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A revision of the genus Bristowia (Araneae: Salticidae)

SZŰTS, T.

Abstract: The Oriental genus *Bristowia* Reimoser, 1934 is revised and recorded for the first time from the Afrotropical region. The type species *Bristowia heterospinosa* Reimoser, 1934 of the genus is redescribed. Representatives of a new species *Bristowia afra* sp. n. found in Central Africa are described. The genus is redefined in the light of new morphological data. With 17 original drawings.

Key words: *Bristowia afra,* new species, redescription, Afrotropical

INTRODUCTION

The collection of the Hungarian Soil Zoological Expeditions to the Brazzaville-Congo (Balogh et al. 1965) was made available for scientific study. This large unidentified material is important to increase our knowledge of the Afrotropical region, as this area is still zoologically unexplored. The spiders of that expedition collection have not been studied. Previously only earthworms (Csuzdi 1992, 1996) and soil mites (Balogh & Mahunka 1966, 1967) of the material were treated.

The present paper gives redescription of a peculiar jumping spider genus, which has hitherto been known only from the Oriental region (Prószyński 1984, Żabka 1985, Ikeda 1995, Song & Li 1997, Song, Zhu & Chen 1999, Namkung 2002). A new species *Bristowia afra* sp. n. is described providing the first record of the genus in Africa.

MATERIAL AND METHODS

The specimens were studied with traditional methods (Wanless 1978). The drawings were made with the aid of *camera lucida*. All the measurements are given in millimetres. Methyl-salicylate was used to clear prepared epigynes. Quotations from Balogh et al. (1965) were used for the exact localities of collecting sites in Republic of the Congo.

The specimens studied are deposited in the following institutes: Hungarian Natural History Museum, Budapest (HNHM), Naturhistorisches Museum, Wien (NHMW).

Abbreviations used: AEW: anterior eye row width, HNHM: Hungarian Natural History Museum, Budapest, HSZE: Hungarian Soil Zoological Expedition to Congo, NHMW: Naturhistorisches Museum, Wien, OCA: ocular area, PEW: posterior eye row width, PLE: posterior lateral eye.

TAXONOMY

Bristowia Reimoser, 1934
(Figs 1–17)

Bristowia Reimoser, 1934: 17; Prószyński 1984: 14; Żabka 1985: 206; Ikeda 1995: 160; Song & Li 1997: 431; Song, Zhu & Chen 1999: 506; Namkung 2002: 586.

Type species – *Bristowia heterospinosa* Reimoser, 1934 by monotypy.

Diagnosis and relationships – The genus is characterised by its remarkable first leg (Figs 1–2, 14–17). It is strongly modified in males: coxa, trochanter (Fig. 2) and patella elongated (Figs 1–2), metatarsus and tibia with fine long spines, patella and tibia with a ventral brush of long, thick hairs. The first leg of females is similar, but less strongly modified (Fig. 17).

Males with a simple copulatory organ (Figs 5–10); tibia with a small curved apophysis directed forwards, tegulum pyriform, embolus thin, delicate and straight (Figs 7, 10). Female with simple genitalia (Figs 11–13).

The general habitus of *Bristowia* (e.g. first leg, low carapace see Figs 14–17) resembles slightly the Australian genus *Diolenius* (see Davies & Żabka, 1989 plate 21.), but can be distinguished from it by the structure of genitalia and ventral spination of the first leg (*Bristowia* has 4 pairs of spines on Ti and 2 on Mt, while *Diolenius* possesses 8 and 3 pairs respectively – see Figs 1–2). Reimoser (1934) suggested relationship with *Pilia* Simon, 1902; *Tara* Peckham & Peckham, 1886 and *Ohilimnia* Strand, 1911 (– *Ligonipes* Karsch, 1878).

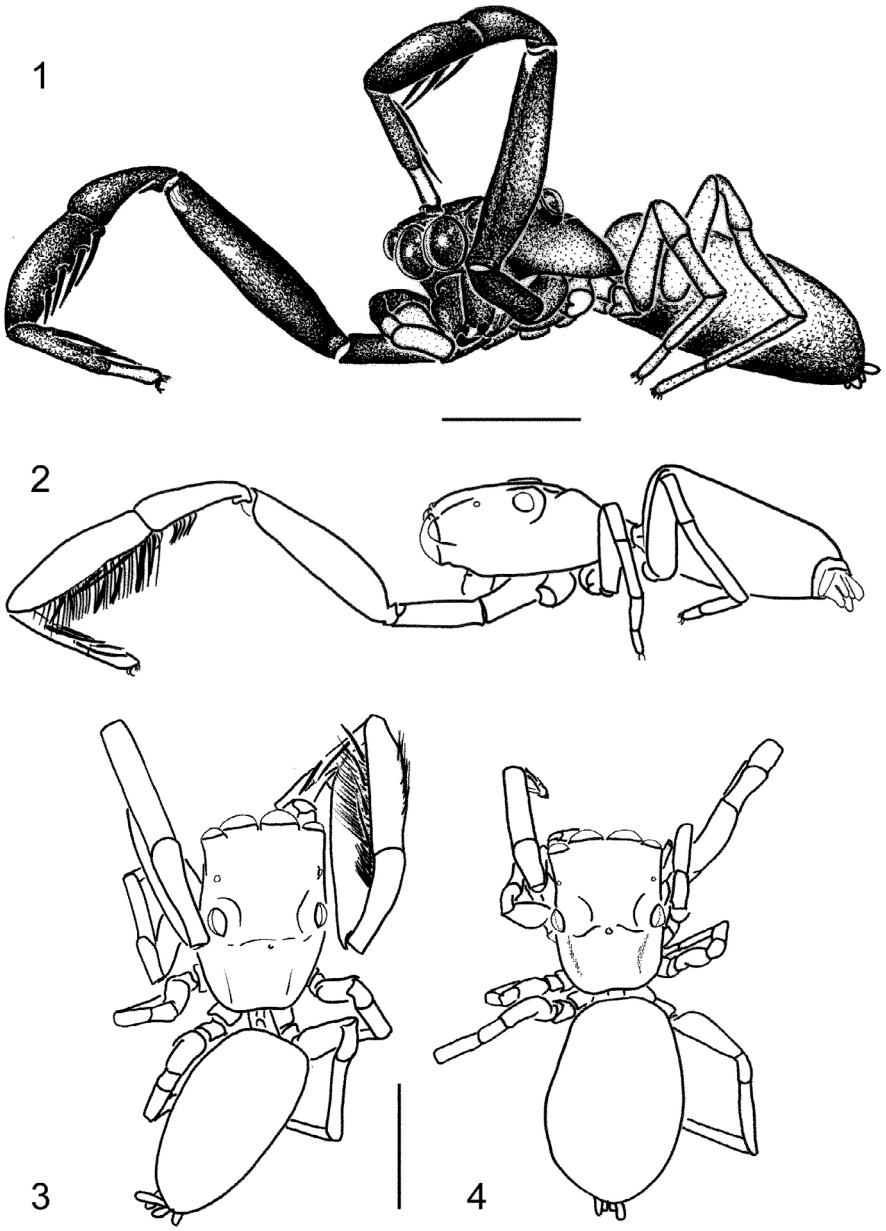
The copulatory organs (Figs 5–13) just as the peculiar spination of the first leg (four prolateral, three retrolateral) are similar to the African members of the genus *Phintella* Strand in Bösenberg & Strand, 1906 (Wesołowska, pers. comm., Żabka 1985) so perhaps they could also be related.

Description – Medium-sized spiders, with pluridentate chelicerae. Carapace dark brown, with sparse white hairs in the ocular area. Thoracic region also dark brown. Carapace height medium to low (Figs 14–17), with punctured reticulate microsculpture. Chelicerae not robust, more delicate in females than in males, brown, with two prolateral and four retrolateral teeth. Gnathocoxae, labium and sternum brownish.

Legs: leg I the longest and strongest and strongly modified (Fig. 1–2, 14, 16): coxa, trochanter and patella long and conspicuous, patella and tibia with ventral brush of thick, long hairs (Figs 1–2). In females less strongly modified (i.e. with shorter trochanter, etc.) than in males. All leg segments yellowish brown, except leg I, which dark brown, but with a pale yellow tarsus (Fig. 1).

Spination: tibia I with 4 prolateral and 3 retrolateral spines, metatarsus I with 2 pairs of fine and long spines (they reach the top of the leg by females).

Copulatory organs (Figs 5–13): "*Phintella* or *Chrysilla*-like" (Żabka 1985): with rather simple structure. Tibia and cymbium of male palp pale yellow, other segments dark brown (Figs 5–10). Tibia with a single, delicate, procurved apophysis (Figs 25, 28).



Figs 1–4. Habitus of *Bristowia* – 1: *B. afra*, male habitus, fronto–lateral view; 2: same, lateral view; 3: same, dorsal view; 4: female habitus, dorsal view. (Scale bars – 1 mm.)

Tegulum pale, sperm duct clearly visible (Figs 7, 10). Embolus short to medium sized, thin. Female epigyne simple, with large spermathecae and with long ducts bent over 180° (Figs 11–13).

Distribution – Oriental and Afrotropical: the genus has previously been known only from the Oriental region (China, Korea, Vietnam, Japan and Krakatau), this time it is

recorded from Central Africa as well. Unpublished drawings of Próchniewich (W. Wesołowska pers. comm.) show a species from East Africa, which clearly belongs to this genus – but the identity of the species is uncertain.

Remarks – In Dippenaar-Schoeman and Jocqué (1997) the genus *Diolenius* was also listed as Afrotropical (based on the Spider collection of Royal Museum of Central Africa). Owing to the strongly modified first leg of *Bristowia*, similar to that of *Diolenius*, it is almost certain that what they mentioned is *Bristowia*.

Bristowia heterospinosa Reimoser, 1934
(Figs 5–7, 11, 14–15)

Bristowia heterospinosa Reimoser, 1934: 17; Prószyński 1984: 14; Żabka 1985: 206; Ikeda 1995: 160; Song & Li 1997: 431; Song, Zhu & Chen 1999: 506; Namkung 2002: 586.

Diagnosis – This species is characterized by the high carapace and the steep thoracic slope (Figs 14–15). Embolus of males longer than that of *B. afra*, medium sized (Figs 5–7). Female entrance openings above the level of spermathecae. Posterior margin of epigynal plate with a middle indentation (Fig. 11).

Description – Male: Lectotype male (in fair condition): Carapace (Fig. 14): dark brown, with punctured reticulate microsculpture. Eyes: with black surroundings. Clypeus low, brownish. Chelicerae dark brown, with strong lateral edge. Gnathocoxae, labium and sternum yellowish brown.

Legs: yellowish, except leg I, which dark brown, with yellowish tarsus.

Abdomen: oval, unclear darker pattern on a paler background.

Dimensions: Lectotype male: Total length 3.24. Carapace 1.75 long, 1.1 wide at PLE, 0.85 high at PLE. AEW 1.05, PEW 1,05. Eye field 0.875 long. Abdomen 0.75 long, 1.5 wide.

Copulatory organ (Figs 5–7): relatively simple. Tibial apophysis directed forward, angular. Embolus thin, medium sized.

Female: paralectotype female (in fair condition): Carapace (Fig. 15): dark brown, with punctured reticulate microsculpture. Eyes: with black surroundings. Clypeus low, brownish. Chelicerae dark brown, with strong lateral edge. Gnathocoxae, labium and sternum yellowish brown.

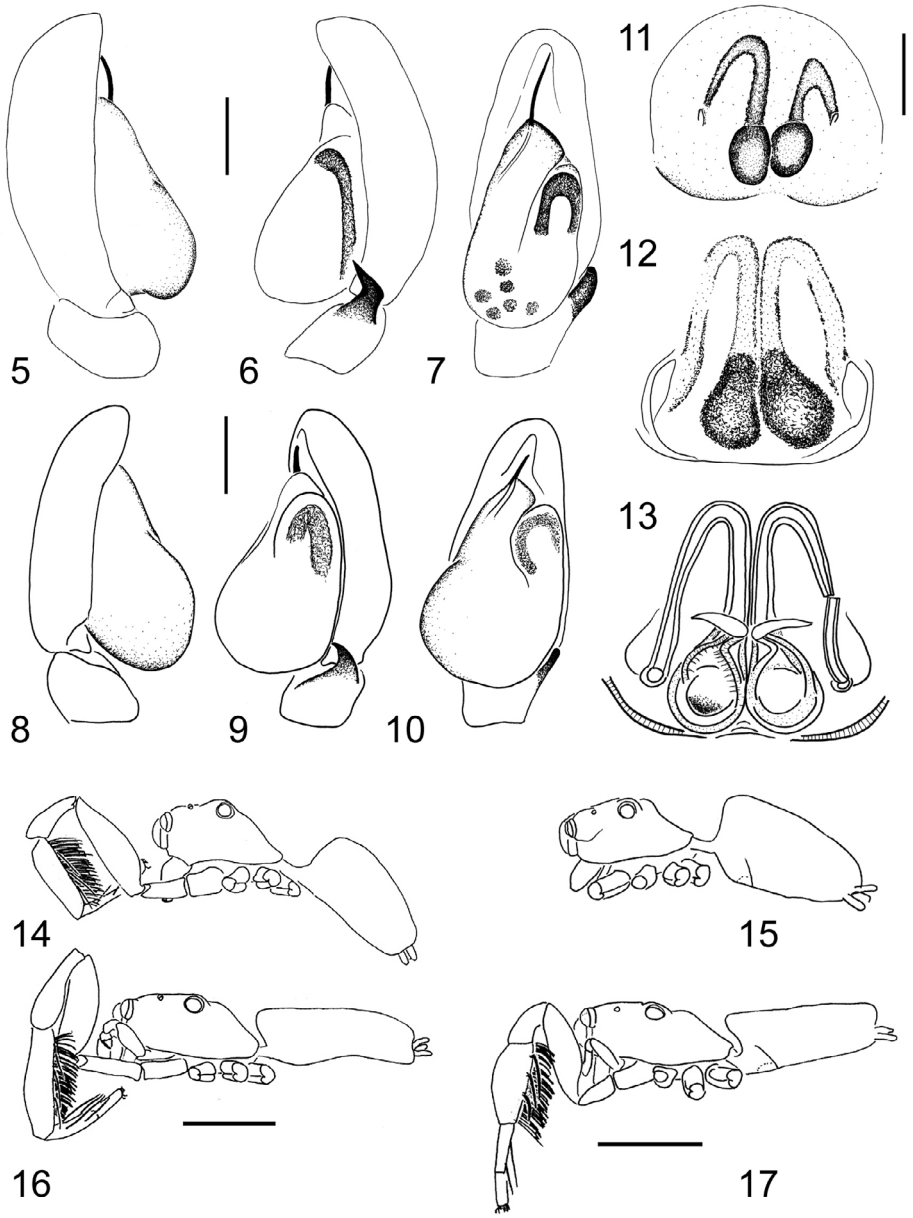
Legs: yellowish, except leg I, which dark brown, with yellowish tarsus. Abdomen: oval, unclear darker pattern on a paler background.

Dimensions: paralectotype female: Total length 3.05. Carapace 1.25 long, 1.05 wide at PLE, 0.625 high at PLE. AEW 0.95, PEW 0.925, OCA 0.875 long. Abdomen 1.55 long, 0.9 wide.

Epigyne (Fig. 11): relatively simple. Entrance duct above the level of spermathecae. Sperm ducts medium sized (more than two – less than three times of the diameter of spermathecae). Posterior edge of epigynal plate with indentation (NB: Epigyne of paralectotype female was not dissected).

Distribution – Oriental: China, Korea, Vietnam, Japan and Krakatau.

Material examined – Type material: Lectotype (designated by Ikeda 1995) ♂ and paralectotype ♀ together from KRAKATAU. leg: Bristowe, det.: Reimoser "*Coll. Musei Vindobonensis Arachn. Inv. No. 12332*" (NHMW).



Figs 5–17. Comparison of the *Bristowia* species – *B. heterospinosa:* 5: palp, prolateral view; 6: same, retrolateral view; 7: same, ventral view. *B. afra*: 8: palp, prolateral view; 9: same, retrolateral view; 10: same, ventral view. Female genitalia: 11: *B heterospinosa*, epigyne; 12: *B. afra*, epigyne; 13: *B. afra*, vulva. Habitus lateral view: *B. heterospinosa*: 14: male habitus; 15: female habitus. *B. afra*: 16: male habitus; 17: female habitus. (Scale bars 0.1 mm for Figs 5–13, 1 mm for Figs 14–17.)

Bristowia afra sp. n.
(Figs 1–4, 8–10, 12–13, 16–17)

Diagnosis – The species can be recognised by the lower carapace and the less steep thoracic slope in *B. heterospinosa*. Embolus of males shorter in *B. heterospinosa*, medium sized. Female entrance openings are in line with spermathecae.

Etymology – The species name derived from the Latin word "afra" (meaning "peaceful ruler") used by ancient Romans and Greeks for females of African origin (Bristowia's gender is feminine).

Description – Male: Carapace low (Figs 2, 16), with punctured reticulate microsculpture in the ocular area. Carapace dark brown, with sparse white hairs in the eye field. Thoracic region also dark brown, with two lateral white stripes. Chelicerae brown. Gnathocoxae, labium and sternum brown.

Legs: yellow, only first pair dark brown, with a pale yellow tarsus (Fig. 1).

Abdomen: oval, with ill-defined striped pattern on dorsum, dark brown on sides, and yellow on venter (the specimens were kept in 80% methanol for some 40 years, colour pattern may not be relevant owing to bleaching).

Dimensions: Holotype: Total length 3.5. Carapace 1.55 long, 1.05 wide at PLE, 0.65 high at PLE. AEW 1.1, PEW 1.0, OCA 0.9 long. Abdomen 1.75 long, 0.87 wide.

Copulatory organ (Figs 8–10): relatively simple. Tibial apophysis directed forward, not angular. Embolus thin, short.

Female: Medium sized (Figs 4, 17). Colouration of carapace similar to males: dark brown, with two lateral white stripes in the thoracic region. Tegument granulated in the ocular area. Chelicerae, gnathocoxae, labium and sternum brown. First leg the longest and strongest, less modified than in males.

Legs: yellow, only femur and tibia of first leg dark brown.

Abdomen: oval, with an unclear striped pattern on dorsum, dark brownish with paler spots on sides, and yellow on venter.

Dimensions: Total length 3.4. Carapace 1.32 long, 0.85 wide at PLE, 0.60 high at PLE. AEW 0.9, PEW 0.8, OCA 0.85 long. Abdomen 2.05 long, 1.5 wide.

Epigyne (Figs 12–13): relatively simple. Entrance openings in line with spermathecae, weakly sclerotized. Spermducts long (longer than three times the diameter of spermathecae). Posterior margin of epigynal plate straight.

Distribution – Central Africa: Republic of the Congo.

Material examined – Type material: Holotype ♂ from Republic of the Congo, Brazzaville, Orstom park. HSZE Nr 11 19.X.1963; leg: J. Balogh & A. Zicsi. Beaten from trees and shrubs of park, mostly from border of woods. (HNHM SALT312).

Paratypes: Republic of the Congo: 2 ♂♂ from Bouenza waterfall, gallery forest. HSZE Nr 301 30. XII. 1963, leg: J. Balogh & A. Zicsi, singled from under bark (HNHM SALT402). 1 ♀ from Brazzaville Orstom park. HSZE Nr 484 20.XII.1963; leg: J. Balogh & A. Zicsi, soil traps in forest park, 9 traps for 1 month. (HNHM SALT314). 1 ♂ from Brazzaville, "Foret clasée". HSZE Nr 523 26.XII.1963; leg: J. Balogh & A. Zicsi, beaten in bottom of valley, in high fern shrubbey. (HNHM SALT313). 2 ♂♂ and 1 ♀ from Lefini Reserve, Nambouli river, gallery forest. HSZE Nr 647 11. I. 1964; leg: J. Balogh & A. Zicsi, singled from under bark (WU). 1 ♂ from Lefini Reserve, Savanna . HSZE Nr 653 11. I. 1964; leg: J. Balogh & A. Zicsi, beaten from vegetation (HNHM SALT403). 1 ♂ from Lefini Reserve, Nambouli river, gallery forest. HSZE Nr 659 12. I. 1964; leg: J. Balogh & A. Zicsi, beaten from vegetation (HNHM SALT401).

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Author's address: T. Szűts
Systematic Zoology Research Group
Hungarian Academy of Sciences
Department of Zoology
Hungarian Natural History Museum
H–1088 Budapest, Baross u. 13.
HUNGARY
E-mail: tszuts@zoo.zoo.nhmus.hu