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A review of three *Tusitala* (Araneae: Salticidae) species from southern Africa, with a new synonymy and description of a new species from Botswana

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ABSTRACT

Two species of *Tusitala* Peckham & Peckham, 1902, largely sympatric throughout southern Africa, *T. barbata* Peckham & Peckham, 1902 and *T. hirsuta* Peckham & Peckham, 1902, are redescribed. One subspecies, *T. barbata longipalpis* syn. n., is synonymised with *T. barbata*. One new species, *T. ansieae* sp. n., is described from Botswana based on both sexes.

KEY WORDS: Afrotropical Region, southern Africa, Araneae, *Tusitala*, jumping spiders, redescription, new species, synonomy.

INTRODUCTION

The genus *Tusitala* Peckham & Peckham, 1902 contains ten nominal species, including one subspecies, *T. barbata longipalpis* Lessert, 1925 (World Spider Catalog 2015). Members of this genus are distributed across tropical Africa except for one species, *Tusitala yemenica* Wesołowska & van Harten, 1994, which is known from Yemen.

The genus belongs to the subfamily Salticinae (Maddison *et al.* 2014) and the type species, *Tusitala barbata* Peckham & Peckham, 1902, was described from South Africa based on a male. The female of this species was described in another genus as *Monclova braunii* Peckham & Peckham, 1902 and later identified as the female of *T. barbata* or *T. hirsuta* Peckham & Peckham, 1902 (Lessert 1925). Six species have subsequently been described based on both sexes, one species is only known from males, and three species were described based on females only.

Four *Tusitala* species have been recorded in southern Africa, viz. *T. barbata*, *T. guineensis* Berland & Millot, 1941, *T. hirsuta* and *T. lyrata* (Simon, 1903). Re-examination of material revealed that all southern African specimens identified as *T. guineensis* and *T. lyrata* belong to either *T. barbata* or *T. hirsuta* (see references under specific names). One new species, *T. ansieae* sp. n., is described and brings the total number of species known from southern Africa to three. Body size, coloration (Figs 43–45, 72–74), male cheliceral processes (Wesołowska & Tomasiewicz 2003: figs 5–12) and palpal tibial length (Wesołowska & Cumming 2008; Figs 31, 32, 48–50, 79–81), the structure of the epigyne, shape and position of receptacles (Figs 37–42, 61–67) and direction of the insemination ducts (Figs 35, 36, 68, 69) varies considerably within species of the genus *Tusitala*. This large variation in body size and size of the epigynal plate (Azarkina 2004) is prevalent in several other salticid genera (Azarkina & Foord 2013; Logunov 2015). However, the structure of the male's copulatory organs and number of insemination ducts does not vary within these species.

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This study therefore aims to (1) diagnose and redescribe two closely related *Tusitala* species, (2) map species distributions, (3) synonymise one subspecies, and (4) describe one new species from Botswana.

MATERIAL AND METHODS

Specimens for this study were loaned from the following museums (curators in parentheses):

MRAC – Musée royal de l'Afrique centrale, Tervuren, Belgium (R. Jocqué);
NCA – National Collection of Arachnida, ARC – Plant Protection Research Institute, Pretoria/Tshwane, South Africa (P. Marais);
NMBA – National Museum, Bloemfontein, South Africa (L. Lotz);
PCARS – Personal collection of A. Russell-Smith, Sittingbourne, UK.

A total of 515 specimens were examined. Specimens were studied in ethanol and their coloration refers to preserved specimens. All drawings were made with the aid of a reticular eyepiece attached to an MBS-10 stereomicroscope. Digital images were taken with a Zeiss Stemi 2000 and an attached Canon EOS 550D camera. Stack images were combined using Helicon Focus software.

The drawings were edited in Adobe Photoshop. Left palps were illustrated. The distribution map was produced using the online mapping software SimpleMappr (Shorthouse 2010). Abbreviations used in the text: AME – anterior median eyes; ap – apical; d – dorsal; Fm – femur; Mt – metatarsus; pr – prolateral; Pt – patella; rt – retrolateral; Tb – tibia; v – ventral. The sequence of leg segments in measurement data is as follows: femur + patella + tibia + metatarsus + tarsus. All measurements are in millimetre (mm). Leg spination follows Ono (1988).

TAXONOMY

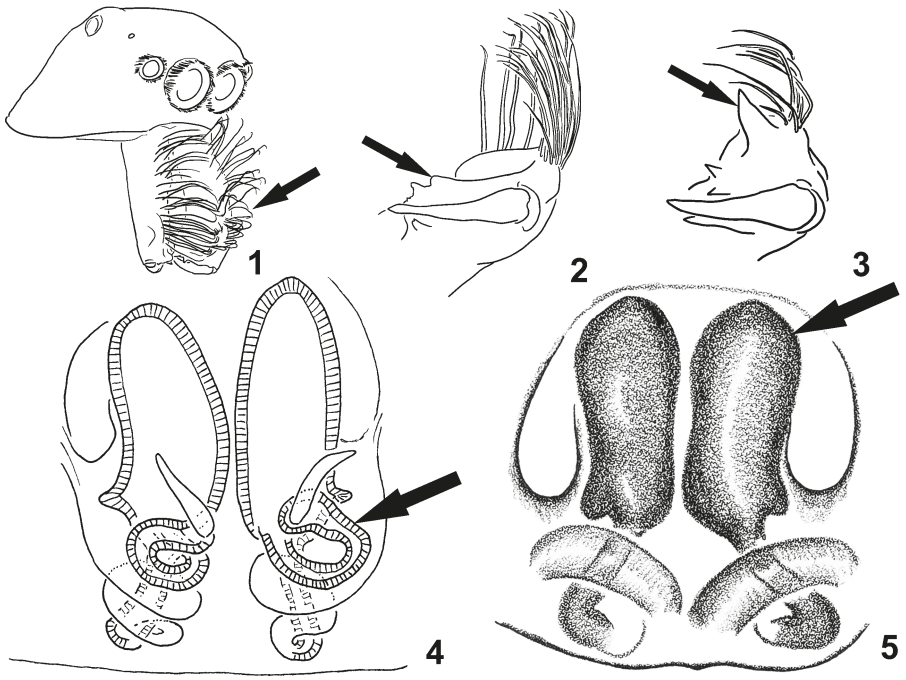
Family Salticidae Blackwall, 1841

Genus *Tusitala* Peckham & Peckham, 1902

Type species: *Tusitala barbata* Peckham & Peckham, 1902, by original designation.

Diagnosis: Males of *Tusitala* species have long setae on the promargin of the chelicerae that form a distinct dome (Fig. 1, arrowed). Females have long spirally coiled insemination ducts and receptacles composed of two parts – a spherical part, clearly visible through the epigynal tegument (Fig. 5, arrowed) and a vermiform section, only visible in the spermathecae (Fig. 4, arrowed).

Short description: Small- to medium-sized spiders, total length 4–7 mm, with sexual dimorphism. Males have long first legs, large chelicerae with promarginal process(es) near the fang base – small in *T. barbata* (Fig. 2, arrowed), *T. discibulba* Caporiacco, 1941 (see Prószyński 1987: fig. 115), *T. hirsuta* and *T. yemenica* (see Wesołowska & van Harten 2007: fig. 201), and long in *T. ansieae* sp. n. (Fig. 3, arrowed) and *T. lyrata* (see Wesołowska & Tomasiewicz 2003: figs 5–12); *T. lutzi* Lessert, 1927 has a long process on the exterior rim of the chelicera (Wesołowska 2012: fig. 57). Both sexes, but males in particular, vary considerably in size (Figs 43–45). The length of the male palpal femora and chelicerae varies in *T. barbata* and *T. hirsuta*, from short to very long (Figs 48–50), while the structure of the copulatory organs are invariant (Figs 79–81). The structure of the epigyne in *T. barbata* and *T. hirsuta* varies considerably (Figs 37–42, 61–67).



Figs 1–5. *Tusitala* spp.: (1) male carapace, fronto-lateral view; (2) male chelicera, apical view; (3) ditto; (4) spermathecae; (5) epigyne.

Composition: *Tusitala* includes the following ten species: *T. ansieae* sp. n. (♂♀); *T. barbata* Peckham & Peckham, 1902 (♂♀); *T. discibulba* Caporiacco, 1941 (♂); *T. guineensis* Berland & Millot, 1941 (♀); *T. hirsuta* Peckham & Peckham, 1902 (♂♀); *T. lutzi* Lessert, 1927 (♂♀); *T. lyrata* (Simon, 1903) (♂♀); *T. proxima* Wesołowska & Russell-Smith, 2000 (♀); *T. unica* Wesołowska & Russell-Smith, 2000 (♀); *T. yemenica* Wesołowska & van Harten, 1994 (♂♀).

Distribution: Continental Afrotropical Region and Yemen (Fig. 13).

Key to the three species of *Tusitala* of southern Africa

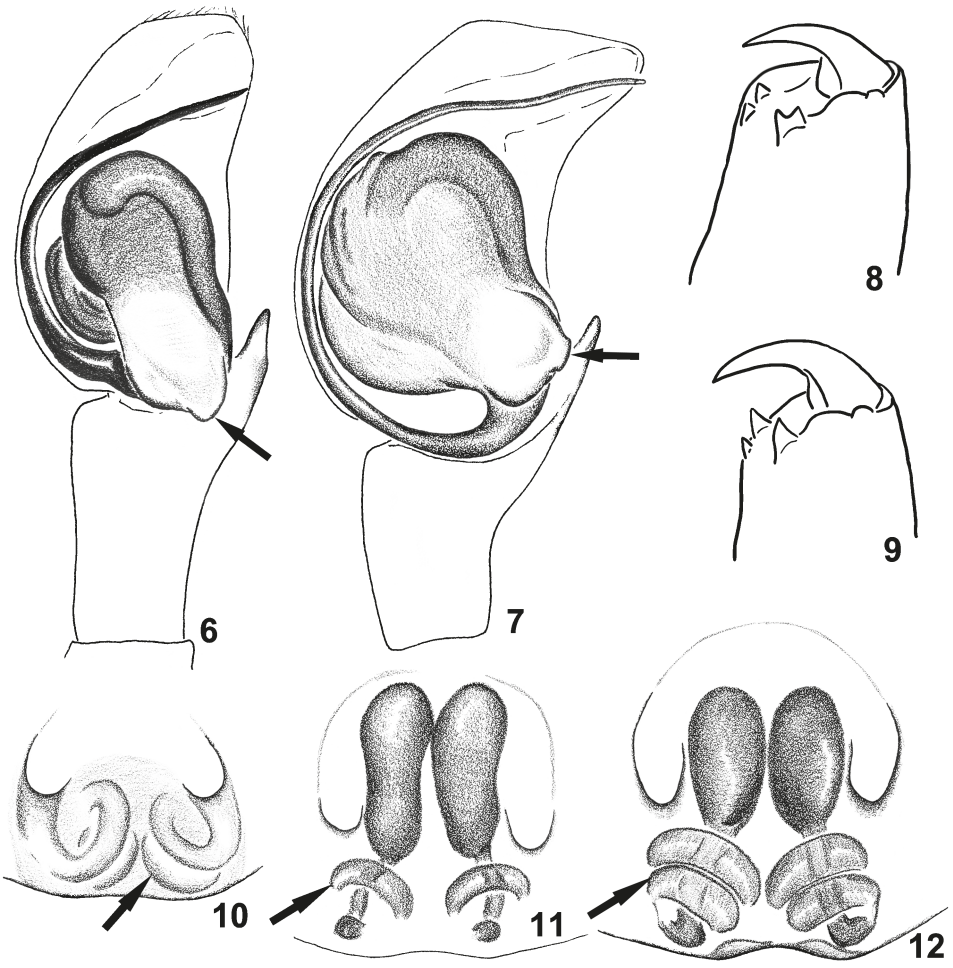
1 Males 2
– Females.....4

2 Chelicerae with small promarginal process near the fang base (Fig. 2, arrowed)....3
– Chelicerae with long promarginal process near the fang base (Fig. 3, arrowed) ....***ansieae*** sp. n.

3 Tegulum with small basal process pointed downwards (Fig. 6, arrowed), base of embolus located on prolateral edge of tegulum..... .....***barbata*** Peckham & Peckham, 1902
– Tegulum with basal process pointed retrolaterally (Fig. 7, arrowed), base of embolus located on ventro-retrolateral edge of tegulum .... ***hirsuta*** Peckham & Peckham, 1902

4 Epigyne with seminal receptacles distinct and visible above copulatory openings (Fig. 5), chelicerae fissidentati (Fig. 8) 5
– Epigyne with receptacles indistinct, located below copulatory openings (Fig. 10, arrowed), chelicerae unidentati (Fig. 9) .....***ansieae*** sp. n.

5 Insemination ducts with one coil (Fig. 11, arrowed).....
.....***barbata*** Peckham & Peckham, 1902
– Insemination ducts with two coils (Fig. 12, arrowed).....
..... ***hirsuta*** Peckham & Peckham, 1902



Figs 6–12. *Tusitala* spp.: (6) palp of *T. barbata*, ventral view; (7) palp of *T. hirsuta*, ventral view; (8) female chelicera of *T. barbata*, posterior view; (9) female chelicera of *T. ansieae* sp. n., posterior view; (10) epigyne of *T. ansieae* sp. n., ventral view; (11) epigyne of *T. barbata*, ventral view; (12) epigyne of *T. hirsuta*, ventral view.

Tusitala ansieae sp. n.

Figs 9, 10, 14–30

Etymology: This species is named after the South African arachnologist, Dr Anna Sophia (Ansie) Dippenaar-Schoeman, for her life-long contribution to African arachnology.

Diagnosis: Males of *T. ansieae* sp. n. resemble *T. lutzi* and can be distinguished from it by the large retrolateral process of the tegulum, the shape of the tibial apophysis – straight instead of curved (Figs 14–16), and the position of the cheliceral process – near the medial border of the chelicerae in *T. ansieae* sp. n. (Figs 25, 26) instead of the lateral border in *T. lutzi* (see Wesołowska 2012: fig. 57). Females resemble *T. lyrata* and can be distinguished from it by the shorter insemination ducts and their different course (Figs 17–19) (see Wesołowska & Tomasiewicz 2003: figs 15–19 for *T. lyrata*).

Description:

Male.

Measurements: Carapace: 2.20 long, 1.60 wide, 1.05 high. Abdomen: 2.00 long, 1.45 wide. Eye field: 1.00 long, anterior 1.50 wide, posterior 1.40 wide. Chelicerae length 0.85. Clypeus height 0.07. Diameter of AME 0.50. Length of leg segments: I 1.30 + 0.80 + 0.90 + 0.80 + 0.55; II 1.05 + 0.75 + 0.70 + 0.70 + 0.40; III 1.25 + 0.50 + 0.75 + 0.85 + 0.45; IV 1.30 + 0.65 + 0.90 + 1.00 + 0.50.

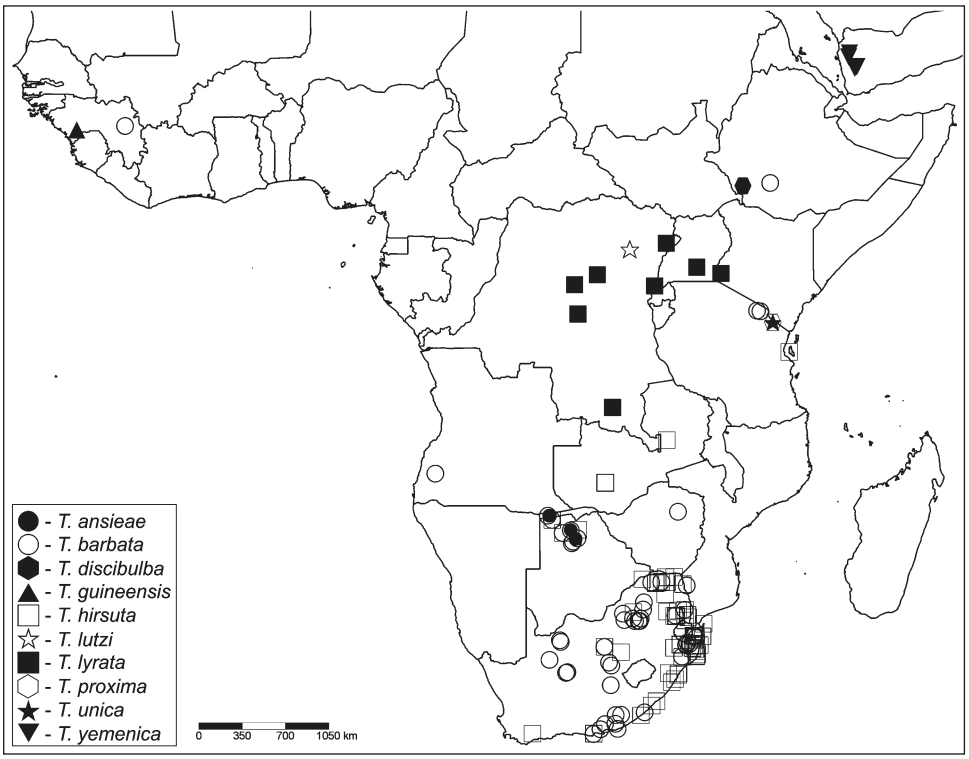
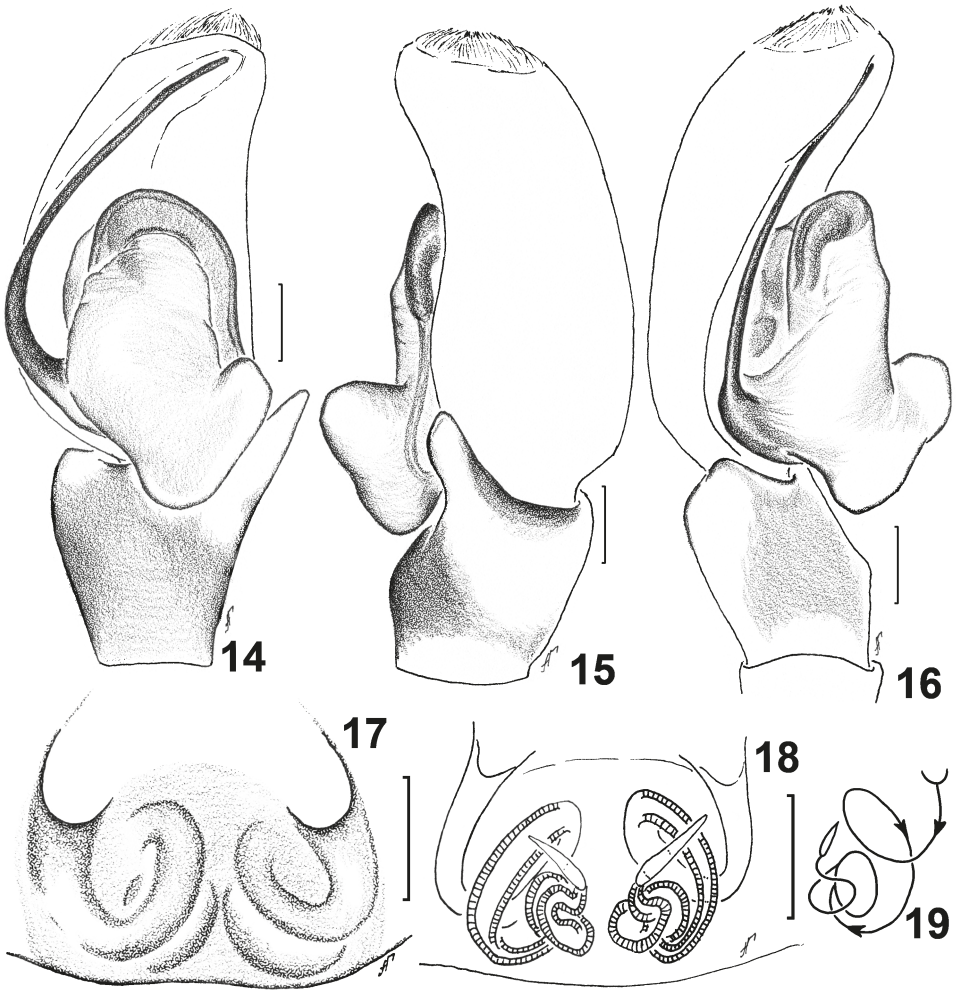


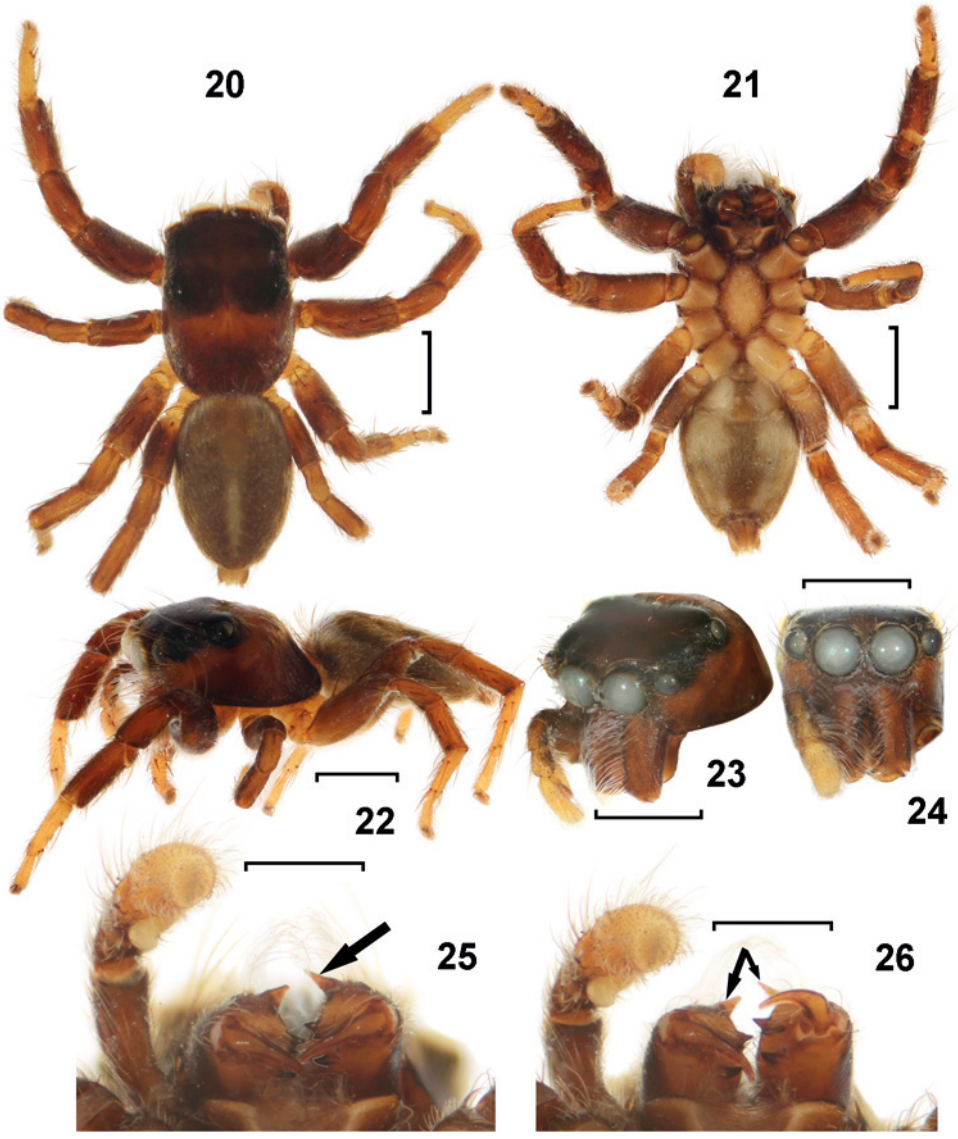
Fig. 13. Distribution map of all *Tusitala* species.



Figs 14–19. *Tusitala ansieae* sp. n.: (14) male palp, ventral view; (15) ditto, retrolateral view; (16) ditto, prolateral view; (17) epigyne, ventral view; (18) spermathecae, dorsal view; (19) diagram of insemination ducts. Scale bars: (14–18) = 0.1 mm.

Leg spination: I: Fm d 1-1-5; Pt pr & rt 1; Tb pr 1-1-1, v 2-2-2ap; Mt pr & rt 0-1ap, v 2-2ap. II: Fm d 1-1-5; Pt pr & rt 1; Tb pr 1-1-1, rt 1-1, v 2-2-2ap; Mt pr 1-1, rt 0-1ap, v 2-2ap. III: Fm d 1-1-5; Pt pr & rt 1; Tb pr & rt 1-1-1, v 2-0-2ap; Mt pr & rt 1-0-2, v 2-0-2ap. IV: Fm d 1-1-5; Pt pr & rt 1; Tb pr & rt 1-1-1, v 0-1-0-2ap; Mt pr & rt 1-1-2, v 2-0-2ap.

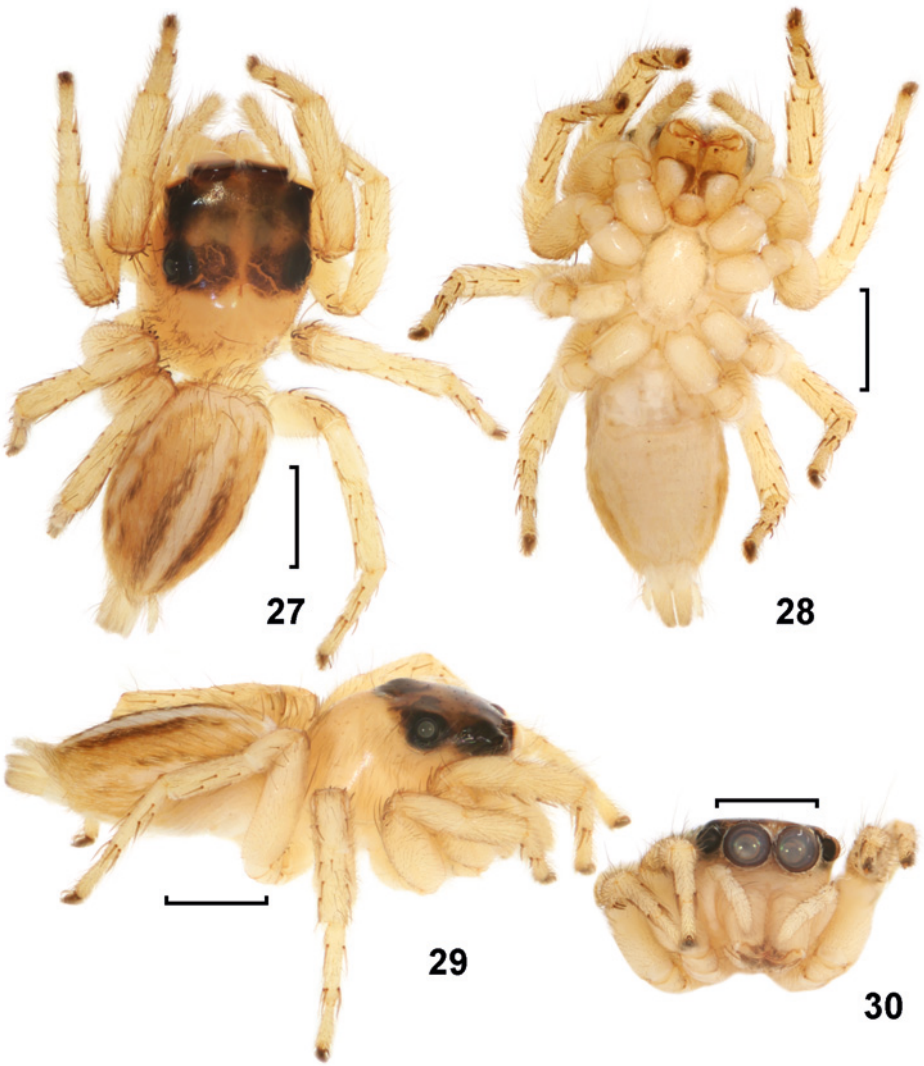
Coloration (Figs 20–24): Thoracic part of carapace brown, with brownish-yellow field behind ocular area, covered with transparent scales. Eye field dark brown, with brown median stripe and black patches around eyes (Fig. 20). Sternum yellow with brown margin (Fig. 21). Clypeus low, dark brown, covered with row of long brown setae (Fig. 24). Chelicerae uni-dentate, brown, with row of long white protruding setae on each chelicera (Figs 23, 24), long apical process near fang base (Figs 25, 26, arrowed).



Figs 20–26. *Tusitala ansieae* sp. n., general appearance: (20) male, dorsal view; (21) ditto, ventral view; (22) ditto, lateral view; (23) male "face", frontal-lateral view; (24) ditto, frontal view; (25) chelicerae, ventral view; (26) ditto, apical-retrolateral view. Scale bars: (20–24) = 1 mm; (25, 26) = 0.5 mm.

Abdomen grey, ventrally with broad brownish medial longitudinal band. Dorsum brown, with one longitudinal white band medially and white bordering band (Fig. 20). Booklungs yellow-grey. Spinnerets brown. Femora, patellae and tibiae dark brown. Metatarsi and tarsi brownish-yellow. First legs robust. Palpal femora and patellae brown, tibiae and cymbium yellow. Palpal structure as in Figs 14–16.

Female.



Figs 27–30. *Tusitala ansieae* sp. n., general appearance: (27) female, dorsal view; (28) ditto, ventral view; (29) ditto, lateral view; (30) female "face", frontal view. Scale bars = 1 mm.

Measurements: Carapace: 2.20 long, 1.60 wide, 1.10 high. Abdomen: 2.40 long, 1.35 wide. Eye field: 1.00 long, anterior 1.50 wide, posterior 1.50 wide. Chelicerae length 0.70. Clypeus height 0.10. Diameter of AME 0.50. Length of leg segments: I 1.20 + 0.70 + 0.75 + 0.60 + 0.40; II 1.10 + 0.70 + 0.70 + 0.55 + 0.40; III 1.15 + 0.60 + 0.70 + 0.70 + 0.45; IV 1.25 + 0.70 + 0.85 + 0.85 + 0.60.

Leg spination: I: Fm d 1-1-4; Pt pr 1; Tb pr 0-1, v 2-2-2ap; Mt pr & rt 0-1ap, v 2-2ap. II: Fm d 1-1-5; Pt pr 1; Tb pr 1-1-1, v 2-2-2ap; Mt pr 1-1, rt 0-1ap, v 2-2ap. III: Fm d 1-1-4; Pt pr & rt 1; Tb d 1-0-0, pr & rt 1-1-1, v 1-0-2ap; Mt pr & rt 1-2, v 2-2ap. IV: Fm d 1-1-3; Pt pr & rt 1; Tb d 1-0-0, pr & rt 1-1-1, v 1-0-2ap; Mt pr & rt 1-1-2, v 2-0-2ap.

Coloration (Figs 27–30): Carapace yellow, with dark brown ocular area and yellow median stripe, black patches around eyes (Fig. 27). Thoracic part covered with short dark brown hairs. Sternum yellow, with brown lateral sides (Fig. 28). Labium and maxillae brownish-yellow. Chelicerae, clypeus and cheeks yellow (Fig. 30). Chelicerae unidentati (Fig. 9). Abdomen yellow. Dorsum covered with brownish-red scales and three longitudinal yellow stripes; lateral stripes connected to each other on frontal part of abdomen (Fig. 27). Spinnerets and booklungs yellow. Legs and palps yellow. Structure of epigyne and spermathecae as in Figs 17–19.

Holotype ♂: BOTSWANA: *North-West/Ngamiland District*: 19 km NE of Maun, on surface of river near reeds and lilies, *ca.* 19°48'S 23°36'E, 23.vi.1979, B. Taylor & A. Morley (NCA 83/499).

Paratypes: BOTSWANA: *North-West/Ngamiland District*: Okavango River, Caprivi strip, 18°06'S 21°40'E, in reeds and papyrus, 24.iii.1976, A. Russell-Smith, 1♂ 1♀ (MRAC); Okavango River, near Gadikwe [=Gcodikwe] Lagoon, *ca.* 19°09'S 23°14'E, beating from *Ficus verriculata*, 16.x.1975, A. Russell-Smith, 1♂ (MRAC).

Distribution: Known only from northern Botswana (Fig. 13).

Comments: Leg II from the left side and leg IV from the right side in the holotype are underdeveloped.

Tusitala barbata Peckham & Peckham, 1902

Figs 6, 8, 11, 31–58

Tusitala barbata Peckham & Peckham, 1902: 330 (♂, not examined); Peckham & Peckham 1903: 243, pl. 28, fig. 2; Simon 1903: 802, figs 940–943; Berland & Millot 1941: 395; Prószyński 1984: 149; Haddad *et al.* 2005: 36; Wesołowska & Cumming 2008: 222, figs 192–195; Wesołowska & Haddad 2009: 92 (in part).

Monclovia braunii Peckham & Peckham, 1902: 331 (♀, not examined).

Tusitala emertoni Lessert, 1925: 514, figs 98–100 (♂♀, not examined).

Tusitala barbata longipalpis Lessert, 1925: 517, figs 101–103 (♂, not examined); Caporiacco 1940: 867, fig. 57 (♀, not examined) **syn. n.**

Tusitala guineensis Berland & Millot, 1941: Dippenaar-Schoeman *et al*. 2005: 13 (in part, misidentification).

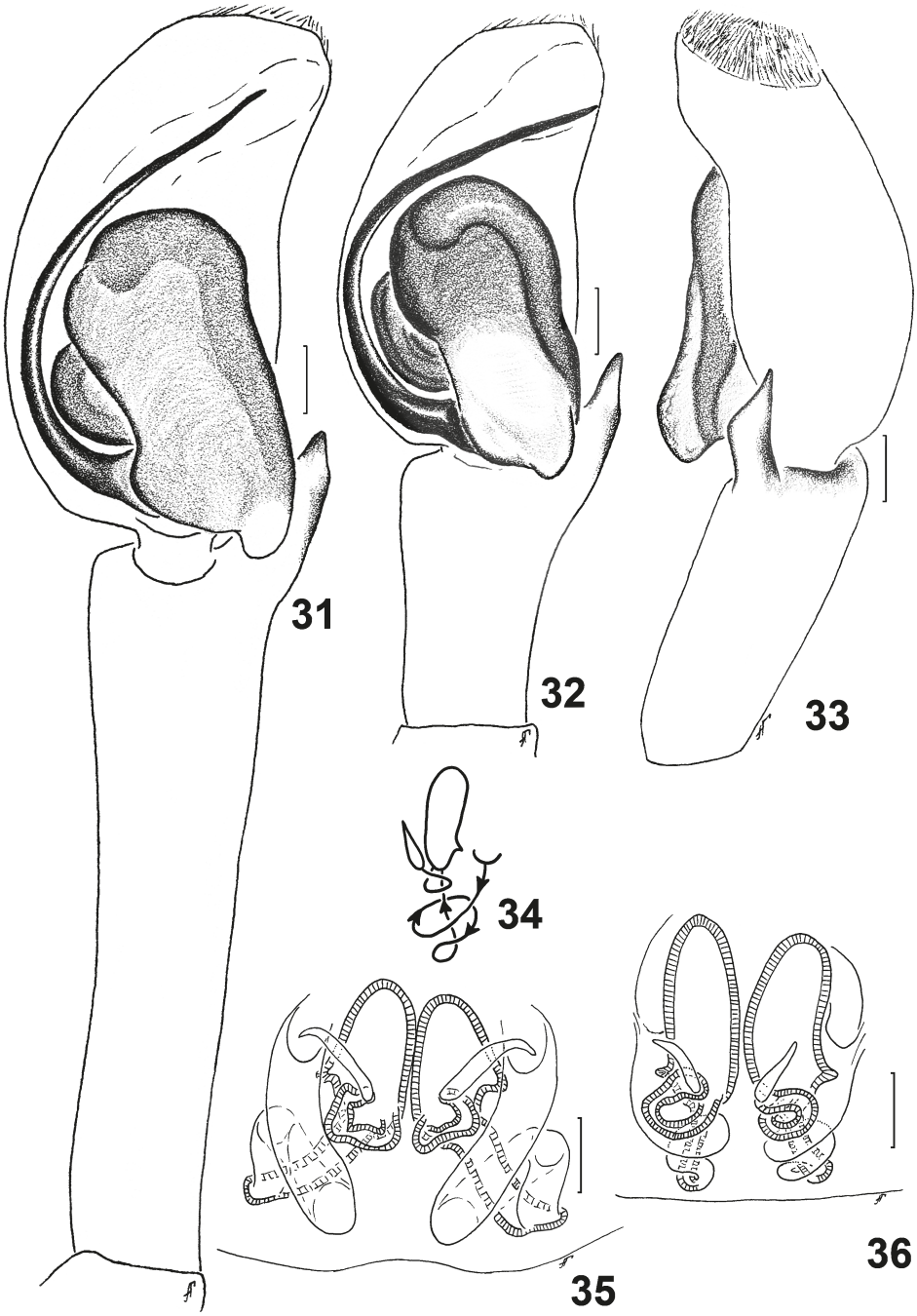
Diagnosis: *T. barbata* resembles *T. hirsuta*. The male can be distinguished by the shape of the palp — tegular basal process pointed down (Figs 31, 32) instead of pointed retrolaterally in *T. hirsuta* (Fig. 60); base of embolus located on prolateral edge of tegulum (Figs 31, 32, 48–50) as opposed to ventro-retrolaterally in *T. hirsuta* (Figs 79–81). The female can be distinguished by the structure of the spermathecae, characterised by insemination ducts with one coil (Figs 37–42) instead of two, as in *T. hirsuta* (Figs 61–67).

Description:

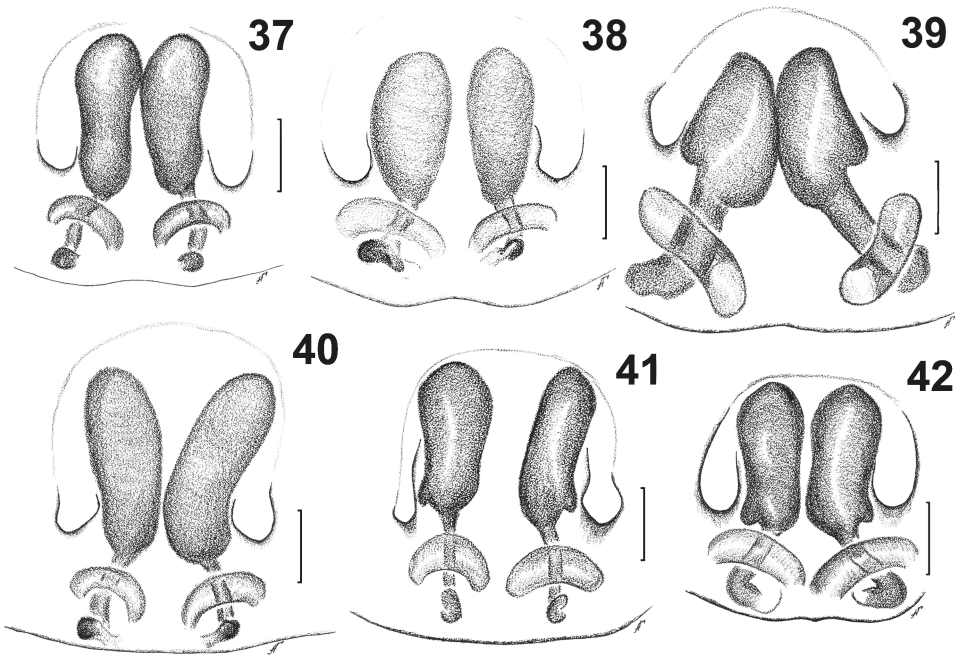
Male.

Measurements: Carapace: 1.90–3.30 long, 1.50–2.65 wide, 1.20–1.90 high. Abdomen: 2.20–3.40 long, 1.50–2.20 wide. Eye field: 1.00–1.50 long, anterior 1.45–2.25 wide, posterior 1.50–2.30 wide. Chelicerae length 0.90–2.30. Clypeus height 0.10–0.30. Diameter of AME 0.40–0.65. Length of leg segments (medium sized male from Free State, NMBA 15873): I 2.50 + 1.65 + 2.70 + 2.30 + 0.90; II 1.80 + 1.10 + 1.40 + 1.20 + 0.70; III 2.00 + 1.00 + 1.25 + 1.40 + 0.60; IV 1.80 + 0.90 + 1.30 + 1.40 + 0.60.

Leg spination: I: Fm d 0-1-1-4; Pt pr & rt 1; Tb pr 1-0-1-1, rt 0-0-1-1, v 2-2-2ap; Mt pr & rt 1-0-1ap, v 2-0-2ap. II: Fm 0-d 1-1-5; Pt pr & rt 1; Tb pr 1-1-1, rt 0-1, v 2-2-2ap; Mt pr & rt 1-1, v 2-2ap. III: Fm d 0-1-1-4; Pt pr & rt 1; Tb d 1-0-0, pr & rt 1-1-1, v



Figs 31–36. *Tusitala barbata*: (31, 32) male palp, ventral view; (33) ditto, retrolateral view; (34) diagram of insemination ducts; (35, 36) spermathecae, dorsal view. Scale bars = 0.1 mm.



Figs 37–42. *Tusitala barbata*: (37–42) epigynes, ventral view. Scale bars = 0.1 mm.

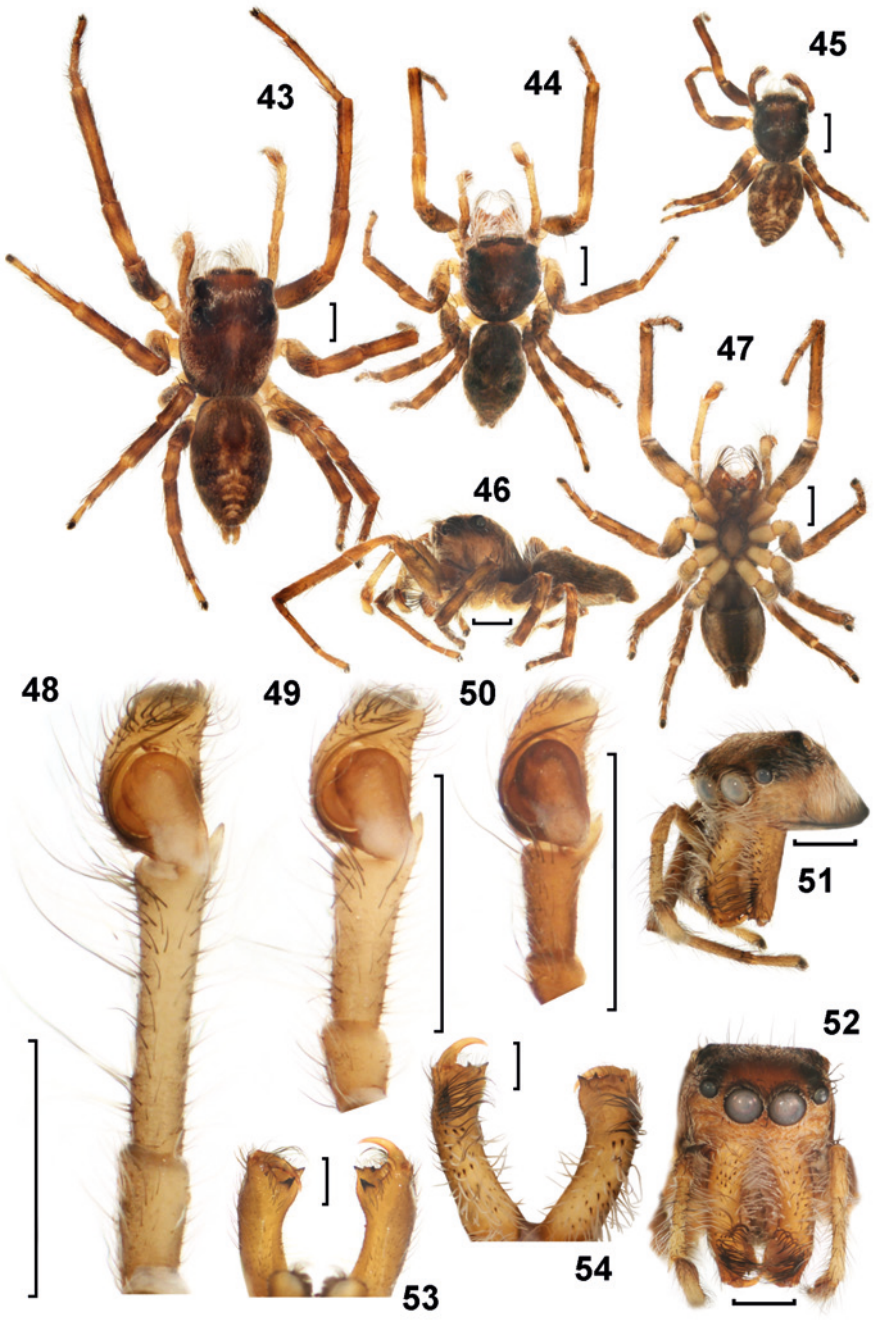
1-0-2ap; Mt pr 1-0-2, rt 1-1-2, v 2-0-2ap. IV: Fm d 0-1-1-4; Pt pr & rt 1; Tb d 1-0-0, pr & rt 1-1-1, v 1-0-2ap; Mt pr & rt 1-1-2, v 2-0-2ap.

Coloration (Figs 43–47, 51, 52): Carapace brown, with dark brown ocular area and two wide dark brown longitudinal stripes, with black patches around eyes (Figs 43–46), covered with transparent-white hairs. Sternum yellow, with two lateral brown stripes. Labium and maxillae dark brown, yellow apically (Fig. 47). Chelicerae yellow to red-brown, with very long spines on prolateral surface (Figs 51, 53, 54). Clypeus yellow to yellow-brown, covered with long sparse white hairs (Fig. 52). Abdomen yellow, ventrally with brown longitudinal stripe (Fig. 47), dorsally with two parallel longitudinal dark brown stripes and median short brown longitudinal stripe in frontal part of abdomen (Figs 43–45). Spinnerets dark brown. Booklungs grey-yellow. Femora and patellae proximally yellow, distally brown. Tibiae, metatarsi and tarsi of all legs brown. Palps yellow to brown-yellow. Palpal structure as in Figs 31–33, 48–50.

Female.

Carapace: 2.20–2.50 long, 1.70–2.00 wide, 1.05 high. Abdomen: 2.10–3.30 long, 1.65–2.50 wide. Eye field: 1.10–1.20 long, anterior 1.60–1.80 wide, posterior 1.70–2.00 wide. Chelicerae length 0.70–0.80. Clypeus height 0.10–0.15. Diameter of AME 0.50–0.55. Length of leg segments (female from Limpopo Province, NCA 2012/4044): I 1.30 + 0.80 + 0.90 + 0.80 + 0.50; II 1.30 + 0.80 + 0.70 + 0.70 + 0.50; III 1.50 + 0.80 + 0.90 + 1.00 + 0.55; IV 1.50 + 0.75 + 1.00 + 1.10 + 0.60.

Leg spination: I: Fm d 0-1-1-4; Pt pr 1 or pr & rt 1; Tb pr 1-1-1, v 2-2-2ap; Mt pr & rt 1-1ap, v 2-2ap. II: Fm d 0-1-1-5; Pt pr & rt 1; Tb pr 1-1-1, v 1-1-2ap; Mt pr & rt 1-1, v

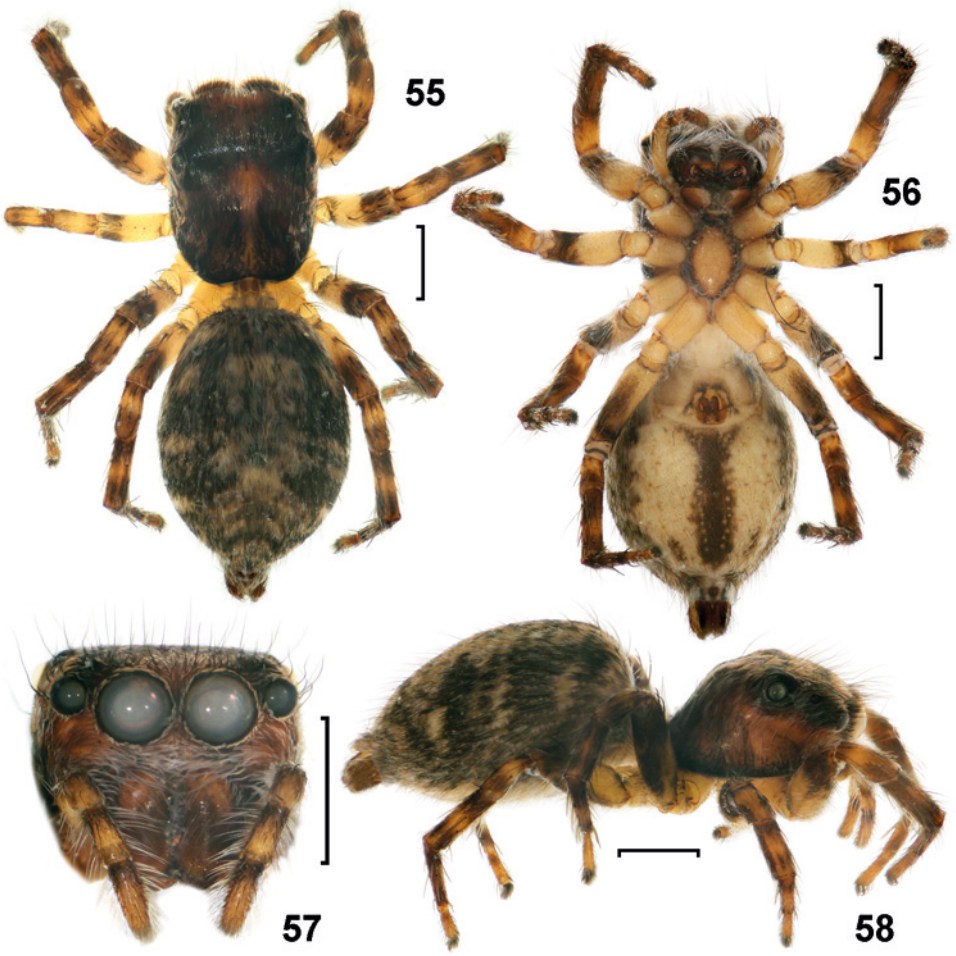


Figs 43–54. *Tusitala barbata*, general appearance: (43–45) male, dorsal view; (46) ditto, lateral view; (47) ditto, ventral view; (48–50) male palp, ventral view; (51) male "face", frontal-lateral view; (52) ditto, frontal view; (53) chelicerae, posterior view; (54) ditto, anterior view. Scale bars: (43–52) = 1 mm; (53, 54) = 0.5 mm.

2-2ap. III: Fm d 1-1-4; Pt pr & rt 1; Tb d 1-0-0, pr & rt 1-1-1, v 1-0-2ap; Mt pr 1-0-2, rt 1-1-2, v 2-0-2ap. IV: Fm d 1-1-3; Pt pr & rt 1; Tb d 1-0-0, pr & rt 1-1-1, v 1-0-2ap; Mt pr & rt 1-1-2, v 2-0-2ap.

Coloration (Figs 55–58): Similar to male, but abdominal pattern not as clear and variegated (Fig. 55). Structure of epigyne and spermathecae as in Figs 34–42.

Material examined: ANGOLA: *Huíla Prov.*: Humpata, *ca.* 15°01'S 13°22'E, on figs, 11.iv.1972, M.K.P. Meyer, 1♂ (NCA 76/1915). BOTSWANA: *North-West/Ngamiland District*: Botetle [=Botletle, =Boteti] River, 10 km S of Maun, *ca.* 20°01'S 23°24'E, sweeping in riverine woodland, 5.iii.1976, F. Wanless & A. Russell-Smith, 2♂ (PCARS); Maun, *ca.* 19°59'S 23°25'E, riverine woodland, tree trunks, 18.iii.1976, A. Russell-Smith, 1♂ (PCARS); same, riverine forest, 24.x.1975, A. Russell-Smith, 2♀ (PCARS); Mboma North, *ca.* 19°11'S 23°16'E, sweeping in grassland, 14.iii.1976, A. Russell-Smith, 1♂ (PCARS); Okavango Delta, near Shakawe, Lesideng Research Camp, 18°25'S 21°53'E, beating shrubs, riverine forest, 10–20. xii.2006, R. Lyle, 1♀ (NCA 2010/1243); Okavango Delta, PomPom Camp, *ca.* 19°22'S 22°40'E, Tsetse trials, sweeping, vii.2001, E. Kassimatis, 1♂ (NCA 2009/5696); Shorobe Lagoon, *ca.* 19°45'S 23°45'E, floodplain, grassland, pitfall traps, viii.1975, A. Russell-Smith, 1♀ (PCARS). NAMIBIA: *Kavango East Region*: Caprivi Strip, Popa Falls, 18°07'S 21°34'E, beating shrubs, riverine forest, 17.xii.2006, R. Lyle, 1♀ (NCA 2010/1218). SOUTH AFRICA: *Eastern Cape Prov.*: *ca.* 7 km S of Hogsback on R345, 32°38'S 26°55'E, canopy fogging, isolated tree, roadside, 715 m, 1.x.2011, J.A. Neethling, C. Luwes, 1♀ (NCA 2012/1644); Fort Beaufort, Mountain View Lodge, 32°39'S 26°32'E, canopy fogging on *Celtis africana*, 560 m, 3.x.2011, J.A. Neethling, C. Luwes, 1♂ (NCA 2012/1701); Grahamstown, Cross Street, 33°18'S 26°31'E, garden, 20.x.1978, M. Dacombe, 1♂ (NCA 83/505); Jeffrey's Bay, Humansdorp, 34°03'S 24°55'E, 11.xii.1993, L. Lotz, 1♂ (NMBA 08062); Kenton-on-Sea, *ca.* 33°40'S 26°40'E, active search, on bark of paw-paw tree, 4.viii.1979, P. Croeser, 1♂ (NCA 91/974); Mazeppa Bay, 32°28'S 28°39'E, beating *Acacia*, behind dunes, 28.x.2006, R. Lyle, 1♀ (NCA 2007/193); Suurberg Pass on R335, near Addo, 33°20'S 25°45'E, canopy fogging, Afromontane forest, 545 m, 6.xii.2011, J.A. Neethling, C. Luwes, 1♀ (NCA 2012/1667); Uitenhage, Springs Resort, 33°42'S 25°26'E, night hunting, 19.i.2004, L. Lotz, 1♂ (NMBA 09195). *Free State Prov.*: Bloemfontein, Free State National Botanical Gardens, 29°03'S 26°13'E, canopy fogging on *Searsia lancea* and *Olea europaea*, 11.ii.2011, C. Haddad, 14♂ 1♀ (NMBA 15873); same locality, beats, *O. europaea*, 28.ii.2010, J.A. Neethling, 1♂ (NMBA 16101); same locality, beats, *Acacia karroo*, 31.i.2010, J.A. Neethling, 1♀ (NMBA 16080); same locality, beats, *A. karroo*, 31.iii.2010, J.A. Neethling, 1♀ (NMBA 16086); same locality, beats, *O. europaea*, 31.iii.2010, J.A. Neethling, 2♀ (NMBA 16105); same locality, beats, *S. lancea*, 31.iii.2010, J.A. Neethling, 3♀ (NMBA 16126); same locality, beats, *Buddleja saligna*, 30.x.2010, J.A. Neethling, 1♂ 2♀ (NMBA 16146); same locality, 29°03'S 26°12'E, beats, *O. europaea*, 30.xi.2010, J.A. Neethling, 1♀ (NMBA 16113); same locality, beats, *O. europaea*, 31.xii.2010, J.A. Neethling, 1♂ (NMBA 16116); Sandveld Nat. Res., Hoopstad, 27°41'S 25°41'E, under *Eucalyptus* bark, 14.x.2003, C. Haddad, 1♂ (NMBA 14126); same locality, 27°41'S 25°42'E, beating, 17–18.iii.2008, L. Lotz, 1♂ (NMBA 11799); same locality, 27°40'S 25°43'E, beating, 18.iii.2008, L. Lotz, 1♂ (NMBA 11965); same locality, beating, 18.iii.2008, L. Lotz, 1♂ (NMBA 11972); Soetdoring Nat. Res., Bloemfontein, *ca.* 28°50'S 26°03'E, under rocks, grassland, 27.iv.2004, C. Haddad, 1♂ (NCA 2008/474); Tussen-die-Riviere Nat. Res., Bethulie, 30°29'S 26°11'E, pitfall traps, riverine bush, 13–16.x.2008, L. Lotz, C. Haddad, 1♀ (NMBA 12579); same locality, beating, riverine bush, 15.x.2008, L. Lotz, C. Haddad, 1♂ (NMBA 12792); same locality, beating, riparian bush, 14.iv.2012, University of the Free State students, 2♂ 1♀ (NMBA 16343). *Gauteng Prov.*: Groenkloof Nat. Res., Pretoria/Tshwane, 25°47'S 28°12'E, by hand, 1.x.2013, P. Webb, 1♂ 1♀ (NCA 2014/994); Pretoria/Tshwane, Roodeplaat Campus, 25°36'S 28°21'E, fogging on *A. karroo*, 10.xi.2012, M. Stiller, 1♂ (NCA 2013/5331); Pretoria/Tshwane, Serene Valley, 25°47'S 28°17'E, Malaise trap, 28.xi.2012, C. Martin, 1♂ (NCA 2014/2078). *KwaZulu-Natal Prov.*: Ndumo Game Res., 26°51'S 32°12'E, 10.xii.1994, L. Lotz, 1♂ 1♀ (NMBA 06895); same locality, S shore of Hotwe Pan, 26°52'S 32°18'E, *A. xanthophloea* bark, 10.vii.2004, C. Haddad, 1♂ (NCA 2008/637); same data, 7.ii.2006, C. Haddad, 2♀ (NCA 2008/641); same data, 22.vi.2006, C. Haddad, 1♂ (NCA 2008/648); same locality, Main Camp, 26°54'S 32°18'E, broadleaf woodland, leaf litter, 20.vi.2005, C. Haddad, 1♂ 1♀ (NCA 2008/983); same locality, pan, Malaise trap, grassy floodplain, 9.xii.2009, A.H. Kirk-Spriggs, 1♀ (NMBA 16769); same locality, Shokwe Pan, 26°52'S 32°18'E, *A. xanthophloea* bark, 30.i.2014, C. Haddad, 1♀ (NCA 2013/5166); same locality, SW shore of Banzi Pan, 26°53'S 32°16'E, *A. xanthophloea* bark, 23.i.2006, C. Haddad, 1♂ (NCA 2008/1846); same data, 1♀ (NCA 2008/1849); Ophathe Game Res., Ombesanoni River bed, 28°23'S 31°23'E, beats, short shrubs, 455 m, 2.x.2008, C. Haddad, 1♂ (NCA 2008/4165); Pongola, Vergelegen Farm, *ca.* 27°33'S 31°40'E, beating *A. tortilis*, 20.v.1968, A.S. Dippenaar-Schoeman, 1♂ (NCA 98/681); same locality, xii.1968, A.S. Dippenaar-Schoeman, 1♂ (NCA 98/680); Pongola, N2 Roadside, 27°21'S 31°46'E, canopy fogging, sugarcane and citrus plantations, *Ficus sycomorus*, 195 m, 20.v.2012, J.A. Neethling, C. Luwes, 1♂ (NCA 2013/101); Pongolapoort, Esikhotheni Lodge, 27°29'S 31°55'E, canopy fogging on *A. tortilis*, 254 m,



Figs 55–58. *Tusitala barbata*, general appearance: (55) female, dorsal view; (56) ditto, ventral view; (57) female "face", frontal view; (58) female, lateral view. Scale bars = 1 mm.

20.v.2012, J.A. Neethling, C. Luwes, 1♂ 1♀ (NCA 2012/5749); Pongola Nat. Res., Vergeval farm, 27°28'S 31°40'E, beating *A. tortilis*, xi.1967, A.S. Dippenaar-Schoeman, 1♂ (NCA 98/683); Tembe Elephant Park, *ca.* 27°01'S 32°25'E, beating shrubs, sand forest, 8.i.2002, C. Haddad, 1♀ (NCA 2006/1426). *Limpopo Prov.*: Blouberg Nat. Res., Polokwane, 22°59'S 29°07'E, branch beating, *Spyrostachys africana*, 30.xi.2005, S. Foord, 1♀ (NCA 2009/2340); same data, I. Sinthumule, 1♀ (NCA 2009/2337); same locality, branch beating, *Philenoptera violaceae*, 25.iii.2006, F. Maanda, 1♀ (NCA 2009/2339); Kruger Nat. Park, *ca.* 23°11'S 31°43'E, 6.v.2006, M. Cumming, 1♂ (NCA 2006/157); Louis Trichardt, Little Leigh, 22°56'S 29°52'E, branch beating, *Pterocarpus rotundifolius*, 22.iii.2006, N. Hahn, 1♂ (NCA 2009/2338); Naboomspruit/ Mookgopong, Rhemardo Holiday Resort, 24°26'S 28°36'E, fogging on exotic *Phytolacca dioica*, 1321 m, 31.i.2011, C. Haddad, V. Butler, J. Neethling, 1♀ (NCA 2012/4074); same locality, fogging on *Ziziphus mucronata*, 1295 m, 1.ii.2011, C. Haddad, V. Butler, J. Neethling, 2♂ 7♀ (NCA 2012/4044); same locality, fogging on *Berchemia zeyheri*, 1300 m, 1.ii.2011, C. Haddad, V. Butler, J. Neethling, 4♂ 3♀ (NCA 2012/1650); same locality, fogging on *B. zeyheri*, 1295 m, 2.ii.2011, C. Haddad, S. Foord, V. Butler, 2♂ 4♀ (NCA 2012/4118); same, fogging on *Dombeya rotundifolia*, 1310 m, 3.ii.2011, C. Haddad, S. Foord, V. Butler, 4♂ 4♀ (NCA 2012/3452); same locality, fogging on *A. karroo*, 1310 m, 3.ii.2011, C. Haddad, V. Butler, S. Foord, 11♂ 6♀ (NCA 2012/5597); Tuinplaas, Springbokvlakte, Settlers, *ca.* 24°57'S 28°32'E, grass, pitfall traps, 6.xii.2001, M. van Jaarsveld, 4♂ (NCA 2006/1325). *Mpumalanga Prov.*: Brondal, 20 km

NW of Nelspruit, *ca.* 25°21'S 30°50'E, on Fuerte avocado trees, 2.vii.1998, M. van den Berg, 1♀ (NCA 2015/3344); Kruger Nat. Park, Skukuza Camp, *ca.* 24°59'S 31°35'E, in wasp's nest, 12.ii.1972, F. Fourie 1♀ (NCA 2008/5153); same locality, White River, 24°59'S 31°35'E, various methods, 4.iv.1990, collector unknown, 1♂ (NMBA 05032). *Northern Cape Prov.*: Grootdrink, Farm Eselsfontein, 28°37'S 21°42'E, pitfall traps, 22.xi.2005, M. Burger, 1♂ (NCA 2010/3970); Prieska District, Farm Remhoogte, 29°32'S 23°00'E, canopy fogging, experimental pistachio orchard, 28.i.2001, C. Haddad, 1♂ (NCA 2010/206); Prieska District, Green Valley Nuts, 29°34'S 22°55'E, canopy fogging, pistachio orchard #19, 26.v.2001, C. Haddad, 2♀ (NMBA 14127); Tswalu Kalahari Game Res., *ca.* 27°12'S 22°27'E, by hand, 12.ii.2006, R. Jocqué, 1♀ (NCA 2013/2535); same locality, 27°19'S 22°30'E, active searching, sand dunes, 12–16.iii.2013, R. Lyle, P. Webb, Tswalu student, 1♂ (NCA 2013/4247); same locality, 27°20'S 22°31'E, night collecting, 12–16.iii.2013, R. Lyle, P. Webb, Tswalu student, 1♂ (NCA 2013/4127). *North West Prov.*: Brits, 25°36'S 27°47'E, sweeping, 1.ii.1987, B. du Preez, 1♀ (NCA 87/536); Hartebeespoort, Farm Wengegung, 25°48'S 27°57'E, sweeping, grass, 28.xi.1982, A.S. Dippenaar-Schoeman, 1♀ (NCA 2012/569); Pilanesberg Nat. Park, Rustenburg, 25°15'S 27°04'E, active search on *A. ataxacantha*, 3.iii.1990, R. Dehning, 1♂ (NCA 90/183); Rustenburg Nat. Res., *ca.* 25°43'S 27°10'E, sweeping, tree, 22.vi.2006, A. van den Berg, T. Marren, 1♀ (NCA 84/415); same locality, branch beating, trees, 16.xi.1982, A. van den Berg, I. van Rooyen, 1♂ 2♀ (NCA 84/385). ZIMBABWE: Harare, Highlands, 17°49'S 31°05'E, garden, under tree, 27.i.1999, M. Cumming, 1♂ (NCA 2009/254); same locality, garden, on ground, 13.ii.1999, M. Cumming, 1♀ (NCA 2009/3266).

Distribution: Tropical Africa (Fig. 13).

Comments: Caporiacco (1940) described the female of *Tusitala barbata longipalpis*. The male is junior synonym of *T. barbata*. According to the female description, "*Epigyne duas foveas inter se minus quam eorum diametro remotas, preabet. Colore et forma epigynis ab aliis specibus generis distinguiter*" (cf. Caporiacco 1940: 867–868), we suggest that the female belongs to another genus, probably *Heliophanus* C.L. Koch, 1833.

Tusitala yemenica was described by Wesołowska & van Harten (1994) from Yemen based on a single female. Subsequently, the same authors described the male and provided a diagnosis based on differences from *T. barbata*, erroneously referring to *T. hirsuta* instead of *T. barbata* (see Wesołowska & van Harten 2007: 262). The large variation in size, colour and epigynal structure within species of the genus suggests that *T. yemenica* is junior synonym of *T. barbata*, and the species needs to be reviewed.

Tusitala hirsuta Peckham & Peckham, 1902

Figs 7, 12, 59–92

Tusitala hirsuta Peckham & Peckham, 1902: 330 (♂, not examined); Peckham & Peckham 1903: 244, pl. 28, fig. 3; Próchniewicz 1989: 225, figs 59–66.

Tusitala sansibarica Strand, 1907: 429 (♂).

Tusitala barbata Peckham & Peckham, 1902: Wesołowska & Russell-Smith 2000: 110, figs 307–309 (♀, not examined) (misidentification); Wesołowska & Haddad 2009: 92, figs 203–204 (in part, misidentification); Haddad & Wesołowska 2011: 129, figs 220–221 (in part, misidentification).

Tusitala guineensis Berland & Millot, 1941: Dippenaar-Schoeman *et al*. 2001*a*: 42–43 (misidentification); Dippenaar-Schoeman *et al*. 2001*b*: 48–50 (misidentification); Dippenaar-Schoeman *et al*. 2005: 13 (in part, misidentification).

Tusitala lyrata (Simon, 1903): Wesołowska & Haddad 2009: 93 (misidentification).

Diagnosis: *T. hirsuta* resembles *T. barbata*. The male can be distinguished by the shape of the palp – tegular basal process pointed retrolaterally (Fig. 60) instead of the downward orientation in *T. barbata* (Figs 31, 32, 48–50); base of embolus located on ventro-retrolateral edge of tegulum (Figs 79–81). The female can be distinguished by the structure of the spermathecae, characterised by the insemination ducts with two coils (Figs 61–67) compared to the single coil found in *T. barbata* (Figs 37–42).

Description:

Male.

Measurements: Carapace: 2.00–2.90 long, 1.50–2.30 wide, 1.25–1.75 high. Abdomen: 1.60–3.00 long, 1.25–2.15 wide. Eye field: 1.00–1.20 long, anterior 1.55–2.10 wide, posterior 1.50–2.15 wide. Chelicerae length 0.80–2.10. Clypeus height 0.10–0.15. Diameter of AME 0.47–0.60. Length of leg segments (medium sized male from Mpumalanga, NCA 98/518): I 1.90 + 0.80 + 1.20 + 1.00 + 0.60; II 1.20 + 0.70 + 0.85 + 0.80 + 0.50; III 1.30 + 0.70 + 0.90 + 0.95 + 0.50; IV 1.45 + 0.70 + 1.00 + 1.00 + 0.50.

Leg spination: I: Fm d 1-1-4; Pt pr & rt 1; Tb pr 1-0-1-1, rt 1-0-1-0, v 2-2-2ap; Mt pr & rt 0-1ap, v 2-2ap. II: Fm d 1-1-5; Pt pr & rt 1; Tb pr 1-1-1, rt 1-1 or 1-1-0, v 2-2-2ap; Mt pr & rt 1-1, v 2-2ap. III: Fm d 1-1-4; Pt pr & rt 1; Tb d 1-0-0, pr & rt 1-1-1, v 1-0-2ap; Mt d 0-1-0, pr & rt 1-0-2, v 2-0-2ap. IV: Fm d 1-1-3; Pt pr & rt 1; Tb d 1-0-0, pr & rt 1-1-1, v 1-0-2ap; Mt pr & rt 1-1-2, v 2-0-2ap.

Coloration (Figs 72–78): Carapace brown, with dark brown thoracic part covered with dark brown hairs, thin median brown longitudinal band covered with transparent white hairs, with transparent white hairs on sides; black patches around eyes (Figs 72–75). Sternum yellow-brown, maxillae and labium brown to dark brown, with apical part yellow (Fig. 76). Chelicerae brown to dark brown. Clypeus and cheeks brown, covered with white hairs (Figs 77, 78), with transversal white stripes in certain males. Abdomen brown-yellow, with broad brown longitudinal band ventrally (Fig. 76). Dorsum with pattern of longitudinal and transverse yellow and brown bands and patches (Figs 72–74). Spinnerets brown. Booklungs yellow to brown. Legs yellow-brown. Palps yellow-brown. Palpal structure as in Figs 59, 60, 79–81.

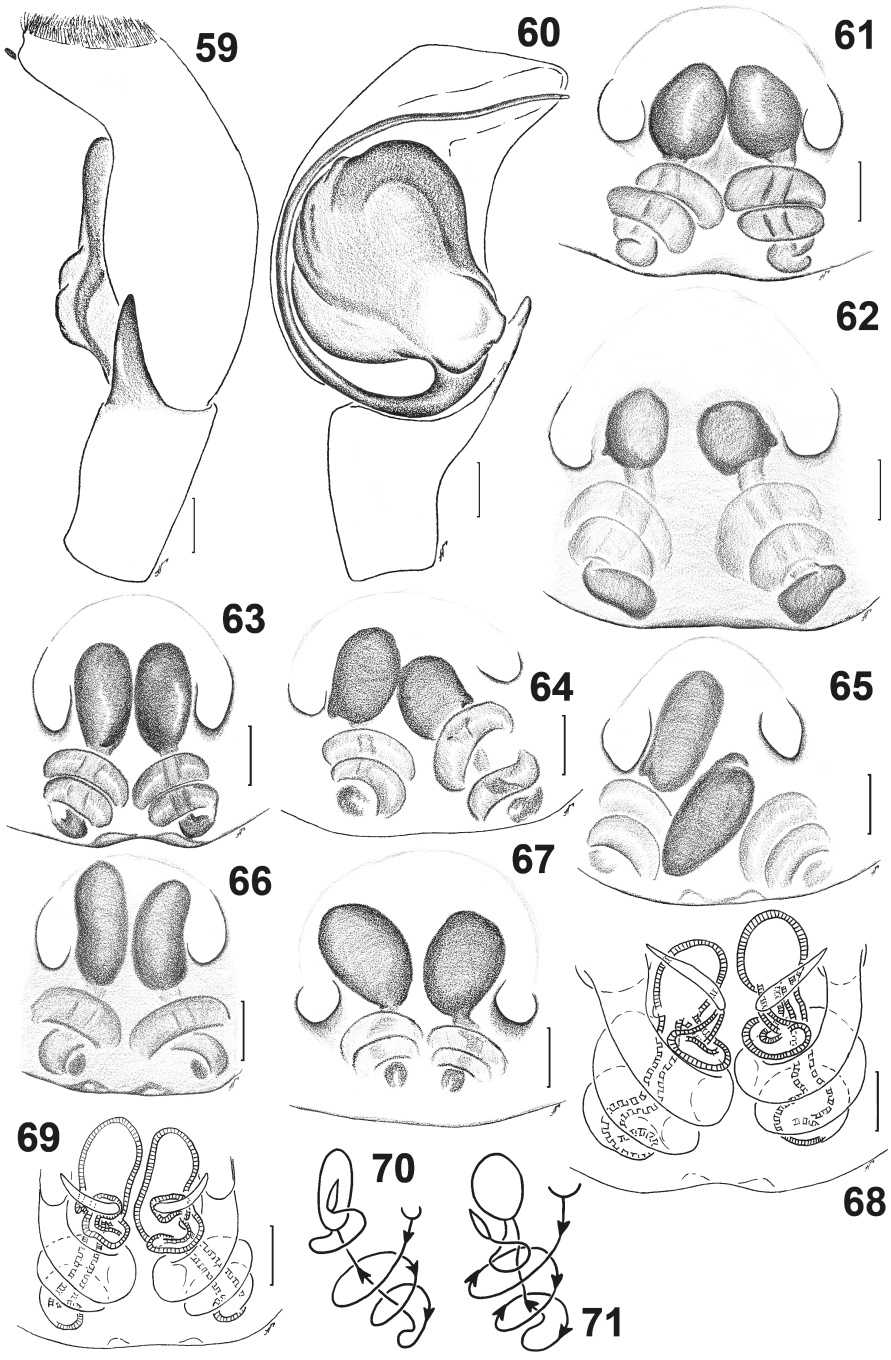
Female.

Carapace: 2.00–3.50 long, 1.50–2.70 wide, 1.20–1.95 high. Abdomen: 1.90–4.50 long, 1.50–3.00 wide. Eye field: 1.15–1.70 long, anterior 1.55–2.50 wide, posterior 1.65–2.60 wide. Chelicerae length 0.70–1.20. Clypeus height 0.10. Diameter of AME 0.50–0.75. Length of leg segments (female from KwaZulu-Natal, NCA 2013/37): I 1.15 + 0.70 + 0.90 + 0.75 + 0.50; II 1.10 + 0.70 + 0.80 + 0.70 + 0.50; III 1.40 + 0.80 + 0.90 + 0.90 + 0.50; IV 1.40 + 0.80 + 0.90 + 1.00 + 0.50.

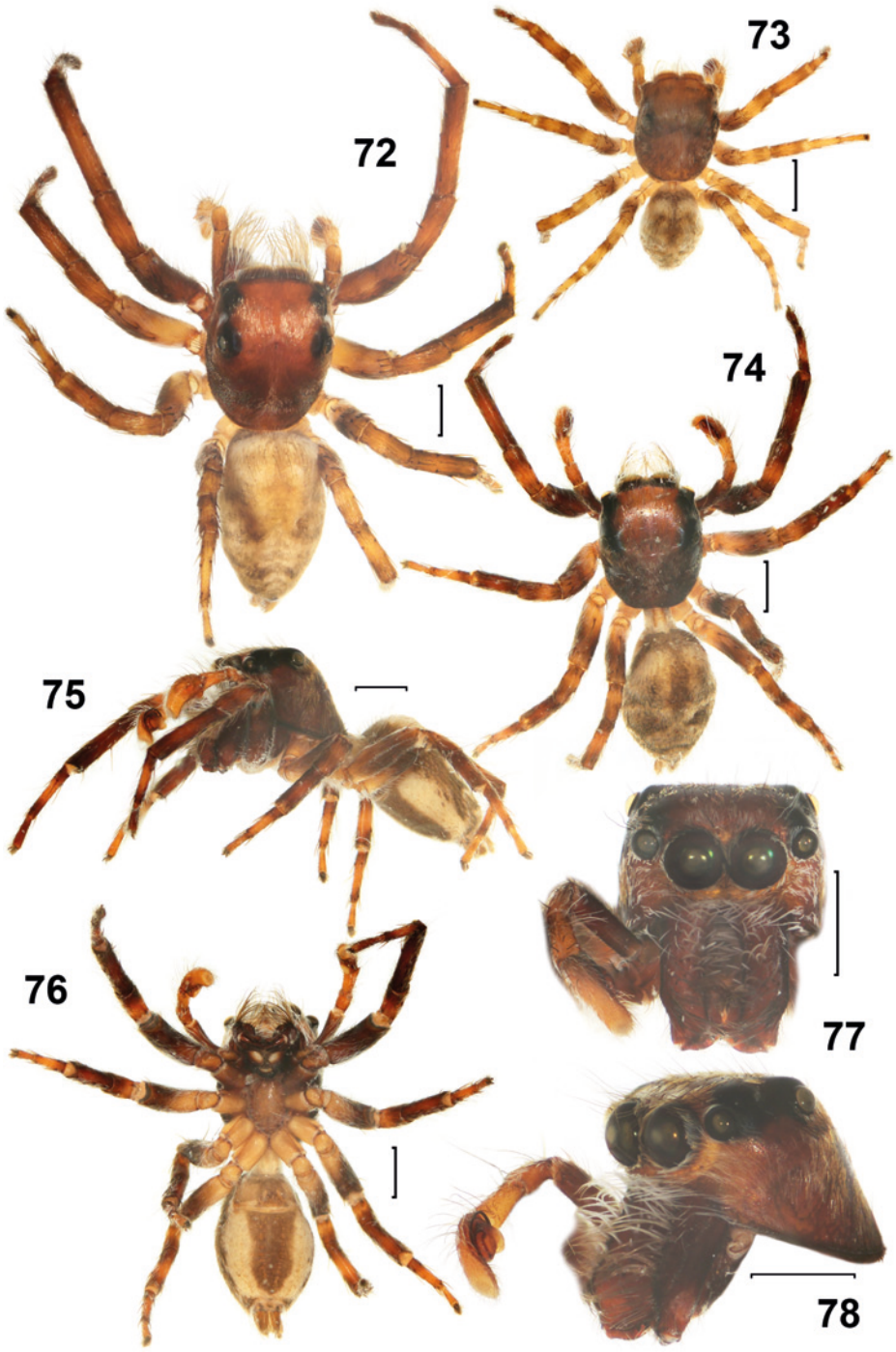
Leg spination: I: Fm d 1-1-4; Pt pr 1; Tb pr 1-1-1 or 0-1-1, rt 0-1 or 0-0, v 2-2-2ap; Mt pr & rt 1-1ap, v 2-2ap. II: Fm d 1-1-5; Pt pr & rt 1; Tb pr 1-1-1, rt 0-1 or 1-0 or 1-1, v 1-2-2ap; Mt pr & rt 1-1ap, v 2-2ap. III: Fm d 1-1-4; Pt pr & rt 1; Tb d 1-0-0, pr & rt 1-1-1, v 1-0-2ap; Mt d 0-1-0, pr & rt 1-0-2, v 2-0-2ap. IV: Fm d 1-1-3; Pt pr & rt 1; Tb d 1-0-0, pr & rt 1-1-1, v 1-0-2ap or 1-1-2ap; Mt pr 1-0-2ap or 1-1-2ap, rt 1-1-2, v 2-0-2ap.

Coloration (Figs 84–92): Carapace brown to dark brown, with thin longitudinal brown-yellow median stripe, covered with white hairs (Figs 84, 85), wide in certain females (Fig. 86). Carapace sides covered with sparse transparent-white hairs (Fig. 91), dense in certain females (Fig. 92); with black patches around eyes. Sternum yellow to yellow-brown, maxillae and labium brown, with yellow apical part (Figs 87, 88). Clypeus and cheeks brown-yellow, covered with white hairs (Fig. 90), with three rows of white hairs in certain females (Fig. 89). Chelicerae brown. Abdomen pale yellow to yellow, with thin (Fig. 87) or broad (Fig. 88) brown longitudinal band ventrally. Dorsum with variegated pattern (Figs 84–86). Spinnerets brown. Booklungs yellow. Legs and palps yellow to brownish-yellow. Structure of epigyne and spermathecae as in Figs 61–71.

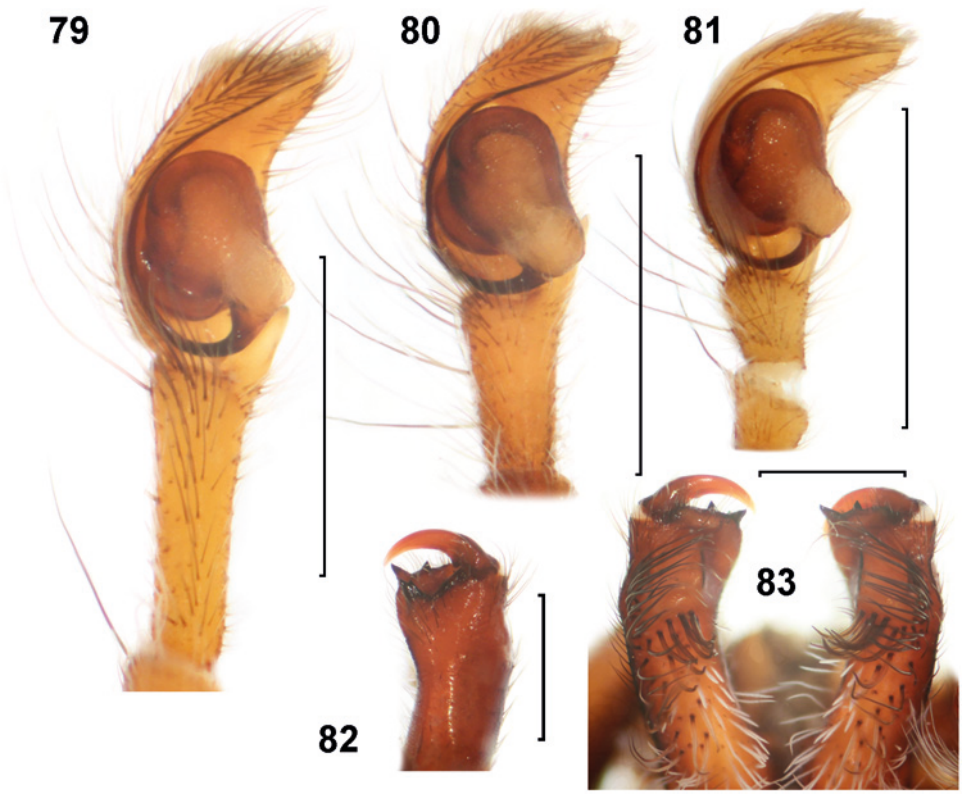
Material examined: BOTSWANA: *North-West/Ngamiland District*: Khwai River – Moremi (N gate), *ca.* 19°08'S 23°48'E, tree trunk, 18.vii.1978, A. Russell-Smith, 1♂ (PCARS); Okavango Delta, near Shakawe, 18°25'S 21°53'E, beating short shrubs, 25.xi.2006, C. Haddad, F. Jordaan, 1♂ (NCA 2007/1079); same locality, 12.xii.2006, C. Haddad, R. Lyle, 4♂ 1♀ 1 subad.♀ (NCA 2007/1103); Okavango Delta, PomPom Camp, *ca.* 19°22'S 22°40'E, 22.viii.2001, E. Kassimatis, 2♂ (NCA 2002/455). MOZAMBIQUE: Maputo, Inhaca Island, *ca.* 26°00'S 32°57'E, mangroves, 23.xii.1992, T. Steyn, 1♂ (NCA 93/196). SOUTH AFRICA: *Eastern Cape Prov.*: Coffee Bay, *ca.* 31°58'S 29°09'E, beating coastal dune forest, 2.xi.2006, C. Haddad, R. Lyle, 1♂ (NCA 2007/405); Jeffrey's Bay, *ca.* 34°02'S 24°55'E, in garden, by hand, 15.viii.2008, L. Wiese, 1♀ (NCA 2010/1931); same locality, Kabeljouws, 34°00'S 24°55'E, 10 m, dense grass in garden, 12.ix.2012, C. Haddad, 1♂ (NCA 2012/4323); Kei Mouth, 32°41'S 28°22'E, beating, coastal dune forest, 6.xii.2005, C. Haddad, 1♂ (NMBA 16194); Silaka Nat. Res., 31°39'S 29°30'E, on outside walls of houses, 32 m, 11.i.2011, C. Haddad, 11♀ (NCA 2012/1119). *Free State Prov.*: Sandveld Nat. Res., Hoopstad, 27°41'S 25°42'E, beating, 17–18.iii.2008, L. Lotz, 6♂ 2♀ (NMBA 11800); Virginia, Glen Harmony, 28°05'S 26°54'E, on shrub, 1340 m, 4.x.1987, L. Lotz, 1♀ (NMBA 14943). *KwaZulu-Natal Prov.*: iSimangaliso Wetland Park, *ca.* 28°23'S 32°24'E, leaf litter, 3.vii.2007, C. Haddad, 1♀ (NCA 2013/10); iSimangaliso Wetland Park, Banghoek Lodge, 27°46'S 32°08'E, canopy fogging on *Acacia tortilis*, bushveld, 131 m, 17.v.2012, J.A. Neethling, C. Luwes, 7♂ (NCA 2012/5734); same locality, canopy fogging on *Berchemia zeyheri*, bushveld, 131 m, 17.v.2012, J.A. Neethling, C. Luwes, 12♂ 13♀ (NCA 2013/37); same locality, 27°45'S 32°08'E, canopy fogging on *A. karroo*, bushveld, 130 m, 17.v.2012, J.A. Neethling, C. Luwes, 2♂ 5♀ (NCA 2012/3962); iSimangaliso Wetland Park, Crocodile Centre, 28°21'S 32°25'E, canopy fogging on *Breonadia salicina*, 24 m, 14.v.2012, J.A. Neethling, C. Luwes, 6♂ 3♀ (NCA 2012/5745); iSimangaliso Wetland Park, Hell's Gate, 28°00'S 32°26'E, pitfall traps, 19.i.2003, J. Esterhuizen, 1♀ (NCA 2011/2521); iSimangaliso Wetland Park, Kosi Bay Nat. Res., 26°55'S 32°52'E, on board in ablution block, by hand, 29.x.1987, M. Filmer, 1♀ (NCA 88/389); iSimangaliso Wetland Park, Meersig, 28°14'S 32°29'E, canopy fogging on *Syzygium cordatum*, wetland, 14 m, 14.v.2012, J.A. Neethling, C. Luwes, 2♂ 10♀ (NCA 2013/49); iSimangaliso Wetland Park, near Mission Rocks Beach, 28°15'S 32°28'E, canopy fogging on *Albizia adianthifolia*, 83 m, 12.v.2012, J.A. Neethling, C. Luwes, 1♀ (NCA 2013/10); iSimangaliso Wetland Park, St Lucia, 28°23'S 32°24'E, canopy fogging on *Trichilia emetica*, coastal forest, 22 m, 13.v.2012, J.A. Neethling, C. Luwes, 3♂ 1♀ (NCA 2013/10); same locality, canopy fogging on *T. dregeana*, coastal forest, 21 m, 13.v.2012, J.A. Neethling, C. Luwes, 1♀ (NCA 2012/5738); iSimangaliso Wetland Park, uMkuze Game Res., 27°37'S 32°15'E, branch beating, old trial camp, 17.vii.2008, X. Combrink, 1♂ (NCA 2011/2518); Ithala Game Res., Doornkraal Camp, 27°30'S 31°12'E, canopy fogging, mixed trees, 28.i.2014, C. Haddad, Z. Mbo, 1♂ (NCA 2013/5279); same locality, Ntshodwe Camp, 27°32'S 31°16'E, base of grass tussocks, 29.i.2014, C. Haddad, 4♀ (NCA 2013/5023); La Mercy, *ca.* 29°38'S 31°07'E, sweeping, grass, 18.xi.1979, C.J. Cilliers, 1♂ (NCA 80/91); Ndumo Game Res., 26°51'S 32°12'E, 10.xii.1992, L. Lotz, 1♂ (NMBA 14135); same locality, 10.xii.1994, L. Lotz, 1♀ (NMBA 17118); same locality, Bhulezi, *Acacia nigrescens* woodland, 26°51'S 32°13'E, pitfall traps, 27.xi–7.xii.2009, C. Haddad, V. Swart, A. Kirk-Spriggs, 1♂ (NCA 2013/508); same locality, subtropical bush, Mahemane thicket, 26°51'S 32°14'E, beats, foliage, 2.xii.2000, C. Haddad, 1♂ (NCA 2008/2761); same locality, E shore of Shokwe Pan, 26°52'S 32°12'E, *A. xanthophloea* bark, 16.vi.2005, C. Haddad, 1♀ (NCA 2008/1857); same locality, Shokwe Area, 26°52'S 32°14'E, Malaise trap, *Ficus* forest, 30.xi.2009, A.H. Kirk-Spriggs, 1♂ (NMBA 16802); same locality, *ca.* 26°52'S 32°15'E, *Acacia* beating, savanna, 23.vi.2006, A. Honiball, 1♂ (NCA 2006/1301); same locality, SW shore of Banzi Pan, 26°53'S 32°16'E, *A. xanthophloea* bark, 5.ii.2005, C. Haddad, 2♀ (NCA 2008/661); same data, 11.vii.2004, 1♀ (NCA 2008/657); same locality, Crocodile Farm, Pongola River floodplain, 26°54'S 32°19'E, beating, short bushes, 2.xii.2000, C. Haddad, 1♀ (NMBA 11605); same locality, beating, short shrubs, 2. xii.2000, C. Haddad, 1♂ (NMBA 12116); same, Pongola River floodplain, *A. xanthophloea* bark, 8.vii.2004, C. Haddad, 1♀ (NCA 2008/616); same data, 20.vi.2006, 3♀ (NCA 2008/626); same locality, Pongola River, water pump, 26°54'S 32°19'E, canopy fogging on *B. salicina*, 36 m, 2.ii.2009, C. Haddad, R. Lyle, V. Butler, 1♀ (NCA 2013/789); Ophathe Game Res., Montane grassland, 28°25'S 31°23'E, beats, short shrubs, 897 m, 4.x.2008, C. Haddad, 1♀ (NCA 2008/3967); Phinda Private Game Res., 27°50'S 32°20'E, by hand, 13.x.2013, V. van der Walt, 1♀ (NCA 2014/989); Pietermaritzburg, 29°36'S 30°23'E, against outside wall, 14–16.vii.1990, L.N. Lotz, 1♀ (NMBA 05288); Sodwana Bay Nat. Park, Ubombo, 27°33'S 32°40'E, forest, beating and sweeping, 4.xii.1994, L. Lotz, 1♂ (NMBA 14172); Tembe Elephant Park, near Mahlasela Hide, *ca.* 27°01'S 32°25'E, beating short shrubs, closed woodland/sand, 6.i.2002, C. Haddad, 1♀ (NCA 2007/3259); same locality, sweeping, 15.iv.2003, A. Honiball, 1♀ (NCA 2007/1767); same data, 1♀ (NCA 2007/1768); 2 km E of Amanzimtoti, *ca.* 30°02'S 30°52'E, sweeping, grass, 12.viii.1978, E. Ueckermann, 1♂ (NCA 79/184); Umhlanga Rocks, 29°43'S 31°05'E, by hand, 10.ix.2013, P. Webb, 1♀ (NCA 2014/1005); Vernon Crookes Nat. Res., Umzinto, 30°16'S 30°37'E, camp, 27.xi.1995, L. Lotz, 1♂ (NMBA 14970); Vryheid, Vryheid Mountain Nat. Res., 27°45'S 30°47'E, canopy fogging on *Rhus lucida*, 1262 m, 24.v.2012, J.A. Neethling, C. Luwes, 1♂ (NCA 2012/5969); same locality, 27°45'S 30°46'E, canopy fogging on *Ziziphus mucronata*, 1185 m, 24.v.2012, J.A. Neethling, C. Luwes, 1♂ 1♀ (NCA 2012/5975). *Limpopo Prov.*: Entabeni



Figs 59–71. *Tusitala hirsuta*: (59) male palp, ventral view; (60) ditto, retrolateral view; (61–67) epigyne, ventral view; (68, 69) spermathecae, dorsal view; (70, 71) diagram of insemination ducts. Scale bars = 0.1 mm.

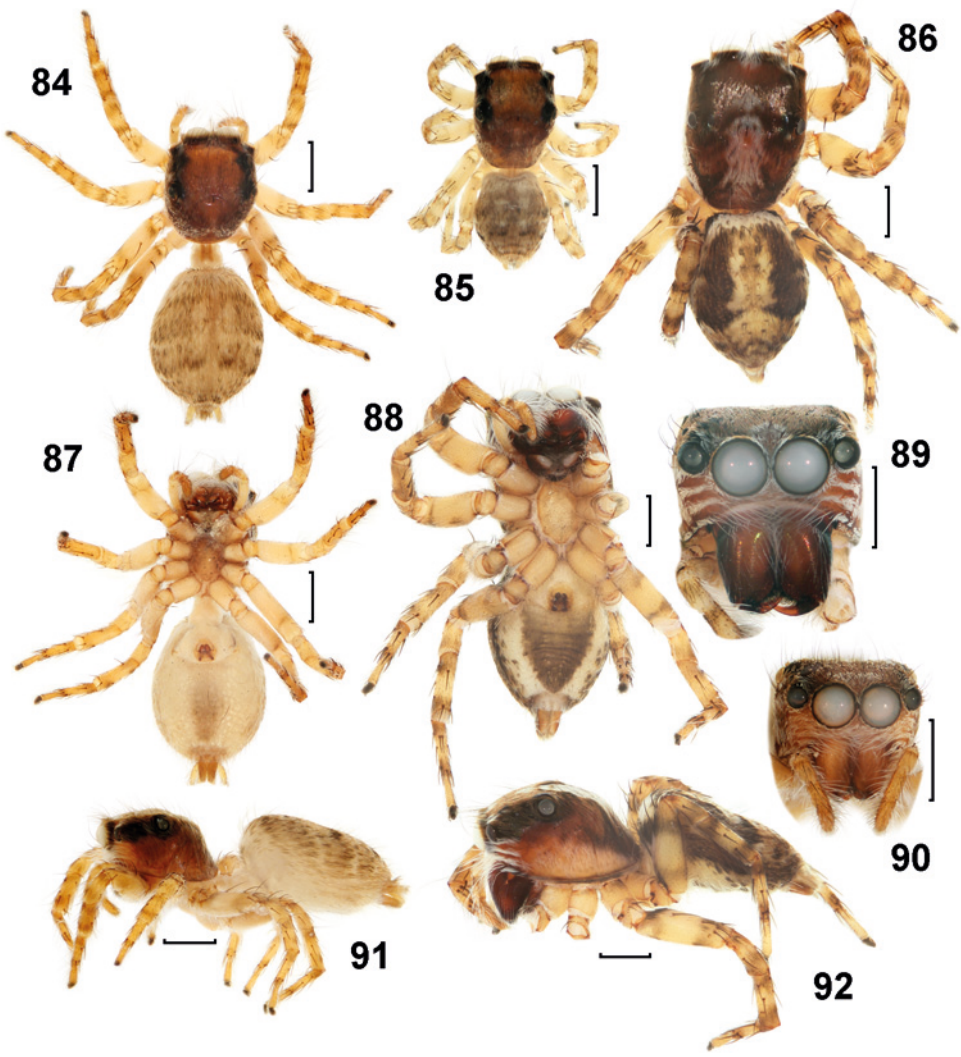


Figs 72–78. *Tusitala hirsuta*, general appearance: (72–74) male, dorsal view; (75) ditto, lateral view; (76) ditto, ventral view; (77) male "face", frontal view; (78) ditto, frontal-lateral view. Scale bars = 1 mm.



Figs 79–83. *Tusitala hirsuta*, general appearance: (79–81) male palp, ventral view; (82) chelicera, posterior view; (83) ditto, anterior view. Scale bars: (79–81) = 1 mm; (82, 83) = 0.5 mm.

Nat. Res., 22°58'S 30°16'E, active search, above knee, grassland, 12.ii.2008, S. Foord, 1♂ (NCA 2009/2561); Kruger Nat. Park, Shingwedzi Camp, 23°06'S 31°26'E, 26.iv.2006, M. Cumming, 3♀ (NCA 2008/2568); Louis Trichardt, Little Leigh, 22°56'S 29°52'E, branch beating, gallery forest, 19.iii.2006, N. Hahn, 1♀ (NCA 2011/2055); Maasstroom, Al-te-Ver farmstead, *ca.* 22°45'S 28°28'E, chair in camp, 23.viii.1976, M. Zwiegelaar, 1♂ (NCA 76/1475); Medikwe Heritage Site, Western Soutpansberg, near Makhado, *ca.* 22°59'S 29°36'E, 1.v.1999, S. Foord, 1♂ (NCA 2009/1324); Musina, Tshipise, 22°36'S 30°10'E, sweeping, grass, 30.iii.1973, A.S. Dippenaar-Schoeman, 1♂ (NCA 76/679); Soutpansberg, Lajuma, 23°02'S 29°27'E, by hand, 7.ii.2008, L. Lotz, 1♀ (NMBA 11461); Tshulu Research Res., 22°34'S 30°48'E, 385 m, by hand, 17.ii.2008, A. Henrard, R. Jocqué, 1♀ (NCA 2012/34); same locality, mixed woodland, branch beating, 20.i.2008, S. Foord, 1♂ (NCA 2009/2586); Tzaneen Area, 23°50'S 30°08'E, canopy fogging on *Ficus* sp., 6.xi.2012, J.A. Neethling, 2♂ 1♀ (NCA 2013/2027); Waller's Camp, 23°02'S 29°26'E, sweeping, 15.ii.2008, S. Foord, 1♀ (NCA 2012/18). *Mpumalanga Prov.*: Brondal, 20 km NW of Nelspruit, *ca.* 25°21'S 30°50'E, on Fuerte avocado trees, 14.viii.1997, M. van den Berg, 2♂ 3♀ (NCA 98/57); same data, 2.xii.1997, 4♂ (NCA 98/254); same data, 6.i.1998, 2♂ 1♀ (NCA 98/255); same data, 14.iii.1998, 1♂ (NCA 98/975); same data, 26.iii.1998, 1♂ (NCA 98/1092); same data, 30.iv.1998, 1♂ 3♀ (NCA 98/902); same data, 14.v.1998, 6♀ (NCA 98/903); same data, vii.1998, 1♂ (NCA 98/1093); same data, 2.vii.1998, 1♀ (NCA 98/976); same data, 2.vii.1998, 1♂ (NCA 98/977); same data, 22.xi.1998, 1♂ (NCA 98/978); Brondal, 20 km NW of Nelspruit, *ca.* 25°21'S 30°50'E, on Hass avocado trees, 16.ix.1997, M. van den Berg, 2♀ (NCA 98/58); same data, 2.xii.1997, 1♂ 1♀ (NCA 98/192); same data, 2.xii.1997, 1♂ 1subad♀ (NCA 98/256); same data, 22.i.1998, 1♂ (NCA 98/464); same data, 2.vii.1998, 1♂ (NCA 98/979); same data, 16.ix.1998, 1♀ (NCA 2012/554); Burgershall, 25°45'S 31°36'E, active search, citrus, 21.x.1987, M. van den Berg, 1♀ (NCA 88/709); Glenwood, Schormann, 7 km NW of Nelspruit, *ca.* 25°24'S 30°55'E, on macadamia trees, 28.x.1997, M. van den Berg, 2♂ (NCA 98/103); same data, 4.xii.1997, 1♀ (NCA 98/819); same data, 17.xii.1997, 1♀



Figs 84–92. *Tusitala hirsuta*, general appearance: (84–86) female, dorsal view; (87, 88) ditto, ventral view; (89, 90) female "face", frontal view; (91, 92) female, lateral view. Scale bars = 1 mm.

(NCA 98/537); same data, 17.xii.1997, 1♂ 1♀ (NCA 98/538); same data, 17.xii.1997, 1♂ (NCA 98/540); same data, 27.i.1998, 4♂ (NCA 98/858); same data, 3.ii.1998, 1♂ (NCA 98/820); same data, 13.ii.1998, 1♀ (NCA 98/606); same data, 24.ii.1998, 3♂ 1♀ (NCA 98/857); same data, 26.ii.1998, 1♂ (NCA 98/943); same data, 12.iii.1998, 3♂ 1♀ (NCA 98/473); same data, 16.iv.1998, 2♂ (NCA 98/944); same data, 9. vii.1998, 2♂ (NCA 98/859); same data, 18.ix.1997, 4♂ (NCA 98/102); Komatipoort, Farm Sommerreg, 25°31'S 31°49'E, active search, cultivated garden, flower, 10.v.2005, J. Horn, 1♀ (NCA 2010/3942); Kruger Nat. Park, Skukuza Camp, *ca.* 24°59'S 31°35'E, by hand, 13.viii.1991, S. Neser, 1♂ (NCA 2010/1957); Lydenburg, Le Roux Dam, *ca.* 25°06'S 30°17'E, Yucca palm, by hand, 28.xii.1988, M. Filmer, 1♀ (NCA 88/176); Nelspruit, *ca.* 25°28'S 30°58'E, orange trees, 10.vi.1976, E. Ueckerman, 1♂ (NCA 78/51); Nelspruit, ARC–Institute for Tropical and Subtropical Crops, 25°20'S 31°46'E, on macadamia trees, branch beating, 7.x.1997, M. van den Berg, 4♂ (NCA 98/151); same locality, on Fuerte avocado trees, 30.x.1997, M. van den Berg, 1♂ 1♀ (NCA 98/59); Nelspruit, Waaierproef, 25°21'S 31°46'E, on macadamia trees, 19.viii.1997, M. van den Berg, 11♂ 4♀ (NCA 98/145); same data, 19.viii.1997, 2♂ 2♀ (NCA 98/100); same data, 7.x.1997,

18♂ 7♀ (NCA 98/98); same data, 4.xi.1997, 1♂ (NCA 98/99); same data, 9.xii.1997, 4♂ (NCA 98/816); same data, 20.i.1998, 2♂ 5♀ (NCA 98/523); same data, 12.ii.1998, 8♂ (NCA 98/817); same data, 17.iii.1998, 8♂ 1♀ (NCA 98/476); same data, 13.iv.1998, 3♂ 1♀ (NCA 98/815); same data, 13.iv.1998, 5♂ (NCA 98/860); same data, 21.v.1998, 3♀ (NCA 98/818); Schagen, 15 km NW of Nelspruit, *ca.* 25°26'S 30°47'E, on macadamia trees, 2.ix.1997, M. van den Berg, 1♂ 2♀ (NCA 98/101); same data, 18.xi.1997, 1♂ (NCA 98/144); same data, 3.iii.1998, 1♂ (NCA 98/823); same data, 17.iii.1998, 2♂ 1♀ (NCA 98/856); same data, 9.xii.1998, 3♀ (NCA 98/822); 10 km NE of Nelspruit, Hall & Sons, *ca.* 25°23'S 31°01'E, on Hass avocado trees, 6.xi.1997, M. van den Berg, 4♂ (NCA 98/55); same data, 19.iii.1998, 2♂ 4♀ (NCA 98/1134); same data, 2.vi.1998, 1♂ 1♀ (NCA 98/1023); 10 km NE of Nelspruit, Hall & Sons, *ca.* 25°23'S 31°01'E, on Fuerte avocado trees, 25.xi.1997, M. van den Berg, 4♂ (NCA 98/56); same data, 19.iii.1998, 4♂ 1♀ 1subad♀ (NCA 98/518); same data, 2.vii.1998, 2♂ (NCA 98/1024); Witrivier, Hazyview Cabanas, 25°02'S 31°04'E, 1–4.vii.1996, L. Lotz, 1♀ (NMBA 08171). *North West Prov.*: Borakalalo Nat. Park, 25°09'S 27°49'E, sweeping, grass, 29.v.1987, M. Filmer, 1♂ (NCA 87/795). *Western Cape Prov.*: Swellendam, *ca.* 34°01'S 20°26'E, by hand, 15.xi.2007, I. Price, 1♂ (NCA 2010/757). ZAMBIA: *Central Prov.*: Serenje District, Kasanka Nat. Park, Fibwe Camp, *ca.* 12°35'S 30°15'E, 15.x.2001, T. Stuart, 2♂ (NCA 2002/534). *Southern Prov.*: Namwala District, Kafue Nat. Park, Chibila Camp, *ca.* 15°42'S 25°47'E, beating short shrubs, 7. xii.2006, F. Jordaan, 1♀ (NCA 2007/601).

Distribution: Southern and East Africa (Fig. 13).

Comments: *T. proxima* was described based on one female from Tanzania. We found three females from KwaZulu-Natal Province, South Africa, which resemble *T. proxima* in epigynal and spermathecal structure (Figs 62, 68, see also Wesołowska & Russell-Smith 2000, figs. 310, 311). Due to the considerable variation in epigynal structure within the species (Figs 61–67), we suggest that *T. proxima* could be a junior synonym of *T. hirsuta*; *T. proxima* would need to be reviewed.

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