cly = 0.271; W= 1.814; AL= 3.821; AERW= 1.282; PERW= 1.061; LOQ= 1.841; AEMD= 0.653; MEP= 0.37; eyes of the second row separated from the ALE by 0.542 mm and from the PLE by 0.251 mm. Legs: Leg I: femur 1.236/0.663; patella 0.892/0.631; tibia 0.912; metatarsus 0.783; tarsus 0.451. Leg II: femur 1.372/0.633; patella 0.669/0.441; tibia 0.673; metatarsus 0.668; tarsus 0.651. Leg III: femur 1.369/0.581; patella 0.841/0.449; tibia 0.871; metatarsus 1.261; tarsus 0.611. Leg IV: 1.671/0.663; patella 0.861/0.581; tibia 0.961; metatarsus 1.340; tarsus 0.703.

MEASUREMENTS OF MALE EXAMINED (MM): TL= 4.213-4.271; CH= 1.321; CL= 2.022-2.113; Cly = 0.397; W= 1.486; AL= 1.436-1.982; AERW= 1.273-1.284; PERW= 1.056-1.161; LOQ= 0.664-0.741; AEMD= 0.651; MEP= 0.38-0.39; eyes of the second row separated from the ALE by 0.232-0.245 mm and from the PLE by 0.214-0.226 mm. Legs: Leg I: femur 1.0236-1.036/0.441-0.4458; patella 0.642-0.651/0.331-0.335; tibia 0.681-0.689; metatarsus 0.568-0.570; tarsus 0.531-0.521. Leg II: femur 1.112-1.125/0.433-0.465; patella 0.537-0.541/0.481-0.510; tibia 0.663-0.665; metatarsus 0.558-0.560; tarsus 0.451-0.453. Leg III: femur 1.166-1.169/0.481-0.492; patella 0.674-0.675/0.439-0.440; tibia 0.761-0.774; metatarsus 1.571-1.582; tarsus 0.661-0.693. Leg IV: 1.141-1.143/0.463-0.466; patella 0.661-0.663/0.471-0.475; tibia 0.761-0.763; metatarsus 1.237-1.245; tarsus 0.583-0.586.

NATURAL HISTORY. (Fig. 31). These spiders were collected in the shrub stratum of the dry forest, during the morning hours, of the rainy season.

DISTRIBUTION. Brazil, Paraguay, Argentina.

Discussion

The Brazilian Cerrado is a domain characterized by its high species endemism, which makes it become a hotspot of biodiversity worldwide (Klink & Machado, 2005). Despite the above, its biological diversity is undervalued (Ratter *et al*., 2003; Klink & Machado, 2005). The latest updates indicate an estimated count of 90000 species of invertebrates present in the Brazilian Cerrado (Cavalcanti & Joly, 2002; Klink & Machado, 2005).

The analyzed area, which comprises the region of Anápolis, Goiás, is characterized by the predominance of temperate climate and typical vegetation of the Brazilian Cerrado (Worldclim, 2016). Climatic and vegetative aspects are very important for spiders, as they are animals very sensitive to environmental changes (Omena *et al.*, 2017). Some species live exclusively associated with plants, using them not only as places of foraging but also for reproduction, as nurseries, and as shelter (Dias & Brescovit, 2004; Romero & Vasconcellos-Neto, 2005).

Species of jumping spiders have been recorded inhabiting the bark of trees and shrubs, some in degraded forests, and are presumed to be related to their cryptic coloration (Rubio *et al*., 2018). Likewise, individuals of *Encolpius guaraniticus* were collected in the shrub stratum of the dry forest, in the preserved areas, which was also observed for individuals of *Corythalia pequii* **sp. n.** and *C. conferta*; therefore, spiders with this dynamic use plant features to select specific microhabitats and foraging sites, and not just prey availability (De Omena & Romero, 2010; Tedore & Johnsen, 2016), which can be used as indicators of environmental quality (Pearce & Venier, 2006).

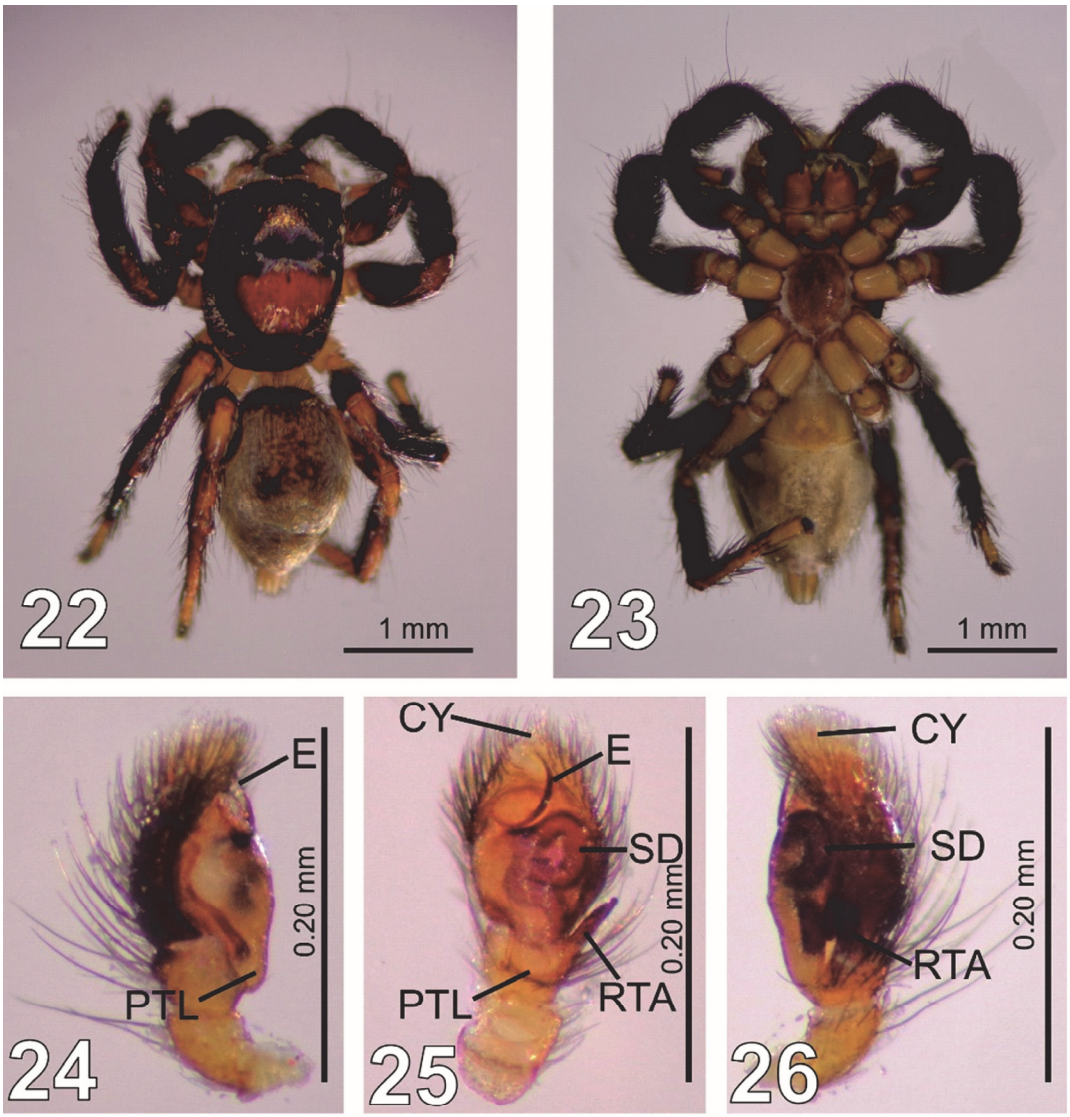


Fig. 22-26. Habitus, *Corythalia conferta* Bayer, Höfer & Metzner, 2020, male: 22, dorsal view. 23, ventral view. 24, left palp, prolateral view. 25, left palp, ventral view.26, left palp, retrolateral. CY: Cymbium; E: Embolus; PTL: (Retro-latero-) proximal tegulum lobe; RTA: Retrolateral tibial apophysis; SD: Sperm duct (within tegulum).

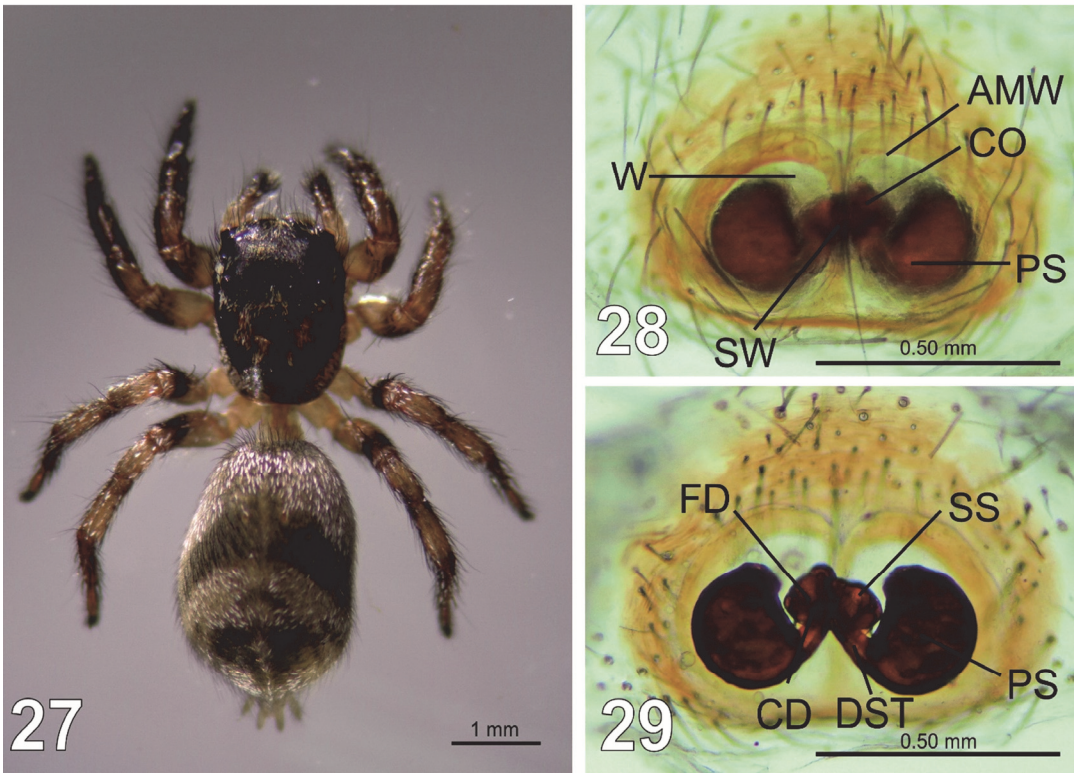


Fig. 27-29. Habitus, *Corythalia conferta* Bayer, Höfer & Metzner, 2020, female: 27, dorsal view. 28, epigyne, ventral view. 29, same, cleared, dorsal view. AMW: Anterior margin of epigynal window; CD: Copulatory duct; CO: Copulatory opening; DST: Connective duct between primary and secondary spermatheca; FD: Fertilization duct; PS: primary spermatheca; SS: Secondary spermatheca; SW: Septum of epigynal windows; W: Epigynal window.

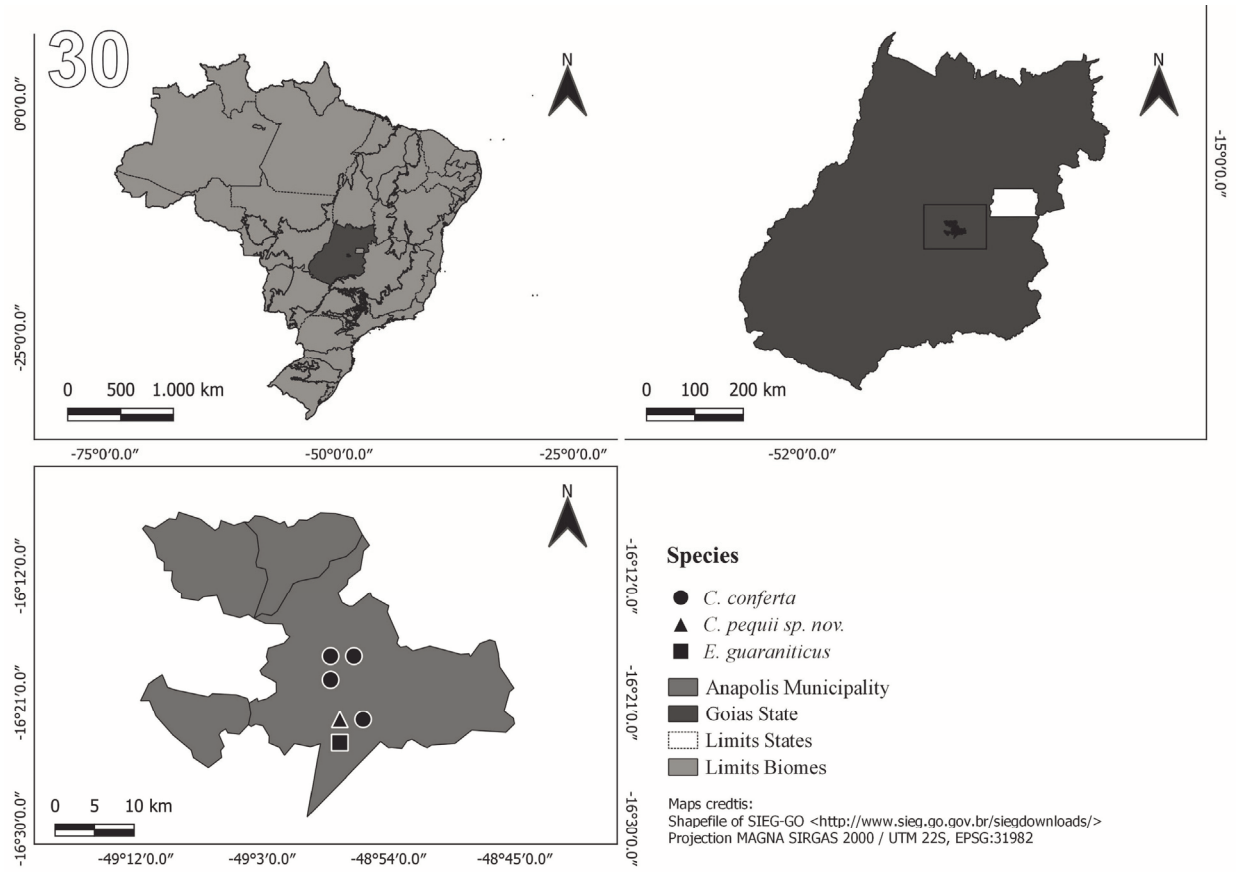




Fig. 30. Map presenting the location of the registered areas in the city of Anapolis, Goiás, Brazil. **Fig. 31-32.** Microhabitat recorded: 31, Dry Forest, Ecological and Scientific Reserve "Trilha do Tatu" State University of Goias, Anápolis, Brazil. 32, Gallery Forest, Antônio Marmo Canedo Environmental Park, Anápolis, Brazil.

Some authors, such as Motta (2014), refer to the presence of more than 200 species in the Brazilian Cerrado, however, this number is undervalued if the high diversity values present in this domain are considered. Therefore, with the species *C. pequii* **sp. n.** registered in the present study and the new findings in the known distribution of the species *C. conferta* Bayer, Höfer & Metzner 2020 and *E. guaraniticus* to include the state of Goias, Brazil, indicates a diversity of species and an unknown fauna present in the ecological reserve "Trilha de Tatu Ecological Reserve".

Similarly, it also serves as a basis for establishing conservation guidelines and measures as well as management plans in the reserve, in this sense, with further studies that help to feed Salticid's inventory, which can be established and implemented once inventories, or at least the reference information, can be provided as a more solid base and provide information on reference.

Comments and observations. Recently, a new species of the genus *Lyssomanes* Hentz 1845 from the central Brazilian Cerrado was described as *L. florenciae* Bedoya-Roqueme, 2022. After an exhaustive review and interpretation of the epigynum of the type of material of *Lyssomanes yacui* Galiano, 1984, *L. florenciae* turned out to be a junior synonym of

the former. Therefore, *L. florenciae* **syn. n.** is declared here as a synonym of *L. yacui* Galiano, 1984. In this sense, the known distribution of *L. yacui* is extended to include the state of Goias, Brazil.

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