INTRODUCTION

Philodromidae Thorell, 1870 currently comprises 31 genera, of which 18 occur in the Neotropics (WSC 2020) and only Berlandiella Mello-Leitão, 1929 and Gephyrellula Strand, 1932 have been revised (Lise and Silva 2011, Santos and Rheims 2018). Berlandiella was proposed to allocate three species from Brazil: B. insignis Mello-Leitão, 1929 (type species), B. magna Mello-Leitão, 1929 and B. polyacantha Mello-Leitão, 1929. Lise and Silva (2011) did the taxonomic revision of the genus, redescribing and designating lectotypes for the known species and describing three new species, all recorded for Brazil, as follow: B. insignis, B. magna, B. polyacantha, B. meridionalis Lise & Silva, 2011, B. querencia Lise & Silva, 2011, and B. robertae Lise & Silva, 2011 (B. robertae is also recorded as occurring in Argentina). Most Berlandiella species are distributed in the south, southeast, and central-west regions of Brazil, with an isolated record of B. magna from the state of Piauí, Brazil and B. querencia from the state of Mato Grosso, Brazil. In this context, we present here the first record of the genus for northern Brazil, from the interior of the Amazon Basin.

According to Lise and Silva (2011), Berlandiella species are similar to Cleocnemis Simon, 1886 and Paracleocnemis Schiapelli & Gerschman, 1942, in the general body morphology; however, Berlandiella differs from these two genera by the absence of scopula in the tarsi and metatarsi, and the males have a cymbial process, characters recorded for the first time for the genus. Additionally, we present an updated diagnosis for Berlandiella.

KEY WORDS. Neotropical, Northern, spiders, taxonomy.
now and is here described for the first time. In addition, we recorded the presence of scopula in the tarsi, metatarsi and palp of some species of Berlandiella, and recorded structures that may be present in the palp of males, such as a cymbial process. In this context, we present an updated diagnosis for Berlandiella.

MATERIAL AND METHODS

The specimens were analyzed with a Leica MZ16 stereomicroscope and the illustrations were made with the assistance of a camera lucida attached to a stereomicroscope. Descriptions follow Lise and Silva (2011) and morphological terminologies follow Muster and Thaler (2004) and Muster (2009). Herein we record the position of the ventral macrosetae of the tibiae and metatarsi I-II according to Lise and Silva (2011), but we highlight the fact that there is no regular pattern of spination for species, since leg macrosetae I-II vary in number and position between individuals, and even between left and right legs. All measurements are in millimeters. Color images were obtained on a Leica M205 A stereomicroscope, coupled with a Leica MC170 HD digital camera. The LAS v. 4.9 software was used to generate extended focal range images. The scanning images were obtained with Mira 3 Tescan scanning electron microscope housed at the Laboratório Institucional de Microscopia Eletrônica de Varredura of the Museu Paraense Emílio Goeldi. For all scanning images, samples were submitted to an ultrasonic washer to clean surfaces. Then, the samples were gradually dehydrated in series of ethanol concentrations (80%, 90%, 96%, and 100%), subjected to critical-point drying and coated with gold. The distribution map of the species was elaborated with the program QGis 2.18 (QGIS 2019). The material examined is deposited in the Museu Paraense Emílio Goeldi (MPEG, curator A. Bonaldo) and Coleção de História Natural da Universidade Federal do Piauí (CHNUFPI, curator E.F.B. Lima). Abbreviations for the measurement of the eyes: (ALE) anterior lateral eyes, (AME) anterior median eyes, (PLE) posterior lateral eyes, (PME) posterior median eyes, (MOQ) median ocular quadrangle.

TAXONOMY

Philodromidae Thorell, 1870

Berlandiella Mello-Leitão, 1929

Berlandiella Mello-Leitão, 1929: 107, 122, 260, 264, 265 (type species Berlandiella insignis Mello-Leitão, 1929, by original designation). Lise & Silva, 2011: 350–373.

Updated diagnosis. Berlandiella is similar to Paracleocnemis, Procleocnemis Mello-Leitão, 1929 and Metacleocnemis Mello-Leitão, 1929 due to general morphology, however, differs from Metacleocnemis for having little evident thoracic fovea; from Procleocnemis due to smaller and closer PME relative to the PLE, oval abdomen and legs III-IV of similar length to legs I-II; they differ from Paracleocnemis in having a longer than wide cephalothorax and posterior eye row more recurved than the anterior. Berlandiella is distinguished from the other neotropical genera of Philodromidae by the following set of characters: carapace covered by erect and robust bristles (Figs 19–20), elongated oval abdomen, legs of similar size, densely covered with bristles (Fig. 43) and strong ventral macrosetae (Figs 1, 41), metatarsi I-II much smaller compared to the tibiae; epigynum with a more or less wide epigynal groove and small copulation opening (Figs Figs 4–7, 29, 30); male palpus covered with bristles (Fig. 13), bulky and ellipsoid bulb (Figs 8, 9, 31, 32), free and short embolus (Figs 8, 11, 12, 31), cymbial process present or absent (Figs 8-10, 15, 16, 31-33).
Berlandiella zabele sp. nov.

http://zoobank.org/A284875E-3883-478C-9361-B2D39576009F

Figs 2–6, 41, 43, 44

Type-material. Holotype. BRAZIL, 1 female from Piracuruca, Parque Nacional de Sete Cidades, 04°05′55.4″S, 41°42′33.2″W, 24 Jun. 2005, LS Carvalho leg. (MPEG.ARA 34482). Paratypes. BRAZIL, 1 male from Brasileira, Parque Nacional de Sete Cidades, 04°08′08.2″S, 41°43′08.4″W, 29 Jan. 2007, LS Carvalho et al. leg. (MPEG.ARA 34480); 1 male, same collection data as for preceding, 04°05′39.9″S, 41°43′53.3″W, 26 Jan. 2007, LS Carvalho et al. leg. (CHNUFPI 3398); 1 male, same collection data as for preceding, 22 Jan. 2007, LS Carvalho leg. (MPEG.ARA 15579).

Diagnosis. The female of Berlandiella zabele sp. nov. is similar to B. magna and B. querencia by the long and ellipsoid spermathecae (Figs 4–7), but are distinguished from those species by having its copulation opening more widely separated from each other and located on the posterior edge of the epigynal groove (Figs 4, 6). The male resembles B. querencia in possessing a cymbial process (CP), but differs by the position of the CP, closest to the cymbium (Figs 8–10, 13, 15, 16), by the long retrolateral tibial apophysis (RTA), excavated in the distal portion (Figs 8–11, 15, 16).

Description. Female (holotype – MPEG.ARA 34482). Carapace slightly longer than wide, wider at the level of legs III, narrowed anteriorly, with many sockets of bristles; median region yellow with a brown central spot and wide dark brown bands on each side, formed by a tangle of dark spots. Clypeus vertical with many sockets of bristles, with a median brown spot and irregular spots on lateral. Chelicerae yellow with two teeth on the promargin of the fang furrow, with a large dark brown spot on the anterior face. Labium orange with rounded...
apex, reaching almost to the middle of the endites. Endites pale yellow, excavated diagonally. Sternum pale yellow. Legs covered by various types of setae and with many robust macrosetae on tibiae and metatarsi. Left and right tibiae I with 0–2–2–0 ventral macrosetae, left metatarsus I with 2–2–0 and right metatarsus I with 2–2–1 ventral macrosetae. Left and right tibia II with 0–2–2–0 ventral macrosetae and right metatarsus II with 2–2–1 ventral macrosetae. Tarsi and metatarsi with scopula. Long and thin trichobothria in tarsi and metatarsi, with distal and proximal plate limit well differentiated; the distal margin of the trichobothrial hood is well defined; hood entire, differentiated with transverse ridges; alveolus notched; distal plate smooth, slightly elevated. Femura yellow with brown spots, more abundant in prolateral sides of femora I-III, and a small white spot at the apex; patellae I-III yellow with brown spots; patella IV yellow; tibiae and metatarsi I-III yellow, shaded with brown, but tibia and metatarsus III darker; tibia IV yellow with a basal dark spot on prolateral side; tarsi I-IV yellow, with a dark ring at their bases.

Tarsal claw pectinate and conspicuous with claw apex tooth curved and seven short and robust teeth. Palp yellow with brown spots. Abdomen yellow, longer than wide, densely covered by setae sockets, the dorsum covered by a wide brown spot with two longitudinal yellow bands around the heart mark; laterals yellow shaded with brown and the venter yellow stippled with brown. Triangular epigynal groove, shallow, demarcated by sclerotized edges, small and widely spaced copulatory openings, elliptical and elongated spermathecae, thickly covered with punctuations.

Measurements. Total length 3.72. Carapace 1.85 long, 1.62 wide, 0.59 high. Chelicerae 0.57 long, 0.33 wide. Labium 0.30 long, 0.23 wide. Endites 0.43 long, 0.20 wide. Sternum 0.96 long, 0.89 wide. Clypeus 0.27 high. Abdomen 2.58 long, 1.66 wide, 1.22 high. Leg: I. femur 1.54; patella 0.72; tibia 1.27; metatarsus 1.04; tarsus 0.50; total length 5.07; II. 1.68; 0.72; 1.39; 1.13; 0.76; 5.68; III. 1.42; 0.63; 1.07; 0.97; 0.51; 4.60; IV. 1.17; 0.63; 1.12; 1.18; 0.61; 4.71. Leg formula II–I–IV–III. Eye diameters and eye interdistances. AME 0.08, ALE 0.09, PME 0.07, PLE 0.08,
AME-AME 0.15, AME-ALE 0.08, PME-PME 0.22, PME-PLE 0.27. MOQ 0.25 long in frontal view, 0.22 in dorsal view, anterior width 0.30, posterior width 0.36.

Male (paratype – MPEG.ARA 34480). Shape and bristles of carapace (Figs 17–22) as in female; median region dark yellow with a brown central spot and wide dark brown bands on each side, formed by a tangle of dark spots. Clypeus as in female. Chelicerae as in female. Shape of labium and endites as in female; labium brown and endites pale yellow with some brown spots. Sternum pale yellow, mottled with brown. Legs covered by various types of setae and abundant macrosetae in tibiae and metatarsi (Figs 24, 42). Tarsi and metatarsi with dense scopula (Figs 17, 18). Arrangement of the ventral macrosetae of the tarsi and metatarsi I-II as in female. Trichobothria (Fig. 42) as in female. Femura yellow shaded with brown, with a transversal white stripe at the apex and yellow longitudinal stripe on retrolateral side; dorsum of the patellae yellow with a longitudinal brown stripe in the middle and a transversal white stripe at the apex, venter shaded with brown; base of the tibiae shaded with brown, the remaining yellow stippled with brown; base and apex of the tarsi shaded with brown, the remaining yellow stippled with brown; metatarsi yellow with a small brown spot at the base. Abdomen brown, oval, wider than long with many brown bristles curved backwards on the dorsum and sides; anteroventral region yellow. Palpal cymbium dark yellow covered by many setae, including scopula in the apex (Figs 13, 14), cymbial process present; elongated and robust bulb with a small and irregular membranous conductor below the embolus, which is short, sharp and straight; RTA semi-translucent.

Measurements. Total length 3.72. Carapace 1.49 long, 1.51 wide, 0.51 high. Chelicerae 0.44 long, 0.25 wide. Labium 0.17 long, 0.22 wide. Endites 0.37 long, 0.17 wide. Sternum 0.82 long, 0.75 wide. Clypeus 0.17 high. Abdomen 1.41 long, 1.00 wide, 0.66 high. Legs: I. femur 1.24; patella 0.59; tibia 1.03; metatarsus 0.89; tarsus 0.63; total length 4.38; II. 1.50; 0.60; 1.25; 1.00; 0.68; 5.03; III. 1.24; 0.50; 0.97; 0.76; 0.50; 3.97; IV. 1.35; 0.54; 1.08; 1.05; 0.51; 4.53. Leg formula: II-IV-I-III. Eye diameters and eye interdistances. AME 0.08, ALE 0.07, PME
0.06, PLE 0.10, AME-AME 0.12, AME-ALE 0.05, PME-PME 0.20, PME-PLE 0.18. MOQ 0.21 long in frontal view, 0.19 in dorsal view, anterior width 0.24, posterior 0.32.

Material examined. BRAZIL. Piauí: Piracuruca, Parque Nacional de Sete Cidades, 04°05′39.9″S, 41°43′53.3″W, 02 Feb. 2007, LS Carvalho et al. leg. (1 female, MPEG.ARA 15576); same collection data as for preceding, 24 May 2007, LS Carvalho et al. leg. (1 female, MPEG.ARA 15577); same collection data as for preceding, 22 Jan. 2007, LS Carvalho leg. (2 males, MPEG.ARA 15578); same collection data as for preceding, 02 Dec. 2006, NF Lo-Man-Hung leg. (1 female, MPEG.ARA 15580); same collection data as for preceding, 24 Jan. 2007, LS Carvalho leg. (2 males, MPEG.ARA 15581); same collection data as for preceding, 26 Jan. 2007, LS Carvalho et al. leg. (1 male, MPEG.ARA 15582); same collection data as for preceding, 02 Feb. 2007, LS Carvalho et al. leg. (1 male, MPEG.ARA 15583); same collection data as for preceding, 04°5′7.5″S, 41°43′0.7″W, 22 Jan. 2007, FM Oliveira-Neto leg. (1 male, MPEG.ARA 34478); Brasileira, 04°08′08.2″S, 41°43′08.4″W, 29 Jan. 2007, LS Carvalho et al. leg. (1 male, MPEG.ARA 34479); same collection data as for preceding, 28 Jan. 2007, LS Carvalho leg. (1 male, MPEG.ARA 34481).

Distribution. Known only from the type locality (Fig. 44).

Etymology. The specific epithet refers to a mythological character known by indigenous people of Piauí. According to indigenous mythology, Zabelê, a member of the Amanajós tribe, fell in love with Metara, a member of an enemy tribe. When the romance of Zabelê and Metara was discovered, tribal warfare resulted in the death of both lovers. The god Tupã pitied the two lovers and so transformed them into birds that fly together for eternity.

Remarks. The general color, legs especially, vary in the abundance of brown spots and some specimens may be darker or lighter than the paratype. The pattern of ventral macrosetae of the legs also varies between individuals.

Berlandiella querencia Lise & Silva, 2011

Figs 1, 27–43, 44

Berlandiella querencia Lise & Silva, 2011: 368, figs 1, 100–111 (holotype from Querência, Mato Grosso, Brazil, deposited in MPEG 17571; examined).

Diagnosis. The male of B. querencia differs from the other species of the genus by having a sinuous CP, directed to the apex of the RTA (Figs 31, 33), which is robust, excavated, and with a...
Description. Male (MPEG.ARA 34477). Carapace slightly longer than wide, wider on the level of legs III, narrowed in front, with many sockets of bristles (Figs 17–22), similar to female; median region yellow with wide brown bands on each side, formed by a tangle of dark spots. Clypeus brown, vertical, with many sockets of bristles. Chelicerae yellow, with two teeth on the promargin of the fang furrow, with a large dark brown spot on the anterior face. Labium brown with rounded apex, reaching almost the middle of the endites. Endites pale yellow with some brown spots, excavated diagonally. Sternum pale yellow with some circular brown spots on its lateral margins. Legs covered by various types of setae with abundant macrosetae on tibiae and metatarsi. Left tibia I with 2–2–2–2–2 ventral macrosetae and left metatarsus I with 2–2–0 ventral macrosetae; right tibia I with 2–2–2–2–2 ventral macrosetae and right metatarsus I with 2–2–0 ventral macrosetae. Left tibia II with 2–2–2–2–2 ventral macrosetae and left metatarsus II with 2–2–0 ventral macrosetae. Tarsi and metatarsi with dense scopula (Figs 35, 37, 39). Long and slender trichobothria in tarsi and metatarsi with distal and proximal plate limit well differentiated; the distal margin of the trichobothrial hood is well defined; hood entire, differentiated with transverse ridges; alveolus notched; distal plate smooth, slightly elevated. Femura, patellae, tibiae and metatarsi I–IV yellow shaded with brown; tarsi yellow. Tarsal claw pectinate and conspicuous with claw apex tooth curved and seven short and robust teeth. Abdomen oval, narrower on the posterior margin, excavated on the anterior margin; tegument yellow with many setae curved backwards, the dorsum covered by a wide brown spot with two longitudinal yellow bands around the heart mark; sides with a brown longitudinal stripe and the venter with small brown spots. Palpal cymbium dark yellow covered by many.

Figures 23–26. Leg I of *Berlandiella zabele* sp. nov. male: (23) tarsus and apex of metatarsus with scopula (indicated by arrows); (24) different types of seta in the metatarsus (smaller rectangle show tenent barbs of scopula); (25) claw and claw tufts; (26) detail of tenet barbs of claw tufts. Scale bars: 23 = 150 µm, 24, 25 = 20 µm, 26 = 5 µm.
setae, including scopula in the apex, cymbial process present; covered by many setae, including scopula in the apex; ellipsoid and robust bulb, with small triangular process near embolus and semi-translucent lamella in the retrolateral apical portion; embolus short, sharp and straight; RTA semi-translucent, curved and elongated.

Measurements. Total length 2.84. Carapace 1.46 long, 1.03 wide, 0.39 high. Chelicerae 0.43 long, 0.25 wide. Labium 0.16 long, 0.23 wide. Endites 0.34 long, 0.17 wide. Sternum 0.81 long, 0.73 wide. Clypeus 0.16 high. Abdomen 1.38 long, 1.00 wide, 0.57 high. Legs: I. femur 1.06; patella 0.51; tibia 0.96; metatarsus 0.72; tarsus 0.52; total 3.77; II. 1.25; 0.53; 1.08; 0.84; 0.57; 4.26; III. 1.23; 0.44; 0.83; 0.71; 0.50; 3.71; IV. 1.22; 0.46; 1.00; 0.92; 0.47; 4.07. Leg formula II-IV-III. Eye diameters and eye interdistances: AME 0.08, ALE 0.7, PME 0.06, PLE 0.10, AME-ALE 0.8, AME-AME 0.05, PME-PME 0.15, PME-PILE 0.14, MOQ 0.19 long in frontal view, 0.19 in dorsal view, anterior width 0.25, posterior width 0.28.

Female. See diagnosis and description in Lise and Silva (2011) and Figs 34, 36, 38 from female MPEG.ARA 33973 and Figs 29, 30 from female MPEG.ARA 33972.

Material examined. BRAZIL. Pará: Belém, Reserva Mocambo, 01°26’26.7’S, 48°24’40.5”W, 10 Jul. 2003, JAP Barreiros and DR Santos de Sousa leg. (1 male, MPEG.ARA 34477); same collection data as for preceding, Museu Paraense Emílio Goeldi – Campus de Pesquisa, 01°27’04.44’S, 48°26’39.32”W, 2011, (1 female, MPEG.ARA 33972); same collection data as for preceding, Oct. 2011 (1 female, MPEG.ARA 33973); same collection data as for preceding, 12 May 2018, P Pantoja leg. (1 male, MPEG.ARA 35228); Mato Grosso: Querência, Fazenda Tanguro, 12°55’53.0”S, 52°26’49.1”W, 13 Jun. 2006, DF Candiani and NF Lo-Man-Hung leg. (1 female, MPEG.ARA 16716).

Distribution. Known from Brazil (Mato Grosso and Pará) (Fig. 44).
Figures 31–33. Palp of *Berlandiella querencia*: (31) palp, ventral; (32) palp, retrolateral; (33) palp, dorsal. Scale bars: 0.3 mm.

Figures 34–39. Leg I of *Berlandiella querencia*: (34, 36, 38) female; (35, 37, 39) male; (34-35) metatarsus and apex of tarsus (arrows to scopular setae); (36) detail of setae in tarsus; (37) scopula, smaller rectangle show tenent barbs of scopular seta; (38-39) claw and claw tufts. Scale bars: 34, 35 = 150 µm, 36, 39 = 50 µm, 37, 38 = 20 µm.
DISCUSSION

We present an updated diagnosis of *Berlandiella* based on the revision carried out by Lise and Silva (2011). Scopula was not recognized in *Berlandiella* specimens in the description of the type species *B. insignis* by Mello-Leitão (1929) and by Lise and Silva (2011). Until now the absence of this structure was considered as one of the diagnostic features of the genus. However, we found scopula in the anterior legs of both males and females of *B. zabele*, males of *B. querencia*, *B. magna* (MCTP-31691), and *B. meridionalis* (MCTP-24716, MCTP-24718), although the scopula of the latter two species is less dense. Apparently some male and female specimens of *B. meridionalis* (MCTP-18928, MCTP-35602) lack scopula. In addition, figure 71 in Lise and Silva (2011) shows scopular setae in a section of one leg of *B. robertae*, indicating that other species of the genus also have scopula. The type-species of the genus, *B. insignis*, was not examined.

Scopula seem to be present only in sexually mature individuals, since we analyzed a juvenile of *B. querencia* without this structure. The scopular setae appeared in the anterior legs after ecdysis, when the specimen reached sexual maturity, becoming an adult male (MPEG.ARA 35228). Although we have not examined all species of the genus, it is clear that scopula should not be used to diagnose *Berlandiella* because the presence/absence of this structure varies among specimens of the same species and with degree of maturity.

We also removed from the diagnosis any mention about the height of the carapace, as well as the presence of dense claw tufts. In fact, some females of *Berlandiella* may have a relatively high carapace, and even males have convex carapace, although it is lower than females. As the understanding about the height
of the carapace is subjective, we decided to remove this character from the diagnosis. The use of claw tufts in the genus diagnosis is not informative, since these structures are present in many others genera of Philodromidae.

Since we documented the presence of the scopula in Berlandiella specimens, the absence of this character used to separate Berlandiella from Cleocnemis become invalid and was removed from the diagnosis. As consequence we could not establish a clear limit between Berlandiella and Cleocnemis. The original description of the type species, C. heteropoda Simon, 1886, as well as the redescription by Mello-Leitão (1929), present some somatic characters shared with Berlandiella representatives, such as a strongly recurved posterior eye row, with the PME smaller and more separated than in PLE; short legs with similar length, covered with many bristles, elongated bulbous male palp and short embolus. In addition, Mello-Leitão (1929) describes low carapace for some Cleocnemis species, including C. heteropoda, and high carapace for Berlandiella. However, some Berlandiella have relatively low carapace, which show us that this character is not informative, as discussed above.

The limits between Berlandiella and Cleocnemis should be established based on the detailed analysis of the Cleocnemis type species, as well as a phylogenetic analysis to understand the relationship between the two genera. Both are beyond of the scope of this paper, although we have the concern of not describing a new taxa which can become a synonym of a species already described and allocated in Cleocnemis. Then, to make sure that B. zabele has not been already described under Cleocnemis we checked the type localities, original descriptions and illustrations for all 14 known species of this genus as follow summarized: C. bryantae (Gertsch, 1933), C. lanceolata Mello-Leitão, 1929, C. nigra Mello-Leitão, 1943, C. paraguensis (Gertsch, 1933), C. spinosa Mello-Leitão 1947, C. taquarae (Keyserling, 1891) and C. xenotypa Mello-Leitão, 1929 differ from B. zabele based on the genitalia. Cleocnemis moschata Mello-Leitão, 1943 and C. rosa Mello-Leitão, 1944 has several ventral macrosetae in the legs I-II and B. zabele has only 2–2 ventral macrosetae in this legs. Cleocnemis mutilata (Mello-Leitão, 1917), C. punctalata (Taczanowski, 1872), C. rudolphi Mello-Leitão, 1943 and C. serrana Mello-Leitão, 1929 has several somatic characters different from B. zabele, especially legs with unequal length. Cleocnemis nigra and C. rudolphi were registered from the state of Paraíba, relatively close to the type locality of B. zabele, however, differs from this species by the previously mentioned characters. The description of C. heteropoda is similar to B. zabele based on somatic characters, however, C. heteropoda occurs in Rio de Janeiro, relatively far from the type locality of B. zabele. Additionally, the heteropoda epithet refers to unequal legs, as indicated by Mello-Leitão (1929) in the redescription of the species. On the other hand, B. zabele has all legs similar in color and length.

About the new characters described for Berlandiella here, males of B. zabele sp. nov. and B. querencia present a cymbial
process, which differs from all other males of the genus. A similar structure occurs in several species of Philodromus Walckenaer, 1826 and has been called the paracymbial lamella (Braun 1965), tutaculum (Levy 1977), cymbial process (Muster and Thaler 2004), and dorsal cymbium bulge (Muster 2009). The paracymbial lamella refers to a thin structure projected from the cymbium, which is different from that found in taxa described here. The tutaculum, used by Levy (1977), is a specific term to define a type of cymbial process that houses the embolus tip, which functions like a conductor in some genera of Thomisidae (Comstock 1940, Schick 1965, Benjamin 2011) and is different from the structure described here. In relation to the cymbium bulges, analyzing the illustrations of Muster (2009), we concluded that such structures are irregular projections on the dorsum of the cymbium, also different from the structure described here. Finally, Muster and Thaler (2004) described cymbial process as a small projection at the retrolateral proximal ventral border of cymbium, similar to structure found in males of B. zabele and B. querencia. Therefore, we decided to adopt this terminology for this structure.

Structures that emerge from the margin of the cymbium have been defined several times in the literature as paracymbium (see Griswold et al. 2005), however, this term is widely used to define cymbial projections present in Araneoidea palps, often being indicated as a group synapomorphy (Griswold et al. 1998, Griswold et al. 2005). In order to avoid misunderstandings, we decided not to use the term paracymbium to designate the structure present at the base of the cymbium of B. zabele and B. querencia; rather, we instead use the term cymbial process.

Finally, despite the difficulty in distinguishing Cleocnemis from Berlandiella, this latter is a revised genus and presents uniformity in the diagnostic characters present in the type-species and in the others (see diagnosis above). For this reason, and due to the similarity between B. zabele and other Berlandiella species, we decided to allocate the species in this genus.

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