A review of the Afrotropical tracheline sac spiders (Araneae: Corinnidae), with revisions of three genera

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Robin Lyle

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SUPERVISOR: Charles Richard Haddad

CO-SUPERVISOR: Dr. Anna S. Dippenaar-Schoeman

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ABSTRACT

A REVIEW OF THE AFROTROPICAL TRACHELINE SAC SPIDERS (ARANEAE: CORINNIDAE), WITH REVISIONS OF THREE GENERA

The sac spider subfamily Trachelinae (Araneae: Corinnidae) is currently represented in the Afrotropical Region by eight genera, namely *Austrachelas* Lawrence, 1938, *Brachyphaea* Simon, 1895, *Cetonana* Strand, 1929, *Paccius* Simon, 1897, *Pronophaea* Simon, 1897, *Spinotrachelas* Haddad, 2006, *Thysanina* Simon, 1910 and *Trachelas* L. Koch, 1872. The genera *Brachyphaea* and *Pronophaea* are misplaced, and most likely belong to the Corinninae, while *Austrachelas* is probably a gallieniellid. Numerous revisions have been done on New World and South-East Asian trachelines, but little work has been carried out on the fauna of the Afrotropical Region.

In this dissertation a review of the literature pertaining to Afrotropical tracheline taxonomy, as well as the ecology, biology and medical importance of tracheline sac spiders, is given. A diagnosis for the five valid genera is given, together with a key to the genera. Three genera, namely *Cetonana*, *Thysanina* and *Trachelas*, were revised in the Afrotropical Region, with redescriptions of described species and descriptions of 58 new species. Additional notes on their biology and distribution were given, where possible. Specimens from 19 collections were examined, with measurements and genitalic drawings done for each species.

In the genus *Cetonana*, *Cetonana coenosa* (Simon, 1897) and *C. martini* (Simon, 1897) were redescribed, and *C. curvipes* (Tucker, 1920), *C. tridentata* (Lessert, 1923) and *C. simoni* (Lawrence, 1942) were proposed as junior synonyms of *C. martini*. Ten new species were described. The type specimen of *C. aculifera* (Strand, 1916) from Madagascar could not be traced and is presumed destroyed, and therefore this species is considered *nomen dubium*. Within the monotypic genus *Thysanina*, the type species *T. serica* Simon, 1910 was redescribed and five new species were described from the Afrotropical Region (Lyle & Haddad, 2006). The genus *Trachelas*, with a cosmopolitan distribution, was only revised for the Afrotropical mainland. The species *T. chubbi* Lessert, 1921, *T. pusillus* Lessert, 1923, *T. roeweri* Lawrence, 1923, *T. schenkeli* Lessert, 1923 and *T. sylvae* Caporiacco, 1949 were redescribed. Forty-eight new species were described from various localities throughout the region. *Trachelas scopulifer* Simon, 1896 was redescribed, and its transfer to the genus *Thysanina* is proposed. The juvenile type specimen of *T. punctatus* Simon, 1886 could not be traced and is presumed lost, and this species is therefore considered *nomen dubium*.

The results of this dissertation have highlighted how poorly the Afrotropical Region is studied, and strengthens the need for further sampling within the region as current records are very fragmented. This may result in the discovery of further new species, as many Afrotropical trachelines apparently have restricted distributions. Results of this dissertation have provided some clarity to Trachelinae taxonomy in the region, particularly with regards to general morphology and diagnostic characteristics of genera, and will also contribute to national and international initiatives, such as the South African National Survey of Arachnida (SANSA) and the African Arachnida Database (AFRAD), which aim to discover, describe and to make an inventory of the arachnid fauna of South Africa and Africa, respectively. However, to better understand the relationships between the genera a cladistic analysis should be performed on the subfamily, and should follow a revision of *Paccius* and the description of new genera from the region.

Key words: Afrotropical, *Cetonana*, diagnosis, new species, sac spiders, systematics, Trachelinae, key, *Thysanina*, *Trachelas*.

UITTREKSEL

Die sakspinnekopsubfamilie Trachelinae (Araneae: Corinnidae) word huidiglik in die Afrotropiese gebied deur agt genera verteenwoordig, naamlik *Austrachelas* Lawrence, 1938, *Brachyphaea* Simon, 1895, *Cetonana* Strand, 1929, *Paccius* Simon, 1897, *Pronophaea* Simon, 1897, *Spinotrachelas* Haddad, 2006, *Thysanina* Simon, 1910 en *Trachelas* L. Koch, 1872. Die genera *Brachyphaea* en *Pronophaea* is beide egter verkeerd geplaas, en behoort heel moontlik in die Corinninae, terwyl *Austrachelas* moontlik ‘n verteenwoordiger van die Gallieniellidae Millot, 1947 is. Verskeie hersienings is oor die Nuwe Wêreld en suid-oos Asië verteenwoordigers van die Trachelinae gemaak, terwyl min navorsing oor die fauna van die Afrotropiese Streek gedoen is.

In hierdie verhandeling word ‘n oorsig van die literatuur gegee wat met die Afrotropiese verteenwoordigers van die Trachelinae verband hou, asook aspekte van ekologie, biologie en die mediese belang van hierdie spinnekoppe. ‘n Diagnose van die vyf geldige genera word verskaf, tesame met ‘n sleutel tot hierdie genera. ‘n Oorsig van drie genera, naamlik *Cetonana*, *Thysanina* en *Trachelas* in die Afrotropiese Streek, word gegee, met herbeskrywings van bekende spesies asook beskrywings van 58 nuwe spesies. Bykomende notas oor die biologie en verspreiding van hierdie spesies word, waar moontlik, verskaf. Eksemplare van 19 versamelings is ondersoek, met afmetings en genitale diagramme wat vir elke spesies verskaf word.

Cetonana coenosa (Simon, 1897) en *C. martini* (Simon, 1897) is herbeskryf, en *C. curvipes* (Tucker, 1920), *C. tridentata* (Lessert, 1923) en *C. simoni* (Lawrence, 1942) is as junior sinonieme van *C. martini* voorgestel. Ten nuwe spesies is beskryf. Die tiepeksemplaar van *C. aculifera* (Strand, 1916) van Madagaskar kon nie opgespoor word nie. Dit is aanvaar dat hierdie eksemplaar vernietig is en dus word hierdie spesie as *nomen dubium* beskou. Binne die monotipiese genus *Thysanina*, is die tiepspesie *T. serica* Simon, 1910 herbeskryf asook vyf nuwe spesies van die Afrotropise Streek beskryf (Lyle & Haddad, 2006). Die genus *Trachelas*, met ‘n kosmopolitiese verspreiding, is vir die Afrotropiese vasteland hersien. Die spesies *T. chubbi* Lessert, 1921, *T. pusillus* Lessert, 1923, *T. roeweri* Lawrence, 1923, *T. schenkeli* Lessert, 1923, en *T. sylvae* Caporiacco, 1949 is herbeskryf. Agt-en-veertig nuwe spesies vanaf verskeie lokaliteite regdeur die streek is beskryf. *Trachelas scopulifer* Simon, 1896 is herbeskryf en die oorplasing na die genus *Thysanina* voorgestel. Die onvolowasse

tiepeksemplaar van *T. punctatus* Simon, 1886 kon nie opgespoor word nie. Dit word aanvaar dat hierdie eksemplaar nie meer bestaan nie en dus word hierdie as *nomen dubium* beskou.

Die resultate van hierdie verhandeling het duidelik die leemtes in die kennis van hierdie organismes in die Afrotropiese Streek uitgewys, en ondersteun en versterk die noodsaaklikheid vir verdere versameling binne hierdie gebied, aangesien huidige rekords baie gefragmenteer is. Dit sal heel moontlik die ontdekking van verdere nuwe spesies teweeg bring, aangesien talle verteenwoordigers van die Afrotropiese Trachelinae beperkte verspreiding vertoon. Resultate van hierdie verhandeling het helderheid verleen op die gebied van Trachelinae taksonomie in die streek, veral met betrekking tot die algemene morfologie en diagnostiese kenmerke van die genera, en sal ook bydra tot nasionale en internasionale inisiatiewe, soos die Suid-Afrikaanse Nasionale Opnames van Arachnida en die Afrika Arachnida Databasis (AFRAD), waarvan die doelwitte is om te ontdek, beskryf, asook ‘n inventaris van die Arachnida fauna van respektiewelik Suid-Afrika en Afrika te maak. ‘n Kladistieke analise sal egter op die subfamilie uitgevoer moet word ten einde die verwantskappe tussen genera beter te verstaan. Hierdie analise behoort voorafgegaan te word deur ‘n oorsig van *Paccius* asook die beskrywing van nuwe genera vanuit die streek.

Sleutelwoorde: Afrotropies, *Cetonana*, diagnose, nuwe spesies, sakspinnekoppe, sistematiek, Trachelinae, sleutel, *Thysanina*, *Trachelas*.

CHAPTER 1

♀ ***Cetonana martini*** **(Simon, 1897)** **(Photo by C.R. Haddad)**

Introduction to the Trachelinae (Araneae: Corinnidae) of the Afrotropical Region

BACKGROUND

The family Corinnidae Karsch, 1880 remains poorly studied in the Afrotropical Region and it consists of four subfamilies, namely Castianeirinae, Corinninae, Trachelinae and Phrurolithinae. The family is represented by 75 genera worldwide (Jocqué & Dippenaar-Schoeman 2006), of which 27 genera are found in the Afrotropical Region (Platnick 2008). Of these subfamilies, Castianerinae, Corinninae and Trachelinae are currently being revised in order to improve the knowledge of this diverse family. Of the phrurolithine genera, *Hortipes* Bosselaers & Ledoux, 1998, has been well studied (Bosselaers & Jocqué 2000), while *Orthobula* Simon, 1898 still has to be revised.

Jocqué & Dippenaar-Schoeman (2006) stated that "The Corinnidae are still not well-defined and the inclusion of the subfamilies Castianeirinae and Trachelinae remains debatable". This sentiment is further shared by Deeleman-Reinhold (2001), where she stated that "present-day sac and ground spiders of the world still has too many vacant spots". Revisions, such as Platnick & Shadab (1974a, b), Platnick (1975) and Platnick & Ewing (1995), have attempted to resolve the unsatisfactory New World Trachelinae taxonomy. South East Asia trachelines were revised by Deeleman-Reinhold (2001), where numerous new species were described. However, these attempts were concentrated on New World and South East Asian trachelines and very little has been done to resolve the taxonomy of the Afrotropical Region.

Trachelinae is represented by eight genera in the Afrotropical region, namely *Austrachelas* Lawrence, 1938, *Brachyphaea* Simon, 1895, *Cetonana* Strand, 1929, *Paccius* Simon, 1898, *Pronophaea* Simon, 1897, *Spinotrachelas* Haddad, 2006, *Thysanina* Simon, 1910 and *Trachelas* L. Koch, 1872 (Dippenaar-Schoeman & Jocqué 1997; Bosselaers & Jocqué 2000; Haddad 2006; Lyle & Haddad 2006a). Bosselaers & Jocqué (2000, 2002) suggested that *Lessertina* Lawrence, 1942 may also be a tracheline based on the cusp-like structure on metatarsi I and II. However, this genus has a median apophysis on the male palp, and the cusp-like structure may just be a modified leg spine and not a cusp. Consequently,

Lessertina should be considered Corinnidae *incertae sedis*, and will not be treated further here.

Tracheline sac spiders are found in most geographical regions, with a total of 169 described species found worldwide (Chami-Kranon, Likhitrakarn & Wongsawad 2007). Of these 36, were known from the Afrotropical Region prior to this study (Table 1). Three genera, namely *Austrachelas*, *Brachyphaea* and *Pronophaea* are believed to be misplaced.

Table 1. Trachelinae genera from the Afrotropical Region with the number of species described prior to the revisions and the number of new species described. * ─ Genera revised; # ─ Misplaced genera; ‡ ─ Published in Lyle & Haddad (2006).

Genera	**Number of Described Species**	**Number of New Species**
Austrachelas Lawrence, 1938 #	2	─
Brachyphaea Simon, 1895 #	8	─
Cetonana Strand, 1929*	6	10
Paccius Simon, 1898	8	─
Pronophaea Simon, 1897 #	1	─
Spinotrachelas Haddad, 2006	1	─
Thysanina Simon, 1910*	1	5‡
Trachelas L. Koch, 1866*	9	48
TOTAL	36	63

In terms of biogeography, the highest diversity of trachelines is found in southern and eastern Africa. *Trachelas* has a widespread distribution throughout the Afrotropical Region. *Cetonana* has the highest diversity in southern Africa, with three species extending or endemic to East Africa. *Thysanina* and *Spinotrachelas* have been collected mainly from southern Africa (Haddad 2006; Lyle & Haddad 2006a). *Paccius* has a limited distribution, and only occurs on Madagascar and the surrounding Indian Ocean islands. The type species of *Trachelas*, *Trachelas minor* O.P.–Cambridge 1872, is not found in the Afrotropical Region as previously suspected (Platnick 2008), but has a wide distribution in Europe and West Asia. *T. canariensis* Wunderlich, 1987 was initially recorded only from the Canary Islands, but is believed also to be found on the Afrotropical mainland (J. Bosselaers pers. comm.).

In this dissertation three genera are revised from the Afrotropical Region, namely *Thysanina*, *Cetonana* and *Trachelas*. So far the revision of *Thysanina* has been published (Lyle & Haddad 2006a). The number of new species described for these genera illustrates the need to further study the arachnid fauna of the Afrotropical Region.

CURRENT STATUS OF THE AFROTROPICAL TRACHELINAE GENERA

The subfamily Trachelinae is characterised by a general absence of leg spines, with the presence of ventral cusps on the anterior legs, mostly in males (Lyle & Haddad 2006a; Chapter 2 Figs 23-26, 77-80, 83-87, 97-103; Chapter 4 Figs 214-217). Cusps are found in the genera *Cetonana*, *Paccius*, *Spinotrachelas*, *Thysanina* and some species of *Trachelas*, but are lacking in *Austrachelas*. In the genera *Pronophaea* and *Brachyphaea* ventral leg cusps have been replaced by strong, ventral leg spines. The presence of ventral leg spines, femoral prolateral spines and similarities between their genitalic structures has led to the suggestion that *Pronophaea* and *Brachyphaea* may need to be transferred to the subfamily Corinninae (Haddad 2007).

Austrachelas is also believed to be misplaced (Lyle & Haddad 2006b). Examination of *Austrachelas* specimens has revealed that members of both sexes lack ventral cusps, which are a typical feature of the subfamily Trachelinae (Platnick & Shadab 1974b). However, this trait is not enough to transfer this genus, as some trachelines do lack cusps, e.g. many Afrotropical *Trachelas*. Further investigation confirmed that leg, mouthpart, eye morphology and spinneret structure do not agree with typical Trachelinae morphology (Lyle & Haddad 2006b). Based on these differences, it has been suggested that *Austrachelas* should be transferred to the Gallieniellidae Millot, 1947, where similarities can be seen between *Austrachelas* and *Drassodella* Hewitt, 1916. However, other families are still being investigated as relatives (Lamponidae Simon, 1893 and Liocranidae Simon, 1897), so the placement of *Austrachelas* in Gallieniellidae has yet to be confirmed.

Paccius Simon, 1898 was originally described with the type species *Trachelas madagascariensis* Simon, 1889. Two additional species were described, namely *P. quadridentatus* Simon, 1898 and *P. mucronatus* Simon, 1898. No females were known for this genus and Simon included no illustrations in the original descriptions (Platnick 2000). More than a century later, Platnick (2000) named and described five new species all from the Parc National de Marojejy, Madagascar including the first descriptions of females. Platnick (2000) suggested that there may be as many as 25 species on the island of Madagascar, as well as others from the Comoro Islands, La Réunion and Mauritius. No species have been recorded from the African mainland. He also went on to say that all species described thus far seem to be narrowly endemic, with a degree of altitudinal separation.

The genus *Cetonana* Strand, 1929 was originally described by Simon (1874) under the name *Ceto*. The name *Ceto* was replaced with *Cetonana* by Strand (1929), since *Ceto* was occupied by a genus of Echinodermata (Platnick & Ewing 1995). This genus has a distribution within the Neotropical, Palearctic and Afrotropical Regions. In this thesis, the genus is revised in the Afrotropical Region, several synonyms are proposed, and 10 new species are described. Additionally, notes on distribution and biology were given, where possible.

The monotypic genus *Spinotrachelas* with the type species *S. capensis* Haddad, 2006 was recently described by Haddad (2006). This genus is endemic to the Western Cape Province, South Africa. Both sexes are characterised by the presence of paired short, strong leg spines on the tibiae and metatarsi of the anterior legs (Haddad 2006). Additionally, ventral leg cusps are present in both sexes.

The genus *Thysanina* Simon, 1910 was recently transferred to the Trachelinae by Bosselaers & Jocqué (2000) and revised by Lyle & Haddad (2006a). In this paper five new species were described, along with a redescription of the type species, *T. serica* Simon, 1910. *Thysanina* is similar to other trachelines and has cusps present on the distal segments of legs I and II in males, but cusps are replaced by scopulae in females. Leg spines are generally absent, with the exception of *T. similis* Lyle & Haddad, 2006a and *T. transversa* Lyle & Haddad, 2006a.

The cosmopolitan genus *Trachelas* has often been used as a wastebasket for relatively unmodified trachelines in the past (Platnick 2000), and as a result many species have been misplaced. Revisions of New World trachelines have resulted in the transfer of many *Trachelas* species into other tracheline genera, such as *Meriola* Banks, 1895 and *Trachelopachys* Simon, 1897 (Platnick 1975; Platnick & Ewing 1995; Platnick & Rocha 1995). Very little work has been done on the Afrotropical *Trachelas* since the few species from this region were described. Bosselaers & Jocqué (2002) used *Trachelas schenkeli* Lessert, 1923 in a cladistic analysis of the Corinnidae and Liocranidae. In this thesis, the known species are redescribed and 48 new species are described for the Afrotropical mainland. This genus provides a good example of the poor knowledge of Afrotropical corinnids, and the need to revise these and other spider taxa.

MEDICAL IMPORTANCE

Trachelines have limited records of envenomation. Some miscellaneous cases of *Trachelas* envenomations have been reported (Platnick & Shabad 1974a; Pase & Jennings 1978; Diaz 2004), limited to North and Central America. Direct contact with trachelines and man is rather limited. Generally they are rarely found in homes, although there are a few North American *Trachelas* species that have been collected in buildings. These species are *T. tranquillus* (Hentz, 1847), *T. volutus* Gertsch, 1935, *T. mexicanus* Banks, 1898 and *T. pacificus* Chamberlin & Ivie, 1935 (Platnick & Shabad 1974a). Reported *Trachelas* bites have recorded various symptoms, ranging from slight swelling, local lesions, systematic symptoms and skin ulcers, to severe pain and tenderness (Platnick & Shabad 1974a). Diaz (2004) refers to *Trachelas* as a mildly envenoming spider with miscellaneous cases. Very little is known of the medical importance of other tracheline genera, with no known reports of tracheline bites in the Afrotropical Region, even though a small number of specimens have been collected from within houses.

ECOLOGY IN AGROECOSYSTEMS

The increase for alternative methods of pest control has lead to investigation of spiders as a biological control method. Many studies have been done in the United States of America on predation and the occurrence of spiders in agroecosystems. A study done by Amalin, Reiskind, Peña & McSorley (2001a) investigated sac spiders as a control for citrus leafminer. *Trachelas volutus* was investigated and has been shown to feed on the various instars of this pest and aided in controlling their numbers. Additionally, *T. pacificus* and *Meriola deceptus* (Banks, 1895) were also collected in citrus groves in the canopy and leaf litter (Carroll 1980). *T. pacificus* has been collected in grape vineyards in California in numerous studies (Costello & Daane 1998, 1999, 2005). These studies concentrated on the abundance of spiders and the influence of ground covers and night and day collecting on arachnids. Costello & Daane (1998) found that *T. pacificus* preferred vineyards with dense ground cover where the ground cover offers an additional source of prey.

In the Afrotropical Region trachelines have been found in a number of agroecosystems, namely macadamia orchards, avocado orchards and pistachio orchards. Within the macadamia orchards only one tracheline species, namely *Trachelas pusillus* Lessert, 1923, was collected out of a total of 80 species (Dippenaar-Schoeman, van den Berg, van den Berg & van den Berg 2001). In avocado orchards only one tracheline species,

Cetonana martini, was collected out of a total of 90 species (Dippenaar-Schoeman, van den Berg, van den Berg & Foord 2005). The pistachio orchards have two trachelines, *Trachelas pusillus* and *Cetonana arca* sp.n., collected out of a total of 88 species (Haddad, Dippenaar-Schoeman & Pekár 2005). However, trachelines do occupy different niches within the pistachio orchards (Haddad, Louw & Dippenaar-Schoeman 2004; Haddad & Dippenaar-Schoeman 2006). Unlike the United States of America, where trachelines are abundant and are important beneficials, the Afrotropical trachelines are found in limited numbers within agroecosystems and show limited potential for controlling agricultural pests through predation due to their low numbers.

ECOLOGY IN NATURAL HABITATS

Unlike agroecosystems, trachelines seem to be diverse in natural habitats in the Afrotropical Region. Arachnid checklists for numerous reserves have been published as part of the South African National Survey of Arachnida (SANSA), and have recorded trachelines in a number of different habitats and biomes. Trachelines are often found on leaf litter, bark or leaves of trees, or actively wandering on the ground (Figs 1-7).

Two trachelines species, namely *Trachelas schenkeli* Lessert, 1923 and *Thysanina transversa* Lyle & Haddad, 2006, were collected out of 76 species in the savanna biome of Sovenga Hill, Limpopo Province, South Africa (Modiba, Dippenaar & Dippenaar-Schoeman 2005). Numerous tracheline species, represented by *Cetonana arca* sp. n., *C. martini* (Simon, 1897), *C. capensis* sp. n., *C. plana* sp. n., *Spinotrachelas capensis* Haddad 2006 and *Trachelas capensis* sp. n., and two new genera, were collected from 252 species in the fynbos of De Hoop Nature Reserve, Western Cape, South Africa (Haddad & Dippenaar-Schoeman in press). Four trachelines, represented by *Trachelas incurvus* sp. n., *T. hamus sp. n.*, *Thysanina transversa* Lyle & Haddad, 2006 and *C. martini*, have been collected from a total of 277 species in the Soutpansberg, South Africa (Foord, Mafadza, Dippenaar-Schoeman & van Rensburg in press). Additionally, *Cetonana arca* sp. n. was collected in Nama Karoo (Dippenaar-Schoeman, van der Walt, de Jager, le Roux & van den Berg 2005) and *Trachelas schenkeli* was collected from coastal dune forests (Dippenaar-Schoeman & Wassenaar 2006). *C. martini* was collected at the Polokwane Nature Reserve, Limpopo Province, South Africa (Dippenaar, Modiba, Khoza & Dippenaar-Schoeman 2008). Ndumo Game Reserve, KwaZulu-Natal Province, South Africa has a high diversity similar to fynbos. Nine species of

trachelines were collected from a total of 431 species, namely *Cetonana martini*, *C. plana* sp. n., *C. secutor* sp. n., *Thysanina transversa* sp. n., *Trachelas schenkeli*, *T. pusillus* Lessert, 1923, *T. denticulatus* sp. n. and *T. gladius* sp. n., and two new genera (Haddad, Dippenaar-Schoeman & Wesolowska 2006; Haddad & Lyle, in press). *Cetonana* was very common under *Acacia xanthoploea* (fever tree) bark.

REPRODUCTION

Knowledge of sac spider development is fragmentary (Amalin, Peña & McSorley 2003). However, even with limited laboratory studies on the reproduction of sac spiders some research has been done on *Trachelas volutus*. This tracheline was investigated as a potential predator of citrus leafminer and thrips (Amalin *et al.* 2001b). Amalin *et al.* (2003) studied *T. volutus* and found that males and females need approximately 130 days to mature reproductively, while the total lifespan varied from approximately 250 days for females to approximately 210 days for males.

Eggs are laid in egg sacs that are usually circular and constructed from silk with a papery texture on a flattened surface. This circular papery cocoon (Fig. 8) is produced by many trachelines (pers. obs.; C.R. Haddad pers. comm) and are usually found under rocks, or on the surface of leaves, branches and trunks of trees (Amalin *et al.* 2003; C.R. Haddad pers. comm). Mature females of *T. volutus* can produce one to three egg masses in a lifetime, which are protected by both males and females. Females aid the spiderlings to emerge from the egg sac by tearing it open. In the study as well as in nature the silky cocoons are constructed in protected places (Amalin *et al.* 2003).

Dispersal of trachelines is typical to that of other arachnids. Ballooning is a passive form of dispersal used by many spiders, including *Trachelas* (Szymkowaik, Górski & Bajerlen 2007).

Diagnosis of Afrotropical Trachelinae genera

Cetonana Strand, 1929

Diagnosis: Medium to large spiders, between 3 to 8mm in length, carapace orange to brown with very fine wrinkled texture, appearing smooth; average carapace ratio 1: 1.10 (width: length). Anterior eye row almost straight, either recurved or procurved; posterior eye row slightly recurved; anterior median eyes usually larger than laterals; posterior lateral eyes usually larger than medians; anterior median eyes usually separated by distance equal to their diameter; posterior median eyes are separated by distance larger than their diameter. Small protuberant, triangular chilum present, rounded medially. Chelicerae with two or three promarginal teeth, two retromarginal teeth. Sternum smooth, with scattered fine, short setae. Abdomen pale yellow to grey sometimes, with grey chevron marking, paired sigillae usually present; some species with a dorsal scutum, extending between ⅔ to almost entire abdominal length, usually present in males only. Leg formula 1342; one to four strong prolateral spines on femora leg I, found in both sexes of the Afrotropical species, absent in the European type species *C. laticeps* (Canestrini, 1868); ventral cusps present in males, occasionally present in females; variation in cusp arrangement between species and individuals; individual cusps either elongate with round tip or peg-like with rounded tip and broad base, sometimes found on same leg segment; dense ventral scopulae replace cusps in females that lack cusps; some species with sporadic long erect setae on anterior tibiae and metatarsi; posterior leg with scattered spines; legs pale yellow to pale brown, with or without incomplete bands. Copulatory openings usually placed medially in epigyne, rarely laterally; epigyne sometimes with hood. Palp usually with tibial apophysis, occasionally with patella apophysis; embolus originating prolaterally or distally on tegulum, variable in shape.

Described species from the Afrotropical Region:

Cetonana coenosa (Simon, 1897) (female) – South Africa.

Cetonana martini (Simon, 1897) (male & female) [Synonyms: *Cetonana curvipes* (Tucker, 1920), *Cetonana tridentata* (Lessert, 1923), *Cetonana simoni* (Lawrence, 1942)] – Lesotho, South Africa, Tanzania.

Nomina dubium:

Cetonana aculifera (Strand, 1916) – Madagascar.

New species:

Cetonana arca sp. n. (male & female) – South Africa.

Cetonana bulla sp. n. (female) – South Africa.

Cetonana capensis sp. n. (male & female) – South Africa

Cetonana corcula sp. n. (female) – South Africa.

Cetonana croeseri sp. n. (male & female) – South Africa.

Cetonana denticulata sp. n. (male) – Ethiopia.

Cetonana flabella sp. n. (male & female) – South Africa.

Cetonana plana sp. n. (male & female) – South Africa.

Cetonana secutor sp. n. (male & female) – South Africa.

Cetonana spicula sp. n. (male & female) – South Africa.

***Paccius* Simon, 1898**

Diagnosis: Large spiders, >6mm in length; carapace dark red surface with procurved rows of tubercles; average carapace ratio 1: 1.5 (width: length). Anterior eye row slightly procurved, almost straight; posterior eye row slightly recurved, almost straight; anterior median eyes larger than laterals; posterior medians eyes smaller than laterals; anterior median eyes separated by distance less their diameter; posterior median eyes separated by distance equal to double their diameter. Large protuberant triangular chilum present. Chelicerae with four to five promarginal teeth; retromarginal teeth absent; retromargin with lobe-shaped extension, at fang base. Sternum smooth medially, granular laterally. Abdomen long with orange epigastric sclerite encircling pedicel, extending dorsally; large dorsal scutum covering almost entire abdomen length present in males; four irregular rows of small, orange sclerites extending longitudinally along venter; venter with epigastric sclerite extending around booklung openings. Leg formula 1423; leg spines absent in both sexes; ventral cusps in both, replaced by dense scopulae on other leg segments; distal preening brushes on metatarsi of legs III and IV. Epigyne with anteriorly directed copulatory openings, entrance ducts folded back medially, leading to posterior spermatheca 1. Male palpal retrolateral tibial apophysis comprised of dense cluster of modified setae; embolus originating proximally on tegulum, curving around prolateral margin of tegulum.

Described species from the Afrotropical Region:

Paccius angulatus Platnick, 2000 (male) – Madagascar.

Paccius elevatus Platnick, 2000 (female) – Madagascar.
Paccius griswoldi Platnick, 2000 (male & female) – Madagascar.
Paccius madagascariensis (Simon, 1889) (male) – Madagascar.
Paccius mucronatus Simon, 1898 (male) – Madagascar.
Paccius quadridentatus Simon, 1898 (male) – Seychelles.
Paccius quinteri Platnick, 2000 (male & female) – Madagascar.
Paccius scharffi Plantick, 2000 (male & female) – Madagascar.

***Spinotrachelas* Haddad, 2006**

Diagnosis: Small spiders, <5mm in length; carapace black surface, finely wrinkled with small protuberances at setal bases; average carapace ratio approximately 1: 1.25 (width: length); anterior eye row strongly procurved; posterior eye row strongly recurved; anterior lateral eyes slightly larger than medians; posterior median eyes slightly larger than laterals; anterior median eyes separated by distance equal to their diameter; posterior median eyes separated by distance slightly more than their diameter. Small, triangular chilum present, protuberant medially. Chelicerae with three promarginal teeth, two retromarginal teeth. Abdomen oval-elongate; dorsum very dark brown, almost black, with yellow lateral markings; dorsal scutum present in males, covering almost the entire length of abdomen, absent in females. Leg formula 1243; leg spines and leg cusps present; strong leg spines on femora, patellae and tibiae and metatarsi of the anterior legs in both sexes, prolateral spines on femora and patellae; ventral cusps on metatarsi and tarsi I and II of males and tarsi of females; cusps elongate, narrow at base with rounded tip. Female epigyne with copulatory openings anterolaterally in epigyne, entrance ducts curving posteromedially before entering spermatheca II; spermatheca II elongate, spermatheca I globose, posteriorly situated. Male palp with small patellar apophysis and long sword-like tibial apophysis; embolus originating prolaterally on tegulum, partly obscured by tegulum; cymbium tip with short, stout modified spines distally on dorsal surface.

Described species from the Afrotropical Region:

Spinotrachelas capensis Haddad, 2006 (male & female) – South Africa.

Thysanina Simon, 1910

Diagnosis: Small to medium sized spiders, <5.5mm in length; carapace yellow brown to orange; surface smooth with fine wrinkles; average carapace ratio 1: 1.05 (width: length). Anterior eye row slightly recurved; posterior eye row slightly procurved; anterior median eyes either slightly larger or equal to laterals; posterior median eyes similar; anterior median eyes separated by distance equal to their diameter or less; posterior medium eyes separated by distance equal to slightly larger than their diameter. Small, protuberant chilum present; sternum smooth. Chelicerae with three promarginal teeth, two or three retromargin teeth. Abdomen usually with a pale yellow dorsum with grey chevron marking; sigillae absent; dorsal and ventral scutums absent; leg formula 1423; leg spines generally absent, found in some species; ventral cusps present in males only; dense ventral scopulae in females; cusps peg-like with pointed tips; legs with or without incomplete band arrangement on all legs. Epigyne structure (placement of copulatory openings and spermathecal structure) highly variable. Male palp rarely with patellar apophysis, tibial apophysis are developed; embolus usually originating prolaterally or distally on tegulum.

Described species from the Afrotropical region:

Thysanina serica Simon, 1910 (male & female) – Namibia, South Africa.

New species from current studies published in Lyle & Haddad (2006a):

Thysanina absolvo Lyle & Haddad, 2006 (male & female) – South Africa.
Thysanina capensis Lyle & Haddad, 2006 (male & female) – South Africa.
Thysanina gracilis Lyle & Haddad, 2006 (male & female) – Namibia, South Africa.
Thysanina similis Lyle & Haddad, 2006 (male & female) – Tanzania.
Thysanina transvera Lyle & Haddad, 2006 (male & female) – South Africa.

Trachelas L. Koch, 1872

Diagnosis: Small spiders, Afrotropical species <5mm in length; carapace brown to reddish brown, surface with granulated texture; average carapace ratio approximately 1:1.09 (width: length), with a degree of variation. Anterior eye row slightly recurved, almost straight; posterior eye row recurved; eye sizes variable, anterior median eyes either smaller or equal to

laterals; posterior median eyes smaller or equal to laterals; anterior median eyes usually separated by distance equal to a ⅓ or less their diameter; posterior median eyes usually separated by distance equal to their diameter. Small semi-circular chilum present. Chelicerae with two or three promarginal teeth, two or three retromarginal teeth. Sternum smooth to finely granular. Abdomen varying from pale yellow to dark grey, with or without chevron marking; paired sigillae usually present, usually brown to grey; dorsal scutum usually absent, sometime in one or both sexes; epigastric sclerite sometimes present. Leg formula variable; leg spines absent; ventral cusps usually absent in both sexes, occasionally present in males; cusps broad at base, slightly curved, with rounded point; moderately dense ventral scopulae on metatarsi and tarsi I and II, more prominent on legs III and IV; sporadic long erect setae on tibiae and metatarsi of leg I; legs usually lacking markings or bands. Epigyne structure (placement of copulatory openings and spermathecal structure) highly variable. Male palp with considerable variation in the occurrence of femoral, patellar, tibial and cymbial apophyses; embolus structure highly variable in length and point of origin.

Described species from the mainland of the Afrotropical Region:

Trachelas chubbi Lessert, 1921 (male & female) – Central & East Africa.

Trachelas pusillus Lessert, 1923 (male & female) – Angola, Botswana, Democratic Republic of Congo, Ethiopia, Kenya, South Africa.

Trachelas punctatus Simon, 1886 (juvenile) – Senegal.

Trachelas roeweri Lawrence, 1938 (female & male) – South Africa.

Trachelas schenkeli Lessert, 1923 (male & female) – Mozambique, South Africa.

Trachelas scopulifer Simon, 1896 (female) – South Africa.

Trachelas sylvae Caporiacco, 1949 (male & female) – Kenya, Uganda.

Nomina dubium:

Trachelas punctatus Simon, 1886

Misidentified species:

Trachelas minor O.P.-Cambridge, 1872 (= *Trachelas falsus* sp. n.)

New species:

Trachelas addis sp. n. (male) – Ethiopia.

Trachelas amatola sp. n. (female) – South Africa.

Trachelas angiportus sp. n. (female) – Cameroon.

Trachelas botulus sp. n. (female & male) – Ghana.

Trachelas caecus sp. n. (male) – Cameroon, Ghana.

Trachelas capensis sp. n. (male & female) – South Africa.

Trachelas contortionis sp. n. (male) – Uganda.

Trachelas conus sp. n. (female) – Nigeria.

Trachelas coronatus sp. n. (male & female) – Democratic Republic of Congo, Rwanda.

Trachelas cristatus sp. n. (male) – Democratic Republic of Congo.

Trachelas denticulatus sp. n. (male & female) – South Africa.

Trachelas domiri sp. n. (male & female) – Central African Republic, Democratic Republic of Congo.

Trachelas draconis sp. n. (male) – Gabon.

Trachelas falsus sp. n. (male & female) – Côte d'Ivoire, Nigeria, Tanzania.

Trachelas fisheri sp. n. (female) – Central African Republic.

Trachelas flexuosus sp. n. (female) – Cameroon.

Trachelas funiculus sp. n. (male & female) – Nigeria, Uganda.

Trachelas gladius sp. n. (male & female) – South Africa.

Trachelas griswoldi sp. n. (male) – Tanzania.

Trachelas harrisi sp. n. (female) – South Africa.

Trachelas hamus sp. n. (male & female) – South Africa.

Trachelas humus sp. n. (male & female) – Namibia, South Africa.

Trachelas incurvus sp. n. (male & female) – South Africa.

Trachelas jocquei sp. n. (male) – South Africa.

Trachelas kakumensis sp. n. (female) – Ghana.

Trachelas lateralus sp. n. (male & female) – Tanzania.

Trachelas latus sp. n. (male & female) – Democratic Republic of Congo, Uganda.

Trachelas leggi sp. n. (male) – South Africa.

Trachelas lejeunei sp. n. (male) – Democratic Republic of Congo.

Trachelas longinquus sp. n. (male) – Central African Republic.

Trachelas malkini sp. n. (female) – Cameroon.

Trachelas maputensis sp. n. (female) – Mozambique, South Africa.

Trachelas minutus sp. n. (male) – South Africa.

Trachelas obliquus sp. n. (female) – Tanzania.

Trachelas penicillus sp. n. (male & female) – South Africa.

Trachelas pressus sp. n. (female) – Kenya.

Trachelas porrectus sp. n. (male) – Rwanda.

Trachelas purpureus sp. n. (male) – Côte D'Ivoire.

Trachelas retortum sp. n. (male & female) – Uganda.

Trachelas scutatus sp. n. (male & female) – Ghana, Nigeria.

Trachelas setosus sp. n. (male & female) – South Africa.

Trachelas smithi sp. n. (female) – Kenya.

Trachelas sparsus sp. n. (female) – Lesotho, Malawi, South Africa.

Trachelas tortilis sp. n. (male & female) – Ghana.

Trachelas taita sp. n. (male & female) – Kenya.

Trachelas ugandensis sp. n. (male & female) – Uganda.

Trachelas uncus sp. n. (male & female) – Kenya.

Trachelas ungulus sp. n. (male & female) – Uganda.

Proposed transfer of misplaced species:

Trachelas scopulifer Simon, 1896 to *Thysanina*.

Key to the genera of the Trachelinae of the Afrotropical region

1. Males……..……1

─ Females……..…….6

2. Retrolateral tibial apophysis formed by highly modified setae; cymbium with retrolateral apophysis; four or five promarginal cheliceral teeth……..……..…***Paccius*** **Simon**

─ Retrolateral tibial apophysis, when present, solid structure; cymbium straight or curved retrolaterally; two or three promarginal cheliceral teeth….……..……..3

3. Small spiders, <5mm in length; black, with paired yellow transverse markings on abdomen; tibiae and metatarsi with paired ventral spines, patellae with prolateral spines; metatarsi and tarsi of anterior legs with cusps; long, dorsal palpal tibial apophysis present……...……...…***Spinotrachelas*** **Haddad**

─ Size variable 2.0-8.1mm; carapace normally orange to red-brown, abdomen usually grey, sometimes with chevron; tibiae and metatarsi usually without paired ventral spines; cusps,

when present, usually at least on tibiae, metatarsi and tarsi of leg I; palpal tibial apophysis usually short, retrolaterally situated, when present……...……..……4

4. Legs without cusps, or when present, usually only leg I; cusps short, stout; <5mm in length……...……..……..……..***Trachelas* L. Koch**

─ Legs usually with strong cusps on legs I and II; cusps elongated; body length variable 3.0-8.1mm in length……..……5

5. Legs usually without spines, when present femoral spines short and fine; abdomen with distinct chevron marking..……..…….……***Thysanina* Simon**

─ Legs with one to four strong prolateral spines on at least femur I; abdomen usually without markings, occasionally with pale patches or indistinct chevron marking…...***Cetonana* Strand**

6. Anterior legs usually without leg spines…….……..…..……7

─ Anterior legs with leg spines, at least prolaterally on femur I……..…..8

7. Medium to large spider, >4mm in length; abdomen usually with chevron markings; copulatory opening anterior to midpoint, variation in spermathecae size and shape…….***Thysanina* Simon (in part)**

─ Small spiders, <4mm in length; abdomen pale yellow to grey, often lacking markings; legs spines and cusps absent; copulatory openings usually medially or anterior to midpoint, variation in shape and size of epigyne……...……***Trachelas* L. Koch**

8. Strong prolateral spines on femur I along with regular leg spines, with or without ventral cusps……..…….....9

─ Strong prolateral spines in femur I absent, with either ventral cusps or regular leg spines.....10

9. One to four strong prolateral leg spines on femur I; patellae spineless; ventral cusps occur on tibiae, metatarsi and tarsi of anterior legs; copulatory openings usually with either epigynal hood or ridges……..……***Cetonana* Strand**

─ One strong prolateral leg spines on femur I; patellae with prolateral spines; ventral cusps on tarsus I; copulatory openings situated anterolaterally……..….***Spinotrachelas* Haddad**

10. Leg spines absent, ventral cusps present on metatarsi and tarsi I and II; abdomen long, elongate often white; copulatory usually openings anterior to midpoint of epigyne……..……***Paccius* Simon**

─ Regular leg spines present, ventral cusps absent; dense scopulae on distal segments of anterior legs; abdomen broad anteriorly, truncated posteriorly; copulatory openings usually medially or anterior or midpoint……..…***Thysanina* Simon (in part)**

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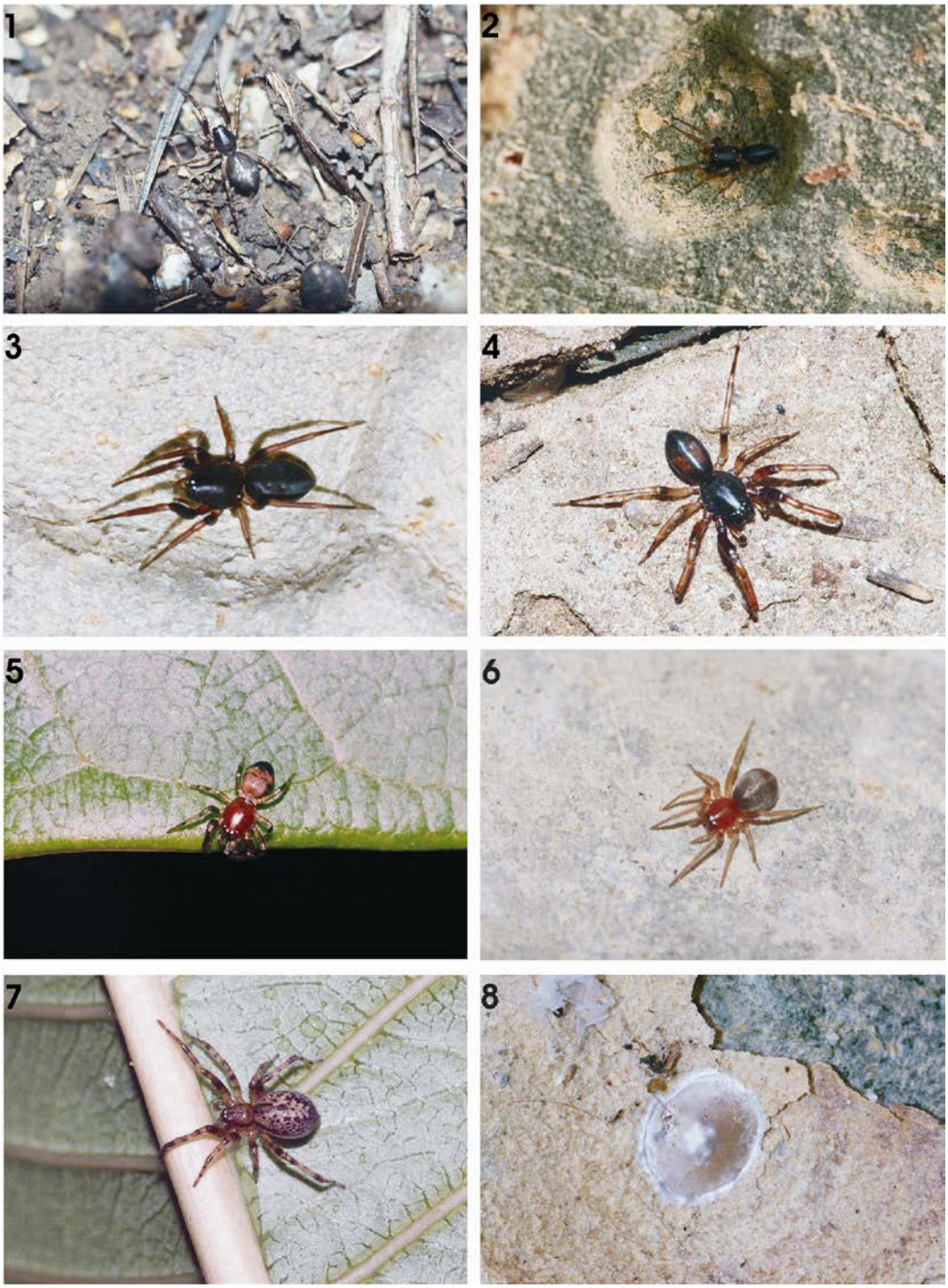

Figs 1-8. Trachelines in their natural habitats: (1) *Cetonana martini* (Simon, 1897) on leaf litter; (2) *C. martini* and (3) *C. secutor* sp. n. on the bark of fever trees; (4) *C. plana* sp. n. wandering on the ground; (5) *Trachelas schenkeli* Lessert, 1923 foraging on a leaf; (6) *T. humus* sp. n. wandering on the ground; (7) undescribed *Thysanina* Simon, 1910 species foraging on a leaf; (8) egg sac of *C. plana* sp. n. on the bark of a fever tree (Photos by C.R. Haddad).

CHAPTER 2

♂ ***Cetonana plana*** **sp. n.** **(Photo by C.R. Haddad)**

A revision of the tracheline sac spider genus *Cetonana* Strand, 1929 (Araneae: Corinnidae) in the Afrotropical Region

ABSTRACT

The genus *Cetonana* Strand, 1929, presently known from Africa, Europe, South America and Asia, is revised in the Afrotropical Region. *Cetonana martini* (Simon, 1897) and *C. coenosa* (Simon, 1897) are redescribed and the genitalia drawn. *C. curvipes* (Tucker, 1920), *C. tridentata* (Lessert, 1923) and *C. simoni* (Lawrence, 1942) are proposed as junior synonyms of *C. martini*. Ten new species are described from the Afrotropical Region: *C. arca* sp. n., *C. bulla* sp. n., *C. capensis* sp. n., *C. corcula* sp. n., *C. croeseri* sp. n., *C. denticulata* sp. n., *C. flabella* sp. n., *C. plana* sp. n., *C. secutor* sp. n. and *C. spicula* sp. n.. Most Afrotropical *Cetonana* recorded are restricted to South Africa, with the exception of *C. martini* and *C. secutor* sp. n., which extend into East Africa, and *C. denticulata* sp. n., which is endemic to Ethiopia. The type of *C. aculifera* (Strand, 1916) from Madagascar is presumed destroyed, and this species is considered *nomen dubium*.

INTRODUCTION

Cetonana Strand, 1929 is a widespread genus of tracheline sac spiders known from the Palearctic, Neotropical and Afrotropical Regions. This genus was originally described by Simon (1874) under the name *Ceto*, with the type species *Drassus laticeps* Canestrini, 1868 from Europe. The name *Ceto* was replaced with *Cetonana* by Strand (1929), since it was occupied by a genus of Echinodermata (*Ceto* Gistl, 1848). Consequently, all spiders in the genus were transferred to *Cetonana* (Strand, 1929). In addition to *C. laticeps*, three South American species, namely *C. setosa* (Simon, 1897), *C. lineolata* (Mello-Leitão, 1941) and *C. petrunkevitchi* Mello-Leitão, 1945, have been described from Brazil. Another species, *C. orientalis* (Schenkel, 1936), was described from China and Korea (Paik 1991; Platnick 2008).

In the present chapter, the genus *Cetonana* is revised in the Afrotropical Region, with *C. coenosa* (Simon, 1897) and *C. martini* (Simon, 1897) being redescribed and ten new species being described. *C. curvipes* (Tucker, 1920), *C. tridentata* (Lessert, 1923) and *C. simoni* (Lawrence, 1942) are proposed as junior synonyms for *C. martini*, after the examination of all holotypes. The type specimen of *C. aculifera* (Strand, 1916), described from Madagascar, has not been examined and is presumed to have been destroyed during World War II. Recent collections of large quantities of spiders from Madagascar by several American institutions (California Academy of Sciences, Smithsonian Institute and American

Museum of Natural History) have yielded no fresh material of this species, and as a result it is proposed as *nomen dubium*.

Platnick & Ewing (1995) stated that many New World trachelines have been treated as congeneric with either one of two European trachelines, *Trachelas minor* O. P.-Cambridge, 1872 or *C. laticeps*. Detailed examination of genitalic structures produced very little evidence to support that the New World trachelines were similar to the European, resulting in the removal of *Meriola* Banks, 1895 as a synonym of *Trachelas* L. Koch, 1872, and the transfer of many *Cetonana* species to *Meriola* and *Trachelopachys* Simon, 1897 (Platnick & Ewing 1995; Platnick & Rocha 1995). However, the fate of the remaining three Neotropical *Cetonana* (listed above) and their relationships to other trachelines (particularly the Afrotropical and Palearctic *Cetonana*) remains unknown.

This finding has strengthened the need to compare Afrotropical and European trachelines. It is still necessary, however, to examine the type of *C. laticeps* from Europe to determine whether the Afrotropical *Cetonana* are congeneric, although examination of non-type *C. laticeps* material suggests that the fauna of the two regions is distinctly different (C.R. Haddad, pers. comm.). If not congeneric, it will be necessary to erect a new genus to accommodate the African species. Variations between the genitalia can be seen when examining drawings of *C. laticeps* and African *Cetonana* species. In *C. laticeps*, the female's copulatory openings are posteriorly located close to the epigastric fold, and the male palp has an elongated, slender cymbium extending from beneath the tegulum and bent at nearly a right angle (Grimm & Vilbel 1986). African *Cetonana* differ in that females have copulatory openings that open near the midpoint or anterior to the midpoint of the epigyne, while most male palps lack the slender and elongated cymbium seen in *C. laticeps*.

Cetonana species have been predominantly captured from the ground surface by pitfall trapping or sifting leaf litter, but are also collected from foliage or beneath loose bark of trees, sometimes occurring in high numbers (C.R. Haddad pers. comm). Some specimens of *C. arca* sp. n. have been collected from termite mounds (Haddad & Dippenaar-Schoeman 2006a). *Cetonana* species have been collected in South Africa from all of the major biome types, namely savanna, grassland, forest, fynbos and karoo (Foord, Dippenaar-Schoeman & van der Merwe 2002; Dippenaar-Schoeman, van der Walt, de Jager, le Roux & van den Berg 2005; Haddad & Dippenaar-Schoeman 2006a, in press; Haddad, Dippenaar-Schoeman & Wesołowska 2006; Dippenaar, Modiba, Khoza & Dippenaar-Schoeman 2008). *Cetonana* are occasionally collected in agroecosystems during long-term surveys, but are usually not

abundant (Haddad, Dippenaar-Schoeman & Pekár 2005; Haddad & Dippenaar-Schoeman 2006b).

MATERIALS AND METHODS

All specimens were preserved and observed in 70% ethanol, and were observed for description using a light microscope. The epigynes of female paratypes were dissected with 0-size insect pins and cleared for eight minutes in a Branson 3200 ultrasonic bath, after which they were drawn in 70% ethanol. A left palp of a male paratype was dissected and drawn for each species.

All measurements are given in millimetres (mm). Body measurements (excluding legs) were determined from the smallest and largest specimens of both sexes to provide a size range. Eye and leg measurements were given for the largest specimen of each sex. Leg spination follows the format of Bosselaers & Jocqué (2000). Eye arrangements are described for the anterior view of the anterior eye row, and dorsal view of the posterior eye row. Redescriptions are provided for described species in alphabetical order, followed by description of new species in alphabetical order.

The following abbreviations are used in the descriptions:

AER – anterior eye row
AL – abdomen length
ALE – anterior lateral eye
AME – anterior median eye
AW – abdomen width
CL – carapace length
CW – carapace width
do – dorsal
FL – fovea length
PER – posterior eye row
pl – prolateral
PLE – posterior lateral eye
plv – prolateral ventral
PME – posterior median eye
rl – retrolateral
rlv – retrolateral ventral
SL – sternum length
ST – spermatheca
SW – sternum width
TL – total length
vt – ventral terminal

Material for scanning electron microscopy (*C. martini*, *C. plana* sp. n. and *C. secutor* sp. n.) was dehydrated in graded ethanol series and then critical point dried in an argon chamber. Specimens were mounted onto stubs, sputter coated five times with gold, and then studied using a JEOL WinSEM 6400 at 10 kV. Digitised micrographs were taken. Automontage photographs of males and/or females of each species were taken using a Nikon Coolpix 8400 mounted on a Nikon SMZ800 stereomicroscope.

Holotype and paratype label data is quoted as it appears. A slash (/) signifies the end of a line of print, and two slashes (//) signifies data on a further label. Locality co-ordinates were provided when available.

Material used in this study was obtained from the following collections (curators are named in parentheses):

AMG – Albany Museum, Grahamstown, South Africa (A. Kirk-Spriggs).

AMNH – American Museum of Natural History, New York, U.S.A. (N. Platnick).

BMNH – British Museum of Natural History, London, England (J. Beccaloni).

CAS – California Academy of Sciences, San Francisco, U.S.A. (C. Griswold).

MACN – Museo Argentina de Ciencias Naturales, Buenos Aires, Argentina (M. Ramírez).

MHNG – Museum d'Histoire Naturelle de la Ville de Genéve (P. Schwendinger).

MNHN – Museum National d'Histoire Naturelle, Paris, France (C. Rollard).

MRAC – Museum Royal de l'Afrique Centrale, Tervuren, Belgium (R. Jocqué).

NCA – National Collection of Arachnida, ARC-Plant Protection Research Institute, Pretoria, South Africa (A. Dippenaar-Schoeman).

NMBA – National Museum, Bloemfontein, South Africa (L. Lotz).

NMSA – Natal Museum, Pietermaritzburg, South Africa (M. Mostovski).

PCRS – Personal Collection of A. Russell-Smith.

SAMC – Iziko South African Museum, Cape Town, South Africa (M. Cochrane).

TMSA – Northern Flagship Institute, Transvaal Museum, Pretoria, South Africa (J. Harrison).

TAXONOMY

Cetonana Strand, 1929

Ceto Simon, 1874: 238; Grimm & Vilbel 1986: 10; Paik 1991: 263; Dippenaar-Schoeman & Jocqué 1997: 128; Deeleman-Reinhold 2001: 369.

Cetonana Strand, 1929: (replacement name); Platnick & Ewing 1995: 2; Platnick 2008.

Cetonana Mello-Leitão, 1941 – Brignoli 1983: 556 (*lapsus!*)

Type species: *Drassus laticeps* Canestrini, 1868

Diagnosis: The genus *Cetonana* differs from the other closely related genera, such as *Thysanina* Simon, 1910 and *Trachelas*, in several respects. The most noticeable characteristic is their larger size and the presence of one to four strong prolateral leg spines on the femora of leg I (leg spines absent in the European type species *Cetonana laticeps* (Canestrini, 1868)). Similar leg spines scattered on other leg segments. *Cetonana* have a bright orange to red-brown carapace with a smooth surface and distinct fovea. Ventral cusps are found on the anterior leg segments of legs I and II in all males and in some females. This trait is shared with most tracheline genera. However, some species of *Trachelas* lack cusps or have a reduced number of cusps, even in males. In *Cetonana*, dense scopulae replace cusps in many of the females. Variation in individual cusp shape can be seen within species. Tibial cusps are usually elongate with a rounded point and are slightly constricted at the base, while other cusps are often peg-like with a rounded point and flattened at the base (Figs 26, 77, 83, 103).

Description: Medium to large spiders, 3.4-8.1mm in length; male smaller, more robustly built than female, with legs and abdomen thicker and more compact than female. Carapace slightly dorsoventrally flattened, highest immediately posterior to eye region; ocular region narrowest, broader medially and concave posteriorly; carapace bright orange to red-brown, paler posterior to fovea; carapace covered in fine setae; fovea short, distinct and slightly thickened; ocular region darkened with dark rings around eyes. Anterior eye row nearly straight, either slightly procurved or recurved; posterior eye row slightly recurved (Fig. 75). Chelicerae usually with two or three promarginal teeth, and two retromarginal teeth; labium usually longer than broad; endites straight along lateral margin, serulla distinct. Sternum shield-shaped (Fig. 76), longer than broad; short and long fine setae scattered across smooth surface; colouration pale brown to orange, darker towards border. Legs with paired tarsal claws situated between a dense claw tuft; ventral cusps (Fig. 26) present on anterior tibiae, metatarsi and tarsi of males, sometimes present in females (*C. martini*, *C. corcula* sp. n. and *C. plana*

sp. n.); long erect setae sometimes found on tibia of anterior legs (Fig. 85); cusps varying in shape, either elongate with rounded point and tapered at the base (Fig. 26), or peg-like with rounded point and tapered at the base (Fig. 83); situated in deep sockets (Fig. 27); cusp arrangement differs between species and individuals; leg spines present, two or three strong prolateral spines on femur I; posterior legs with scattered spines; legs I to IV generally pale yellow to light brown, many species with grey bands on most leg segments. Abdomen broader anteriorly and tapering posteriorly; integument pale yellow to cream, with paired sigilla; some species, such as *C. martini* and *C. bulla* sp. n., with grey chevron markings; dorsal scutum present in males, usually absent in females. Female with paired copulatory openings in weakly sclerotised epigyne, often with uniquely shaped anterior epigynal hood and lateral ridges (Fig. 28); vulva with variable entrance ducts, ST II (spermathecae linked to entrance ducts) usually anteriorly located, and ST I (spermathecae linked to ST II and fertilization ducts) smaller and posteriorly placed. Male palps with considerable variations in size and structure of tibial apophyses, and structure, length and origin of embolus (Figs 32, 81, 104); patellar apophysis sometimes present (Fig. 104).

Key to the species of the genus *Cetonana* in the Afrotropical Region

1. Males…….....……..……..……...…….
2
羊
Females…….……..……..…1
0

2. Retrolateral patellar apophysis present…….....3
羊 Retrolateral patellar apophysis absent…….....…….…….....7

3. Patellar apophysis large, spoon-shaped, reaching base of tegulum; embolus originating distally on tegulum (Figs 67, 108)……..…….…..…….....4

羊 Patellar apophysis short, tooth-like; embolus originating prolaterally, partly hidden by tegulum (e.g. Fig. 39)……..……..…..…….……..…..…….…....5

4. Palpal femur with tiny denticles distally (Fig. 68); embolus looping (Fig. 67); cymbium with three ventral spines...…….....***denticulata*** sp. n. (p. 55)

羊 Palpal femur without distal denticles (Fig. 109); embolus nearly straight (Fig. 108); cymbium with two spines (Fig. 108)….....…….……..……...***secutor*** sp. n. (p. 62)

5. Embolus curving transversely, ending in sharp point; tibial apophysis simple, dorsally situated; distal spines on cymbium absent (Fig. 113)…….…….....***spicula*** sp. n. (p. 66)

羊 Embolus orientated obliquely for much of its length, distal section curved, ending in swollen, fist-like point; cymbium with two distal spines (Fig. 39)…….…….……..6

6. Embolus curving prolaterally after emerging from beneath tegulum, tip directed retrolaterally, ending close to tip of cymbium (Fig. 39); retrolateral tibial apophysis in lateral view comprising three projections (Fig. 40)….....***martini*** **(Simon)** (p. 36)

羊 Embolus directed distally after emerging from beneath tegulum, tip closer to tegulum than to cymbium tip (Fig. 91); retrolateral tibial apophysis in lateral view broad with dorsally directed tooth-like projection (Fig. 92)……..…….***plana*** sp. n. (59)

7. Embolus broad and tongue-shaped; retrolateral tibial apophysis in lateral view split into two tooth-like projections (Fig. 57)…...…….....***capensis*** sp. n. (p. 48)

羊 Embolus narrower with distinct curvature; retrolateral apophysis simple (Fig. 47)……...8

8. Embolus originating laterally, directed transversely across cymbium with flattened tip retrolaterally (Fig. 71)……...…..……..……..……...***flabella*** sp. n. (p. 56)

♂ Embolus shaped otherwise..……...……..……9

9. Tibial apophysis retrolaterally situated; embolus short, tip pointed and medially located near cymbium tip (Figs 46, 48)…….……...……..……....***arca*** sp. n. (p. 43)

♂ Tibial apophysis dorsally situated (Fig. 64); embolus with narrow coiled base and long curved distal section, tip broad and serrated, located near prolateral margin of cymbium (Fig. 63)…….……..……..……...***croeseri*** sp. n. (p. 52)

10. Spermathecae widely separated, by distance approximately equal to their length…….…….……...
.11

♂ Spermathecae closer together…….....…...……..…….……...12

11. Epigyne with broad anterior hood; spermathecae linked by narrow transverse tube (Fig. 44)……..……...……..….…..***arca*** sp. n. (p. 43)

♂ Epigyne with narrow lateral hoods, anterior hood absent; spermathecae completely isolated, not linked by transverse tube (Fig. 110).…….……....…***secutor*** sp. n. (p. 62)

12. Anterior legs with ventral cusps at least on metatarsi and tarsi……...……....13

♂ Anterior legs without cusps but ventrally scopulate.…….……..…….……15

13. Anterior legs with cusps present on tibia, metatarsi and tarsi (Figs 35, 93); spermathecal structures projecting close to anterior of epigyne (Figs 36, 94)…….……....…14

羊 Anterior legs with cusps only on metatarsi and tarsi (Fig. 58); spermathecal structures restricted in extent to posterior half of epigyne (Fig. 59)..…….…..***corcula*** sp. n. (p. 51)

14. Tip of spermatheca 2 extending beyond anterior margin of epigyne; entrance ducts simple bent back at anterior to enter posteriorly situated spermatheca 1 (Fig. 95)…....***plana*** sp. n. (p. 59)

羊 Tip of spermatheca 2 not extending beyond anterior margin of epigyne; entrance ducts coiled, with narrow tube leading to posteriorly situated spermatheca 1 (Figs 36, 37)…….……..***martini*** **(Simon)** (p. 36)

15. Spermathecal structures restricted to posterior half of epigyne; broad anterior hood present..……..…….…….…….
.16

羊 Spermathecal structures extending entire length of epigyne; anterior hood absent...…….....17

16. Anterior hood subtriangular, with lateral extensions leading to copulatory openings (Fig. 73); spermatheca 1 with small, medially located round receptacles (Fig. 74)……..……...***flabella*** sp. n. (p. 56)

羊 Anterior hood M-shaped, without lateral extensions (Fig. 52); spermatheca 1 with well separated oblique and oval receptacles (Fig. 54)……..….…….***capensis*** sp. n. (p. 48)

17. Anterior margin of spermatheca 2 round in shape (Fig. 50); copulatory openings medially directed and entrance ducts curved …….……..……..……..……18

羊 Anterior region of spermatheca 2 coiled (Fig. 117); copulatory opening anteriorly directed and entrance ducts distinctly coiled.……...…….……***spicula*** sp. n. (p. 66)

18. Posterior section of spermathecae converging medially to epigastric fold; lateral ridges absent (Fig. 50)……..…….……***bulla*** sp. n. (p. 47)

羊 Posterior section of spermathecae diverging, ending broadly at epigastric fold (Fig. 21; p. 74); epigyne with lateral ridges ending in median copulatory openings…….…….***coenosa*** **(Simon)** (p. 35)

Cetonana coenosa **(Simon, 1897)**

Figs 1, 21, 22, 42

Ceto coenosa Simon, 1897a: 11; Simon 1897b: 179, fig. 183i

Diagnosis: This species may be recognised by the short curved entrance ducts that extend from the copulatory openings to ST 2, and short diverging tubes leading to ST 1 (Fig. 22).

Remarks: Simon (1897b) illustrated the male palp of *C. coenosa*. However, no males were available from the collection of MNHN or other collections, and thus no redescription of the male is given. The holotype female of *C. coenosa* is deposited with a male of *C. martini* (Simon, 1897).

Redescription:

Female

Measurements: CL 2.00-2.30, CW 1.70-1.93, AL 2.10-3.00, AW 1.95-2.10, TL 4.20-5.30, FL 0.13-0.15, SL 1.23-1.28, SW 0.98-1.05, AME-AME 0.10, AME-ALE 0.05, ALE-ALE 0.30, PME-PME 0.18, PME-PLE 0.15, PLE-PLE 0.68. Length of leg segments (sequence from femur to tarsus, and total): I 1.60 + 0.75 + 1.18 + 1.00 + 0.75 = 5.28; II 1.48 + 0.70 + 1.03 + 0.95 + 0.95 = 4.79; III 1.13 + 0.63 + 0.73 + 0.95 + 0.43 = 3.87; IV 1.13 + 0.73 + 1.43 + 1.43 + 0.53 = 5.35.

Carapace brown to reddish brown (Fig. 1); rounded with highest point in second third of carapace length; surface smooth, covered in short, fine setae; fovea small, distinct and slightly

thickened, at two thirds CL. Ocular region dark brown, eyes with black rings; AER slightly recurved, ALE larger than AME; clypeus height equal to AME diameter; AME separated by distance equal to their diameter; AME separated from ALE by distance equal to half AME diameter; PER very slightly recurved, almost straight, PME and PLE equal in size; PME separated by distance equal to 1.2 times their diameter; PME is separated from PLE by distance equal to 1.2 times PME diameter. Chelicerae bright orange, with short, light setae scattered over anterior surface; two promarginal teeth, proximal tooth largest; two retromarginal teeth, distal tooth largest, proximal tooth slightly smaller. Sternum dark orange, brown towards border; covered in short, fine setae, with longer setae towards border. Abdomen creamy white to pale yellow dorsally, with mottled grey pattern over entire abdomen; brown and grey mottled mark situated anteriorly; abdomen broader anteriorly and tapering posteriorly; scutum small, extending one quarter abdomen length; dorsal surface smooth, covered in fine setae; venter pale grey, covered in fine setae. Legs I to IV uniform yellow to light brown, dense ventral setae on tibiae, metatarsi and tarsi; anterior legs more robust than posteriors; femora with large incomplete band covering almost entire segment, patellae with incomplete dorsal band, tibiae and metatarsi with two incomplete bands, situated proximally and distally. Leg spination: femora: I *pl* 1; patellae and tibiae spineless; metatarsi IV *vt* 1. Epigyne with semi-circular lateral ridges, which extend into relatively large medially located copulatory openings and entrance ducts; entrance ducts large, circular shaped, extending anteriorly into broad, curved ST 2; ducts leading to ST 1 diverging towards epigastric fold, ST 1 small and oval (Figs 21, 22).

Holotype: ♀ '71288 *Ceto coenosa* E. S. / Natal (C. M.) //' deposited in MNHN (examined).

Other material examined: SOUTH AFRICA: *KwaZulu Natal Province*: 1♀ Durban, Bluff, 14.IV.1976, coastal dune layer scrub, shrub layer, F. Wanless & A. Russell-Smith (BMNH); 1♀ Pietermaritzburg, Town Bush, 15.IV.1976, on pine trunk, F. Wanless & A. Russell-Smith (BMNH). *Mpumalanga Province*: 1♀ 11 km South East from Pilgrims Rest, 1400m a.s.l., 11-31.XII.1985, relict native forest edge, FIT-malaise, S. & J. Peck (AMNH).

Distribution: This species is only known from scattered localities in KwaZulu-Natal and Mpumalanga Provinces, South Africa (Fig. 42).

Cetonana martini (Simon, 1897)

Figs 2, 3, 23-42

Ceto martini Simon, 1897c: 509; Simon 1897b: 179, fig. 184.
Ceto curvipes Tucker, 1920: 480, pl. 29, fig. 18 **syn. nov.**
Ceto tridentata Lessert, 1923: 200, fig. 50-51 **syn. nov.**
Ceto simoni Lawrence, 1942: 172, fig. 22 **syn. nov.**
Cetonana martini: Bosselaers & Jocqué 2002: 250, figs 3a, 4e.

Diagnosis: The female can be recognised by the coiled entrance ducts, which are initially directed medially (Fig. 36) and are covered by long curved lateral epigynal ridges. The male can be recognised by the palp, which has a tibial apophysis with three projections, and the embolus, which curves prolaterally after emerging from beneath the tegulum, ending in a fist-like tip (Fig. 39).

Redescription:

Female

Measurements: CL 2.40-2.90, CW 2.05-2.33, AL 2.40-4.60, AW 1.48-2.80, TL 4.80-7.60, FL 0.15-0.23, SL 1.40-1.73, SW 1.20-1.38, AME-AME 0.10, AME-ALE 0.05, ALE-ALE 0.53, PME-PME 0.20, PME-PLE 0.16, PLE-PLE 0.80. Length of leg segments (sequence from femur to tarsus, and total): I 2.30 + 1.00 + 1.88 + 1.73 + 1.18 = 8.09; II 2.25 + 1.00 +1.70 + 1.65 + 1.00 = 7.60; III 1.73 + 0.80 + 1.23 + 1.55 + 0.65 = 5.96; IV 2.30 + 1.05 + 2.20 + 1.60 +0.85 = 8.00.

Carapace reddish brown (Fig. 2); first two thirds of carapace gradually rounded with highest point in first third, last third with relatively steep decline; surface smooth, with short, distinct, slightly thickened fovea at two thirds CL. Ocular region reddish brown to dark brown with dark brown, almost black rings around eyes; AER slightly procurved, AME larger than ALE; clypeus height equal to distance 0.8 times AME diameter; AME separated by distance equal to 0.4 times their diameter; AME separated from ALE by distance approximately 0.4 times AME diameter; PER very slightly procurved, almost straight, PME larger than PLE; PME separated by distance equal to 1.2 times their diameter; PME separated from PLE by distance equal to 1.2 times PME diameter. Chelicerae brown, orange towards fang base; anterior surface covered in pale, fine setae; fangs orange, paler at tips; two promarginal teeth, proximal tooth largest; two retromarginal teeth, proximal tooth largest. Sternum light brown, darker towards borders; surface smooth covered in fine setae. Abdomen cream with brown

mottling dorsally; some specimens with grey chevron markings; broader anteriorly, tapering posteriorly; scutum small, covering less then one quarter abdomen length; venter pale grey, covered in fine setae. Legs I to IV uniform brown to pale yellow; some specimens with incomplete grey bands on all legs; anterior leg pairs more robust than posteriors; moderately dense scopulae on metatarsi and tarsi, remaining leg segments covered in fine, less dense setae; leg spines and cusps present. Leg spination: femora: I *pl* 1 II *pl* 1; patellae spineless; tibiae: I *plv* 8-10 *rlv* 8-10, II *plv* 3-8 *rlv* 5-11, III *pl* 1, IV *plv* 3 *vt* 2; metatarsi: I *plv* 15 *rlv* 13, II *plv* 13 *plv* 10, III *pl* 1 *plv* 1 *rl* 1, IV *plv* 1 *vt* 2; tarsi: I *plv* 8-10 *rlv* 7-8, II *plv* 6-9 *rlv* 6-8 (Figs 23-27, 35). Epigyne with curved lateral epigynal ridges, with large copulatory openings close to lateral ridges (Figs 28, 36); entrance ducts forming two-fold coil before extending towards oval anterior ST 2, with narrow tube leading to posterior globular ST 1 (Fig. 37).

Redescription:

Male

Measurements: CL 1.84-3.50, CW 1.65-3.00, AL 1.68-3.90, AW 1.29-2.13, TL 3.68-7.20, FL 0.18-0.25, SL 1.20-1.88, SW 1.08-1.73, AME-AME 0.13, AME-ALE 0.08, ALE-ALE 0.65, PME-PME 0.23, PME-PLE 0.23, PLE-PLE 1.23. Length of leg segments (sequence from femur to tarsus, and total): I 3.20 + 6.10 + 2.75 + 2.45 + 1.63 = 16.13; II 2.90 + 1.38 + 2.50 + 2.45 + 1.55 = 10.78; III 2.20 + 1.10 + 1.60 + 2.10 + 0.90 = 7.90; IV 0.80 + 1.25 + 2.60 + 3.40 + 1.18 = 9.23.

Carapace reddish brown (Fig. 3); first two thirds of carapace gradually rounded with highest point in first thirds, last third with relatively steep decline; surface slightly granular, with short, distinct, slightly thickened fovea at two thirds CL. Ocular region reddish brown with darkened, almost black rings around eyes; AER very slightly procurved, AME larger than ALE; clypeus height equal to distance 0.7 times AME diameter; AME separated by distance approximately 0.4 times their diameter; AME separated from ALE by distance approximately 0.15 AME diameter; PER very slightly procurved, almost straight, PME larger than PLE; PME separated by distance approximately 1.2 times their diameter; PME separated from PLE by distance approximately equal to PME diameter. Chelicerae brown, orange towards fang base; anterior surface covered in fine, light setae; fangs orange, paler at tips; three promarginal teeth, median tooth largest, proximal tooth smallest; two retromarginal teeth, proximal tooth largest. Sternum orange, brown towards borders; surface smooth, covered in fine setae. Abdomen cream with brown mottling dorsally; some specimens with grey chevron markings; abdomen broader anteriorly, tapering posteriorly; scutum broad, covering three

quarters of dorsum; venter cream, covered in short fine setae. Legs I to IV uniform brown to pale yellow; some specimens with incomplete grey band arrangement on all legs; anterior leg pairs more robust than posteriors; slightly dense scopulae on metatarsi and tarsi, remaining leg segments covered in fine, less dense setae; leg spines and cusps present. Leg spination: femora: I *pl* 1-4, II *pl* 1, III *pl* 1, IV *pl* 1; patellae spineless; tibiae: I *plv*7-9 *rlv* 0-3 cusps, II *plv* 4-10 *rlv* 0-2 cusps, III *pl* 1 *plv* 2 *rl* 1 *rlv* 1, IV *pl* 1 *plv* 1 *rl* 2 *vt* 2; metatarsi: I *plv* 15 *rlv* 10-11 *vt* 2 cusps, II *plv* 6-13 *rlv* 10 cusps, III *pl* 1 *plv* 2 *rl* 1 *rlv* 1, IV *pl* 1 *plv* 2 *rl* 1; tarsi: I *plv* 6-9 *rlv* 4-7 cusps, II *plv* 4-6 *rlv* 2-7 cusps (Figs 29-31, 38). Palp with embolus originating prolaterally, partly hidden by tegulum, directed prolaterally then retrolaterally after emergence from beneath tegulum (Figs 32, 39); two small strong spines situated prolaterally and retrolaterally on distal end of cymbium (Fig. 33); tibia with three retrolateral apophyses, dorsal and ventral apophyses triangular, median apophysis curving ventrally (Figs 34, 40); variation in sharpness of curved tip noted in some specimens (Fig. 41); patellar apophysis small, triangular (Fig. 40).

Holotype and syntypes: ♂♀ '9232 *Ceto martini* E. S. / Natal 3♀, 1♂ and 1 immature //' deposited in MNHN (examined).

Type material of synonyms:
Cetonana curvipes: ♂ 'SOUTH AFRICAN MUSEUM / CAPE TOWN / Type / Clubionidae 1♂ / *Ceto curvipes* Tucker // SOUTH AFRICAN MUSEUM / CAPE TOWN / SOUTH AFRICA, Cape / Groot Wintershoek Mtns. / 4200-4700' 19.XI.1915 / R. W. Tucker / Accn. No. B2742 / Shelf No. SAM/ARAN 673 // B2742 / Gt Wintershoek Mtn / 4200-4700, 19/11/16 / R. W. Tucker //'deposited in SAMC (examined).
Cetonana tridentata: ♂ 'P. M. type / Collection Roger de Lessert No. / *Ceto tridentata* de Lessert, 1921/ Loc: Umbilo (Bevis leǵ) // Museum Geneve / coll. de Lessert: Afrique // MNHG //'deposited in MNHG (examined).
Cetonana simoni: ♀ '2983 – Umhlali / feb-40-R.F.L. // nm2983 / TYPE / *Ceto simoni* Lawrence / RSA, KZN, Umhlali, Sheffield Beach / February 1940 / R. F. Lawrence //' deposited in NMSA (NM2983, examined).

Other material examined: LESOTHO: 2♂ 1 juv. Qachas Nek, 30º06.549'S:28º41.068'E, 1833m a.s.l., 8.XI.2003, bluegum bark, C. Haddad (NCA 2006/1546). SOUTH AFRICA: *Eastern Cape Province*: 1♀ East London, Cambridge street, Outdoor Living Shop,

17.VI.1978, wandering in camping equipment, P. Croeser (NMSA 18455); 1♀ 1♂ Fort Brown, Andries Vosloo Kudu Reserve, 33º07'S:26º37'E, 4.VI.1981, found on and under bark of dry river bed trees *Combretum caffrum*, P.M.C. Croeser (NMSA); 1♀ same data (NMSA); 2♂ 20km W of Grahamstown, along N2 highway, 13.VII.2005, under *Eucalyptus* bark, C. Haddad & R. Lyle (NCA 2006/1490); 1♀ Grahamstown, Dassienuaz, 8.X.1989, R.F. (AMG); 1♀ Grahamstown, Fern Point, II.1933, J. Hewitt (AMG); 4♀ Hogsback, Amatola Mountains, 32º36'S:26º56'E, 25.III.2007, leaf litter, C. Haddad (NCA 2006/1521); 1♂ Kasouga Coastal Reserve, 16km WSW of Port Alfred, 33º39'S:26º45'E, I.1940, J. Omer-Cooper (NMSA); 1♀ Kei Mouth, 32º41.206'S:28º22.497'E, 8.XII.2005, leaf litter, coastal forest, C. Haddad (NCA 2006/1291); 1♀ 3 juv. same data (NCA 2006/1292); 1♀ same locality, 32º41.280'S:28º22.484'E, 30.IV.2005, leaf litter, coastal dune, C. Haddad (NCA 2006/1480); 2♂ same locality, 2.VI.2003, 32º41.280'S:28º22.484'E, leaf litter, coastal bush, C. Haddad (NCA 2006/1507); 3♂ same locality, 32º41.280'S:28º22.484'E, 13.XII.2002, leaf litter at tree base, C. Haddad (NCA 2006/1509); 1♀ same locality, 2.VI.2003, under cut grass, coastal bush, C. Haddad (NCA 2006/1495); 1♀ near Mazeppa Bay, 36º26.495'S: 28º36.968'E, 28.X.2006, leaf litter, *Eucalyptus* plantation, C. Haddad (NCA 2007/279); 1♂ Rivierberg Range, Plessierivier, 43km NE Willowmore at hwy R337, 33º08.31'S:23º50.4'E, 18.XI.1999, 650m a.s.l., E.I. Schlinger (CAS). *Free State Province*: 1♂ Bethlehem District, Golden Gate National Park, Spelonken, 28º28'S:28º38'E, 21.IV.1994, L. Lotz (NMBA 06546); 1♀ same locality, 21.IV.1994, beating, J. Irish (NMBA 06555); 3♀ Bloemfontein district, Hopefield farm, 28º54'S: 26º14'E, 1.XII.2001, under bluegum bark, C. Haddad (NCA 2006/1477); 2♂ same locality, 4.XII.2001, bluegum leaf litter, C. Haddad (NCA 2006/1481); 1♀ Bloemfontein, Westdene, 12.I.2002, rolled in dry leaves in shrubs, C. Haddad (NCA 2006/1503). *Gauteng Province*: 1♂ Pretoria, 3.IV.2001, in garden, B. Sunkel (NCA 2004/428); 1♀ Johannesburg, Parktown North, 26º10'S:28º02'E, 19.XI.1986, wall in lounge, S. Filmer (NCA 87/65); 1♂ Roodeplaat Dam Nature Reserve, 23.I.1988, ground under rock, M. Filmer (NCA 88/263); 1♀ Suikerbosrand Nature Reserve, near Heidelberg, 23.I.1993, A. Leroy (NCA 2006/1531). *KwaZulu-Natal Province*: 1♂ 1♀ Albert Falls, Helenshoek Farm, X.1958, R.F. Lawrence (NMSA 7023); 1♂ 1♀ Ashburton, 10km SE of Pietermaritzburg, 2.I.1991, V.D & B. Roth (CAS); 1♀ Cascades Farm, Ngotshe Forest, 10km W Eshowe, 28º53'S:31º28'E, 1800ft a.s.l., 17-18.I.1984, C. Griswold & T. Meikle-Griswold (NMSA); 1♂ Charter's Creek, Lake street, Lucia Forest, 28º12'S:32º26'E, 19-21.XI.1985, J. Doyen & C. & T. Griswold (NMSA); 1♀ Drakensberg, Champagne Castle Hostel, IV.1948, R. F. Lawrence (NMSA 5580); 1♀ Dukuduku Forest, 22.I.1980, P. Reavell (NMSA 13545); 1♀ Durban,

29º59'S:30º58'E, VII.1915, W. Bell-Marley (SAM-ENW B001323); 1♂ Empangeni, on wall in garden, XII.1986 (NMSA); 1♀ Empangeni, 28º45'S:31º54'E, 14.II.1980, in house, P.E. Reavell (NMSA); Enseleni Game Reserve, Lower Umfolozi, 28º42'S:31º59'E, 12.XII.1994, L. Lotz (NMBA 06932); 1♀ near Enseleni, 7.III.1980, dense Sandveld bush, on climbers, P. Reavell (NMSA 13123); 1♂ same locality, 7.III.1980, P. Reavell (NMSA 13129); 1♀ Eshowe, 28º54'S:31º28'E, XI-XII.1943, L. Bevis (NMSA 12162); 1♀ False Bay Park, 20.X.2004, tsetse fly survey, J. Esterhuizen (NCA 2004/794); 1♀ Greater St. Lucia Wetlands Park, Hell's Gate, 25.I. 2004, tsetse fly survey, J. Esterhuizen (NCA 2004/814); 1♀ same locality, 6.X. 2003, tsetse fly survey, J. Esterhuizen (NCA 2004/818); 1♀ same locality, 29.IX.2003, tsetse fly survey, J. Esterhuizen (NCA 2004/758); 1♀ same locality, 8.IX.2003, tsetse fly survey, J. Esterhuizen (NCA 2004/759); 2♀ 1 juv. same locality, 3.XI.2003, tsetse fly survey, J. Esterhuizen (NCA 2004/788); 1♂ same locality, 27.X.2003, tsetse fly trap, J. Esterhuizen (NCA 2004/797); 1♀ same locality, 10.III.2003, tsetse fly survey, J. Esterhuizen (NCA 2004/798); 1♀ same locality, 19.III.2004, tsetse fly traps, block C, J. Esterhuizen (NCA 2005/208); 1♀ same locality, 26.IV. 2004, tsetse fly traps, block C, J. Esterhuizen (NCA 2005/209); 1♀ same locality, 3.V.2004, tsetse fly traps, block A, J. Esterhuizen (NCA 2005/210); 1♂ same locality, 3.V.2004, tsetse fly traps, block B, J. Esterhuizen (NCA 2005/211); 1♀ same locality, 26.VII.2004, tsetse fly traps, block C, J. Esterhuizen (NCA 2005/212); 1♂ same locality, 9.VIII.2004, tsetse fly traps, block B, J. Esterhuizen (NCA 2005/214); 1♀ same locality, 2.VII.2004, tsetse fly traps, block C, J. Esterhuizen (NCA 2005/213); 1♀ same locality, 13.IX. 2004, tsetse fly survey, J. Esterhuizen (NCA 2005/215); 1♀ same locality, 13.IX.2004, tsetse fly traps, block C, J. Esterhuizen (NCA 2005/216); 1♂ same locality, 20.IX.2004, tsetse fly traps, block A, J. Esterhuizen (NCA 2005/217); 1♀ same locality, 4.X.2004, tsetse fly traps, block C, J. Esterhuizen (NCA 2005/218); 1♀ same locality, 25.X.2004, tsetse fly survey, J. Esterhuizen (NCA 2005/219); 1♀ same locality, 1.IX.2004, tsetse fly traps, block B, J. Esterhuizen (NCA 2005/220); 1♀ same locality, 1.XI.2004, tsetse fly traps, block C, J. Esterhuizen (NCA 2005/221); 2♀ same locality, 8.XI.2004, tsetse fly traps, block B, J. Esterhuizen (NCA 2005/222); 1♀ Ithala Game Reserve, Pongola River picnic site, Dakaneni Loop, 27º28.195'S:31º16.686'E, 30.VI.2007, under bark, riverine forest, C. Haddad (NCA 2007/2835); 1♂ Kosi Bay Nature Reserve, 26º57.767'S:32º48.981'E, 15.IV.2006, beats, coastal forest, C. Haddad (NCA 2006/749); 1♀ Mtunzini, Garland Farm, 28º59'S:31º44'E, XI.1983, at light, P. Atkinson (NMSA); 1♂ Natal National Park, 1950-1951, ¼ S1 Doomey mus., ca. 5500ft a.s.l, Swedish South Africa Expedition, Zoological Institute, University, Lund, Dr. Brink & Dr. Rudebeck (AMG); 1♂

Ndumo Game Reserve, start of transect 8, 26º50'10.9"S:32º13'03.5"E, 2.VII.2003, under bark of fever tree, C. Haddad (NCA 2006/1483); 13♀ same locality, SW shore Banzi Pan, 26º53'07.1"S:32º16'55.6"E, 28.VI.2003, under bark, fever tree, C. Haddad (NCA 2006/1486); 1♀ same locality, W shore of Nyamiti Pan, 26º53'43.3"S:32º16'44.7"E, 3.VII.2003, under *A. xanthophloea* bark, C. Haddad (NCA 2006/1489); 1♀ Pietermaritzburg, Botanical Garden, XII.1990, V.D. & B Roth (CAS); 1♂ 1 juv. Pongola River, VII.1936, R.F. Lawrence (NMSA 131); 1♂ same data (NMSA 133). *Limpopo Province*: 1♀ Lajuma Mountain Retreat, Soutpansberg Mountains, 15.VI.1997, pit traps, M. van der Merwe (NCA 98/28); 1♀ same locality, 15.VI.1997, tall forest, 56 pit traps, M. Mafadza (NCA 2005/2020); 1♂ 2 juv. same locality, 23º02.414'S:29º41.046'E, 6.II.2008, beats, Afromontane forest, R. Lyle & R. Fourie (NCA 2008/505); 1♂ same locality, 15.II.1999, grass, sweepnet, S. Foord (NCA 2001/399); 1♀ Polokwane Nature Reserve, 23º53'S:29º44'E, 9.III.2005, island 2, site 2, sample 3, active search, M.A. Modiba (NCA 2006/1544). *Mpumalanga Province*: 1♂ Badplaas, Embuleni Nature Reserve, 25º57'12"S:30º33'15"E, 1100m a.s.l., 28.III.2001, grass veld savannah, in wooded areas, D. & S. Ubick (CAS); 1♂ Belfast, 31.V.1991, under rock, M. Filmer (NCA 91/1498); 1♂ Bergvliet State Forest, Sabie, 23.X.1984, treetop, A.M. van den Berg (NCA 87/667); 1♂ 1♀ Glenwood farm, 7km NW of Nelspruit, on Macadamia trees, M. van den Berg (NCA 98/886); 1♂ Kaapmuiden, 25º32'S:31º19'E, 1-12.XI.1918, R.W.E. Tucker (SAM-ENW-B004273). *Western Cape Province*: 1♂ Bellville, 33°54'S:018°38'E, 6-25.I.1989, in and around house, R. Jocqué (MRAC 169691); 1♀ Betty's Bay, Harold Porter National Botanical Gardens, 34º20'54.9"S:18º55'11.0"E, 26.III.2008, walking on tree trunk, C. Haddad (NCA 2008/574); 1♀ Cape of Good Hope Nature Reserve, Teeberg, X.1998, mesic mountain fynbos of NE rocky slope, winkler litter trap, H.G. Robertson (SAMC); 2♂ Cape Town, Newlands Forest Reserve, SE of Table Mountain, 33º58'S:18º28'E, 4.IV.2001, indigenous forest, N. Larsen, K. Muller, S. Prinsloo, D. & S. Ubick (CAS); 1♀ Cape Town, Newlands Forest, 33°55'S:18°25'E, 18.IX.1997, M. Kreuels (MRAC 207454); 1♀ Cape Town, Rondebosch, 1.II.2006, in garden, M. Cumming (NCA 2006/1557); 1♀ Cape Town, Table Mountain, Fernwood Gully, indigenous forest, 33º58'S:18º27'E, 150m a.s.l., 18.XII.1996, C.E. Griswold (CAS); 5♂ De Hoop Nature Reserve, Potberg, *Eucalyptus* forest, 34º22.487'S:20º31.980'E, 3-10.VI.2004, pitfall traps, C. Haddad (NCA 2006/1512); 3♀ 15 juv. same locality, 6.IV.5004, searching under bark, C. Haddad (NCA 2006/1501); 1♂ 2♀ same locality, Cupido's Kraal, *Eucalyptus* forest, 34º25.222'S:20º37.904'E, 26.IX.2007, under bark, C. Haddad & R. Lyle (NCA 2007/2856); 2♂ Fisherhaven, 34º21.430'S:19º07.557'E, 26.XII.2000, sieving leaf litter, C. Haddad (NCA 2006/1504); 1♂ Jakobsbaai, 32º57.734'S:

17º53.520'E, 2.X.2007, night collecting, C. Haddad & R. Lyle (NCA 2008/220); 2♀ Kirstenbosch National Botanical Gardens, Skeleton Gorge Forest, Table Mountain, 33º59'S:18º26'E, 800ft a.s.l., 7.I.1985, under rocks & logs, C. Griswold & T. Meikle-Griswold (NMSA); 1♀ same locality, 700ft a.s.l., 33º59'S:18º26'E, 7.I.1985, C.E. Griswold (NMSA); 1♂ Malmesburg, Rondeberg 567 (Part 2), 33º24'S:18º16'E, 26.X.1987, in tent, L. N. Lotz (NMBA 002231); 1♂ 1 juv. Robben Island, 20.IX.2004, bush, Australian *Acacia*, University of Cape Town (NCA 2005/2126). TANZANIA: 1♀ Tanga, W. Usambara Mountains, Mazumbai forest, 4º49'S:38º30'E, 1400-1800m a.s.l, 10-20.XI.1995, C.E. Griswold, N. Scharff & D. Ubick (CAS).

Distribution: Predominantly known from the coastal and central provinces of South Africa and Lesotho, as well as a single locality in East Africa (Fig. 42).

***Cetonana arca* sp. n.**

Figs 4, 5, 43-49, 51

Etymology: The species name is taken from the Latin word '*arcus*', which means arch, and refers to the arch-like structure formed by the anterior epigynal hood.

Diagnosis: This species can be recognised by the arch-shaped anterior hood of the epigyne and the two bulbous spermathecae that flank the copulatory openings (Fig. 43). The males can be recognised by the curve of the embolus and the rounded tip of the subtriangular retrolateral tibial apophysis (Figs 46, 48). The sperm duct of this species is U-shaped and narrows towards the tip of embolus, either branching or not. The two variations of the male palp had largely overlapping ranges. However, no variation in female epigyne structure was observed in these populations, suggesting that these specimens are all conspecific.

Description:

Female

Measurements: CL 1.98-3.00, CW 1.70-2.50, AL 2.25-4.60, AW 1.45-2.90, TL 4.10-8.10, FL 0.10-0.15, SL 1.13-1.70, SW 0.98-1.38, AME-AME 0.13, AME-ALE 0.05, ALE-ALE 0.55, PME-PME 0.18, PME-PLE 0.20, PLE-PLE 0.88. Length of leg segments (sequence from femur to tarsus, and total): I 2.40 + 1.13 + 1.88 + 1.55 + 1.15 = 8.21; II 2.20 + 1.18 + 1.70 +

1.48 + 1.18 = 7.74; III 1.53 + 0.90 + 1.13 + 1.40 + 0.58 = 5.54; IV 2.28 + 1.03 + 1.85 + 2.15 + 0.65 = 7.96.

Carapace orange to dark brown (Fig. 4); slightly raised to midpoint, with relatively gradual decline posteriorly; surface smooth, covered in short fine setae; fovea short, thickened, distinct, at two-thirds CL. Ocular region dark orange to brown with dark brown rings around eyes; AER very slightly recurved, nearly straight, AME slightly larger than ALE; clypeus height equal to AME diameter; AME separated by distance approximately equal to their diameter; AME separated from ALE by distance equal to 0.25 AME diameter; PER slightly recurved, PLE slightly larger than PME; PME separated by distance approximately equal to their diameter; PME separated from PLE by distance slightly larger than PME diameter. Chelicerae orange, dark brown towards border; dark long setae scattered on the anterior surface; fangs bright orange; three promarginal teeth, median tooth largest, distal tooth smallest; two retromarginal teeth, distal tooth slightly larger. Sternum orange, brown towards border; surface with long brown setae and short, light fine setae scattered throughout. Abdomen cream to pale yellow dorsally with grey chevron markings, with darkened median line and light grey transverse branches up to midpoint; abdomen broader anteriorly, tapering posteriorly; venter cream. Legs I to IV uniform orange; tibiae, metatarsi and tarsi with dense ventral scopulae; remaining leg segments covered with fine, less dense setae. Anterior legs slightly more robust than posterior. Leg spination: femora: I *pl* 3; patellae spineless; tibiae: III *pl* 1 *vt* 1, IV *plv* 2 *vt* 1; metatarsi: III *pl* 1 *rl* 1. Genitalia weakly sclerotised; epigynal anterior hood arched-shaped; copulatory openings situated mediolaterally, flanked by ST 1 and ST 2; ST 2 large, globular, extending to approximately midpoint of epigyne; ST 1 small and globular, partially hidden by copulatory openings; ST 1 linked by narrow transverse duct (Figs 43, 44).

Male

Measurements (eye and leg measurements taken from second largest specimen): CL 1.76-3.70, CW 1.45-3.00, AL 1.90-3.90, AW 1.30-2.70, TL 3.70-7.60, FL 0.10-0.35, SL 1.10-1.75, SW 0.90-1.75, AME-AME 0.15, AME-ALE 0.10, ALE-ALE 0.73, PME-PME 0.25, PME-PLE 0.28, PLE-PLE 1,13. Length of leg segments (sequence from femur to tarsus, and total): I 3.00 + 1.50 + 2.70 + 1.80 + 1.30 = 10.30; II 2.60 + 1.35 + 2.33 + 1.65 + 1.08 = 9.01; III 1.70 + 1.05 + 1.10 + 1.58 + 0.58 = 6.01; IV 2.40 + 1.15 + 2.03 + 2.30 + 0.73 = 8.61.

Carapace orange to brown (Fig. 5); first third of carapace slightly raised with gradual decline in last two thirds; surface covered in short, fine setae; fovea short, thickened, distinct, at two

thirds CL. Ocular region dark orange to brown with dark brown to black rings around eyes; AER very slightly procurved, AME slightly larger than ALE; AME separated by distance approximately equal to their diameter; AME separated from ALE by distance equal to half AME diameter; PER slightly recurved, PLE slightly larger than PME; PME separated by distance equal 1.2 times their diameter; PME separated from PLE by distance equal to PLE diameter. Chelicerae orange to dark brown near fang base; anterior surface with scattered black setae; fangs orange at tip, dark brown at fang base; three promarginal teeth, median tooth largest, distal and proximal teeth subequal in size; two retromarginal teeth, distal tooth largest. Sternum orange, brown towards border; surface with scattered long brown and short pale setae. Abdomen cream dorsally with orange scutum covering entire dorsum; dorsum with pale brown chevron with thickened median line and pale brown transverse branches and dark grey lines laterally; abdomen broader anteriorly, tapering posteriorly; surface smooth with fine short dark setae throughout; venter cream. Legs I to IV uniform orange to brown; anterior legs slightly more robust than posterior legs; tibiae, metatarsi and tarsi with dense scopulae ventrally, remaining leg segments covered in fine, short dark setae. Leg spination: femora: I *pl* 2-3, II *pl* 3-4; patellae spineless; tibiae: I *plv* 15 *vt* 1 cusps, II *plv* 8 *rlv* 2 *vt* 2 cusps, III *pl* 1 *plv* 2-4 *vt* 1, IV *plv* 2 *vt* 2; metatarsi: I *plv* 3-12 cusps, II *plv* 2-8 cusps, III *plv* 2 *rlv* 1, IV *rl* 1 *plv* 2 *rlv* 1; tarsi: I *plv* 6 *rlv* 9 cusps, II *plv* 5-7 *rlv* 7 cusps (Fig. 45). Palp yellow-brown; embolus curved, distally located on tegulum, slightly coiled; sperm ducts U-shaped, unbranched (Fig. 46) or branched (Fig. 48) near embolus base; tibial apophysis prominent, subtriangular with rounded point (Figs 47, 49).

Holotype: ♀ 'R.S.A., Western Cape Province / Kleinmond / 33º20.267'S, 19º02.424'E / C. Haddad, 31.XII.2004 / leaf litter, coastal dune // Araneae / Corinnidae / Trachelinae / *Cetonana arca* sp. n. / HOLOTYPE ♀ / det. R. Lyle //' (NCA 2006/1499).

Allotype: ♂ 'Lesotho, Mohale Dam / Island 2 / 29º25.396'S, 28º05.903'E / 14.XII.2003, C. Haddad / *Cetonana* sp. 1♂ / under rocks on hillside // Araneae / Corinnidae / Trachelinae / *Cetonana arca* sp. n. / ALLOTYPE ♂ / det. R. Lyle //' (NCA 2006/1515).

Paratypes: 2♀ 'R.S.A., Free State Province / Bloemfontein district / Deelhoek farm, 28º51'S, 26º07'E / 1999, C. Haddad / Abandoned *Trinervitermes trinervoides* mound //' NCA 2006/1498). 1♂ 'R.S.A., Free State Province / Bloemfontein district / Deelhoek farm, 28º51'S, 26º07'E / 1999. C. Haddad / under dung pad //' (NCA 2006/1499). 1♀ 'R.S.A.,

Western Cape Prov. / Anysberg Nature Reserve / Vrede Cottages / 33º27.934'S, 20º35.218'E / 23.IX.2005 / C. Haddad & R. Lyle / Night collecting //' (NCA 2007/3936). 1♀ 'Kloofendal Nat. Res. / Roodepoort / 16.II.1989 / A. Leroy / under stone / exposed hillside //' (NCA 89/741).

Other material examined: LESOTHO: 1♀ Mohale Dam, Island 5, 29º25.396'S:28º05.903'E, 16.XII.2003, under rocks, C. Haddad (NCA 2006/1514); 1♂ Mohale Dam, Island 4, 29º25.349'S:28º06.253'E, 15.XII.2003, under rocks, C. Haddad (NCA 2006/1516); 2♀ 2♂ 4 juv. Mohale Dam, Island 1, 29º25.255'S:28º05.985'E, 13.XII.2003, among roots of fern, C. Haddad (NCA 2006/1517); 1♂ near Ha Thlaku Village, 30º09.718'S:28º14.175'E, 2122m a.s.l., 14.XI.2003, under rocks, near stream, C. Haddad (NCA 2006/1533); 1♀ Quthing, 17.3.1949, rich meadows on horizontal layers of sandstone, Dr. Brink, Dr. Rusebeck, Swedish South Africa Expedition 1950-51, Zoological Institute, University, Lund (AMG). NAMBIA: Vogelfederberg, 20.IV-18.V.1999, in pitfall trap, B. Wharton (CAS). SOUTH AFRICA: *Eastern Cape Province*: 1♂ Alicedale, F. Cruden (AMG); 1♂ Fort Brown, XII.1915, Walton (AMG); 1♂ Grahamstown, 33 Oatlands road, 33º18'S:26º32'E, 17.XII.1979, in house, P.M.C. Croeser (NMSA); 1♂ 1♀ 1 juv. near Kirkwood, Dunbrody, 1902, J. O'Neil (SAMC 697); 1♂ Sundays River Valley, 23.XI.1999, on citrus pit trap, H. Potgieter (NCA 2000/234). *Free State Province*: 1♂ 1 juv. Bloemfontein district, Farm "Hopefield", 28º54'S:26º14'E, 15.XII.2001, bluegum leaf debris, C. Haddad (NCA 2006/1497); 2♀ Bloemfontein district, Farm "Deelhoek", 28º51'S:26º07'E, 1999, abandoned *Trinervitermes trinervoides* mound, C. Haddad (NCA 2006/1498); 1♀ Brandfort, Florisbad, 28º46'S:26º05'E, 1250m a.s.l, 30.III-26.IV.1988, pres. traps, L.N. Lotz (NMBA 03987); 1♀ same data (NMBA 08501); 1♀ Bloemfontein, 29º08'S:26º10'E, 1440m a.s.l., 18.II.1993, in house, L.N. Lotz (NMBA 05782); 1♀ Brandfort, Krugersdrift Dam, 28º42'S:25º55'E, 1.I.1987, in canal, Museum staff (NMBA 09057); 1♀ Fauresmith, Boschrand 208, 29º56'S:24º48'E, 22.III.2005, sweeping, beating, L. Lotz (NMBA 10007). *Gauteng Province*: 1♀ Knoppieslaagte, 13.II.1980, pitfalls, D. Uys (NCA 84/605); 1♂ Witwatersrand, Marievale Bird Sanctuary, 26º20'S:28º32'E, 8.XII.1990, V.D. & B. Roth (CAS). *KwaZulu-Natal Province*: 1♀ Pietermaritzburg, Scotsville, VII.1851, in dry leaves of garden, R.F. Lawrence (NMSA 5649). *Northern Cape Province*: 1♀ Kathu District, Farm "Sacha", 27º42'30"S:22º57'58"E, 24-27.II.2003, pitfall traps, C. Haddad (NCA 2006/1500); 3♂ Prieska District, Green Valley Nuts Estate, 22º56'41"S:29º35'11"E, 23.XI-18.XII.2001, leaf litter, *Eucalyptus* tress, C. Haddad (NCA 2006/1502); 1♂ 8.9mi W. of Hanover, Eierfontein, I.1902, S.C. Cronwright-Schreiner (SAMC 10051); 1♂ 8.9mi W. of

Hanover, Eierfontein, XII.1901-II.1902, Schreiner (SAMC 11964). *Western Cape Province*: 2♂ 1 juv. Buffels Bay, near Knysna, I.1910, W. Purcell (SAMC B2315); 3♂ Cape Town, dunes near Khayelitsha, 33°55'S:18°25'E, 19.I.1989, fore dunes, sieved litter of shrub, R. Jocqué (MRAC 169681); 1♀ same locality, 20.I.1989, fore dunes, sieved litter of shrub, R. Jocqué (MRAC 169815); 1♀ Cape Peninsula, Muizenberg, 34°06'S:18°27'E, 5-19.V.1991, dunes to the north, R. Legg (MRAC 173716); 1♀ same locality, 18.VII-11.VIII.1991, dunes on the north, R. Legg (MRAC 173801); 3♀ De Hoop Nature Reserve, Potberg, 34º22.487'S:20º31.980'E, 6.IV.2004, leaf litter C. Haddad (NCA 2006/1511); 1♀ Kalk Bay Mountains, III.1898, R.M. Lightfoot (SAM 3136); 1♀ Kommetjie, 30km S of Cape Town, 34º9'S:22º10'E, 5.IV.2001, coastal strand, intertidal zone, K. Muller, S. Prinsloo, D & S. Ubick (CAS); 1♀ Le Roux River, 10 km W Cango Caves, 33º30'S:22º10'E, 4.II.1991, V.D. & B. Roth (CAS); 1♂ 3♀ 1 juv. Swartberg Nature Reserve, Gamkaskloof, 15.II.2001, on soil, Z. van der Walt (NCA 2002/201); 1♀ same locality, 14.IV.1995, on soil, on slides, M. de Jager (NCA 95/252).

Distribution: Found in Lesotho, Namibia and South Africa. In South Africa recorded predominantly in grassland, karoo and fynbos habitats (Fig. 51).

***Cetonana bulla* sp. n.**

Figs 6, 50, 51

Etymology: This species name is Latin for ‘bubble’ and refers to the bubble-shaped spermatheca 2.

Diagnosis: This species can be recognised by the bubble shaped ST 2 and the ducts linking the spermathecae, which converge at a 45º angle to the epigastric fold (Fig. 50). Male unknown.

Description:

Female

Measurements: CL 2.90, CW 2.30, AL 3.80, AW 2.20, TL 6.70, FL 0.23, SL 1.80, SW 1.48, AME-AME 0.10, AME-ALE 0.30, ALE-ALE 0.30, PME-PME 0.20, PME-PLE 0.53, PLE-PLE 0.90. Length of leg segments (sequence from femur to tarsus, and total): I 2.50 + 1.78 +

2.35 + 2.03 + 1.18 = 9.84; II 2.48 + 1.40 + 2.08 + 1.65 + 1.05 = 8.66; III 2.90 + 1.50 + 2.70 + 2.90 + 1.10 = 11.10; IV 2.18 + 1.20 + 1.68 + 1.55 + 0.80 = 7.41.

Carapace orange to light brown posteriorly (Fig. 6); first two-thirds of carapace even and high, last third with relatively steep decline; fovea short, distinct, at two thirds CL. Ocular region light brown with dark rings around eyes; AER nearly straight, slightly procurved, ALE slightly larger than AME; clypeus height 0.8 times AME diameter; AME separated by distance slightly less than their diameter; AME separated from ALE by distance approximately 0.3 ALE diameter; PER slightly recurved, ALE larger than AME; PME separated by distance equal to 1.4 times their diameter; PME separated from PLE by distance two times PME diameter. Chelicerae dark brown, paler towards fang base; anterior surface covered in long scattered setae, denser toward fang base; fangs appear longer than other species, bright orange in colour; two promarginal teeth, equal in size; two retromarginal teeth, proximal tooth largest. Sternum pale yellow, orange near border; surface covered in long, fine setae. Abdomen creamy yellow dorsally, mottled with dark brown, with grey chevron markings; abdomen broader anteriorly, tapering posteriorly; surface covered in fine, light setae; venter cream. Legs I to IV uniform yellow to orange, with irregular leg spines. Leg spination: femora: I *pl* 3, II *pl* 1; III *pl* 1 *do* 2 *rl* 1, IV *do* 1 *rl* 1; patellae spineless; tibiae: II *pl* 2 *rl* 2 *plv* 2 *rlv* 2 *vt* 2, III *pl* 2 *rl* 2 *plv* 2 *rlv* 2 *vt* 2; metatarsi: II *pl* 1 *rl* 3 *plv* 3 *rlv* 2, III *pl* 3 *rl* 2 *plv* 3 *rlv* 3. Epigyne weakly sclerotised; ducts linking spermathecae at 45º angle to epigastric fold; extending into small triangular ST 1; ST 2 large, globular (Fig. 50).

Male: unknown.

Holotype: ♀ ‘E. London / Rattray, V / 1916 // Araneae / Corinnidae / Trachelinae / *Cetonana bulla* sp. n. / HOLOTYPE ♀ / det. R. Lyle //’ (AMG).

Other material examined: none.

Distribution: Known only from the type locality (Fig. 51).

***Cetonana capensis* sp. n.**

Figs 7, 8, 52-57, 65

Etymology: This species is named after the Western Cape Province, where the entire type series was collected.

Diagnosis: The M-shaped anterior epigynal hood makes this species easy to recognise (Fig. 52). It has ST 2 that appear to be wrapped around the entrance ducts, extending posteriorly, while ST 1 are bulbous in shape and anterolaterally located (Fig. 54). The male can easily be recognised by the broad tongue-like embolus and the two subtriangular retrolateral tibial apophyses, of which the most dorsally situated one has a sharper point (Figs 56, 57).

Description:

Female

Measurements: CL 2.60-2.70, CW 2.10-2.28, AL 2.80-3.80, AW 1.90-2.50, TL 5.80-6.50, FL 0.15-0.20, SL 1.60-1.65, SW 1.25-1.38, AME-AME 0.13, AME-ALE 0.08, ALE-ALE 0.45, PME-PME 0.13, PME-PLE 0.18, PLE-PLE 0.75. Length of leg segments (sequence from femur to tarsus, and total): I 2.43 + 1.10 + 1.85 + 1.55 + 1.10 = 8.03; II 2.20 + 1.05 + 1.51 + 1.50 + 1.00 = 7.26; III 1.58 + 0.83 + 1.10 + 1.40 + 0.58 = 5.49; IV 2.38 + 0.98 + 1.85 + 2.23 + 0.68 = 8.12.

Carapace reddish brown to dark brown (Fig. 7); first third of carapace rising gradually to highest point, declining gradually in last two thirds; surface slightly granulated, covered in short, fine setae; fovea at two thirds CL. Ocular region dark brown to almost black with black rings around eyes; AER slightly recurved, AME slightly larger than ALE; clypeus height equal to AME diameter; AME separated by distance equal to their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 1.2 times PME diameter. Chelicerae reddish brown, dark brown near fang base; anterior surface with scattered black setae, setae longer towards fang base; fang dark orange at base, bright orange at tip; three promarginal teeth, median tooth largest, distal tooth smallest; two retromarginal teeth, distal tooth largest. Sternum dark brown, almost black near border, appearing mottled; surface texture granular, covered in scattered long, dark setae. Abdomen creamy yellow dorsally, with dark grey mottled pattern over entire abdomen; abdomen broader anteriorly, tapering posteriorly; surface smooth, with short fine setae throughout; venter cream. Legs I to IV uniform yellow to brown; anterior legs darker, more robust than posteriors; femora to metatarsi with incomplete grey bands covering almost entire segment on legs I to IV; bands on anterior leg segments grey, light brown on posterior leg

segments; tibiae, metatarsi and tarsi with dense scopulae. Leg spination: femora: I *pl* 2; patellae spineless; tibiae: IV *rlv* 2 *vt* 2; metatarsi: III *pl* 1 *plv* 2 *vt* 2, IV *pl* 1 *plv* 2. Palpal spination: tibia *pl* 1 *do* 1. Epigyne weakly sclerotised; anterior epigynal hood M-shaped; epigynal ridges funnel-shaped, with copulatory openings extending into wrapped ST 2; ST 1 globular, located anterolaterally (Figs 52-54).

Male

Measurements: CL 2.40, CW 1.80, AL 2.20, AW 1.45, TL 4.60, FL 0.13, SL 1.23, SW 1.30, AME-AME 0.05, AME-ALE 0.03, ALE-ALE 0.28, PME-PME 0.13, PME-PLE 0.15, PLE-PLE 0.63. Length of leg segments (sequence from femur to tarsus, and total): I 2.10 + 0.93 + 1.70 + 1.23 + 0.98 = 6.94; II 1.78 + 0.78 + 1.38 + 1.28 + 0.88 = 6.10; III 2.05 + 0.65 + 0.78 + 1.13 + 0.50 = 5.11; IV 1.75 + 0.75 + 1.60 + 1.65 + 0.53 = 6.28.

Carapace pale yellow, orange posteriorly (Fig. 8); first third of carapace evenly high, second third with gradual decline and last third with relatively steep decline; surface covered in fine, short setae; fovea short, distinct, at two thirds CL. Ocular region orange with light rings around eyes; AER slightly recurved, AME larger than ALE; clypeus height equal to AME diameter; AME separated by distance equal to 0.8 times their diameter; AME separated from ALE by distance equal to 0.2 times AME diameter; PER slightly recurved, PLE slightly larger than PME; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 0.8 times PME diameter. Chelicerae orange; long, pale orange setae scattered on anterior surface; fangs light orange to pale yellow near tip; two promarginal teeth, distal tooth largest; two retromarginal teeth, distal tooth largest. Sternum pale yellow, slightly darker yellow towards border; fine, pale setae scattered on surface. Abdomen very pale yellow dorsally, without distinctive markings or sigilla; abdomen broader anteriorly, tapering posteriorly; venter pale yellow. Legs I to IV uniform pale yellow; leg spines and cusps present. Leg spination: femora: I *pl* 1; patellae spineless; tibiae: I *plv* 4 *rlv* 1, II *plv* 2 cusps, III *pl* 2 *rl* 1 *vt* 1; metatarsi: I *plv* 10 *rlv* 2 *vt* 1 cusps, II *plv* 7 *rlv* 5 cusps, III *pl* 1 *rl* 1; tarsi: I *plv* 1 cusp, II *plv* 1 *rlv* 1 cusps (Fig. 55). Palp yellow; embolus broad, tongue-like; prominent, double retrolateral tibial apophysis, with short, well-rounded ventral apophysis and sharply pointed dorsal apophysis (Figs 56, 57).

Holotype: ♀ ‘R.S.A., De Hoop Nat. Res. / De Hoop Vlei / 34º29.425'S, 20º25.762'E, C. Haddad, 08.IV.2004 / Litter under cut Fynbos / 1♀// Araneae / Corinnidae / Trachelinae/ *Cetonana capensis* sp. n. / HOLOTYPE / det. R. Lyle //’ (NCA 2006/1530).

Allotype: ♂ ‘Clubionidae / 6238 / SOUTH AFRICAN MUSEUM / CAPE TOWN // SOUTH AFRICA, Cape / Penn., nr Diep R., Berg / vliet. F. Purcell. Dec. / 1898. Accn. No. 6238 // Shelf No. SAM/ARAN 707 / SOUTH AFRICAN MUSEUM / CAPE TOWN // 6238 / Bergvliet / nr. Diep R. // Araneae / Corinnidae / Trachelinae / *Cetonana capensis* sp. n. / ALLOTYPE ♂ / det. R. Lyle //’ (SAMC 6338).

Paratypes: 1♀ ‘Clubionidae / 11662 / SOUTH AFRICAN MUSEUM / CAPE TOWN // SOUTH AFRICA, W. / Cape, Hermanus / P. Lightfoot, 21.II.1902 / Accn. No. 11662 / Shelf No. SAM/ARAN 708 / SOUTH AFRICAN MUSEUM / CAPE TOWN // 11662 / Hermanus / Petshuspark //’ (SAMC 11662). 1♀ ‘Clubionidae / 8657 / SOUTH AFRICAN MUSEUM / CAPE TOWN // SOUTH AFRICA, Cape / Penn. Kalk Bay Mtn. / W. Purcell. Jan. 1900 / Accn. No. 8657 / SOUTH AFRICAN MUSEUM / CAPE TOWN //’ (SAMC 8657).

Other material examined: none.

Distribution: Endemic to the Western Cape Province, South Africa (Fig. 65).

***Cetonana corcula* sp. n.**

Figs 9, 58-60, 65

Etymology: This species name is derived from the Latin word ‘*corcullum*’, which means little heart, and refers to the heart-shaped structure of the epigynal hood.

Diagnosis: The heart-shape of the epigynal hood makes this species easily recognisable. It can be further recognised by the small globular shape of ST 2 and the larger globular shape of ST 1 (Figs 59-60). Male unknown.

Description:

Female

Measurements: CL 2.80-2.95, CW 2.30-2.48, AL 2.60-3.50, AW 2.20-2.23, TL 5.70-6.40, FL 0.18-0.20, SL 1.60-1.78, SW 1.33-1.38, AME-AME 0.15, AME-ALE 0.08, ALE-ALE 0.48, PME-PME 0.15, PME-PLE 0.20, PLE-PLE 0.83. Length of leg segments (sequence from

femur to tarsus, and total): I 2.40 + 1.08 + 1.98 + 1.60 + 1.08 = 8.14; II 2.25 + 1.10 + 1.68 + 1.53 + 1.03 = 7.59; III 1.78 + 0.88 + 1.13 + 1.45 + 0.55 = 5.79; IV 2.50 + 1.05 + 1.95 + 1.80 + 0.70 = 8.00.

Carapace bright orange to brown (Fig. 9); first two thirds of carapace convex, last third with relatively steep decline; surface smooth, covered in short, fine setae; fovea short, distinct, at two thirds CL. Ocular region brown with dark brown rings around eyes; AER slightly recurved, AME slightly larger than ALE; clypeus height equal to AME diameter; AME separated by distance slightly less their diameter; AME separated from ALE by distance equal to 0.4 times AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to 1.2 times their diameter; PME separated from PLE by distance equal to 1.6 times PME diameter. Chelicerae orange, slightly darker at fang base; scattered long setae on anterior surface, increasing slightly in length towards fang base; fang pale orange; two promarginal teeth, distal tooth largest; one retromarginal tooth, situated distally. Sternum pale orange, brown towards border; surface covered in fine, long, pale setae. Abdomen cream dorsally, with very pale grey chevron with few lateral branches; abdomen broader anteriorly, tapering posteriorly; two pairs of pale grey sigilla, anterior and posterior to midpoint of abdomen; fine scattered setae covering abdomen; venter cream. Legs I to IV uniform brown to pale yellow; anterior legs more robust than posterior pairs; relatively dense scopulae on ventral surface of tibiae, metatarsi and tarsi; remaining leg segments covered in fine, pale setae; leg spines and cusps present. Leg spination: femora: I *pl* 2; tibiae: III *pl* 1 *vt* 1, IV *plv* 1 *vt* 2; metatarsi: I *plv* 5 cusps, II *plv* 5 cusps, III *pl* 1 *rl* 1 *plv* 1, IV *pl* 1 *rl* 1 *plv* 2; tarsi: I *plv* 4 cusps, II *plv* 3 cusps (Fig. 58). Epigyne weakly sclerotised; epigyne hood heart-shaped, extending to copulatory openings; ST 2 rounded, situated anterior to copulatory openings; ST 1 larger, situated posterior to copulatory openings (Figs 59, 60).

Male: unknown.

Holotype: ♀ ‘SOUTH AFRICA / N. Cape Horingsgat, / 30º18'S: 18º05'E / approx. 4km. N. of / Leliefontein in / Kamiesberg 24/25.II.1979 / B. Lamoral NM 11891 // Araneae / Corinnidae / Trachelinae / *Cetonana corcula* sp. n. / HOLOTYPE ♀ / det. R. Lyle //’ (NMSA 11891).

Paratype: ♀ ‘NMBA 6275 / 13.3.1993 L. N. Lotz / S. Africa C. P. Clanwilliam / Dwars River 330 / 2285S/1915E / Night in house // NMBA 05940 //’ (NMBA 05940).

Other material examined: none.

Distribution: Known from the Western and Northern Cape Provinces, South Africa (Fig. 65).

***Cetonana croeseri* sp. n.**

Figs 10, 11, 61-65

Etymology: This species is named after the collector of the type specimen, Peter Croeser, in recognition of the large quantity of valuable spider material he collected in the Eastern Cape and KwaZulu-Natal Provinces of South Africa.

Diagnosis: The female can be recognised by the curved copulatory openings that extend into looped entrance ducts (Fig. 61). The male of this species can be easily recognised by the sharp twist in the male embolus, which curves towards the distal end of the cymbium, with a serrated tip (Fig. 63). The sharply pointed tibial apophysis is situated dorsally (Fig. 64).

Description:

Female

Measurements: CL 2.20, CW 1.85, AL 3.50, AW 2.15, TL 5.80, FL 0.10, SL 1.35, SW 1.08, AME-AME 0.08, AME-ALE 0.03, ALE-ALE 0.40, PME-PME 0.15, PME-PLE 0.13, PLE-PLE 0.53. Length of leg segments (sequence from femur to tarsus, and total): I 2.18 + 0.90 +1.90 +1.73 + 1.20 = 7.91; II 1.90 + 0.83 + 1.50 + 1.55 + 1.03 = 6.81; III 1.45 + 0.65 + 1.03 + 1.30 + 0.55 = 4.98; IV 2.25 + 0.85 + 1.90 + 2.23 + 0.73 = 7.96.

Carapace orange (Fig. 10); first two thirds of carapace slightly raised, highest point at posterior end of the first third, declining gradually until last quarter, with steep posterior decline; fovea short, distinct, slightly thickened, at two-thirds CL. Ocular region orange with dark brown rings around eyes; AER slightly recurved, AME slightly larger than ALE; clypeus height 0.8 times AME diameter; AME separated by distance equal to 0.6 times their diameter; AME separated by ALE by distance equal to 0.1 times AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to 1.2 times PME diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae bright orange, paler orange near fang base; scattered long brown setae on anterior surface, setae increasing in length towards fang base; fang pale orange; three promarginal teeth, median tooth largest,

distal tooth smallest; two retromarginal teeth, distal tooth largest. Sternum pale yellow, brown towards border; surface covered in long brown setae. Abdomen pale grey dorsally; abdomen broader anteriorly, tapering posteriorly; two pairs of sigilla, first pair pale grey, at midsection, second pair darker, at two-thirds abdomen length; venter pale grey. Legs I to IV uniform pale yellow to orange, anterior legs slightly darker in colour and more robust. Leg spination: femora: I *pl* 1, II *pl* 1, III *pl* 1 *rl* 1, IV *pl* 1 *rl* 1; patellae spineless; tibiae: III *pl* 1 *rl* 1 *vt* 1, IV 2 *pl* 1 *rl* 1 *plv* 1 *vt* 2; metatarsi: III *pl* 1 *rl* 1 *plv* 1, IV *pl* 1 *rl* 1 *plv* 1 *vt* 1. Palpal spination: patella *pl* 1; tibiae *do* 1 *pl* 1 *plv* 1. Epigyne weakly sclerotised; copulatory openings well rounded, directed medially; ST 2 semi-circular; ST 1 triangular with whip-like duct (Figs 61, 62).

Male

Measurements: CL 2.30, CW 1.90, AL 2.60, AW 1.55, TL 4.80, FL 0.15, SL 1.28, SW 1.13, AME-AME 0.08, AME-ALE 0.03, ALE-ALE 0.43, PME-PME 0.13, PME-PLE 0.13, PLE-PLE 0.63. Length of leg segments (sequence from femur to tarsus, and total): I 2.23 + 0.98 + 1.85 + 1.88 + 0.08 = 7.85; II 1.95 + 0.85 + 1.53 + 1.53 + 1.15 = 7.01; III 1.55 + 0.68 + 1.05 + 1.30 + 0.65 = 5.23; IV 2.25 + 0.85 +1.75 + ? + ? = ?.

Carapace orange (Fig. 11); first two thirds of carapace rounded, declining steeply in last third; surface smooth, covered in short fine setae; fovea short, distinct, at two thirds CL. Ocular region orange with dark brown rings around eyes; AER slightly recurved, AME larger than ALE; clypeus height equal to distance 0.7 AME diameter; AME separated by distance half their diameter; AME separated from ALE by distance equal to 0.2 times ALE diameter; PER recurved, PLE larger than PME; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 0.8 times PME diameter. Chelicerae orange, paler brown at fang base; scattered, light, long setae on anterior surface; fangs bright orange; two promarginal teeth, distal tooth largest; two retromarginal teeth, distal tooth largest. Sternum yellow, brown towards border; surface covered with scattered fine, long setae. Abdomen pale yellow dorsally with pale grey markings laterally; abdomen broader anteriorly, tapering posteriorly; dorsal scutum large, orange; two pairs of sigilla, pale grey pair anterior to midpoint, posterior pair darker in colour, posterior to midpoint; venter cream. Legs I to IV uniform pale yellow; dense scopulae on metatarsi and tarsi, remaining leg segments covered in fine, less dense setae; leg spines and cusps present. Leg spination: femora: I *pl* 1, II *pl* 1, III *pl* 1; patellae spineless; tibiae: I *plv* 6 *rlv* 3 cusps, II *plv* 4 *rlv* 4 cusps, III *pl* 2 *rl* 1 *plv* 2 *vt* 1, IV *pl* 1 *rl* 2 *plv* 3 *rlv* 2; metatarsi: I *plv* 11 *rlv* 4 *vt* 1 cusps, II *plv* 8 *rlv* 4 *vt* 2 cusps, III *pl* 2 *rl* 1 *plv* 1 *rlv* 2, IV *rl* 1; tarsi: I *plv* 6 *rlv* 4 cusps, II *plv* 2 cusps (Fig. 62). Palp brown throughout;

tegulum oval, with distal curved embolus; sperm duct broad, running diagonally across tegulum; tibial apophysis pointed, dorsally situated (Figs 63, 64).

Holotype: ♀ 'NATAL MUSEUM / SOUTH AFRICA: Natal, / Mhlopeni Nature Res. / (29 02S 30 21E) / 10 km SE Muden: valley / bushveld, Alt. 3000ft / Leg. P. M. C. Croeser, / T. & C. Griswold // Araneae / Corinnidae / Trachelinae / *Cetonana croeseri* sp. n. / HOLOTYPE ♀ / det. R. Lyle //' (NMSA).

Allotype: ♂ 'South Africa, Eastern Cape Province / Former Ciskei, E of Glenmore / above KwaNcukunca stream / 20.I.1994, M. Burger / (on soils, pit trap, M. B. 421) // Araneae / Corinnidae / Trachelinae / *Cetonana croeseri* sp. n. / ALLOTYPE ♂ / det. R. Lyle //' (NCA 96/56).

Other material examined: none.

Distribution: Known only from two localities in south-eastern South Africa (Fig. 65).

***Cetonana denticulata* sp. n.**

Figs 12, 66-69

Etymology: This species name is taken from the Latin '*denticula*', and refers to the teeth-like structures on the patellar apophysis of the male palp.

Diagnosis: This species is closely related to *C. secutor* sp. n., but can be recognised by the smaller, pointed dorsal tibial apophysis and the teeth-like structures on the retrolateral side of the femoral apophysis (Fig. 68).

Description:

Male

Measurements: CL 2.50, CW 2.08, AL 2.60, AW 1.75, TL 5.10, FL 0.18, SL 1.18, SW 1.18, AME-AME 0.13, AME-ALE 0.05, ALE-ALE 0.50, PME-PME 0.20, PME-PLE 0.13, PLE-PLE 0.73. Length of leg segments (sequence from femur to tarsus, and total): I 2.03 + 0.90 +

1.60 +1.30 + 0.93 = 6.76; II 1.85 + 0.95 + 1.45 + 1.23 + 0.90 = 6.38; III 1.38 + 0.55 + 0.93 + 1.05 + 0.55 = 4.46; IV 1.93 + 0.70 + 1.55 + 1.80 + 0.68 = 6.66.

Carapace orange, slightly darker at eye region; first third of carapace convex, last third with steep decline; surface smooth, covered in short fine setae; fovea at two thirds of CL. Ocular region orange, eyes with dark brown rings; AER slightly recurved, ALE larger than AME; clypeus height slightly larger than AME diameter; AME separated by distance equal to their diameter; AME separated from ALE by distance equal to half AME diameter; PER slightly procurved, almost straight, PME larger than PLE; PME separated by distance equal to twice PME diameter; PME separated from PLE by distance equal to 1.2 times PME diameter. Chelicerae light brown, slightly darker at base; anterior surface with scattered long, fine setae; fang orange-brown; three promarginal teeth, distal tooth largest, proximal tooth smallest; two retromarginal teeth, proximal tooth largest. Sternum pale yellow; surface smooth with scattered long, fine setae. Abdomen pale grey with cream undertones dorsally; abdomen broader anteriorly, tapering posteriorly; scutum covering entire abdomen length; two pairs of pale, indistinct grey sigilla; venter cream. Legs light brown to pale yellow in colour; anterior legs larger and more robust that posteriors; leg spines and cusps present. Leg spination: femora: I *pl* 1, II *pl* 1, III *pl* 1; patellae spineless; tibia: I *plv* 13 cusps, II *plv* 12 cusps, III *plv* 1, IV *plv* 2 *vt* 2; metatarsi: I *plv* 17 *rlv* 10 *vt* 2 cusps, II *plv* 12 *rlv* 5 *vt* 2 cusps, III *plv* 1; tarsi: I *plv* 8 *rlv* 4 cusps, II *plv* 7 *rlv* 3 cusps (Fig. 66). Palp pale yellow to light brown; tibia with pointed dorsal apophysis, smaller than in *C. secutor*; small retrolateral tibial apophysis absent; large retrolateral patellar apophysis extending anteriorly; small retrolateral femoral apophysis with fine teeth-like structures (Figs 67, 68).

Female: unknown.

Holotype: ♂ ‘TRUNK OF FICUS SYCAMORUS / EDGE OF L. ZWAI ZWAI / ETHOPIA. 18.VII.1982 // MT. 223.298 // Araneae / Corinnidae / Trachelinae / *Cetonana denticulata* sp. n. / HOLOTYPE ♂ / det. R. Lyle //’ (MRAC 223298).

Other material examined: none.

Distribution: Known only from the type locality (Fig. 69).

***Cetonana flabella* sp. n.**

Figs 13, 14, 70-74, 96

Etymology: This species name is derived from the Latin word '*flabellum*', which means small fan, and this refers to the flattened, fan-like structure of the male embolus.

Diagnosis: The male can easily be recognised by the flattened tip of the embolus and the U-shaped sperm duct running along the margins of the tegulum, and the small, sharply pointed retrolateral tibial apophysis (Figs 71-72). The female can easily be recognised by the subtriangular shape of the epigynal hood (Fig. 73), along with small spherical ST 2 above the copulatory openings, and large oval ST 1 (Fig. 74).

Description:

Male

Measurements: CL 2.80, CW 2.23, AL 2.90, AW 1.75, TL 5.50, FL 0.18, SL 1.53, SW 1.30, AME-AME 0.13, AME-ALE 0.05, ALE-ALE 0.53, PME-PME 0.15, PME-PLE 0.18, PLE-PLE 0.80. Length of leg segments (sequence from femur to tarsus, and total): I 2.38 + 1.10 + 2.05 + 1.55 + 1.03 = 8.11; II 2.20 + 1.00 + 1.78 + 1.50 + 1.05 = 7.33; III 1.48 + 0.75 + 1.13 + 1.30 + 0.60 = 5.26; III 1.48 + 0.75 + 1.13 + 1.30 + 1.05 = 5.71; IV 2.18 + 0.85 + 1.73 + 2.00 + 0.68 = 7.44.

Carapace dark orange, fading to pale yellow posteriorly (Fig. 13); first third of carapace rounded, last two thirds with a gradual decline; surface smooth, covered in short, fine setae; fovea short, distinct, at two thirds abdomen length. Ocular region brown with dark brown rings around eyes; AER very slightly recurved, AME slightly larger than ALE; clypeus height subequal to AME diameter; AME separated by distance approximately equal to 0.8 times their diameter; AME separated from ALE by distance equal to 0.4 times AME diameter; PER recurved, PME slightly larger than PLE; PME separated by distance approximately 1.1 times their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae brown, darker towards fang base; long, fine setae scattered on anterior surface, slightly longer towards fang base; fangs bright orange, darkening towards fang base; three promarginal teeth, median tooth largest, proximal tooth smallest; two retromarginal teeth, distal tooth largest. Sternum pale yellow, brown towards border; surface covered in short fine setae. Abdomen pale yellow to orange dorsally, with broad yellow stripe laterally and orange band dorsally across abdomen; abdomen broader anteriorly, tapering posteriorly; scutum almost covering

entire abdomen length; two pairs of distinct sigilla, anterior pair slightly paler brown than posterior pair, situated either side of midpoint; venter pale yellow-grey. Anterior legs pale brown and more robust, posterior legs darker brown; metatarsi and tarsi covered with dense scopulae, remaining leg segments covered in pale fine setae; leg spines and cusps present. Leg spination: femora: I *pl* 3, II *pl* 3; patellae spineless; tibiae: I *plv* 7 cusps, II *plv* 4 cusps, III *pl* 1 *plv* 2 *vt* 2, IV *plv* 4 *vt* 2; metatarsi: I *plv* 7 *rlv* 6 *vt* 1 cusps, II *plv* 9 *rlv* 4 cusps, III *pl* 1 *plv* 2 *rl* 1, IV *plv* 4 *rlv* 1; tarsi: I *plv* 5 *rlv* 9 cusps, II *plv* 8 *rlv* 1 cusps (Fig. 70). Palp yellow-brown, tegulum elongate; embolus originating prolaterally, curving retrolaterally, tip round and flattened; sperm duct U-curved, narrower at embolus base; retrolateral tibial apophysis small, triangular, sharply pointed (Figs 71, 72).

Female

Measurements: CL 2.70, CW 2.10, AL 3.20, AW 1.80, TL 5.90, FL 0.13, SL 1.60, SW 1.28, AME-AME 0.13, AME-ALE 0.05, ALE-ALE 0.53, PME-PME 0.15, PME-PLE 0.18, PLE-PLE 0.83. Length of leg segments (sequence from femur to tarsus, and total): I 2.28 + 1.05 + 1.68 + 1.40 + 1.10 = 7.51; II 2.03 + 0.95 + 1.50 + 1.40 + 1.03 = 6.91; III 1.58 + 0.88 + 1.08 + 1.30 + 0.58 = 5.42; IV 2.30 + 0.75 + 1.80 + 2.10 + 0.65 = 7.60.

Carapace light orange, paler orange posterior to midpoint (Fig. 14); first third of carapace rounded, last two thirds with gradual decline; surface covered in short fine setae; fovea short, distinct, thickened, at two thirds CL. Ocular region orange with dark brown rings around eyes; AER recurved, AME slightly larger than ALE; clypeus height equal to AME diameter; AME separated by distance slightly less than their diameter; AME separated from ALE by distance equal to 0.5 AME diameter; PER recurved, PME and PLE subequal in size; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae brown, darker towards fang base; long, fine setae scattered on anterior surface; fangs orange-brown; three promarginal teeth, median tooth largest, distal tooth smallest; two retromarginal teeth, distal tooth largest. Sternum pale yellow, brown towards border; surface with scattered long brown setae. Abdomen cream, without markings dorsally; abdomen broader anteriorly, tapering posteriorly; venter cream. Legs I to IV uniform light brown; anterior legs slightly more robust than posteriors; tibiae, metatarsi and tarsi with dense scopulae ventrally, remaining segments covered with fine setae; cusps absent. Leg spination: femora: I *pl* 1; patellae spineless; tibiae: III *pl* 1 *plv* 2, IV *plv* 2 *vt* 2; metatarsi: III *pl* 1 *rl* 1 *plv* 1, IV *pl* 1 *rl* 1 *plv* 2. Epigyne weakly sclerotised; epigynal hood subtriangular;

spermathecal arrangement similar to *C. corcula* sp. n., ST 2 small, rounded, anterior to copulatory openings; ST 1 large, oval, situated posterior to copulatory openings (Figs 73, 74).

Holotype ♂ and Allotype ♀: 'Clubionidae / B 8279 / SOUTH AFRICAN MUSEUM / CAPE TOWN // B 8279 / G'hams Farm // Araneae / Corinnidae / Trachelinae / *Cetonana flabella* sp. n. / HOLOTYPE / det. R. Lyle //' (SAMC 8279).

Other material examined: none.

Distribution: Known only from the type locality near Grahamstown in the Eastern Cape Province, South Africa (Fig. 96).

***Cetonana plana* sp. n.**

Figs 15, 16, 75-96

Etymology: The species name is derived from Latin '*planus*', which means flat. It refers to the flat tibial apophysis of male.

Diagnosis: The male of this species can be recognised by the flat retrolateral tibial apophysis (Fig. 91), which differs from *C. martini*, which has a well curved hook-like structure on the tibial apophysis. The cymbium and tegulum are more compact than in *C. martini*, and the embolus is directed distally after emerging from beneath the tegulum. The female can be recognised by the curved entrance ducts, with ST 2 extending beyond the anterior rim of the epigynal hood (Figs 94, 95).

Description:

Male

Measurements: CL 2.10-2.80, CW 1.83-2.50, AL 2.30-3.20, AW 1.53-2.20, TL 4.40-6.10, FL 0.18-0.28, SL 1.23-1.58, SW 1.08-1.45, AME-AME 0.13, AME-ALE 0.08, ALE-ALE 0.53, PME-PME 0.20, PME-PLE 0.20, PLE-PLE 0.83. Length of leg segments (sequence from femur to tarsus, and total): I 2.43 + 1.18 + 2.05 + 1.70 + 1.08 = 8.44; II 2.15 + 1.24 + 1.80 + 1.63 + 0.98 = 7.80; III 1.53 + 0.85 + 1.10 + 1.48 + 0.73 = 5.69; IV 2.18 + 0.98 + 1.93 + 2.33 + 0.73 = 8.15.

Carapace brown to dark brown, slightly paler posterior to fovea (Fig. 15); first two thirds of carapace slightly raised with highest point near one third of carapace length; last third with relatively steep decline; surface slightly granular, covered in short fine setae; fovea short, distinct, slightly thickened, at two thirds CL. Ocular region dark brown with black rings around eyes; AER slightly procurved, AME larger than ALE; clypeus height equal to 0.5 AME diameter; AME separated by slightly less than 0.5 their diameter; AME separated from ALE by distance equal to 0.3 AME diameter; PER slightly recurved, PLE larger than PME; PME separated by 1.5 times their diameter; PME separated from PLE by distance equal to 1.5 PME diameter (Fig. 75). Chelicerae dark brown, paler near base; anterior surface covered in long, dark setae; fangs bright orange, darker at fang base; three promarginal teeth, median and proximal teeth subequal in size, distal tooth smallest; two retromarginal teeth, distal tooth slightly larger than proximal tooth. Sternum pale brown to yellow, covered in fine long setae throughout (Fig. 76). Abdomen cream to light brown dorsally, with dark grey ventral line, either branched into a chevron or unbranched; abdomen broader anteriorly, tapering posteriorly; two pairs of grey sigilla, one pair anterior and other posterior to midpoint of abdomen; venter cream. Legs I to IV uniform pale yellow to light brown, with incomplete grey bands on femora to metatarsi; relatively dense scopulae ventrally on metatarsi and tarsi, remaining leg segments covered in fine, pale setae; anterior femora with two incomplete distal bands, tibiae with incomplete distal and proximal bands, metatarsi with incomplete distal and proximal band; posterior pairs of legs with similar band arrangement, with exception of femora, with one incomplete distal band; leg spines and cusps present. Leg spination: femora: I *pl* 1, II *pl* 1, III *pl* 1 *rl* 1, IV *pl* 1 *rl* 1; patellar spineless; tibiae: I *plv* 7-10 *rlv* 0-4 *vt* 1 cusps, II *plv* 4-9 *rlv* 0-4 cusps, III *pl* 1 *rl* 1 *plv* 1*vt* 2; metatarsi: I *plv* 10-14 *rlv* 8-11 *vt* 2 cusps, II *plv* 13 *rlv* 9 *vt* 2 cusps, III *pl* 1 *rl* 1 *plv* 2 *rlv* 1, IV *pl* 1 *rl* 1 *plv* 2; tarsi: I *plv* 4-10 *rlv* 3-8 cusps, II *plv* 4-8 *rlv* 2-5 cusps (Figs 77-80, 90). Palp yellow-brown; tip of embolus fist-like, directed distally (Figs 81, 91); two strong spines, located prolaterally and retrolaterally on the ventral tip of cymbium; retrolateral tibial apophysis prominent, flattened (Fig. 91); patellar apophysis sharp, slightly curved (Fig. 92).

Female

Measurements: CL 2.00-2.40, CW 1.78-2.08, AL 2.40-4.00, AW 1.85-2.60, TL 5.00-6.30, FL 0.10-0.28, SL 1.33-1.43, SW 1.05-1.16, AME-AME 0.08, AME-ALE 0.05, ALE-ALE 0.45, PME-PME 0.23, PME-PLE 0.10, PLE-PLE 0.58. Length of leg segments (sequence from femur to tarsus, and total): I 2.05 + 0.95 + 1.55 + 1.40 + 0.95 = 6.90; II 1.83 + 0.88 + 1.38 +

1.35 + 0.88 = 6.32; III 1.38 + 0.73 + 0.95 + 1.25 + 0.48 = 4.79; IV 2.05 + 0.85 + 1.73 + 2.00 + 0.65 = 7.28.

Carapace orange to dark brown, paler posterior to midpoint (Fig. 16); first two thirds of carapace raised, with highest point at one third of carapace length, posterior third declining steeply; surface smooth, covered in short, fine setae; fovea short, distinct, slightly thickened, at two-thirds CL. Ocular region light brown with dark brown rings around eyes; AER slightly recurved, AME larger than ALE; clypeus height equal to distance 0.8 times AME diameter; AME separated by distance 0.6 times their diameter; ALE separated from AME by distance equal to 0.8 times AME diameter; PER slightly recurved, PLE larger than PME; PME separated from PLE by distance equal to 1.5 times their diameter; PME separated by distance equal to PME diameter. Chelicerae light brown, slightly darker at fang base; anterior surface of chelicerae with scattered setae (Fig. 82); fangs orange; three promarginal teeth, proximal tooth largest, distal tooth smallest; two retromarginal teeth, proximal tooth largest. Sternum pale yellow, brown towards borders; surface covered in long, fine setae. Abdomen pale yellow to cream dorsally, with light grey lateral stripe; abdomen broader anteriorly, tapering posteriorly; one pair of pale grey sigilla anterior to midpoint of abdomen; fine setae scattered throughout dorsum; venter cream. Legs I to IV uniform light brown to pale yellow; erect setae on anterior legs, alongside cusps on tibiae, metatarsi and tarsi; dense scopulae ventrally on anterior metatarsi and tarsi (Figs 84, 86, 87). Leg spination: femora: I *pl* 1, II *pl* 1, III *pl* 1 *rl* 1, IV *pl* 1 *rl* 1; patellae spineless; tibiae: I *plv* 9-13 *rlv* 4-7 cusps, II *plv* 2-8 *rlv* 3-4 cusps, III *pl* 1 *rl* 1 *rlv* 1, IV *pl* 1 *rl* 2 *plv* 1 *vt* 2; metatarsi: I *plv* 14-16 *rlv* 9-10 cusps, II *plv* 11-12 *rlv* 8-9 cusps, III *pl* 1 *rl* 1 *rlv* 1, IV *pl* 1 *rl* 1 *plv* 1; tarsi: I *plv* 6 *rlv* 4-6 cusps, II *plv* 3-4 *rlv* 1-3 cusps (Figs 83, 85-87). Genital area sclerotised; epigynal ridges comma-shaped, copulatory openings direct anteriorly; epigyne without mating plugs (Fig. 88) or with plugs (Fig. 89); ST 2 large, curved, extending beyond anterior ridge (Figs 94, 95); ST 1 round, located medially.

Holotype: ♂ ‘R.S.A., KwaZulu-Natal Province / Croc Farm / 26º54'S, 32º19'E / 28.VI.2003, C. Haddad / Active search, fever tree // Araneae / Corinnidae / Trachelinae / *Cetonana plana* sp. n. / HOLOTYPE ♂ / det. R. Lyle //’ (NCA 2006/1552).

Allotype: ♀ ‘R.S.A., KwaZulu-Natal / Ndumo Game Reserve, W shore of Nyamiti Pan, / 26º53'43.3"S, 32º16'44.7"E, / 3.VII.2003, C. Haddad (under *A. xanthophloea* bark) // Araneae / Corinnidae / Trachelinae / *Cetonana plana* sp. n. / ALLOTYPE ♀ / det R. Lyle//’ (NCA 2006/1488).

Paratypes: 5♂ ‘R.S.A., KwaZulu-Natal Province / Ndumo Game Reserve / Start of transect 8 / 26º50'10.9"S, 32º13'03.5"E / 02.VII.2003, C. Haddad / Under bark of fever tree //’ (NCA 2006/1493). 1♂ 4♀ 1juv. ‘R.S.A., Western Cape Province / De Hoop Nature Reserve, Potberg / 34º22.487'S, 20º31.980'E / 06.IV.2004, C. Haddad / leaf litter //’ (NCA 2006/1505).

Other material examined: MALAWI: 1♀ Viphya Mountains, Chikangawa, 11°50'S:33°48'E, IX-X.1977, old pine plantation, R. Jocqué (MRAC 153548). SOUTH AFRICA: *Free State Province*: 1♂ Bloemfontein district, Farm “Hopefield”, 28º54'S:26º14'E, 1.XII.2001, under Bluegum bark, C. Haddad (NCA 2006/1478); 1♂ 1 juv. Sandveld Nature Reserve, 27º41'S:25º43'E, 25.X.2003, in chimney of *Odontotermes* termite mound, C. Haddad (NCA 2002/507). *KwaZulu-Natal Province*: 1♂ Ndumo Game Reserve, 19.I.2002, leaf litter, under fig tree, C. Haddad (NCA 2002/385); 1♂ same locality, Pongola River, 9.II.2005, leaf litter, flood plain, C. Haddad (NCA 2005/40); 2♂ same locality, E shore of Shokwe pan, 26º52.516'S:32º12.407'E, 21.VI.2006, under logs C. Haddad (NCA 2006/1238); 3♂ same data (NCA 2006/1244); 16♂ same locality, start of transect 8, 26º50'10.9"S:32º13'3.5"E, 2.VII.2003, under fever tree bark , C. Haddad (NCA 2006/1484); 8♀ Same data (NCA 2006/1485); 6♀ same locality, start of transect 8, 26º50'10.9"S:32º13'08.3"E, 2.VII.2004, *Ficus* bark, C. Haddad (NCA 2006/1492); 3♂ same locality, W shore of Nyamiti Pan, 26º53'43.3"S:32º16'44.7"E, 3.VII.2003, under *A. xanthophloea* bark, C. Haddad (NCA 2006/1487); 1♀ same locality, Croc Farm, 26º54'S:32º19'E, 28.VI.2003, C. Haddad (NCA 2006/1494); 2♀ same locality, 8.XII.2000, fever tree, active search, C. Haddad (NCA 2006/1506). *Limpopo Province*: 1♀ Tuinplaas, Springbokvlakte, Settlers Lodge, 7.V.2002, aru 5731 grass, pit trap, M. van Jaarsveld (NCA 2003/332); 1♀ same locality, 7.V.2002, aru 5730 grass, pit trap, M. van Jaarsveld (NCA 2003/333); 1♀ same locality, 7.V.2002, aru 5734 grass, pit trap, M. van Jaarsveld (NCA 2003/334).

Distribution: Recorded mainly from the eastern and southern parts of South Africa, with a single specimen collected in Malawi (Fig. 96).

***Cetonana secutor* sp. n.**

Figs 17, 18, 97-111, 118

Etymology: This species name is Latin for ‘shield’, which refers to a gladiator armed with a sword and shield. This name refers to the sharp dorsally pointed tibial apophyses, which appears sword-like, which is shielded by the palpal cymbium.

Diagnosis: The male can be easily recognised by the long, sharply pointed dorsal tibial apophysis and the flattened, anteriorly directed curving retrolateral patellar apophysis on the palp (Fig. 109). The female can be recognised by the two widely separated copulatory openings that are shielded by two angled epigynal hoods, and the small spermathecal structures (Fig. 110).

Description:

Male

Measurements: CL 1.75-2.10, CW 1.52-1.83, AL 1.76-2.40, AW 1.28-1.53, TL 3.44-4.25, FL 0.13-0.48, SL 0.94-1.20, SW 0.90-1.08, AME-AME 0.09, AME-ALE 0.23, ALE-ALE 0.38, PME-PME 0.18, PME-PLE 0.40, PLE-PLE 0.60. Length of leg segments (sequence from femur to tarsus, and total): I 1.58 + 0.73 + 1.20 + 1.08 + 0.73 = 5.32; II 1.53 + 0.70 + 1.08 + 0.98 + 0.65 = 4.94; III 1.10 + 0.58 + 0.75 + 1.00 + 0.43 = 3.86; IV 1.58 + 0.68 + 1.18 + 1.43 + 0.53 = 5.40.

Carapace dark brown (Fig. 17); carapace evenly high in first three quarters with relatively steep decline in last quarter; surface finely granular, covered in short fine setae; fovea short, thick, distinct, at two thirds CL;. Ocular region dark brown with black rings around eyes; AER slightly recurved, AME larger than ALE; clypeus height equal to 1.5 times AME diameter; AME separated by distance equal to 0.7 their diameter; AME separated from ALE by distance equal to 0.2 times AME diameter; PER slightly recurved, PME and PLE subequal in size; PME separated by distance equal to 1.2 times their diameter; PME separated from PLE by distance slightly less than PME diameter. Chelicerae dark brown, darker towards fang base; anterior surface of chelicerae with scattered black setae, setae longer towards fang base; fangs dark orange; two promarginal teeth, distal tooth largest; two retromarginal teeth, proximal tooth largest. Sternum dark orange, brown towards border; surface granular, rough, with dark setae. Abdomen dark orange dorsally, darkening to brown laterally and posteriorly; abdomen broader anteriorly, tapering posteriorly; scutum almost covering entire abdomen length; surface smooth with short, fine setae throughout; venter pale brown. Legs I to IV yellow to orange, femora dark brown; metatarsi and tarsi with relatively dense scopulae ventrally; remaining leg segments covered in long, fine setae; anterior legs more robust; leg

spines and cusps present. Leg spination: femora: I *pl* 1-2; patellae spineless; tibiae: I *plv* 9 *rlv* 4 cusps, II *plv* 2 *rlv* 0-4 cusps; metatarsi: I *plv* 9-13 *rlv* 7-8 *vt* 2 cusps, II *plv* 10-11 *rlv* 2-8 *vt* 2 cusps; tarsi: I *plv* 5-6 *rlv* 2-6 cusps, II *plv* 3-4 *rlv* 0-3 cusps (Figs 97-103, 106). Palp brown, tegulum elongate; embolus short, slightly curved, direct distally (Fig. 108); two strong spines, prolaterally and retrolaterally on cymbium tip; patellae with large, elongate, folded retrolateral apophysis extending to base of palpal tegulum; palpal tibia with short, finger-like retrolateral apophysis and very large sword-like dorsal apophysis (Figs 104, 107, 109).

Female

Measurements: CL 1.80-2.15, CW 1.60-1.80, AL 2.25-3.00, AW 1.75-2.24, TL 4.20-4.50, FL 0.10-0.15, SL 1.10-1.23, SW 0.98-1.03, AME-AME 0.10, AME-ALE 0.02, ALE-ALE 0.39, PME-PME 0.14, PME-PLE 0.12, PLE-PLE 0.57. Length of leg segments (sequence from femur to tarsus, and total): I 1.65 + 0.78 + 1.25 + 1.14 + 0.78 = 5.6; II 1.57 + 0.71 + 1.41 + 1.06 + 0.70 = 5.45; III 0.90 + 0.63 + 0.82 + 1.02 + 0.47 = 3.84; IV 1.45 + 0.67 + 1.22 + 1.57 + 0.59 = 5.50.

Carapace reddish brown to brown in colour; first two thirds of carapace slightly raised, with steep decline in last third; surface granular, covered in short, fine setae; fovea short, thickened, distinct, at two thirds CL. Ocular region reddish brown to brown with dark brown to black rings around eyes; AER slightly recurved, AME slightly larger than ALE; clypeus height subequal to AME diameter; AME separated by distance 0.8 times their diameter; AME separated from ALE by distance equal to 0.4 times AME diameter; PER slightly recurved, PLE larger than PME; PME separated by distance equal to 1.25 times their diameter; PME separated from PLE by distance equal to PLE diameter. Chelicerae dark orange to brown, almost black laterally, slightly paler near fang base; anterior surface with scattered black setae, setae longer towards fang base; fangs orange in colour; two promarginal teeth, subequal in size, both situated distally; two retromarginal teeth, subequal in size, situated proximally. Sternum orange, brown towards border; surface with scattered long brown setae. Abdomen cream to grey dorsally; abdomen broader anteriorly, tapering posteriorly; orange to brown scutum extending to one fifth of abdomen length; abdomen with two pairs of sigilla, first pair just posterior to scutum, second pair at two fifths of abdomen length; venter cream. Legs I to IV uniform orange to brown, femora dark brown; tibiae, metatarsi and tarsi with relatively dense scopulae ventrally; remaining segments covered in less dense setae. Leg spination: femora: I *pl* 1; metatarsi: III *vt* 1. Palpal spination: tibiae *pl* 1. Epigyne weakly sclerotised; copulatory openings widely separated, flanked by angled hoods; entrance ducts running

obliquely to anterior, curving back sharply to ST 2, before entering small, round posterior ST 1 (Figs 105, 110, 111).

Holotype: ♂ 'South Africa, KwaZulu-Natal / Greater St. Lucia Wetlands Park / Hell's Gate, Block C / 31.VII.2004, J. Esterhuizen / Tsetse fly traps // Araneae / Corinnidae / Trachelinae / *Cetonana secutor* sp. n. / HOLOTYPE ♂ / det. R. Lyle //' (NCA 2006/233).

Allotype: ♀ 'Hell's Gate / 9.II.2004 / J. Esterhuizen / tsetse fly survey // Araneae / Corinnidae / Trachelinae / *Cetonana secutor* sp. n. / ALLOTYPE ♀ / det. R. Lyle //' (NCA 2004/819).

Paratypes: 2♂ 'R.S.A., KwaZulu-Natal / Ndumo Game Reserve / E. shore of Shokwe Pan / 26°52.516'S, 32°12.407'E / 21.VI.2006, C. Haddad / under logs //' (NCA 2006/1239). 1♂ 'R.S.A., KwaZulu-Natal / Ndumo Game Reserve / 26°53'S, 32°19'E / Fever tree bark, Crocodile Farm / 05/07/2002, C. Haddad //' (NCA 2004/300). 1♀ 'R.S.A., KwaZulu-Natal Province / Ndumo Game Reserve, W. shore of Nyamiti Pan / 26º53.767'S:32º16.557'E / Leg. C. Haddad & F. Jordaan / under bark, fever tree //' (NCA 2006/1245). 1♂ 'Mozambique, near Marracuene / Marracuene Lodge, 12m a.s.l. / 25º46.379'S, 32º41.430'E / 1.XII.2007 / R. Lyle & R. Fourie / beating shrubs, riverine forest //'(NCA 2008/177).

Other material examined: DEMOCRATIC REPUBLIC OF THE CONGO: 1♂ Kivu, vallée de Kaisola, plaine de la Ruindi, 00°47'S:29°17'E, 1100m a.s.l., 3.VII.1972, battage, M. Lejeune (MRAC 144353); 2♂ 2♀ Rutshuru, 01°11'S:29°27'E, V.1937, J. Ghesquière (MRAC 174312); 1♀ same data (MRAC 174284); 1♂ Ruwenzori W., kampi ya Tshupa, 00°20'N:29°50'E, 4000m a.s.l., 3.VII.1935, H.J. Bredo (MRAC 177193); 1♂ Sake, 01°34'S:29°02'E, V.1937, J. Ghesquière (MRAC 174293). KENYA: 1♀ Kakamega forest, 00°13'N:34°54'E, 1654m a.s.l., 17-24.III.2004, malaise trap, D. Shilabira Smith (MRAC 212612); 1♂ same locality, 1-6.I.2002, malaise trap, D. Shilabira Smith (MRAC 212622); 1♂ same data (MRAC 212624); 1♀ same locality, 3-10.II.2002, malaise trap, D. Shilabira Smith (MRAC 212626); 2♀ same locality, 6-13.I.2002, malaise trap, D. Shilabira Smith (MRAC 212629); 2♀ same locality, 17-24.II.2002, malaise trap, D. Shilabira Smith (MRAC 212636); 1♂ same locality, 10-17.II.2002, malaise trap, D. Shilabira Smith (MRAC 212690). SOUTH AFRICA: *KwaZulu-Natal Province*: 1♀ False Bay Park, 12.I.2004, tsetse fly traps, J. Esterhuizen (NCA 2004/784); 1♀ Greater St. Lucia Wetlands Park, Hell's Gate, 12.I.2004, tsetse fly traps, block B, J. Esterhuizen (NCA 2004/796); 1♂ 1♀ same locality, 26.I.2004,

tsetse fly survey, J. Esterhuizen (NCA 2004/817); 1♀ same locality, 5.IV.2004, tsetse fly traps, block A, J. Esterhuizen (NCA 2005/226); 1♀ same locality, 12.IV.2004, tsetse fly traps, block B, J. Esterhuizen (NCA 2005/227); 2♀ same locality, 26.IV.2004, tsetse fly traps, block A, J. Esterhuizen (NCA 2005/228) 1♀ same locality, 3.V.2004, tsetse fly traps, block B, J. Esterhuizen (NCA 2005/229); 1♂ same locality, 31.V.2004, tsetse fly traps, block B, J. Esterhuizen (NCA 2005/230); 1♀ 1♂ 1 juv. same locality, 12.VII.2004, tsetse fly traps, block B, J. Esterhuizen (NCA 2005/231); 1♀ same locality, 26.VII.2004, tsetse fly traps, block B, J. Esterhuizen (NCA 2005/232); 1♂ 1♀ same locality, 12.IV.2004, tsetse fly traps, block A, J. Esterhuizen (NCA 2005/234); 1♀ same locality, 13.IX.2004, tsetse fly traps, block B, J. Esterhuizen (NCA 2005/235); 1♂ same locality, 20.IX.2004, tsetse fly traps, block C, J. Esterhuizen (NCA 2005/237); 1♀ same locality, 1.XI.2004, tsetse fly traps, block C, J. Esterhuizen (NCA 2005/238); 1♀ same locality, 15.XI.2004, tsetse fly traps, block B, J. Esterhuizen (NCA 2005/239); 1♂ same locality, 20.IX.2004, tsetse fly traps, block A, J. Esterhuizen (NCA 2005/390); 1♀ Ndumo Game Reserve, Start of transect 8, 26º50'10.9"S:32º13'03.5"E, 2.VII.2003, under fever tree bark, C. Haddad (NCA 2006/1482); 3♂ same data (NCA 2006/1483); 3♂ 3♀ same data (NCA 2006/1496); 1♂ same locality, Crocodile Farm, 26º53'S:32º19'E, 19.I.2002, fever tree bark, C. Haddad (NCA 2002/389); 2♂ same locality, E shore of Shokwe Pan, 26º52.516'S:32º12.407'E, 21.VI.2006, under logs, C. Haddad (NCA 2006/1239); 1♀ 3 juv. Tembe Elephant Park, 15.III.2003, A. Honiball (NCA 2004/260). TANZANIA: 1♀ Manyara National Park, 3150ft a.s.l., 22.I.1970, M.E. Irwin & E.S. Ross (CAS). UGANDA: 1♂ 3♀ Rubaga, 00°18'N:32°33'E, VI.1994, on tree trunks, D. Penney (MRAC 219697).

Distribution: Widely but sporadically distributed in southern, eastern and central Africa, from Maputaland in South Africa to Democratic Republic of Congo and to Kenya in the north (Fig. 118).

***Cetonana spicula* sp. n.**

Figs 19, 20, 112-118

Etymology: This species name is derived from the Latin word '*spiculum*', which refers to the sharp embolus tip of the male.

Diagnosis: Males can be easily recognised by the sharp tip of the embolus, the prominent, sharply pointed dorsal tibial apophysis, and the small, dorsally situated retrolateral patellar apophysis that is slightly curved into a point (Figs 113, 114). The female has long coiled entrance ducts and an elongate ST 2, leading via a fine duct to the small posterior ST 1 (Fig. 117).

Description:

Male

Measurements: CL 1.90, CW 1.73, AL 2.00, AW 1.33, TL 4.00, FL 0.23, SL 1.23, SW 1.08, AME-AME 0.08 AME-ALE 0.03, ALE-ALE 0.38, PME-PME 0.10, PME-PLE 0.10, PLE-PLE 0.58. Length of leg segments (sequence from femur to tarsus, and total): I 1.70 + 0.78 + 1.35 + 1.15 + 0.78 = 5.76; II 1.58 + 0.78 + 1.25 + 1.10 + 0.75 = 5.46; III 1.10 + 0.55 + 0.83 + 0.95 + 0.45 = 3.88; IV 1.63 + 0.70 + 1.33 + 1.45 + 0.53 = 5.64.

Carapace light brown, pale orange posterior to fovea (Fig. 19); first two thirds of carapace with gradual decline, with relatively steep decline in the last third, highest point at eye region; surface smooth, covered in fine setae; fovea short, distinct, at two thirds CL. Ocular region orange with dark brown rings around eyes; AER almost straight, AME and ALE subequal in size; clypeus height equal to AME diameter; AME separated by distance equal to 0.75 their diameter; AME separated from ALE by distance equal to 0.5 AME diameter; PER slightly recurved, PLE slightly larger than PME; PME separated by distance equal to 0.8 times PME diameter; PME separated from PLE by distance equal to 0.8 times PME diameter. Chelicerae orange to brown, slightly darker towards fang base; anterior surface with scattered black setae; two promarginal teeth, proximal tooth largest; one small retromarginal tooth, situated distally. Sternum pale yellow, border light brown; surface with scattered long brown setae. Abdomen creamy pale yellow, mottled grey posterior to midpoint; abdomen broader anteriorly, tapering posteriorly; scutum nearly covering entire dorsum; surface smooth with short, fine setae throughout; venter cream. Legs I to IV uniform pale yellow; anterior legs more robust than posteriors; legs with dense scopulae ventrally on metatarsi and tarsi; remaining segments covered in scattered dark setae; leg spines and cusps present. Leg spination: femora: I *pl* 3, II *pl* 1; patellae spineless; tibiae: I *plv* 1 cusps, III *plv* 1 *vt* 1, IV *vt* 1; metatarsi: I *plv* 7 *rlv* 3 cusps, II *plv* 3 *rlv* 1 cusps, III *pl* 1 *plv* 2, IV *pl* 1 *rl* 1 *plv* 2 *rlv* 1; tarsi: I *plv* 6 *rlv* 3 cusps, II *plv* 2 *rlv* 1 cusps (Fig. 112). Palp yellow, embolus with sharply pointed tip, curving retrolaterally; sperm duct U-shaped, narrowing towards embolus; tibial apophysis

dorsally situated, slightly curved, ending in sharp point; small retrolateral patellar apophysis (Figs 113, 114).

Female

Measurements: CL 2.30, CW 1.98, AL 3.40, AW 2.20, TL 5.80, FL 0.23, SL 1.40, SW 1.18, AME-AME 0.10, AME-ALE 0.03, ALE-ALE 0.43, PME-PME 0.15, PME-PLE 0.15, PLE-PLE 0.65. Length of leg segments (sequence from femur to tarsus, and total): I 2.45 + 1.03 + 1.98 + 1.68 + 1.20 = 8.34; II 2.08 + 0.85 + 1.58 + 1.50 + 1.08 = 7.09; III 1.53 + 0.80 + 1.18 + 1.35 + 0.63 = 5.49; IV 2.40 + 0.98 + 2.05 + 2.28 + 0.88 = 8.59.

Carapace dark brown (Fig. 20); first two thirds of carapace rounded, with relatively steep decline in last third; surface smooth, covered in short fine setae; fovea short, distinct, at two thirds CL. Ocular region dark brown with black rings around eyes; AER slightly procurved, AME larger than ALE; clypeus height slightly less than AME diameter; AME separated by distance equal to their diameter, AME separated from ALE by distance equal to 0.4 times AME diameter; PER very slightly recurved, PME larger than PLE; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 1.2 times PME diameter. Chelicerae brown, darker towards fang base; dark long setae on anterior surface, increasing in length towards fang base; two promarginal teeth, distal tooth largest; two retromarginal teeth, proximal tooth largest. Sternum orange, brown towards borders; long, surface with scattered long dark setae. Abdomen pale yellow with chevron markings, with grey median line, light grey transverse branches and dark grey lines laterally; abdomen broader anteriorly, tapering posteriorly; surface smooth, covered with short fine setae throughout; venter cream. Legs I to IV uniform light brown, with distinct incomplete bands on femora to tibiae and complete bands on distal ends of metatarsi; dense scopulae on metatarsi and tarsi, remaining segments covered with fine, scattered setae; femora with one large incomplete proximal band; patellae with one incomplete proximal band; tibiae with two incomplete bands, proximal and distally situated. Leg spination: femora: I *pl* 1; patellae spineless; tibiae: I *plv* 4 *rlv* 4, II *plv* 2 *rlv* 4, III *rl* 1 *plv* 2 *rlv* 2 *vt* 2, IV *pl* 1 *rl* 2 *plv* 2; metatarsi: I *plv* 1, II *rlv* 2, III *pl* 1 *plv* 2 *rlv* 2. Palpal spination: femora *rlv* 2, tibiae *do* 1. Epigyne sclerotised with semi-circular hoods, covering copulatory openings; entrance ducts coiled, ST 2 hidden behind hoods; ST 1 small, globose, posteromedially situated, linked to ST 2 by long narrow duct (Figs 115-117); anterior portion of spermathecal structures hidden in abdomen in ventral view (Fig. 115)

Holotype: ♂ 'R. S. A., Northern Cape Province, / Oorlogskloof Nature Reserve, near / Nieuwoudtville / 21.XII.2000, J. Leroy / Sifted from leaf litter under *Rhus* / *lancea* trees, riverine thickets // Nieuwoudtville // Araneae / Corinnidae / Trachelinae / *Cetonana spicula* / HOLOTYPE / det. R. Lyle //' (NCA 2006/1529).

Allotype: ♀ 'SARCA (Grid trap) 7-2 / Farm De Put (about 30km SE of Britstown) at trap 7 / Northern Cape Province, South Africa / Lat 30 48 26 S, Long 23 40 36 E, Locus 3023 DC / Coll-OBS M. Burger, M. Carstens, K. Jacobs & A. Pretorius / Trapping period 20-29/01/06 / Notes caught in pitfall and funnel traps // Araneae / Corinnidae / Trachelinae / *Cetonana spicula* / ALLOTYPE / det. R. Lyle //' (NCA 2006/1555).

Other material examined: none.

Distribution: Known from the Northern Cape Province, South Africa (Fig. 118).

NOMEN DUBIA

Cetonana aculifera (Strand, 1916)

Ceto aculifera: Strand, 1916: 74

Remark: This species was described from Madagascar on the basis of a single female. The type-specimen is presumed destroyed during World War II, and the original description is inadequate for the identification of the species.

DISCUSSION

Tracheline corinnids are a diverse group of spiders that range in size. Platnick & Shadab (1974) stated that trachelines are characterised by the complete absence of leg spines and presence, in males at least, of ventral cusps on the tibia, metatarsus and tarsus of leg I and II. Haddad (2006) agreed with the latter traits and included traits such as robust anterior legs and a strongly sclerotised carapace.

However, this revision shows leg spines occur in some tracheline genera: Genera such as *Spinotrachelas* Haddad, 2006 and *Cetonana* have prominent leg spines, which vary in arrangement, while two species of *Thysanina* also have a few weak leg spines (Lyle & Haddad 2006). *Cetonana* have one to four strong prolateral leg spines on the anterior femora, while *Spinotrachelas* has similar femoral spines, in addition to prolateral patellar spines, ventral spines on the anterior legs, and leg cusps in both sexes (Haddad 2006).

Cusp arrangement and cusp shape variation also occurs between the tracheline genera. *Thysanina* have peg-like cusps situated in deep sockets (Lyle & Haddad 2006). The cusp shape of the South American genus *Meriola* is elongate with a rounded point and slightly broadened base (Platnick & Ewing 1995). *Cetonana*, however, has variations in cusp shape within the genus. Cusps vary between peg-like with a slightly constricted base, as in *C. plana* sp. n., to elongated and rounded with a constricted base in *C. martini* (Figs 26, 77). The genus *Trachelas* has a sporadic appearance of cusps in both sexes. The American species of the *bispinosus* and *bicolor* groups show cusps in both sexes, with large variation in the numbers of cusps (Platnick & Shabad 1974). Many Afrotropical *Trachelas* species have no cusps in either sex (pers. obs.). Cusps occur in the Asian genus *Utivarachna* Kishida, 1940, at least in males (Deeleman-Reinhold 2001; Chami-Kranon, Likhitrakarn & Wongsawad 2007). The cusps of *Spinotrachelas* are curved and pointed with a flattened base (Haddad 2006). Recent papers on *Spinotrachelas* and *Thysanina*, as well as the current study, have shown the number of cusps and the cusp arrangement vary between intra- and interspecifically (Haddad 2006; Lyle & Haddad 2006), and this has potential as being used as a taxonomic tool to separate species. Further evidence of this is the presence of cusps in some female *Cetonana* species, such as *C. martini*, *C. corcula* sp. n. and *C. plana*, and the total absence thereof in the remaining species.

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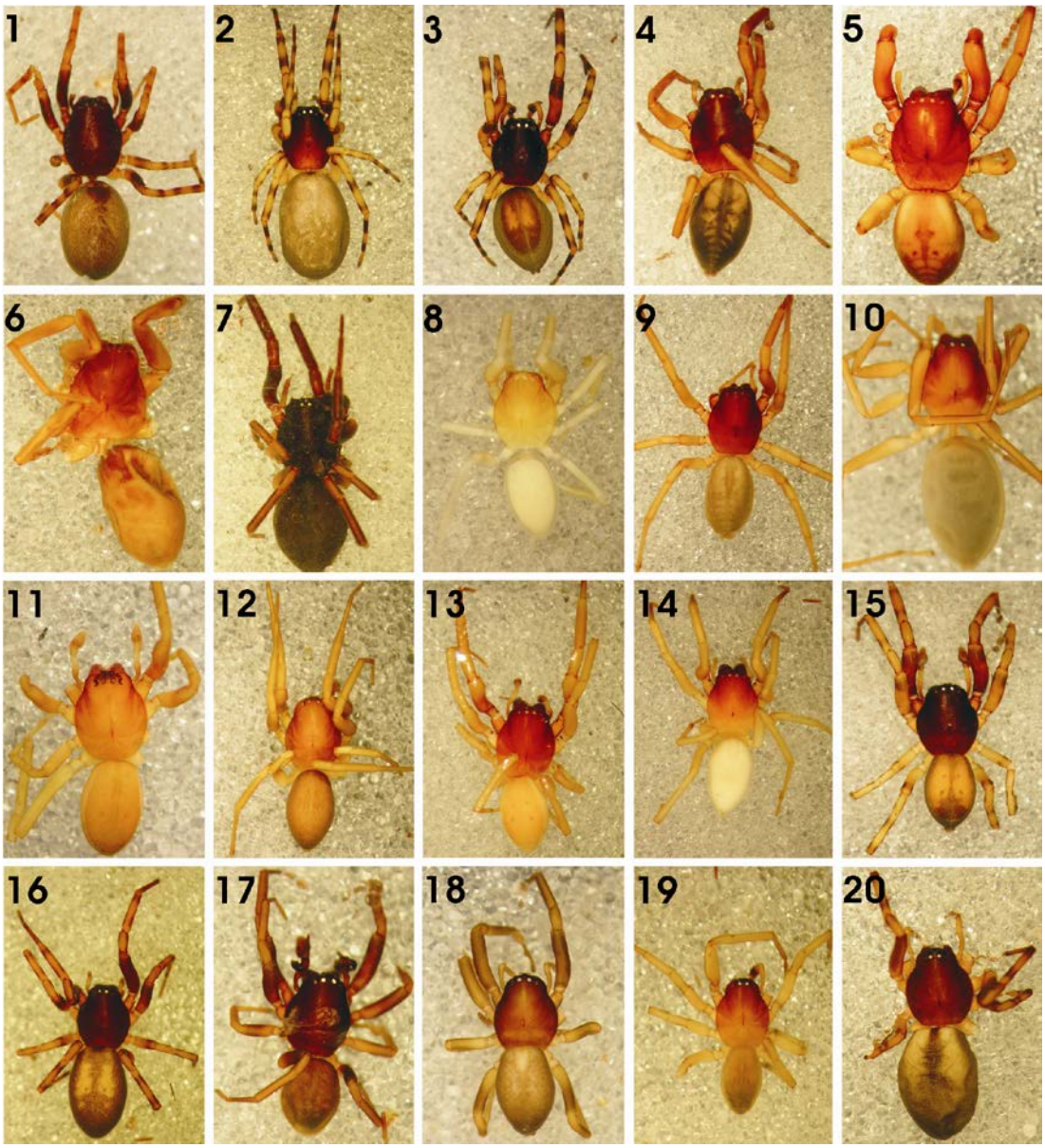
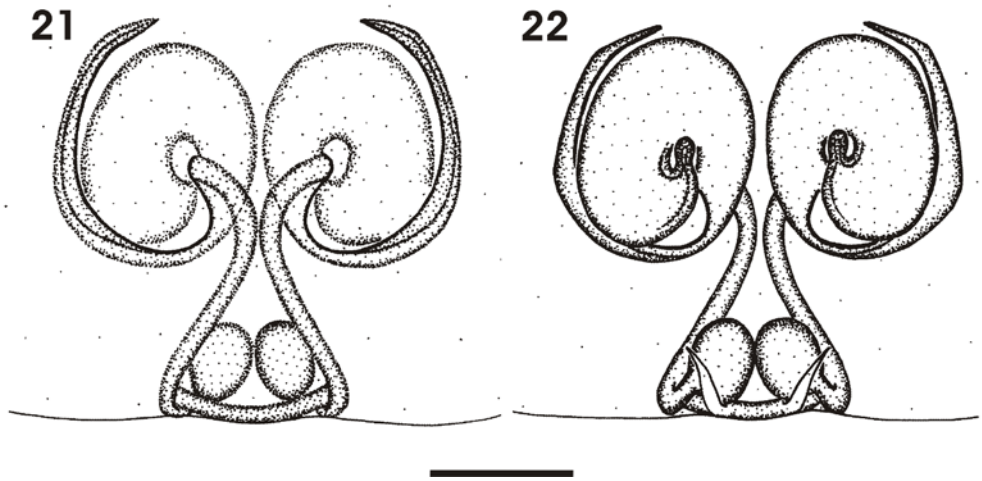
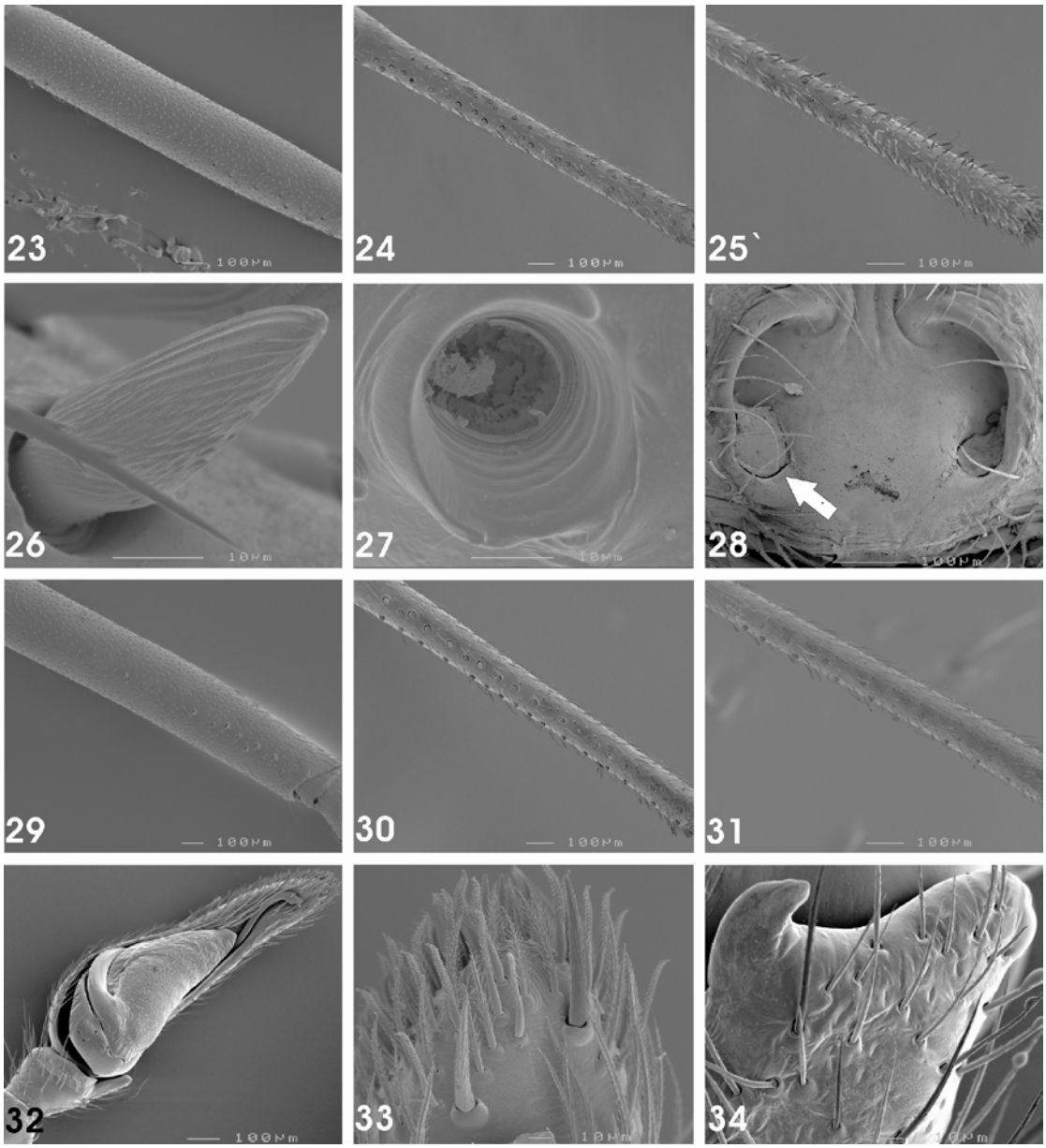


Figs 1-20. General appearance of *Cetonana* species: *C. coenosa* (Simon, 1897) (1) female; *C. martini* (Simon, 1897) (2) female, (3) male; *C. arca* sp. n. (4) female, (5) male; *C. bulla* sp. n.

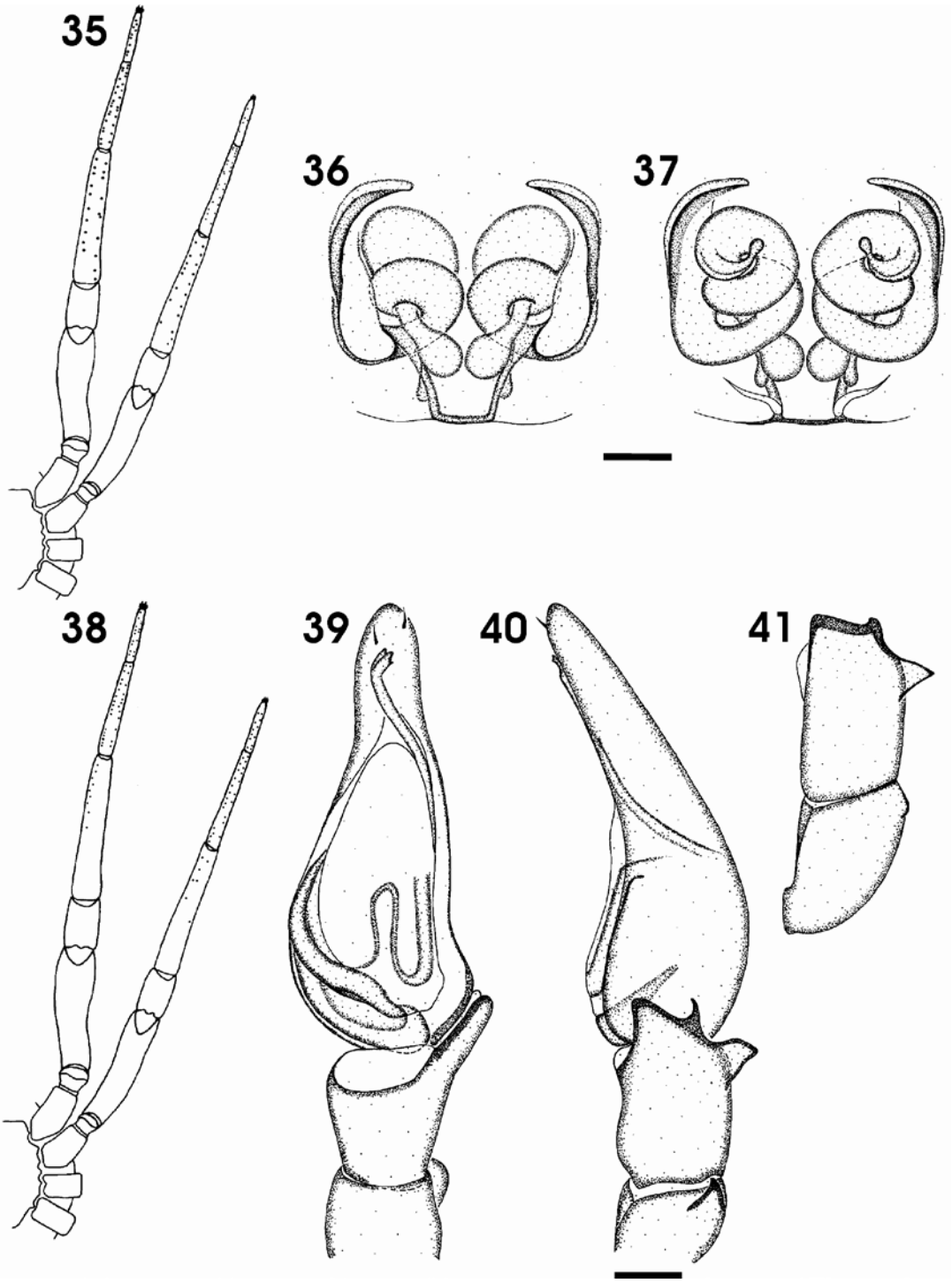
(6) female; *C. capensis* sp. n. (7) female, (8) male; *C. corcula* sp. n. (9) female; *C. croeseri* sp. n. (10) female, (11) male; *C. denticulata* sp. n. (12) male; *C. flabella* sp. n. (13) male, (14) female; *C. plana* sp. n. (15) male, (16) female; *C. secutor* sp. n. (17) male, (18) female; *C. spicula* sp. n. (19) male, (20) female.



Figs 21-22. *Cetonana coenosa* (Simon, 1897): female: (21) epigyne, ventral view; (22) vulva, dorsal view. Scale bar = 0.1mm.



Figs 23-34. Scanning electron micrographs of *Cetonana martini* (Simon, 1897): (23-28) female: (23) tibia I, cusp arrangement; (24) metatarsus I, cusp arrangement; (25) tarsus I, cusp arrangement; (26) individual cusp of tibia II; (27) cusp socket; (28) epigyne, ventral view; arrow indicates seminal plugs blocking copulatory openings; (29-34) male: (29) tibia I, cusp arrangement; (30) metatarsus I, cusp arrangement; (31) tarsus I, cusp arrangement; (32) left palp, ventral view; (33) distal end of male cymbium, with two strong spines; (34) right palp, hook-like curve on the tibial apophysis.



Figs 35-41. *Cetonana martini* (Simon, 1897): (35-37) female: (35) schematic representation of cusp arrangement on legs I and II; (36) epigyne, ventral view; (37) vulva, dorsal view; (38-41) male: (38) schematic representation of cusp arrangement on legs I and II; (39) left palp, ventral view; (40) left palp, retrolateral view; (41) left palp, variation in retrolateral tibial apophyses. Scale bars (36, 37, 39-41) = 0.1mm.

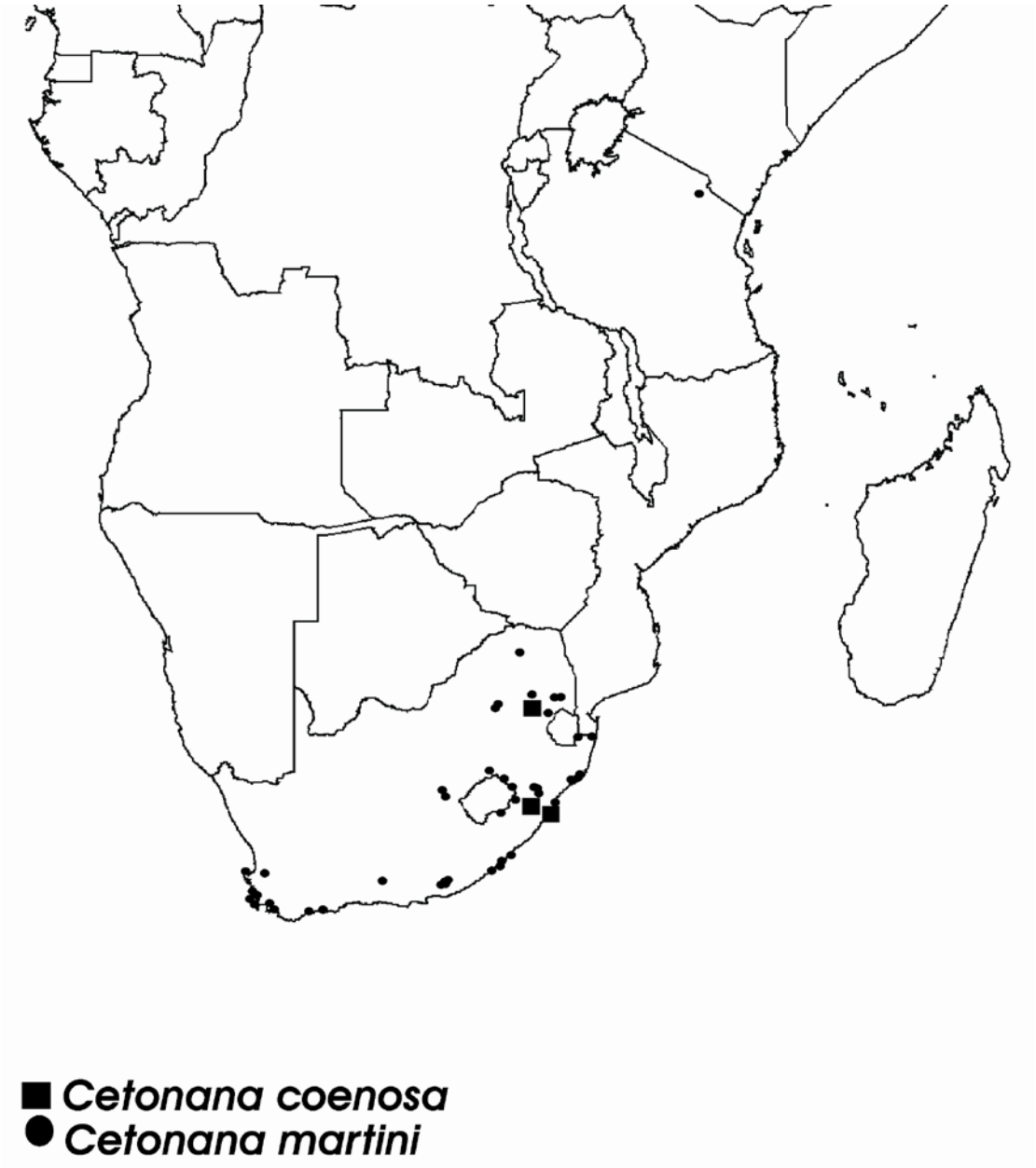
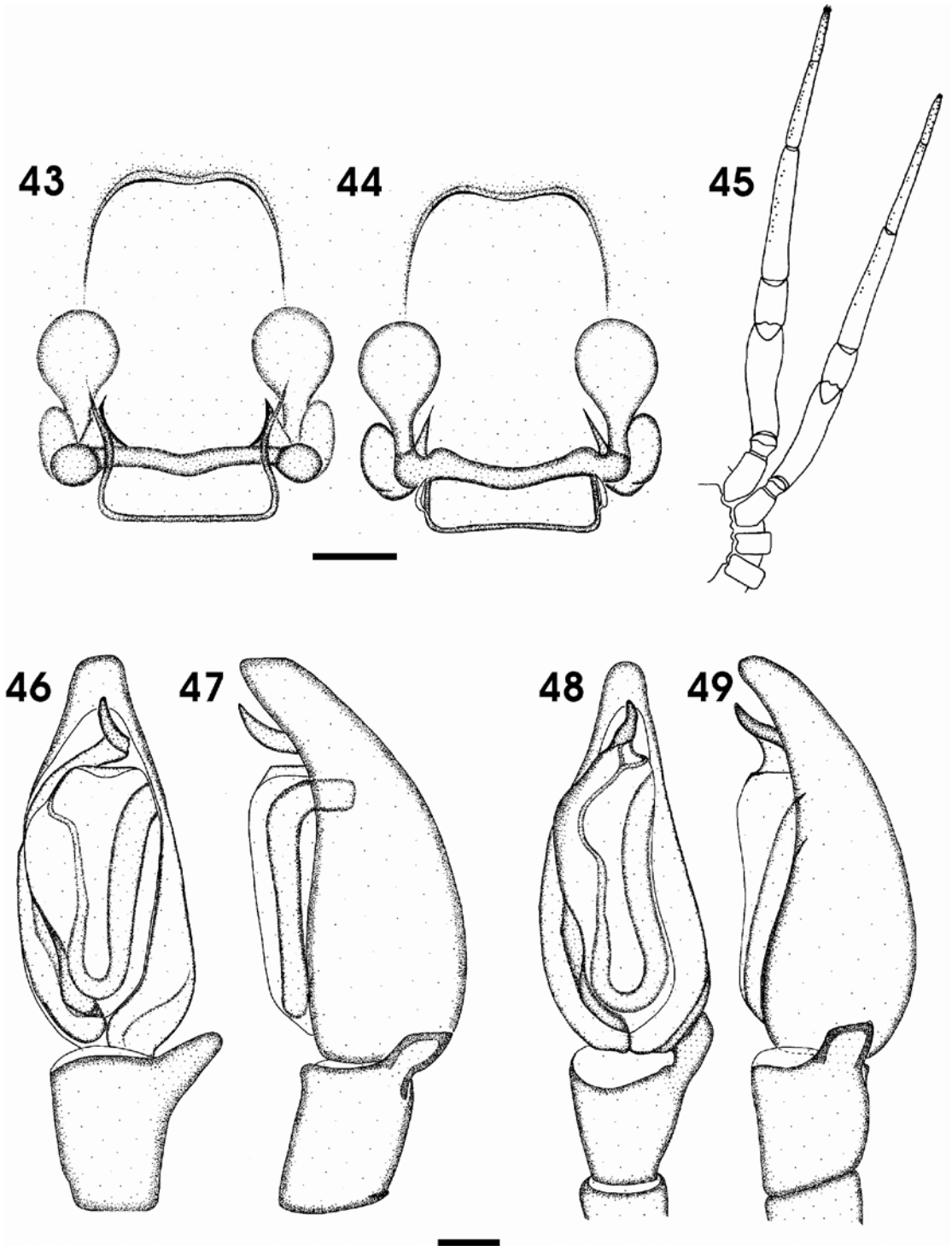


Fig. 42. Distribution of *Cetonana coenosa* (Simon, 1897) and *C. martini* (Simon, 1897) in the Afrotropical Region.



Figs 43-49. *Cetonana arca* sp. n.: (43, 44) female: (43) epigyne, ventral view, (44) vulva, dorsal view; (45-49) male: (45) schematic representation of cusp arrangement on legs I and II; (46) left palp, ventral view; (47) left palp, retrolateral view; (48) variation of left palp, ventral view; (49) variation of left palp, retrolateral view. Scale bars (43, 44, 46-49) = 0.1mm.

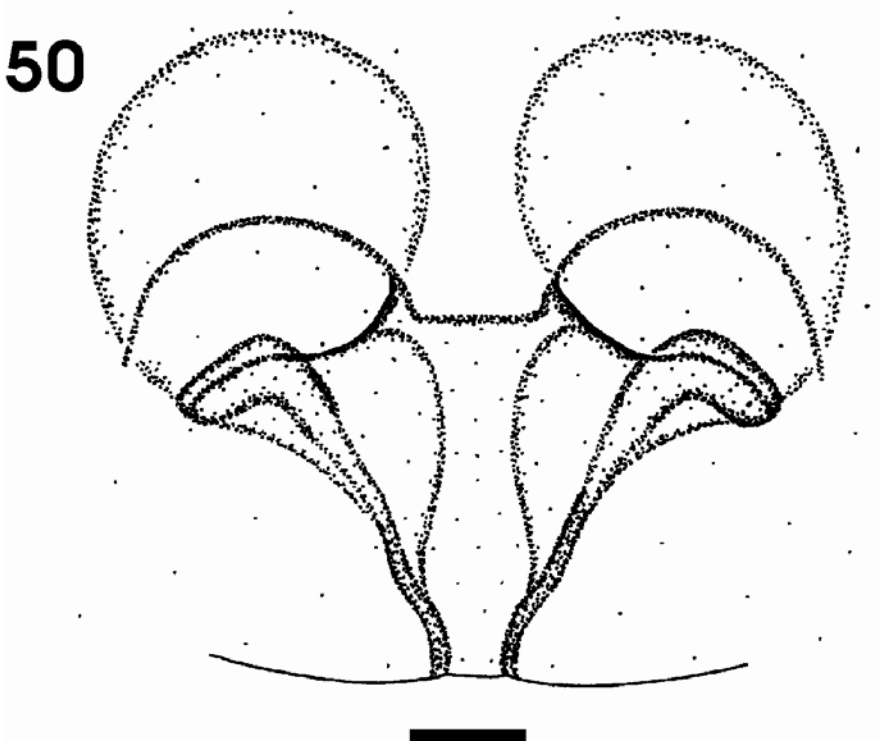


Fig. 50. *Cetonana bulla* sp. n.: female: epigyne, ventral view. Scale bar = 0.1mm.

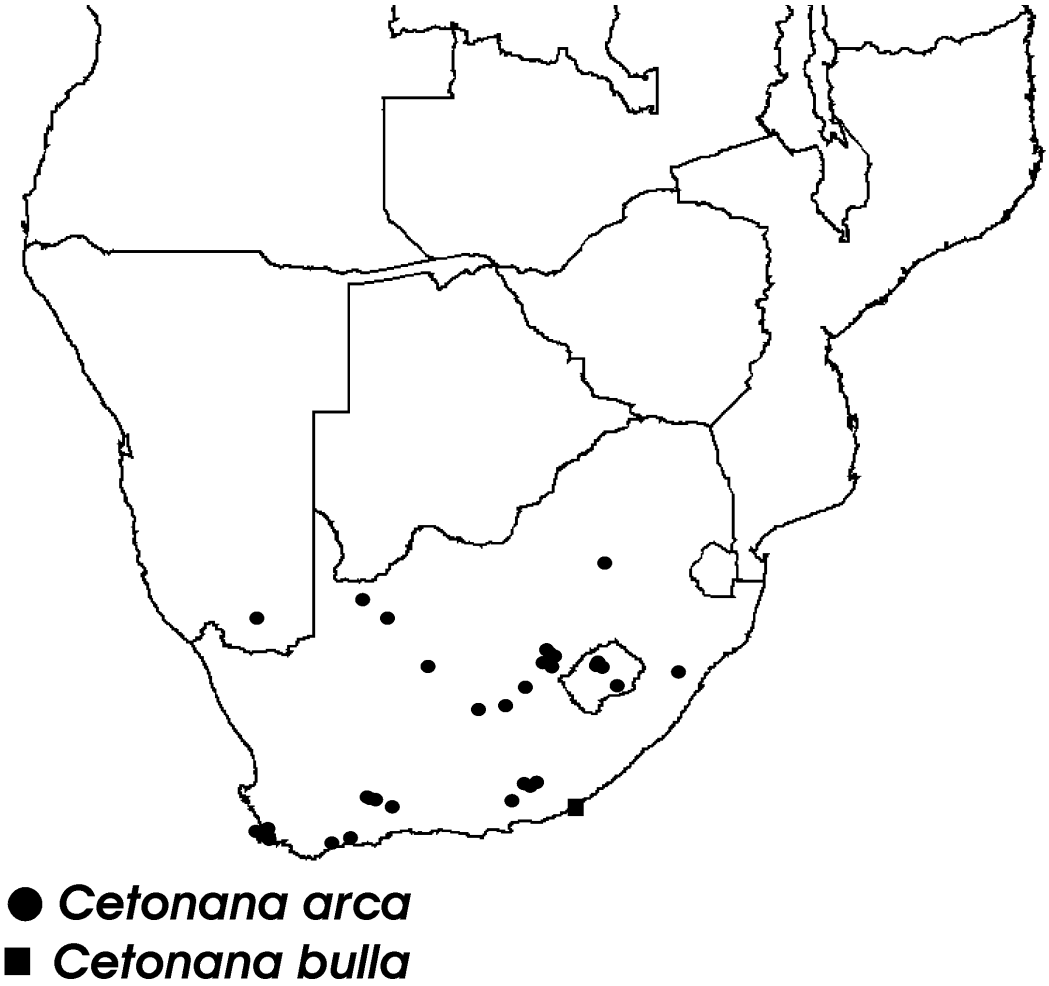
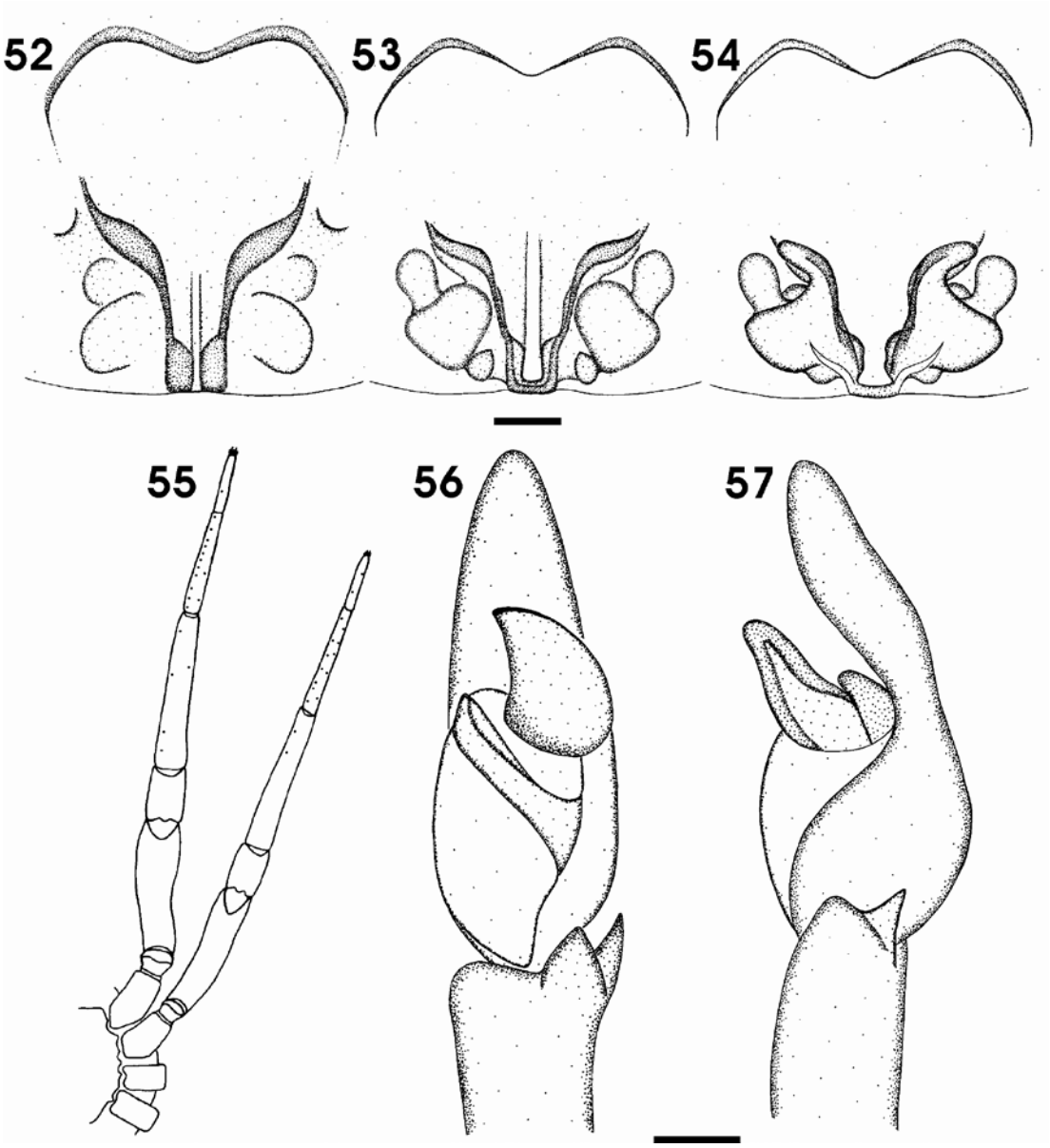
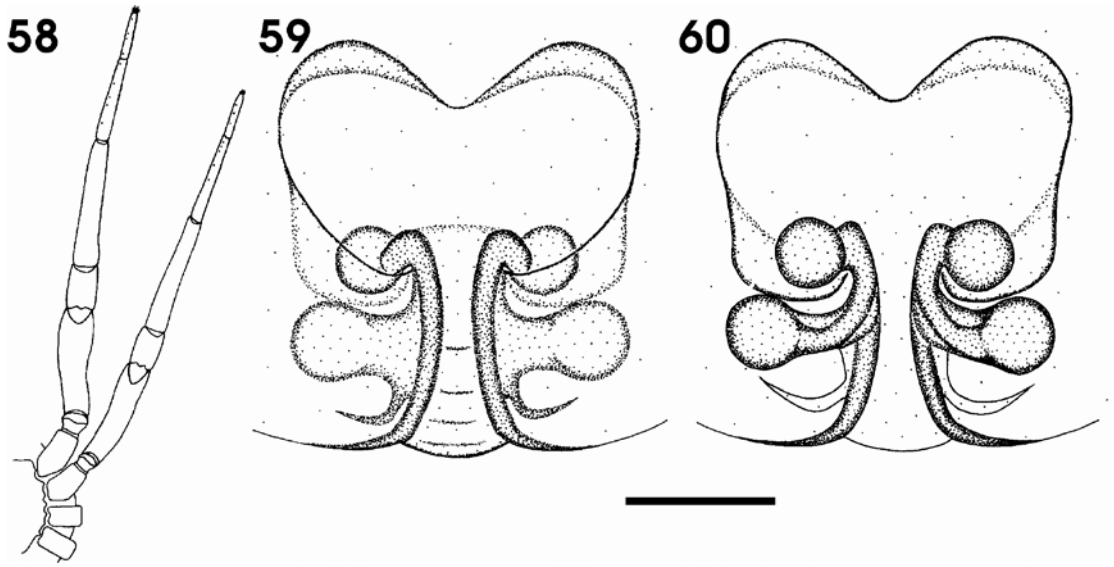


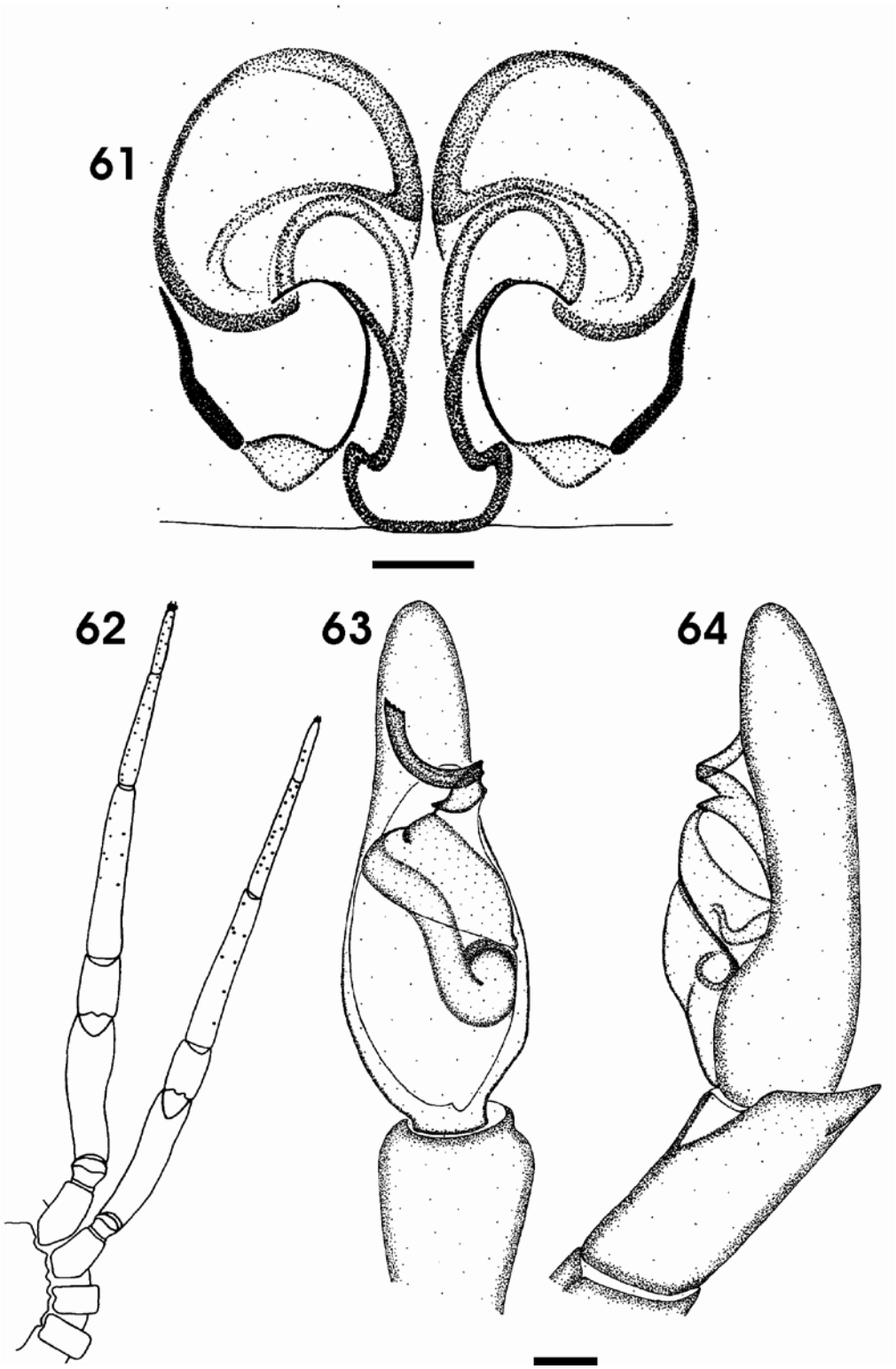
Fig. 51. Distribution of *Cetonana arca* sp. n. and *C. bulla* sp. n. in southern Africa.



Figs 52-57. *Cetonana capensis* sp. n.: (52-54) female: (52) epigyne before dissection; (53) dissected epigyne, ventral view, (54) vulva, dorsal view; (55-57) male: (55) schematic representation of cusp arrangement on legs I and II; (56) left palp, ventral view; (57) left palp, retrolateral view. Scale bars (52-54, 56, 57) = 0.1mm.



Figs 58-60. *Cetonana corcula* sp. n.: female: (58) schematic representation of cusp arrangement on legs I and II; (59) epigyne, ventral view; (60) vulva, dorsal view. Scale bar (59, 60) = 0.1mm.



Figs 61-64. *Cetonana croeseri* sp. n.: female: (61) epigyne, ventral view; (62-64) male: (62) schematic representation of cusp arrangement on legs I and II; (63) left palp, ventral view; (64) left palp, retrolateral view. Scale bars (61, 63, 64) = 0.1mm.

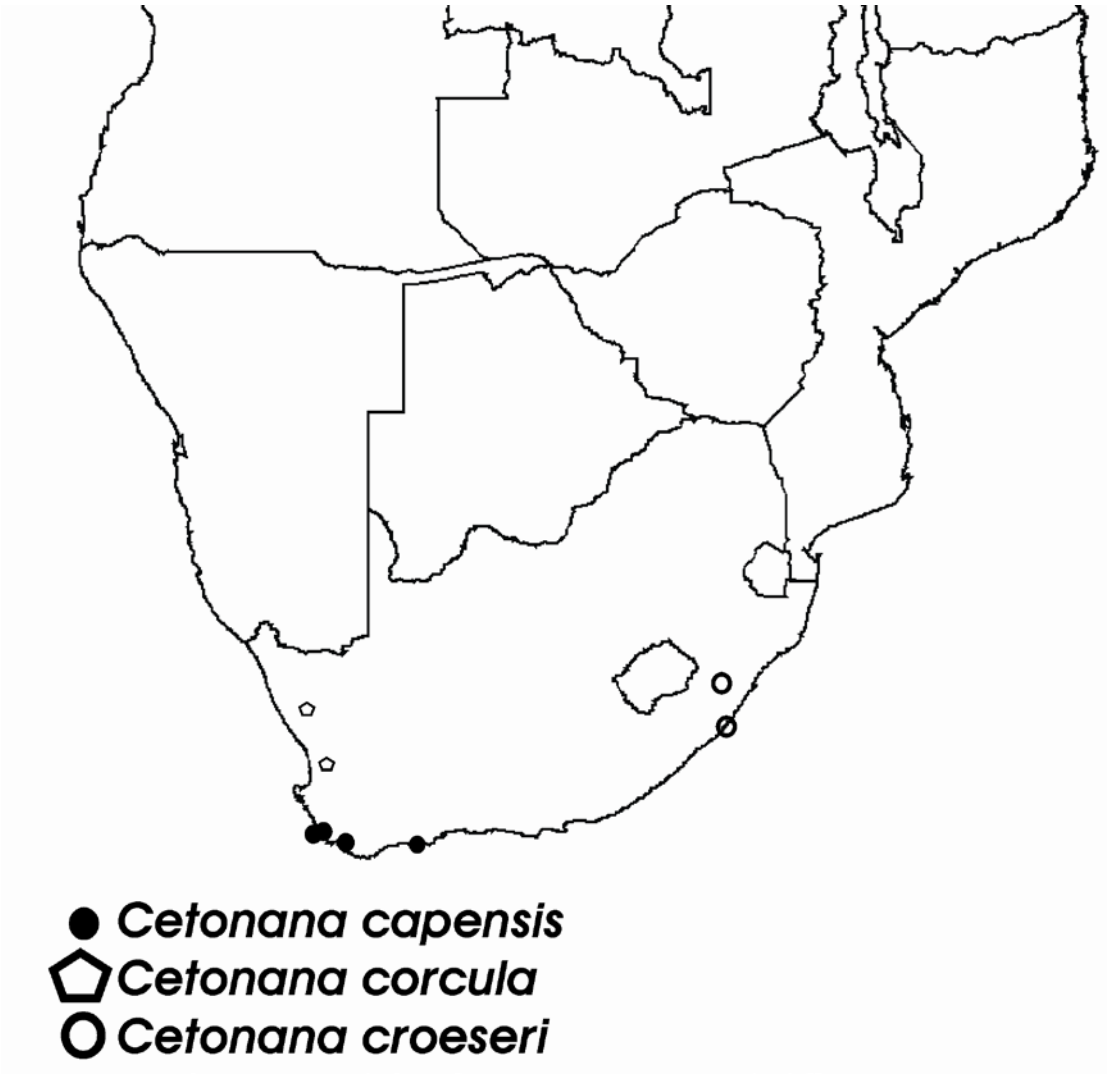
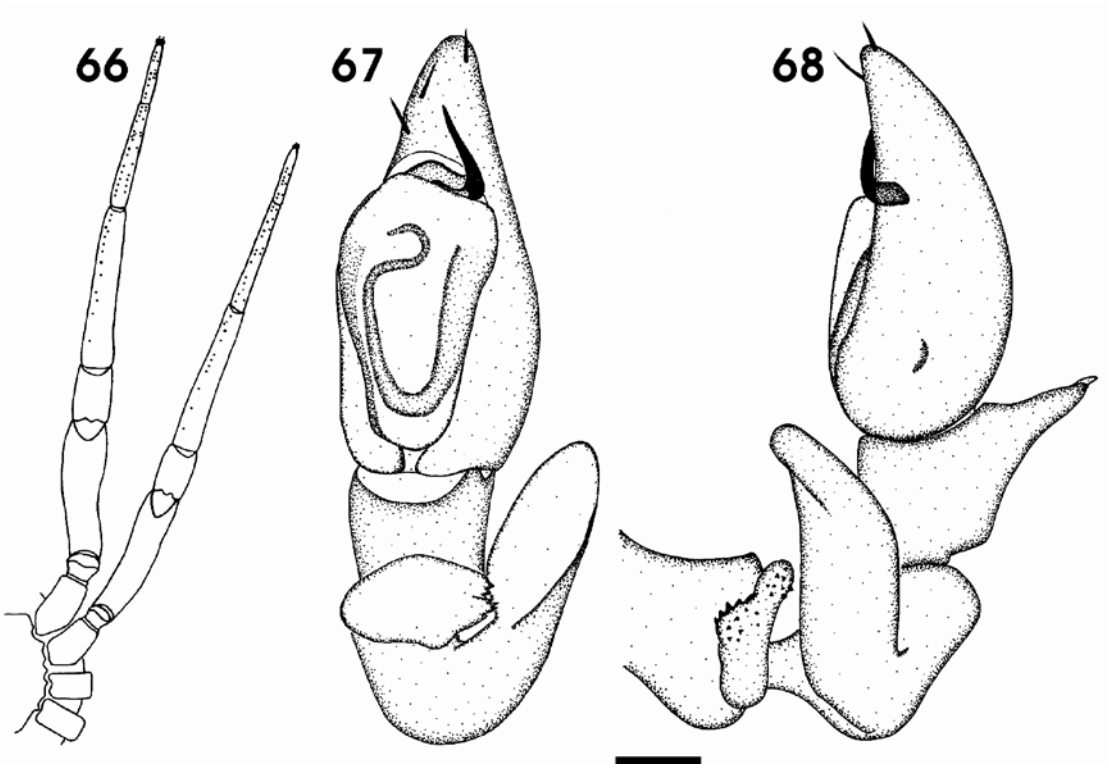
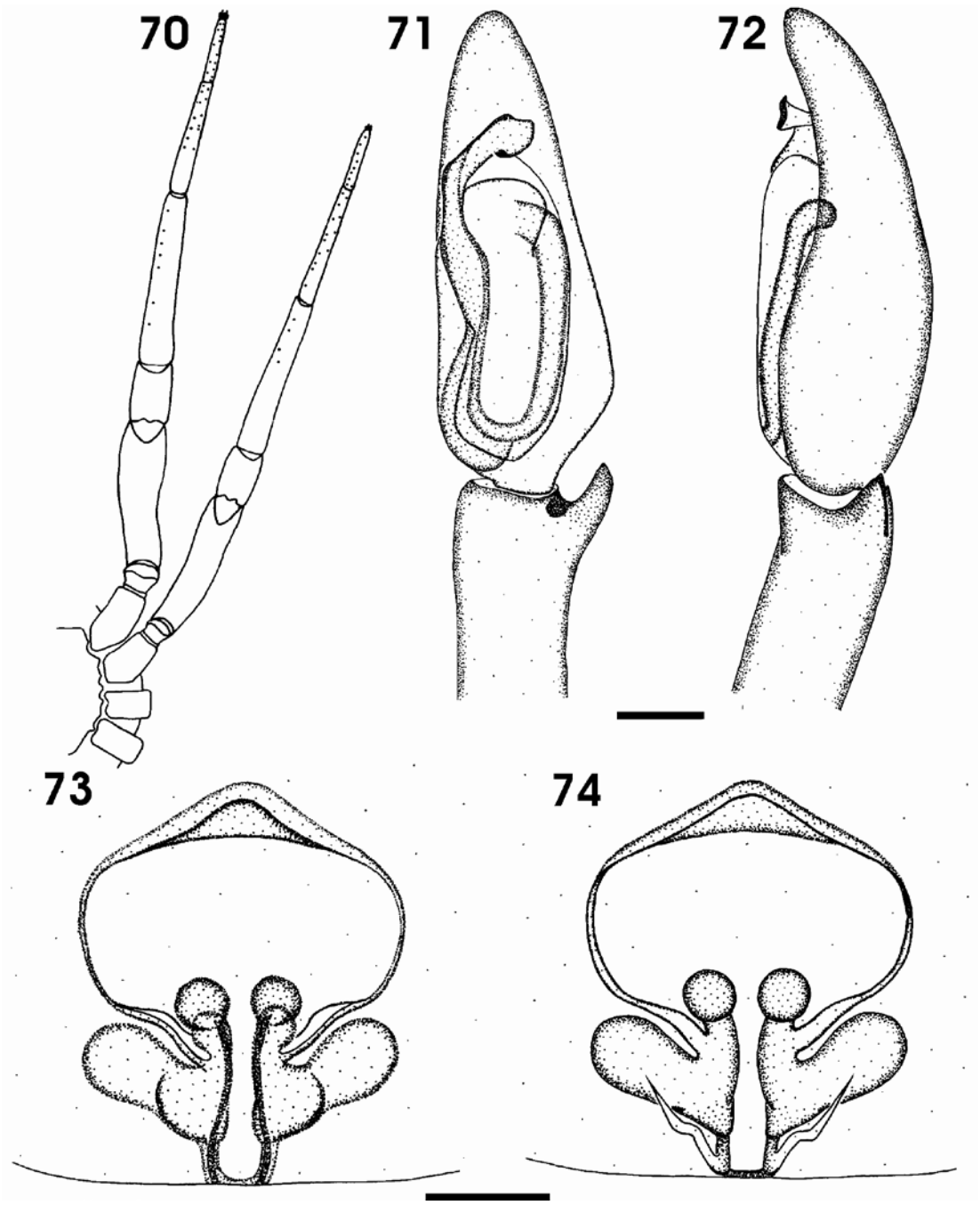


Fig. 65. Distribution of *Cetonana capensis* sp. n., *C. corcula* sp. n. and *C. croeseri* sp. n. in South Africa.

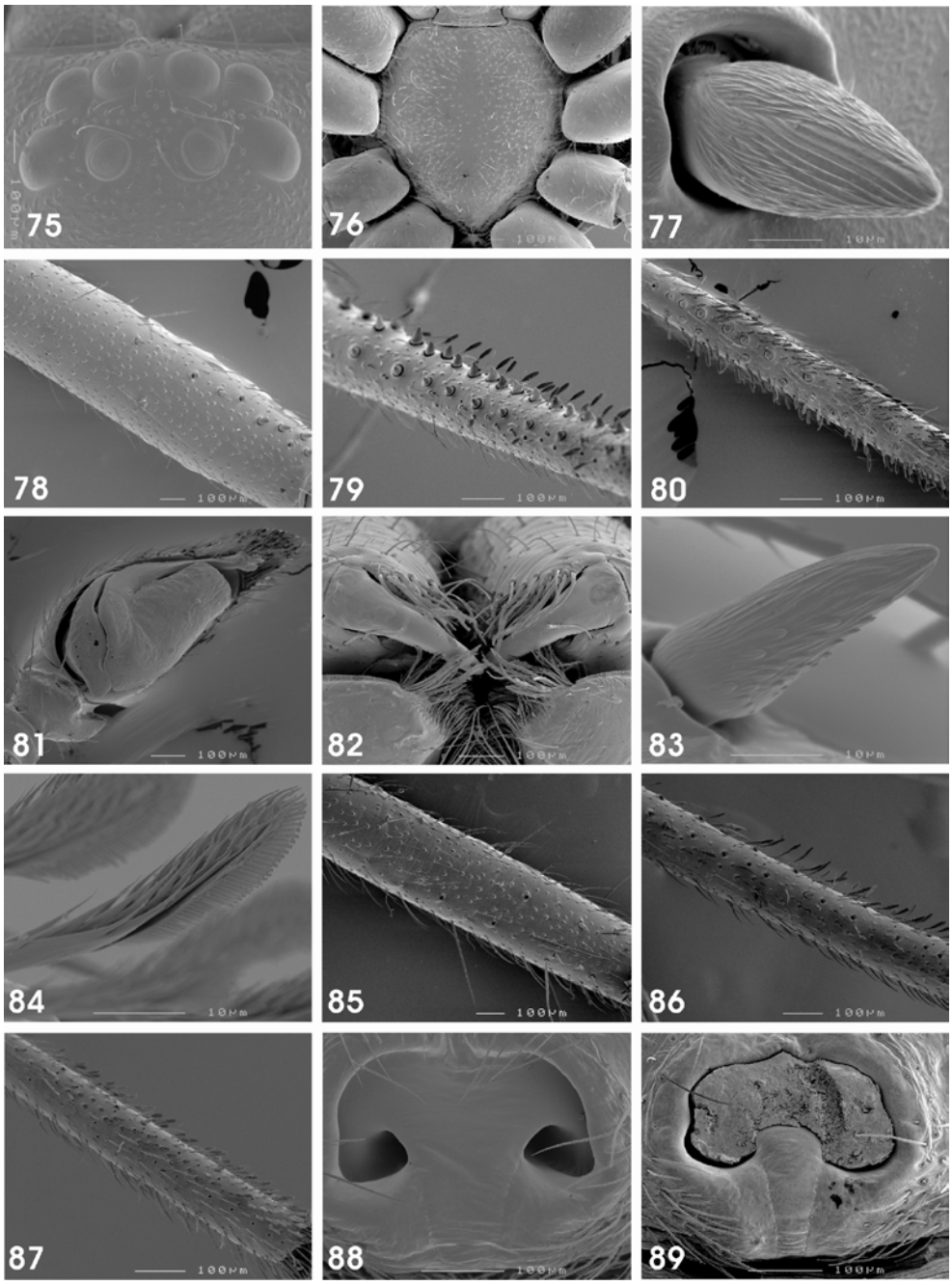


Figs 66-68. *Cetonana denticulata* sp. n.: male: (66) schematic representation of cusp arrangement on legs I and II; (67) left palp, ventral view; (68) left palp, retrolateral view. Scale bar (67, 68) = 0.1mm.

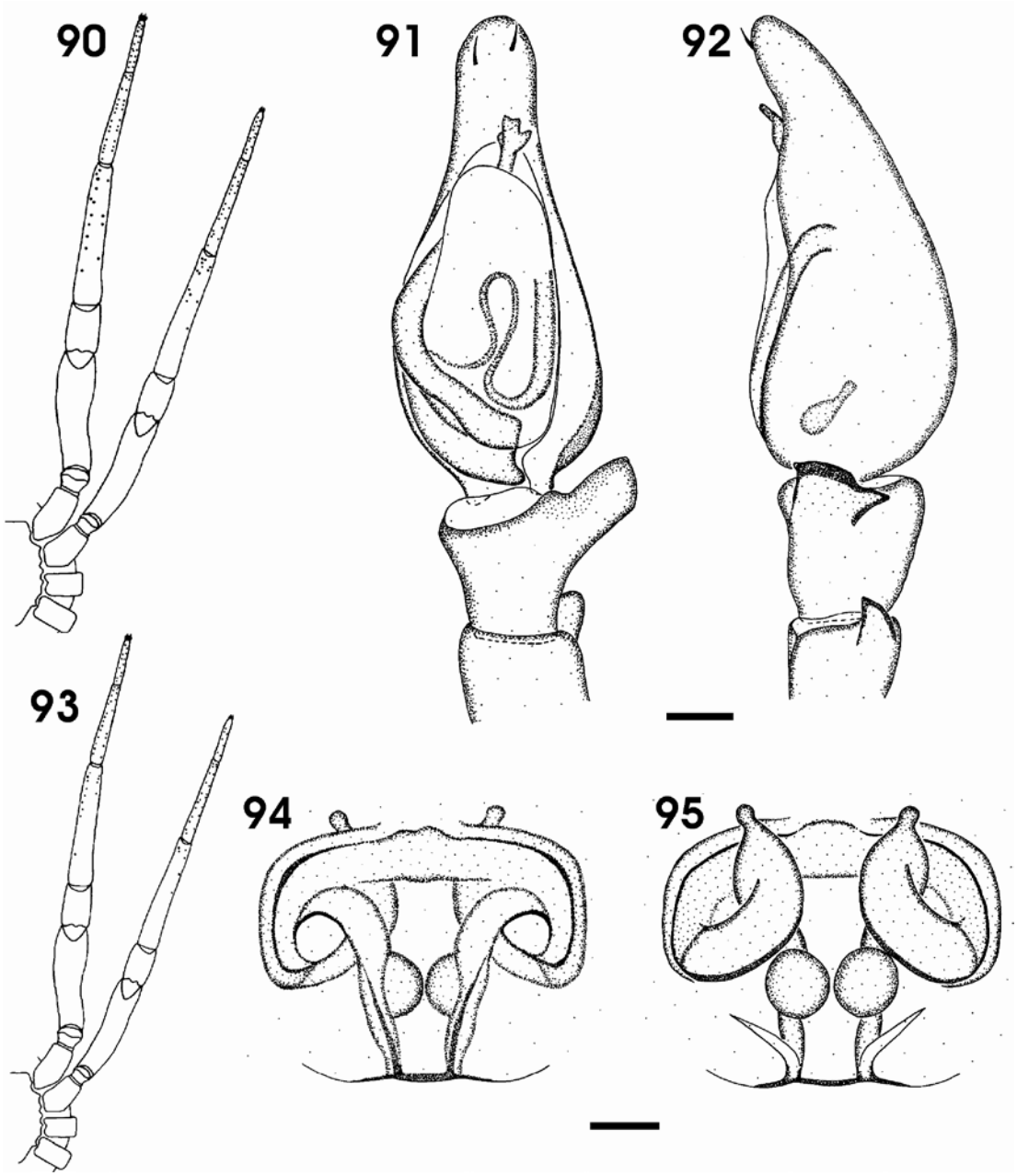
Fig. 69. Distribution of *Cetonana denticulata* sp. n. in Ethiopia.



Figs 70-74. *Cetonana flabella* sp. n.: (70-72) male: (70) schematic representation of cusp arrangement on legs I and II; (71) left palp, ventral view; (72) left palp, retrolateral view; (73, 74) female: (73) epigyne, ventral view; (74) vulva, dorsal view. Scale bars (71-74) = 0.1mm.



Figs 75-89. Scanning electron micrographs of *Cetonana plana* sp. n.: (75-81) male: (75) eye arrangement, dorsal view; (76) sternum; (77) individual cusp on tibia I; (78) tibia I, cusp arrangement; (79) metatarsus I with larger ventral cusps; (80) ventral cusps between dense scopulae on tarsus I; (81) left palp, ventral view; (82-89) female: (82) fangs, ventral view; (83) individual cusp, metatarsus I; (84) individual seta, found on anterior leg segments; (85) tibia I, ventral cusps; (86) metatarsus I, ventral cusps; (87) tarsus I with dense ventral scopulae; (88) epigyne, ventral view without plugs; (89) epigyne with plugs.



Figs 90-95. *Cetonana plana* sp. n.: (90-92) male: (90) schematic representation of cusp arrangement legs I and II; (91) left palp, ventral view; (92) left palp, retrolateral view; (93-95) female: (93) schematic representation of cusp arrangement on legs I and II; (94) epigyne, ventral view; (95) vulva, dorsal view. Scale bars (91, 92, 94, 95) = 0.1mm.

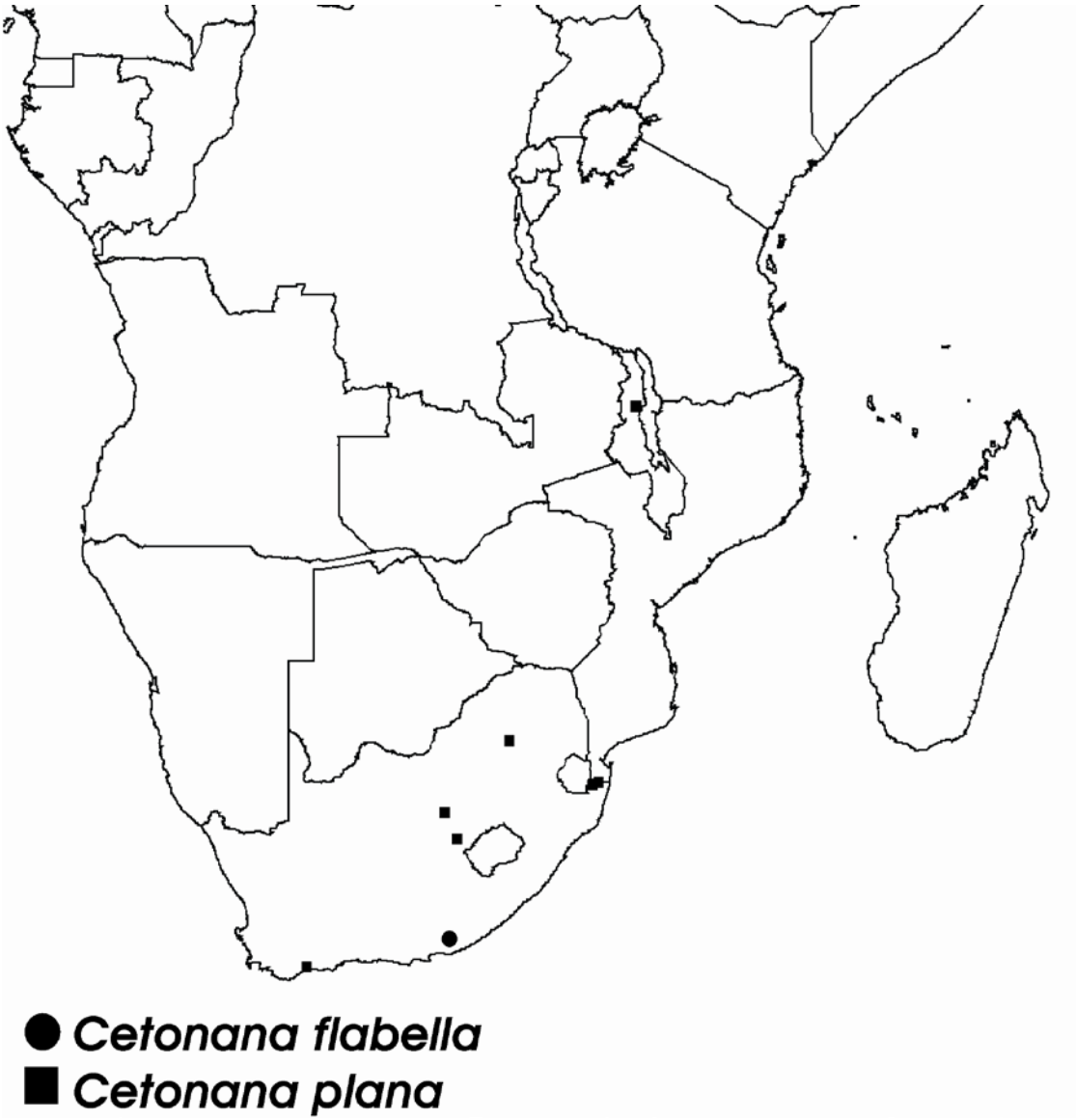
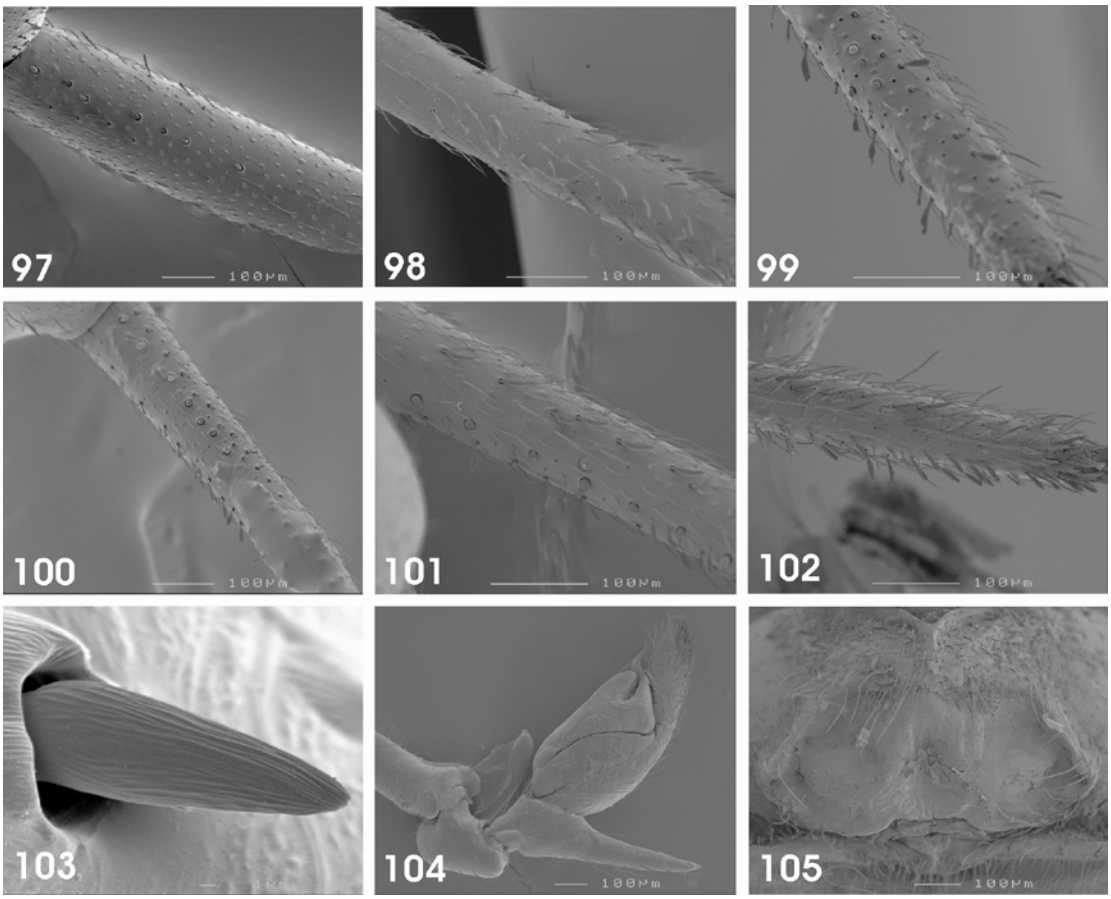
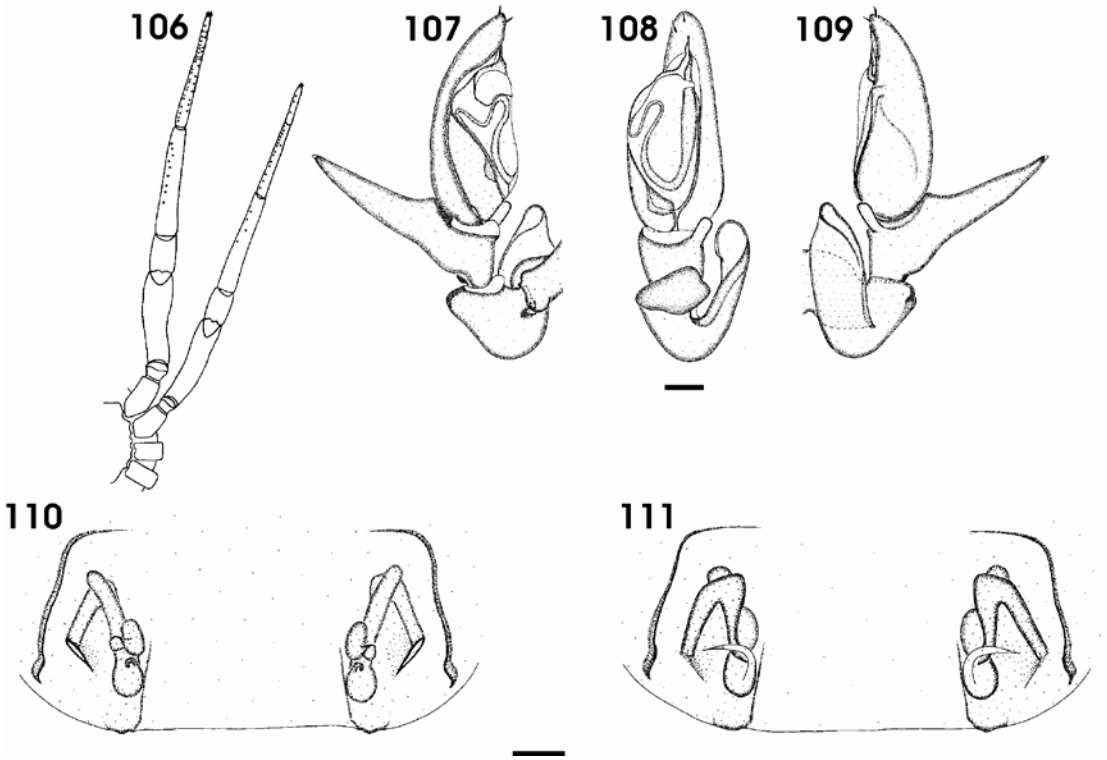


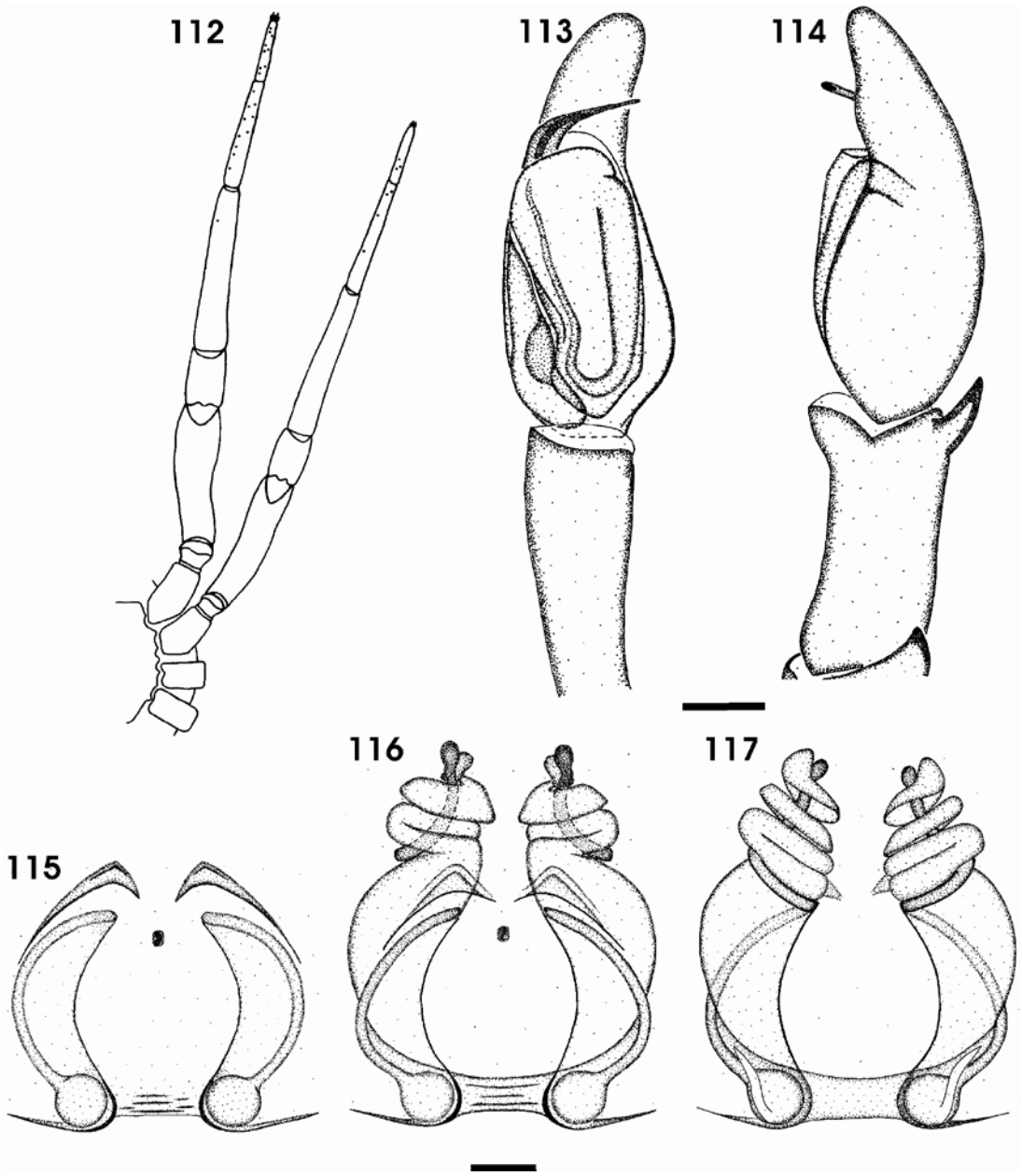
Fig. 96. Distribution of *Cetonana flabella* sp. n. and *C. plana* sp. n. in the Afrotropical Region.



Figs 97-105. Scanning electron micrographs of *Cetonana secutor* sp. n.: (97-104) male: (97) tibia I, cusp arrangement; (98) metatarsus I, cusp arrangement; (99) tarsus I, cusp arrangement; (100) tibia II, cusp arrangement; (101) metatarsus II, cusp arrangement; (102) tarsus II, cusp arrangement; (103) individual leg cusp on tibia II; (104) left palp, retrolateral view; (105) female: epigyne, ventral view.



Figs 106-111. *Cetonana secutor* sp. n.: (106-109) male: (106) schematic representation on cusp arrangement on legs I and II; (107) left palp, prolateral view; (108) left palp, ventral view; (109) left palp, retrolateral view; (110, 111) female: (110) epigyne, ventral view; (111) vulva, dorsal view. Scale bars (107-111) = 0.1mm.



Figs 112-117. *Cetonana spicula* sp. n.: (112-114) male: (112) schematic representation of cusp arrangement on legs I and II; (113) left palp, ventral view; (114) left palp, retrolateral view; female: (115) undissected epigyne, ventral view; (116) dissected epigyne, ventral view; (117) vulva, dorsal view. Scale bars (114-118) = 0.1mm.

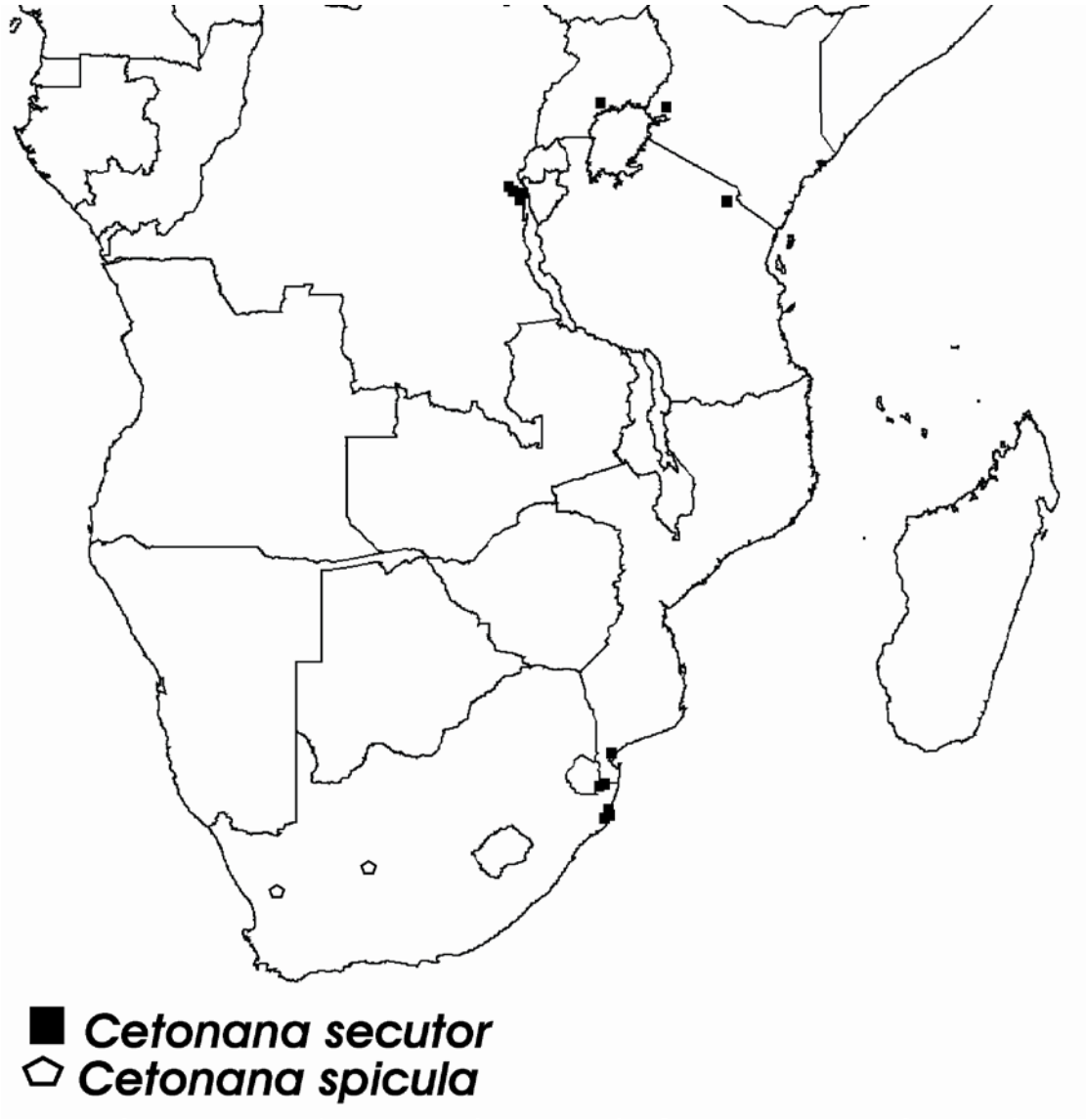


Fig. 118. Distribution of *Cetonana secutor* sp. n. and *C. spicula* sp. n. in the Afrotropical Region.

CHAPTER 3

♂ ***Thysanina serica*** **Simon, 1910** **(Photo: C. Haddad)**

A revision of the Afrotropical tracheline sac spider genus *Thysanina* Simon, 1910 (Araneae: Corinnidae)

ABSTRACT

The dark sac spider subfamily Trachelinae (Araneae: Corinnidae) is currently represented in the Afrotropical Region by eight genera: *Austrachelas* Lawrence, 1938, *Brachyphaea* Simon, 1895, *Cetonana* Strand, 1929, *Paccius* Simon, 1897, *Pronophaea* Simon, 1897, *Spinotrachelas* Haddad, 2006, *Thysanina* Simon, 1910 and *Trachelas* L. Koch, 1872. In the first revisionary paper on the group, of the monotypic genus *Thysanina*, the type species, *T. serica* Simon, 1910, was redescribed and five new species were described from Namibia, South Africa and Tanzania (Lyle & Haddad 2006). The genus is endemic to the Afrotropical Region and occurs to the south of Tanzania, predominantly in southern Africa. The majority of specimens were collected in low vegetation (grasses and short bushes) or on the ground surface, but some species are occasionally found in trees. For the purpose of this dissertation this research is reproduced here.

KEY WORDS: Araneae, Corinnidae, *Thysanina*, Trachelinae, new species, systematics

INTRODUCTION

The family Corinnidae (Arachnida: Araneae) is poorly studied in the Afrotropical Region. It consists of four subfamilies, namely Castianeirinae, Corinninae, Phrurolithinae and Trachelinae. Corinnids are wandering spiders that are often found in leaf litter and debris, with many species imitating ants and mutillid wasps (Dippenaar-Schoeman & Jocqué 1997; Bosselaers & Jocqué 2002).

Simon (1910) described the monotypic genus *Thysanina*, with *T. serica* Simon, 1910 as the type species, and placed it in the Clubionidae: Liocraninae. *Thysanina* remained in Clubionidae despite the subfamily Liocraninae being elevated to family status by Lehtinen (1967). Subsequently, Brignoli (1983) and Platnick (1989) placed the genus in the Liocranidae *incertae sedis*. *Thysanina* was recently transferred to Corinnidae: Trachelinae by Bosselaers & Jocqué (2000), due to the presence of distinctive ventral cusps on the anterior pairs of legs of males.

Trachelines can generally be characterised by the complete absence of leg spines and the presence, at least in males, of ventral cusps on the last three segments of the anterior legs (Platnick & Shadab 1974). Within the Afrotropical fauna, cusps are found in the genera

Thysanina, *Trachelas* L. Koch, 1872, *Paccius* Simon, 1897, *Cetonana* Strand, 1929 and *Spinotrachelas* Haddad, 2006, but are lacking in *Austrachelas* Lawrence, 1938 and are replaced by leg spines in *Brachyphaea* Simon, 1895 and *Pronophaea* Simon, 1897. The latter two genera are misplaced and belong in the Corinninae, while *Austrachelas* should be transferred to the Gallieniellidae (Haddad, Lyle, Bosselaers & Ramírez, in prep.). The cusp arrangement in *Cetonana* is similar to that of *Thysanina* (Bosselaers & Jocqué 2000), but the two genera differ, amongst others, in the length and shape of the cusps. *Cetonana* have long elongate cusps in the Afrotropical species (the European type species *Cetonana laticeps* (Canestrini, 1868) has short, blunt cusps), while *Thysanina* have shorter and more compact cusps. *Thysanina* also have a greater number and larger cusps than Afrotropical *Trachelas*, some species of which lack cusps in both sexes, while others have a few cusps usually on the tibiae and metatarsi of males only.

In the current paper, the second in a series on the Afrotropical tracheline fauna (Haddad 2006), the genus *Thysanina* is revised, the type species, *T. serica*, is redescribed, and five new species are described from Namibia, South Africa and Tanzania. *Thysanina* species appear to prefer low-growing foliage (grass, bushes and short shrubs) or are active on the ground surface, but are occasionally collected from trees.

MATERIAL AND METHODS

All specimens were observed for descriptions in 70% ethanol using a light microscope. Epigynes and palps were dissected from the respective specimens using 0-size insect pins. All dissected epigynes were cleared for eight minutes in a Branson 3200 ultrasonic bath in 70% ethanol, and drawn in 70% ethanol.

All measurements are given in millimetres (mm). Body measurements (excluding legs) were determined for the smallest and largest specimens of both sexes found in the examined material, and a range of extremes was given for each sex. The leg measurements and eye distances are given for the largest specimen of each sex. Leg spination follows the format of Bosselaers & Jocqué (2000). The locality coordinates of specimens are provided, when available. Redescriptions are provided for described species in alphabetical order, followed by description of new species in alphabetical order.

Measurements and leg spination are abbreviated as follows:

AER – anterior eye row
AL – abdomen length
ALE – anterior lateral eye
AME – anterior median eye
AW – abdomen width
CL – carapace length
CW – carapace width
do – dorsal
FL – fovea length
PER – posterior eye row
pl – prolateral
PLE – posterior lateral eye
plv – prolateral ventral
PME – posterior median eye
rl – retrolateral
rlv – retrolateral ventral
SL – sternum length
SW – sternum width
TL – total length
vt – ventral terminal.

Material for scanning electron microscopy was dehydrated in a graded ethanol series and then critical-point dried in an argon chamber. Specimens were mounted on stubs, sputter-coated three times with gold, and then studied in a JEOL WinSEM at 10 kV. Digitised micrographs were taken.

The material used in the revision was obtained from the following collections. Curators of collections are given in parenthesis:

CAS – California Academy of Sciences, San Francisco, U.S.A. (Charles Griswold).
MNHN – Museum National d'Histoire Naturelle, Paris, France (Christine Rollard).
NCA – National Collection of Arachnida, ARC–Plant Protection Research Institute, Pretoria, South Africa (Ansie Dippenaar-Schoeman).
NMBA – National Museum, Bloemfontein, South Africa (Leon Lotz).
NMSA – Natal Museum, Pietermaritzburg, South Africa (Juthika Baijoo).
SMN – State Museum of Namibia, Windhoek, Namibia (Tharina Bird).

Taxonomy

Thysanina Simon, 1910

Thysanina Simon, 1910: 201; Bosselaers & Jocqué 2000: 311; Dippenaar-Schoeman & Jocqué 1997: 196; Lyle & Haddad 2005: 68; Lyle & Haddad 2006: 97.

Type species: *Thysanina serica* Simon, 1910.

Diagnosis: The genus *Thysanina* differs from the closely related *Trachelas* in several respects. *Thysanina* has a darkened eye region and slightly flattened yellow-brown carapace with a finely wrinkled surface, which appears smooth. The abdomen is creamy white to pale yellow, usually with a distinctive chevron marking (Fig. 1). *Trachelas* often have a raised red-brown carapace with a number of small tubercles covering it, making the surface texture appear granular and rough (Platnick & Shadab 1974; personal observation). The most obvious difference between the two genera is the variation in cusp presence, and the abdomen, which is grey in colour usually without a chevron marking in *Trachelas*. *Thysanina* males have ventral peg-like cups with pointed tips present on the tibiae, metatarsi and tarsi of the anterior legs, but cusps are absent in females. The occurrence of cusps is irregular in Afrotropical *Trachelas*; some species have cusps in both sexes, others in males only, while some species have a total absence of cusps. When present, the cusps are usually smaller and more robust than those found in *Thysanina*, and have rounded tips (e.g. Platnick & Shadab 1974: Figs 42–43). The copulatory openings of the female epigyne are situated in the anterior half of the epigyne, and the embolus of the male palp typically originates distally or prolaterally on the tegulum, and may be coiled or straight.

Description: Small to medium sized spiders, 3.0-5.5 mm in length; male more robustly built than female, with legs and abdomen thicker and more compact than female. Carapace slightly dorso-ventrally flattened, narrowest at ocular region, broader medially and rounded posteriorly (Fig. 1); ocular region darkened with dark rings around eyes; anterior eye row slightly procurved, posterior eye row slightly recurved (Figs 1–2); colouration yellow brown to bright orange; covered with fine setae (Fig. 3). Chelicerae usually with three teeth on promargin, and two or three teeth on retromargin; endites 1½ times longer than wide, sometimes with shallow longitudinal ridge along prolateral margin; straight on anterior and retrolateral margins, rounded on posterior margin; serrula indistinct; labium trapezoidal, slightly longer than wide. Sternum longer than broad, with smooth surface; long and short setae scattered across surface; colouration bright orange to brown, darker towards border. Legs with paired tarsal claws situated in between a dense claw tuft (Fig. 4); cusps present in males and absent in females, found on tibia, metatarsus and tarsus (Figs 5–8); cusps with a peg-like structure and pointed tips (Fig. 9), situated within deep sockets (Fig. 10); leg spines generally absent, but present in *T. similis* and *T. transversa*; legs I to IV typically with grey

bands; metatarsi III and IV of both sexes with distal ventral preening comb. Abdomen broader anteriorly and tapering posteriorly; integument with pale yellow to creamy white undertones, with a grey chevron marking usually present, except in *T. similis* females; chevron more distinct in males; dorsal scutum and inframamillary sclerite absent in both sexes. Female with paired copulatory openings in weakly sclerotised epigyne; epigyne structure varies greatly between species. Male palps vary greatly between species, with considerable variations in size and structure of tibial apophyses.

Key to the genus *Thysanina* in the Afrotropical Region

1. Males…….…….2
– Females……..…….……7

2. Embolus long, wire-like, originating proximally on tegulum; palpal tibia with large, spoon-like dorsolateral apophysis (Fig. 28)……..…….…….....**gracilis** sp. n. (p. 109)
– Embolus curved, coiled or peg-like, originating distally on tegulum; palpal tibial apophyses small, situated retrolaterally (Fig. 24)…….…….…..…….3

3. Palpal tegulum tapering distally; embolus short, peg-like; leg II lacking cusps……..…...…...**capensis** sp. n. (p. 107)
– Palpal tegulum broad distally; embolus long, either curved or coiled; leg II with cusps on metatarsi and tarsi……...……...….4

4. Palpal cymbium with distinctive tuft of setae retrolaterally (Fig. 20); embolus tip tear-shaped..……..…….....…**absolvo** sp. n. (p. 104)
– Palpal cymbium without retrolateral setal tuft; embolus tip sharply pointed……...……...5

5. Cymbium broad at distal end (Fig. 12); embolus originating retrolaterally at distal end of tegulum, forming one complete coil……..*serica* Simon (p. 101)
– Cymbium tapering distally (Figs 32 & 39); embolus originating medially or prolaterally at distal end of tegulum, curved, but not forming a complete coil……..…...6

6. Palpal patella with broad, flattened retrolateral apophysis; embolus originating prolaterally on tegulum, short, only extending to midpoint of cymbium (Fig. 32)…....**similis** sp. n. (p. 111)
– Palpal patella with pointed triangular retrolateral apophysis; embolus originating medially on tegulum, longer, extending to retrolateral margin of cymbium (Fig. 39).....**transversa** sp. n. (p. 114)

7. Copulatory openings curved, situated anteriorly in epigyne; spermathecae very large and bean-shaped, occupying the posterior ¾ of the epigyne (Figs 16, 17).....**absolvo** sp. n. (p. 104)
– Copulatory openings variable; spermathecae smaller, not occupying more than half of the epigyne length……...…….……8

8. Epigyne with large anteromedian hood; copulatory openings small, situated medially near posterior end of hood (Fig. 29)……..……...**gracilis** sp. n. (p. 109)
– Epigyne without anteromedian hood; copulatory openings larger, situated within oblique hoods or comma-shaped or oblique ridges……..……..……9

9. Copulatory openings situated within comma-shaped ridges that touch medially; spermathecae situated anteriorly, touching along median margin, occupying approximately half epigyne length (Figs 14, 15)……..…...……..*serica* Simon (p. 101)
– Copulatory openings situated within oblique hoods or ridges; structure and size of spermathecae variable……....…….……10

10. Copulatory openings situated in oblique ridges, at approximately half epigyne length (Fig. 21); spermathecae and terminal receptacles situated anteriorly in epigyne; spermathecae touching along median margins……...**capensis** sp. n. (p. 107)
– Copulatory openings situated within weakly sclerotised hoods, laterally and anterior in epigyne; spermathecae small, roughly kidney-shaped……..……...…….11

11. Epigynal hoods extending approximately half of epigyne length; spermathecae with a distinctive median constriction (Fig. 36); abdomen with distinctive chevron marking……..……...……...**transversa** sp. n. (p. 114)
– Epigynal hoods extending to a third of epigyne length; spermathecae lacking a distinctive median constriction; abdomen without chevron marking, replaced by a grey median stripe (Figs 34, 35)..…….…….**similis** sp. n. (p. 111)

Thysanina serica Simon, 1910

Figs 1, 11–15, 41

Thysanina serica Simon, 1910: 201–202.

T. serica: Bosselaers & Jocqué 2000: 311, figs 2a–e; Lyle & Haddad 2005: 68; Lyle & Haddad 2006: 100, figs 1, 11-15.

Diagnosis: This species is recognised from others by the coiled embolus, the elongated cymbium and the subtriangular retrolateral tibial apophysis of the male palp. The female can be recognised by the large globular spermathecae that have posterolateral bilobed terminal receptacles, and the comma-shaped ridges in which the copulatory openings are found.

Description:

Male

Measurements: CL 1.68–2.5, CW 1.45–2.0, AL 1.88–3.0, AW 1.23–1.8, TL 3.5–5.2, FL 0.9–1.15, SL 0.98–1.48, SW 0.73–1.1, AME–AME 0.10, AME–ALE 0.03, ALE–ALE 0.36, PME–PME 0.13, PME–PLE 0.14, PLE–PLE 0.59. Length of leg segments (sequence from femur to tarsus, and total): I 2.5 + 1.18 + 2.0 + 1.65 + 1.0 = 8.33; II 2.08 + 1.05 + 1.68 + 1.25 + 0.75 = 6.81; III 1.75 + 0.88 + 1.18 + 1.58 + 0.55 =5.94; IV 2.4 + 1.0 + 2.05 + 1.73 + 0.55 = 7.73.

Carapace declining gradually towards midpoint; declining sharply posterior to midpoint; surface smooth; covered in short, fine setae throughout; fovea large, distinct; carapace bright orange to brown; ocular region dark orange to light brown. All eyes with black rings; AER slightly procurved, median eyes slightly larger than laterals; clypeus height equal to ALE diameter; AME separated by distance slightly smaller than their diameter; AME separated from ALE by 0.25 AME diameter; PER slightly recurved, median eyes slightly larger than laterals; PME separated by distance equal to distance from PME to PLE. Chelicerae dark orange, with black setae scattered on anterior surface; three promarginal teeth, median largest; three retromarginal teeth, smallest near to fang base. Sternum orange, dark orange at border; fine, long setae scattered throughout sternum. Abdomen oval-elongate, broader anteriorly, tapering posteriorly; dorsum white to grey with fine, short setae throughout; partial grey chevron marking on dorsum. Legs I to IV uniform yellow to pale orange; dense short, black

setae ventrally on tibiae, metatarsi and tarsi; fine pale setae on all segments of legs I to IV; legs I to IV with uniform incomplete bands ventrally, grey in colour; femora with two close distal bands, patellae covered almost entirely by band, tibiae, metatarsi each with single distal and proximal bands. Leg spination: tibiae: I *plv* 7 cusps, II *plv* 5, *rlv* 1 cusps; metatarsi: I *plv* 5 cusps, II *plv* 6, *rlv* 1 cusps; tarsi: I *plv* 2 cusps, II *plv* 1 cusp (Fig. 11); regular leg spines absent; palpal spination: femora: *pl* 1 *do* 1, tarsus *do* 1. Palp pale yellow throughout; tegulum elongate, with coiled distal embolus; small, subtriangular retrolateral tibial apophysis present (Figs 12–13).

Female

Measurements: CL 1.72–2.05, CW 1.68–2.0, AL 3.2–3.4, AW 2.25–2.35, TL 5.1–5.4, FL 0.28–0.35, SL 1.23–1.3, SW 0.88–0.95, AME–AME 0.14, AME–ALE 0.05, ALE–ALE 0.45, PME–PME 0.17, PME–PLE 0.16, PLE–PLE 0.64. Length of leg segments (sequence from femur to tarsus, and total): I 2.0 + 0.9 + 1.53 + 1.33 + 0.9 = 6.66; II 1.55 + 0.8 + 1.35 + 1.23 + 0.88 = 5.81; III 1.1 + 0.88 + 1.73 + 1.23 + 0.53 = 5.47; IV 2.15 + 0.9 + 1.6 + 1.88 + 0.68 = 7.21.

General appearance similar to male; female larger than male; body paler, with lighter grey chevron comprising thin median line with pale transverse branches. Eye region yellow-orange, eyes surrounded by dark brown rings; AER very slightly recurved, median eyes larger than laterals; clypeus height equal to distance 0.75 AME diameter; AME separated by 0.75 their diameter, AME separated from ALE by distance equal to 0.5 AME diameter; PER recurved, eyes subequal in size; PME separated by 1.75 their diameter, PME separated from PLE by 1.75 PME diameter. Chelicerae with three well separated promarginal teeth, median largest, distal smallest; retromargin with two closely situated teeth, subequal in size. Legs I to IV similar in colouration to male, with incomplete bands; legs less robust than those of male. Regular leg spines, cusps absent; palpal spination: femora *plv* 1 *rlv* 1, tibiae *plv* 3 *rlv* 3. Genital area sclerotised; dark brown; copulatory openings situated laterally in epigyne, within sclerotised comma-shaped ridges; entrance ducts curving anteriorly to median spermathecae; spermathecae large, oval structures, with posterolateral bilobed terminal receptacles (Figs 14–15).

Holotype: 1 ♂, deposited in MNHN (examined). Accompanying label stating ‘Museum Paris AR 14437 / *Thysanina serica* Simon / Namibia Lüderitz-Buch / Schultze leg. Simon det. &

coll.'. The female syntype specimen, deposited in the Zoological Museum, Berlin, could not be traced and is probably lost.*

Other material examined: NAMIBIA: 2 ♀ Between Chameis Head & South Rock, 27º51'S:15º39'E, 4.viii.1997, ground at night, E. Griffin (SMN 43802); 1 ♀ Same locality, 6.viii.1997, E. Griffin (SMN 43799); 1 ♀ Dunes behind Agate Beach, 6km N of Luderitz, 26º35'S:15º10'E, 9.x.1984, C.E. Griswold & T. Meikle-Griswold (NMSA); 1 ♀ 1 juv. Omaruru River Mouth, 22º05'S:14º14'E, 17.ii.1969, B.H. Lamoral (NMSA); 2 ♂ Sand dunes E of Swakopmund, 22º40'S:14º31'E, 10.ii.1969, B. Lamoral & R. Day (NMSA). SOUTH AFRICA: *Gauteng Province*: 1 ♂ Roodeplaat Dam Nature Reserve, 13.xi.1980, sweep net, M. Stiller (NCA 81/901).

Distribution: Distributed in western Namibia and the Gauteng Province of South Africa (Fig. 41).

Natural history: The natural history of this species is poorly known. It occurs in arid habitats in western Namibia and savanna in the Gauteng Province, South Africa. Specimens were collected from the ground surface and grass. No distinctive activity pattern could be distinguished, as specimens were collected by day and by night.

Thysanina absolvo Lyle & Haddad, 2006

Figs 16–20, 41

Thysanina absolvo Lyle & Haddad, 2006: 102, figs 16-20.

Etymology: This species name is Latin for "free", taken from the *terra typica*, the Free State Province in South Africa, where the entire type series was collected.

Diagnosis: This species can be recognised from others by the retrolateral hair tuft and the uniquely curved embolus of the male palp. The female can be recognised by the very large bean-shaped spermathecae and looped entrance ducts.

Description:

Female

Measurements: CL 1.23–1.53, CW 1.15–1.48, AL 1.95–1.48, AW 1.45–1.8, TL 3.3–3.8, FL 0.11–0.12, SL 0.78–0.88, SW 0.73–0.83, AME–AME 0.08, AME–ALE 0.05, ALE–ALE 0.32, PME–PME 0.12, PME–PLE 0.09, PLE–PLE 0.45. Length of leg segments (sequence from femur to tarsus, and total): I 1.4 + 0.7 + 1.25 + 0.9 + 0.53 = 4.78; II 1.2 + 0.63 + 0.9 + 0.78 + 0.3 = 3.81; III 0.9 + 0.45 + 0.58 + 0.78 + 0.23 = 2.94; IV 1.45 + 0.63 + 1.2 + 1.23 + 0.3 = 4.81.

First three quarters of carapace evenly high, with relatively steep decline in last quarter; surface smooth, covered in short setae; fovea small, distinct, at two-thirds CL; carapace orange to brown in colour. Ocular region dark orange to brown with dark brown to black rings around eyes; AER slightly procurved, lateral eyes very slightly larger than medians; clypeus height equal to AME diameter; AME separated by distance equal to their diameter; AME separated from ALE by 0.25 AME diameter; PER slightly recurved, median eyes larger than laterals; PME separated by distance equal to their diameter, PME separated from PLE by slightly less than PLE diameter. Chelicerae dark orange to brown, slightly paler near fang base; scattered black setae on anterior surface; longer setae towards fang base; three promarginal teeth, two large, subequal in size, near fang base; third tooth small, far from fang base on promargin; three retromarginal teeth, equal in size, on single base. Sternum orange, brown towards border; long brown setae scattered on sternum. Abdomen broader anteriorly, truncated posteriorly; dorsum creamy white; grey chevron with darkened median line, light grey transverse branches dorsally, dark grey lines laterally; surface smooth with short fine setae throughout. Legs I to IV yellow to orange; tibiae, metatarsi and tarsi with dense long, dark setae ventrally; remaining leg segments covered in fine, less dense setae. Regular leg spines, cusps absent; palpal spination: patellae *pl* 2, tibiae *pl* 1. Genital area sclerotised, dark brown; copulatory openings in curved depression, situated anteromedially in epigyne near looped entrance ducts; spermathecae very large, bean-shaped, with darkened terminal receptacles situated anteriorly (Figs 16–17).

Male

Measurements: CL 1.7–1.73, CW 1.5–1.55, AL 1.9–2.2, AW 1.3–1.55, TL 3.63–3.9, FL 0.1–0.11, SL 0.98–1.05, SW 0.8–0.9, AME–AME 0.01, AME–ALE 0.03, ALE–ALE 0.3, PME–PME 0.1, PME–PLE 0.05, PLE–PLE 0.4. Length of leg segments (sequence from femur to tarsus, and total): I 1.75 + 0.8 + 1.5 + 1.15 + 0.55 = 5.75; II 1.4 + 0.7 + 1.23 + 0.88 + 0.47 = 4.68; III 0.98 + 0.53 + 0.69 + 0.9 + 0.36 = 3.46; IV 1.45 + 0.65 + 1.23 + 1.38 + 0.42 = 5.13.

General appearance similar to female; male smaller and colouration darker; abdomen creamy white; dark grey chevron with more prominent transverse branches than female. AER slightly procurved, eyes subequal in size; clypeus height equal to AME diameter; medians separated by their diameter; AME separated from ALE by slightly less than 0.5 AME diameter; PER recurved, median eyes larger than laterals; PME separated by 1.5 times their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae granular with a few scattered long, dark setae over surface; three well separated promarginal teeth, distal tooth smallest, far from fang base on promargin; three retromarginal teeth, close together, not on single base, proximal tooth smallest, median largest. Legs I to IV similar in colouration to females, more compact and stout. Leg spination: tibiae: I *plv* 8 cusps; metatarsi: I *plv* 8, *rlv* 1 cusps, II *plv* 8 cusps; tarsi: I *plv* 8 cusps, II *plv* 5 cusps (Fig. 18); regular leg spines, palpal spines absent. Palp orange brown throughout; small median ventral tibial apophysis; embolus beginning medially in tegulum, curving prolaterally then retrolaterally, with distal terminal, tear-shaped embolus tip; retrolateral hair tuft ventrally on cymbium (Figs 19–20).

Holotype: ♀ 'NMBA 9087 / S. Africa F.S. Brandfort Florisbad 1250m / 2846S/2605E 20-4 7-8 1988/ L.N. Lotz Pres. traps (9A) // new nr. NMBA08727 // Corinnidae / Trachelinae / *Thysanina absolvo* / HOLOTYPE //' (NMBA # 8727).

Allotype: ♂ 'Ficksburg / 7.iii.1989 / M. Filmer / Bush beating / rocky mountainside // Araneae / Corinnidae / Trachelinae / *Thysanina* / *absolvo* ALLOTYPE ♂ / 89/865 det. R. Lyle //' (NCA # 89/865).

Paratypes: 1 ♀ 'NMBA 6564 / -- 7 1990 L.N. Lotz / S. Africa O.F.S. Bloemfontein / Bloemfontein, Grant's Hill / 1490m 2906S/2613E / Pres. traps // new nr. NMBA06227 //' (NMBA # 6227). 1 ♀ 'NMBA 6564 / -- 8 1990 L.N. Lotz / S. Africa O.F.S. Bloemfontein / Bloemfontein, Grant's Hill / 1490m 2906S/2613E / Pres. traps // new nr. NMBA06229 //' (NMBA # 6229). 1 ♀ 'R.S.A., Free State / Deelhoek farm / Bloemfontein district / 28º54'S, 26º07'E / 19.I.2001 / (under rocks in grassland) //' (NCA # 2005/989). 1 ♀ 'S. Africa; O.F.S.; Florisbad / SE 2826Cc; Mus. Staff / June '85; Pres. traps // new nr. NMBA00739 //' (NMBA # 739). 1 ♂ 'R.S.A., Free State Province / Erfenis Dam Nature Reserve / 28º30.431'S, 26º48.457'E / 24.II.2006, C. Haddad / At base of *Themeda* grass //' (NCA # 2006/460). 1 ♂ 'R.S.A., Free State Province / Erfenis Dam Nature Reserve / 28º30.431'S, 26º48.457'E /, 24.II.2006, R. Lyle / Beats, short shrubs //' (NCA # 2006/461). 1 ♂ 'R.S.A., Free State

Province / Erfenis Dam Nature Reserve / 28º30.431'S, 26º48.457'E / 28.II.2006, R. Lyle / Beats, short shrubs //' (NCA # 2006/462).

Other material examined: None.

Distribution: Distributed in the eastern and central parts of the Free State Province, South Africa (Fig. 41).

Natural history: This species appears to be associated primarily with the lower strata of grassland ecosystems, and was collected from the ground surface, grass and short shrubs.

Thysanina capensis Lyle & Haddad, 2006

Figs 21–25, 41

Thysanina capensis Lyle & Haddad, 2006: 105, figs 21-25.

Etymology: This species name is taken from the Western Cape Province of South Africa, where the type series was collected.

Diagnosis: This female can be recognised by the V-shaped spermathecae and well sclerotised copulatory openings, at 45 degrees medially in the epigyne. The male can be easily recognised by the short, peg-like embolus distally on the tegulum.

Description:

Female

Measurements: CL 1.6–1.65, CW 1.4–1.43, AL 2.6–2.65, AW 1.8–1.93, TL 4.2–4.3, FL 0.08, SL 0.95–0.97, SW 0.78–0.83, AME–AME 0.09, AME–ALE 0.05, ALE–ALE 0.34, PME–PME 0.14, PME–PLE 0.10, PLE–PLE 0.53. Length of leg segments (sequence from femur to tarsus, and total): I 1.73 + 0.73 + 1.3 + 1.08 + 0.73 = 5.57; II 1.38 + 0.65 + 1.08 + 0.9 + 0.73 = 4.74; III 0.98 + 0.5 + 0.68 + 0.85 + 0.38 = 3.39; IV 0.5 + 0.73 + 1.35 + 1.4 + 0.53 = 4.51.

Carapace raised slightly to midpoint; relatively steep decline from two-thirds its length; surface smooth, covered in short setae; fovea small, distinct, at two-thirds CL; carapace bright orange, paler in colour posterior to midpoint. Ocular region dark orange with black rings

around eyes; AER slightly procurved, lateral eyes slightly larger than medians; clypeus height equal to ¾ PME diameter; AME separated by distance equal to their diameter; AME separated from ALE by ½ AME diameter; PER slightly recurved, median eyes slightly larger than laterals; PME separated by distance 1½ times their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae bright orange, pale near fang bases; scattered setae on anterior surface; three promarginal teeth; two near fang base, distal tooth largest; third tooth small, far from fang base on promargin; three retromarginal teeth on single base, median tooth largest. Sternum pale orange to light brown, short fine, dark setae scattered throughout. Abdomen broader anteriorly, tapering posteriorly, with branched grey chevron; dorsum mottled, with grey to creamy white undertones; fine setae scattered throughout dorsum. Legs I to IV uniform pale yellow; incomplete grey bands distinct on femora to metatarsi; relatively dense dark setae on metatarsi and tarsi; remaining leg segments with scattered fine, light coloured setae; legs I to IV with uniform incomplete grey bands; femora with two close distal bands, patellae covered almost entirely by band, tibiae and metatarsi with single distal and proximal bands. Regular leg spines, cusps absent; palpal spination: patellae *pl* 1 *do* 1, tibiae *pl* 3 *do* 1, tarsi *plv* 2. Genital area sclerotised, light to dark brown; copulatory opening's ridges at 45º to epigastric fold; spermathecae large, V-shaped (Figs 21–22).

Male

Measurements: CL 1.8, CW 1.5, AL 2.08, AW 1.27, TL 3.55, FL 0.13, SL 1.02, SW 0.82, AME–AME 0.08, AME–ALE 0.03, ALE–ALE 0.35, PME–PME 0.13, PME–PLE 0.15, PLE–PLE 0.6. Length of leg segments (sequence from femur to tarsus, and total): I 1.58 + 0.82 + 1.29 + 1.05 + 0.6 = 5.34; II 1.28 + 0.69 + 1.0 + 0.85 + 0.52 = 4.34; III 0.84 + 0.48 + 0.6 + 0.8 + 0.52 = 3.24; IV 1.5 + 0.7 + 1.43 + 1.4 + 0.41 = 5.44.

General appearance similar to female; male more robustly built, colouration darker; indistinctive grey chevron on dorsum. AER slightly procurved, lateral eyes larger than medians; clypeus height equal to AME diameter; AME separated by slightly less than their diameters; AME separated from ALE by 0.5 AME diameter; PER slightly recurved, eyes similar in size; PME separated by 1.25 their diameter; PME separated from PLE by 1.5 times PME diameter. Chelicerae granular with a few scattered long, dark setae over surface; three well separated promarginal teeth, subequal in size, distal tooth smallest, median tooth largest; three retromarginal teeth, close together but not on single base, large and subequal in size, distal tooth slightly smaller than others. Legs I to IV uniform yellow, without distinctive

bands; more compact and stout than those of female. Leg spination: metatarsi: I *plv* 6, *rlv* 2 cusps; tarsi: I *plv* 1 *rlv* 1cusps (Fig. 23); regular leg spines absent; palpal spination: femora *pl* 1 *do* 3, patellae *pl* 2 *rl* 1, tibiae *pl* 2 *rl* 1 *plv* 1. Palp pale orange throughout; small subtriangular retrolateral tibial apophysis present; tegulum tapering distally, with small, peg-like embolus originating prolaterally at distal end (Figs 24–25).

Holotype: ♀ 'Lebanon Pine Plantation / Grabouw, W. Cape / Jun.1986 / J.K. Winstanley / Pine / AcAT 1466 // Araneae / Corinnidae / Trachelinae / Thysanina / capensis HOLOTYPE ♀ / 86/468 det. R. Lyle //' (NCA 86/468).

Allotype: ♂ 'S. Africa: C.P., Ladismith, Gans Kop 136 / 3339S/2101E, Ent. Staff / Various methods, 28 Oct. 1987 // new nr. NMBA 02338 // Araneae / Corinnidae / Trachelinae / *Thysanina capensis* / ALLOTYPE //' (NMBA 02338).

Paratype: 1 ♀ 'Lebanon, Western Cape / viii.1985 / J.K. Winstanley / Small pine trees //' (NCA 86/155).

Other material examined: None.

Distribution: Endemic to the Western Cape Province, South Africa (Fig. 41).

Natural history: Specimens were collected from pine plantations and karoo habitats. This species is likely to also occur in fynbos habitats in the Western Cape.

Thysanina gracilis Lyle & Haddad, 2006

Figs 26–30, 41

Thysanina gracilis Lyle & Haddad, 2006: 107, figs 26-30.

Etymology: This species name is Latin for "slender", which refers to the fine, thin slender embolus of the male.

Diagnosis: This species is recognised by the elongated embolus running along the prolateral side of the bulbus. A prominent retrolateral apophysis is found on the tibia, with two smaller apophyses. The female epigyne with median copulatory openings (Fig. 29), with small globular spermathecae 2 situated laterally at midpoint of epigyne. Spermathecae 1 bilobed.

Description:

Male

Measurements: CL 1.1–1.43, CW 0.98–1.28, AL 1.15–1.7, AW 0.8–1.15, TL 2.45–3.0, FL 0.13–0.15, SL 0.69–0.9, SW 0.6-0.78, AME–AME 0.08, AME–ALE 0.03, ALE–ALE 0.32, PME–PME 0.13, PME–PLE 0.11, PLE–PLE 0.52. Length of leg segments (sequence from femur to tarsus, and total): I. 1.3 + 0.63 + 1.1 + 0.93 + 0.6 = 4.56; II. 1.18 + 0.48 + 1.05 + 0.83 + 0.55 = 4.09; III 0.88 + 0.48 + 0.65 + 0.8 + 0.38 = 3.19; IV 1.4 + 0.58 + 1.05 + 1.2 + 0.48 = 4.71.

Carapace evenly high for anterior two-thirds, declining posterior to fovea; surface smooth; fovea small and distinct, situated at two-thirds CL; carapace dark orange, paler posteriorly. Ocular region orange to dark brown; AER slightly procurved, lateral eyes slightly larger than medians; clypeus height equal to AME diameter; AME separated by distance equal to their diameter; AME separated from ALE by 0.5 AME diameter; PER slightly recurved, median eyes larger than laterals; PME separated by distance equal to 1.5 times their diameter, PME separated from PLE by 0.5 PME diameter. Chelicerae dark orange, with pale setae scattered on anterior surface; three promarginal teeth, proximal and median teeth largest and subequal in size, distal tooth smallest; two retromarginal teeth on same base, distal tooth largest. Sternum bright orange and smooth, darker near border; short, pale orange setae covering surface, long pale setae near border. Abdomen broader anteriorly, tapering posteriorly; dorsum pale yellow to creamy white; dark grey chevron with well pronounced transverse branches. Legs I to IV compact and thickened; pale orange to creamy yellow, with dark brown complete bands on femora to metatarsi; short dark setae ventrally situated on tibiae, metatarsi and tarsi; uniform grey band arrangement on femora, with two close distal bands, patellae covered almost entirely by single band, tibiae and metatarsi with single distal and proximal bands. Leg spination: tibiae: I *plv* 4 cusps, II *plv* 3 cusps; metatarsi: I *plv* 9 cusps, II *plv* 7 cusps; tarsi: I *plv* 1 cusps (Fig. 26); regular leg spines absent; palpal spination: femora *pl* 2, patellae *pl* 1 *do* 1, tibiae *pl* 4 *rl* 1. Palp orange-brown throughout; prominent spoon-shaped dorsal retrolateral tibial apophysis with two smaller retrolateral apophyses; embolus wire-like, originating proximally, running along prolateral side of bulbus, curving distally (Figs 27–28).

Female

Measurements: CL 1.23, CW 1.2, AL 2.55, AW 1.8, TL 3.8, FL 0.11, SL 0.88, SW 0.75, AME–AME 0.14, AME–ALE 0.04, ALE–ALE 0.38, PME–PME 0.15, PME–PLE 0.12, PLE–PLE 0.455. Length of leg segments (sequence from femur to tarsus and total): I 1.35 + 0.68 + 1.08 + 0.88 + 0.5 = 4.49; II 1.1 + 0.6 + 0.85 + 0.78 + 0.43 = 3.78; III 0.98 + 0.5 + 0.58 + 0.63 + 0.33 = 3.02; IV 1.33 + 0.55 + 1.05 + 1.2 + 0.4 = 4.53.

General appearance similar to male, female larger; dark grey dorsal chevron with short branches pointing sharply towards spinnerets; branches of chevron close to main vein of chevron. AER straight, median eyes larger than laterals; clypeus height equal to 0.5 AME diameter; AME separated by distance equal to their diameter; AME separated from ALE by distance equal to 0.5 ALE diameter; PER slightly recurved, median eyes larger than laterals; PME separated by distance equal to 1.5 times their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae dark orange, with black setae scattered on anterior surface; three promarginal teeth, proximal and median teeth largest, subequal in size, distal tooth smallest; two retromarginal teeth on same base, distal tooth largest. Legs I to IV less compact, more slender than those of male; band arrangement similar. Regular leg spines, cusps absent; palpal spination: femora *pl* 3 *do* 3, patellae *pl* 1 *do* 1, tibiae *pl* 1, tarsi *plv* 1. Genital area sclerotised, dark brown; copulatory openings laterally off-centre of epigyne; spermathecae globular, terminal receptacles bilobed; epigyne with anterior hood (Figs 29–30).

Holotype: ♂ ‘R.S.A., Northern Cape Province / Geelkoppies farm / Schmidtsdrift district / 24.I.2002, C.R. Haddad / (light trap) // Araneae / Corinnidae / Trachelinae / Thysanina / gracilis HOLOTYPE ♂ / 2005/990 det. C. Haddad //’ (NCA # 2005/990).

Allotype: ♀ ‘S. Africa, C.P., Kimberley, Langeberg 138. / Entomol. Staff 2855S, 2436E / Pitfall traps. Apr.–Aug. 1987 // new nr. NMBA01875 // Corinnidae / Trachelinae / *Thysanina gracilis* / ALLOTYPE //’ (NMBA # 01875).

Paratype: 1 ♂ ‘NAMIBIA / Scorpion Mine Site / 27º49'S, 16º36'E / 23–29.VII.1997, E. Griffin / Preservation pitfall traps //’ (SMN # 43763).

Other material examined: None.

Distribution: Distributed in the Northern Cape Province of South Africa, and in southern Namibia (Fig. 41).

Natural history: This species occurs in arid and semi-arid habitats, and was primarily collected from the soil surface.

Thysanina similis Lyle & Haddad, 2006

Figs 31–35, 41

Thysanina similis Lyle & Haddad, 2006: 109, figs 31-35.

Etymology: This species name is Latin for "similar", and refers to the similarities found in the genitalia of this species and *T. transversa*.

Diagnosis: This species can be recognised by its narrow semi-circular hoods of the epigyne. It is unique compared to *T. transversa*, which has S-shaped spermathecae compared to the globular spermathecae of *T. similis*. The palp of *T. similis* has a short embolus and rounded tibial apophysis and a more prominent patellar apophysis than *T. transversa*. In comparison to the other species, *T. similis* females have very faded or no chevron markings on the abdomen. This is one of two species in the genus that has regular leg spines, in males and females, in addition to cusps in males.

Description:

Male

Measurements: CL 1.28–1.55, CW 1.23–1.48, AL 1.8–1.88, AW 1.23–1.35, TL 3.0–3.5, FL 0.08–0.1, SL 0.85–0.88, SW 0.75–0.83, AME–AME 0.08, AME–ALE 0.05, ALE–ALE 0.30, PME–PME 0.12, PME–PLE 0.10, PLE–PLE 0.49. Length of leg segments (sequence from femur to tarsus, and total): I 1.55 + 0.7 + 1.25 + 0.88 + 0.63 = 5.01; II 1.33 + 0.6 + 1.08 + 0.95 + 0.53 = 4.49; III 0.93 + 0.38 + 0.65 + 0.78 + 0.25 = 2.99; IV 1.63 + 0.55 + 1.15 + 1.35 + 0.53 = 5.21.

Carapace evenly high, declining sharply at three quarters carapace length; surface smooth, short setae scattered throughout; fovea short, narrow, at two-thirds CL; carapace bright orange, dark brown near border. All eyes with dark brown rings; AER strongly procurved,

laterals 1.5 times the diameter of medians; clypeus height equal to AME diameter at ALE, equal to slightly more than ALE diameter at AME; AME separated by distance equal to their diameter, AME separated from ALE by 0.5 ALE diameter; PER slightly recurved, lateral eyes slightly larger than medians; PME separated by 1.25 times their diameter, PME separated from PLE by distance equal to PLE diameter. Chelicerae dark brown, lighter at base; scattered long black setae over surface; three well separated promarginal teeth, median tooth largest, distal smallest; two closely situated retromarginal teeth, distal tooth largest. Sternum orange, dark brown at border; surface smooth with scattered short setae. Abdomen broader anteriorly, tapering posteriorly; chevron present, with thin lateral line ending at midpoint of abdomen, unattached transverse branches spread across abdomen; similar to male of *T. transversa*. Legs I to IV compact, robust; uniform in colour, pale yellow to orange; dense setae ventrally on metatarsi and tarsi of legs I to IV; legs I to IV with uniform grey band arrangement; femora with two close distal bands, patellae covered almost entirely by band, tibiae and metatarsi with single distal and proximal bands. Leg spination: femora: I and II *pl* 1 *do* 1, III *pl* 1 *do* 1 *rl* 1, IV *do* 1 *rl* 1; patellae spineless; tibiae: I *plv* 6 cusps, II *plv* 3 cusps, IV *vt* 2; metatarsi: I *plv* 7 cusps, II *plv* 8 cusps, III *plv* 1, IV *pl* 1 rl 1; tarsi: I *plv* 5 cusps, II *plv* 3 cusps (Fig. 31); palpal spination: femora *pl* 1 *do* 3, patellae *rl* 1, tibiae *pl* 2 *do* 1, tarsi *pl* 1. Palp orange-brown throughout, with small retrolateral tibial apophysis; prominent retrolateral patellar apophysis; embolus twisted behind a hardened sclerite, similar to *T. transversa* (Figs 32–33).

Female

Measurements: CL 1.43–1.5, CW 1.23–1.33, AL 2.1–2.25, AW 1.0–1.5, TL 3.5–3.7, FL 0.08–0.1, SL 0.88–0.93, SW 0.75–0.8, AME–AME 0.04, AME–ALE 0.03, ALE–ALE 0.28, PME–PME 0.11, PME–PLE 0.08, PLE–PLE 0.46. Length of leg segments (sequence from femur to tarsus, and total): I 1.28 + 0.65 + 1.03 + 0.85 + 0.53 = 4.34; II 1.05 + 0.58 + 0.88 + 0.8 + 0.45 = 3.76; III 0.78 + 0.33 + 0.55 + 0.8 + 0.45 =2.91; IV 1.4 + 0.55 + 1 + 1.28 + 0.3 = 4.53.

Similar in appearance to male, female larger, colouration lighter; chevron absent; three grey spots dorsally, two situated from pedicel to one third abdomen length, third marking medially from two thirds abdomen length to spinnerets. All eyes surrounded by dark rings; AER slightly procurved, clypeus height equal to 0.75 AME diameter; anterior eyes subequal in size; AME separated by 0.5 their diameter, AME separated from ALE by 0.25 AME diameter; PER slightly recurved, eyes subequal in size; PME separated by distance equal to their diameter, PME separated from PLE by distance equal to 0.75 PME diameter. Chelicerae dark

orange, with black setae scattered on anterior surface; three promarginal teeth, proximal and median teeth largest, subequal in size, distal tooth smallest; two closely situated retromarginal teeth, subequal in size. Legs I to IV similar in colouration to male, with similar band arrangement; legs less compact, thinner than male. Leg spination: femora: I *pl* 1, IV *rl* 1; palpal spination: patellae *pl* 1 *do* 1, tibiae *pl* 2 *do* 2, tarsi *pl* 2 *plv* 1 *rlv* 1 *vt* 2. Genital area well sclerotised, dark brown to orange; copulatory openings anterior to midpoint of epigyne, located within narrow semi-circular hoods; spermathecae globular, with terminal receptaculae situated in posterior half of epigyne extending to epigastric fold (Figs 34–35).

Holotype: ♂ 'California Academy of Sciences / TANZANIA: Tanga: W Usambara / Mtns.: Mazumbai, station / 4º48.5'S; 38º30'E 1500m / 10--20.xi.1995 around buildings / C.E. Griswold, N. Scharff, D. Ubick //' (CAS).

Paratypes: 2 ♀ 'California Academy of Sciences / TANZANIA: Tanga: E Usambara / Mtns.: Amani. Forest / 5º5.7'S; 38º38'E 950m el. / 27.x--9.xi.1995 / C.E. Griswold, N. Scharff, D. Ubick //' (CAS). 1 ♂ 'California Academy of Sciences / TANZANIA: Tanga: E Usambara / Mtns.: Amani, Mbomole Hill / 5º5.7'S; 38º37'E 1000m el. / 5--8 .xi.1995 / C.E. Griswold, N. Scharff, D. Ubick //' (CAS).

Other material examined: None.

Distribution: Currently known only from the Usambara Mountain range, situated in the North-eastern part of Tanzania (Fig. 41).

Natural history: This species was only collected from forest habitats. Little is known of its microhabitat preferences.

Thysanina transversa Lyle & Haddad, 2006

Figs. 2–10, 36–41

Thysanina transversa Lyle & Haddad, 2006: 112, figs 2-10, 36-40.

Etymology: This species name is Latin for “oblique”, and refers to the oblique alignment of the male embolus.

Diagnosis: This species is recognised by the oblique alignment of the male embolus A prominent retrolateral apophysis is found on the tibia, with two smaller apophyses. The patella has a subtriangular retrolateral apophysis. The epigyne has well sclerotised, curved semi-circular hoods covering the copulatory openings, which extend into the curved spermathecae. For differences to *T. similis*, see description of the latter.

Description:

Female

Measurements: CL 1.63–1.75, CW 1.23–1.6, AL 2.0–3.0, AW 1.23–2.9, TL 3.6–4.8, FL 0.75–1.0, SL 1.03–1.1, SW 0.85–0.9, AME–AME 0.08, AME–ALE 0.03, ALE–ALE 0.32, PME–PME 0.13, PME–PLE 0.10, PLE–PLE 0.58. Length of leg segments (sequence from femur to tarsus, and total): I 1.65 + 0.78 + 1.3 + 1.13 + 0.7 = 5.56; II 2.7 + 0.7 + 1.08 + 0.8 + 0.58 = 5.86; III 1.05 + 0.53 + 1.25 + 0.78 + 0.45 = 4.06; IV 1.88 + 0.5 + 0.55 + 1.38 + 0.55 = 4.86.

Carapace rising gradually to midpoint, declining sharply posterior to midpoint; surface smooth, with short, fine setae scattered throughout (Fig. 3); fovea short, indistinct, just posterior to midpoint; carapace bright orange to brown, border dark brown. Ocular region dark orange; all eyes surrounded by dark brown rings; AER procurved, lateral eyes larger than medians; clypeus height equal to 0.75 AME diameter at AME, 0.5 ALE diameter at ALE; AME separated by a distance equal to 0.75 their diameter, AME separated from ALE by distance equal to 0.25 AME diameter; PER slightly recurved, PME slightly larger than PLE; PME separated by distance slightly larger than their diameter, PME separated from PLE by distance equal to PLE diameter. Chelicerae dark orange to brown, slightly paler at fang base; promargin with three widely spaced teeth, distal tooth smallest, proximal tooth largest; retromargin with two closely placed teeth, subequal in size. Sternum pale orange to brown, darker around border; short, fine setae and long dark setae scattered throughout. Abdomen broader anteriorly, truncated posteriorly; dorsum pale yellow to white; chevron grey with prominent branches; no lateral line on dorsum; scattered long setae throughout. Legs I to IV uniform orange to brown; dense setae ventrally on metatarsi and tarsi; fine pale setae present on all segments; all four legs with scattered short, dark setae. Leg spination: femora: I *pl* 1 *do* 1, II *pl* 1 *do* 1, III *do* 1, IV *do* 1 *rl* 1; tibiae: IV *vt* 1; metatarsi: IV *pl* 1 *rl* 1; palpal spination:

patellae *pl* 1; tibiae *pl* 2 *do* 2; tarsi *pl* 3 *do* 1 *plv* 1 *rlv* 1. Genital area strongly sclerotised, dark brown to orange in colour; copulatory openings situated in anterior half of epigyne, covered by semi-circular hoods; spermathecae relatively small, curved, with terminal receptaculae situated in posterior half of epigyne, not extending to epigastric fold (Figs 36–37).

Male

Measurements: CL 1.23–1.98, CW 1.55–1.73, AL 1.8–2.35, AW 1.23–1.48, TL 3.55–3.8, FL 0.08–0.13, SL 0.93–1.05, SW 0.93–1.0, AME–AME 0.11, AME–ALE 0.05, ALE–ALE 0.39, PME–PME 0.13, PME–PLE 0.15, PLE–PLE 0.67. Length of leg segments (sequence from femur to tarsus, and total): I 2.03 + 0.95 + 1.73 + 0.58 + 0.78 = 6.07; II 1.55 + 0.8 + 1.78 + 1.15 + 0.63 = 5.91; III 1.2 + 0.6 + 0.83 + 1.05 + 0.48 = 4.16; IV 1.75 + 0.73 + 1.55 + 1.78 + 0.5 = 6.31.

General appearance similar to female; male smaller with more compact abdomen than female; chevron darker with lateral line that ends at midpoint of abdomen. Eye region dark orange; all eyes surrounded by black rings; AER very slightly recurved, lateral eyes larger than medians; clypeus height 1.5 times AME diameter; AME separated by distance equal to their diameter, AME separated from ALE by distance equal to 0.75 times AME diameter; PER recurved, eyes subequal in size; PME separated by distance equal to 1.75 times their diameter, PME separated from PLE by distance equal to 1.5 times PME diameter. Chelicerae with scattered black setae on anterior surface; promargin with three teeth, distal tooth smallest, median and proximal teeth subequal in size; retromargin with two closely placed teeth, distal tooth slightly larger than proximal. Legs I to IV more robust and compact than those of female. Leg spination: femora: I *pl* 1 *do* 1, II *pl* 1 *do* 1, III *pl* 1 *do* 1 *rl* 1–2, IV *do* 1 *rl* 2–4; tibiae: I *plv* 6 cusps, II *plv* 7 cusps, IV *vt* 1–2; metatarsi: I *plv* 5 cusps, II *plv* 7 cusps, III *pl* 1 *plv* 1, IV *pl* 1 *rl* 1; tarsi: I *plv* 2 cusps, II *plv* 1 cusps (Figs 5–8, 38); palpal spination: patellae *do* 2 *rl* 2 *rlv* 1, tibiae *do* 3 *pl* 1 *rl* 1, tarsi *pl* 2 *rl* 1. Palp orange throughout; prominent retrolateral tibial apophysis with two smaller apophyses; triangular retrolateral patellar apophysis present; embolus twisted behind a sclerotised cover (Figs 39–40).

Holotype: ♀ ‘SOUTH AFRICA. / KWAZULU/NATAL. / Pongola Bush Reserve. / 27º19'S 30º29'E. / Paulpietersburg. / L Lotz. 3-XII-1994. // new nr. NMBA06737 // Corinnidae / Trachelinae / *Thysanina transversa* / HOLOTYPE //’ (NMBA # 6737).

Allotype: ♂ ‘Lajuma / 23º02.255'S, 29º26.669'E / 25.xi.2004 / tree beating, *Eugeria natalitia* / M. Mafadza // Araneae / Corinnidae / *Thysanina* / *transversa* ♂ / 2005/1894 det. C. Haddad//’ (NCA # 2005/1894).

Paratypes: 1 ♂ 1 ♀ ‘1 Whitnall street, Grahamstown / 22.x.1978 / P. Croeser / in sac web on leaf in lemon / tree //’ (NCA # 82/376). 2 ♂ 1 ♀ ‘Schagen / 15 km N W / of Nelspruit / 19.viii.1997 / M. van den Berg / on macadamia tree //’ (NCA # 98/179). 4 ♂ 2 ♀ ‘Schagen, 15km / N.W. of / Nelspruit / 7.x.1997 / M. van den Berg / on macadamia tree //’ (NCA # 98/178). 1 ♂ ‘South Africa, KwaZulu-Natal / Greater St. Lucia Wetlands Park / False Bay Park / 14.X.2004, J. Esterhuizen / Tsetse fly traps //’ (NCA # 2005/184).

Other material examined: SOUTH AFRICA: *KwaZulu-Natal*: 2 ♂ Ndumo Game Reserve, Pongola River Floodplain, Near pump, Riverine forest, 26º54.323'S:32º19.435'E, 27.vi.2006, beats, short shrubs, A. Honiball & E. Leuwin (NCA 2006/1229). *Limpopo Province*: 1 ♀ Lajuma, 23º02.257'S:29º26.661'E, 5.xi.2004, tree beating, *Falcatus*, M. Mafadza (NCA 2005/2032); 1 ♂ Sovenga Hill, near Polokwane, 23º53'S:29º44'E, 15.xi.2004, short forest, tree beating, M.A. Modiba (NCA 2005/1865); 1 ♂ Same data (NCA 2005/1866); 1 ♂ Same data (NCA 2005/1867); 1 ♂ Same data (NCA 2005/1868); 1♂ Same locality, 2.xii.2004, short forest, tree beating, M.A. Modiba (NCA 2005/1876); 1 ♂ Same locality, 4.xii.2004, short forest, tree beating, M.A. Modiba (NCA 2005/1877); 1 ♂ Same data (NCA 2005/1878); 1 ♀ Same locality, 27.xi.2004, short forest, active search, M.A. Modiba (NCA 2005/1874); 1 ♂ Same data (NCA 2005/1875); 1 ♂ 1 ♀ Same locality, 25.xi.2004, tall forest, tree beating, M.A. Modiba (NCA 2005/1869); 1 ♂ 1 ♀ Same data (NCA 2005/1870); 1 ♀ Same data (NCA 2005/1871); 1 ♀ Same data (NCA 2005/1872); 1 ♂ 2 juv. Same data (NCA 2005/1873). *Western Cape Province*: 1 ♀ Diepwalle Forest Station, 22km NE Knysna, 33º57'S:23º10'E, 10–13.i.1985, indigenous forest, C. Griswold & T. Meikle-Griswold (NMSA).

Distribution: Widely distributed in the Eastern Cape, KwaZulu-Natal, Limpopo, Mpumalanga and Western Cape provinces of South Africa (Fig. 41).

Natural history: This species was collected primarily from the foliage of shrubs and trees in a variety of woodland and forest habitats, at altitudes varying from 10m a.s.l. (St. Lucia) to 1700m a.s.l. (Soutpansberg mountains).

DISCUSSION

The continuous changes in the taxonomy spiders has lead to an urgent need to examine previously collected material for reclassification and, in many cases, describing new species. The revision of the genus *Thysanina* emphasises this, as most specimens previously collected were only identified to family level, and were misplaced in the Clubionidae. Due to the examination of the limited material available, five new species were described in this previously monotypic genus.

Species in the Trachelinae share a number of characteristics (e.g. strongly sclerotised bodies, presence of leg cusps, in males at least, and the general absence of leg spines), but variations are found. The genus *Thysanina* has a number of shared characteristics with *Trachelas* in terms of general somatic morphology. Colouration and markings are relatively stable in *Thysanina*, described above, but are considerably more variable in *Trachelas*, which usually have a red-brown carapace with a grey to black abdomen compared to the yellow-brown carapace with grey chevron marking of *Thysanina*. The American genus *Meriola* Banks, 1895 is similar in appearance to *Thysanina* with a slight variation in the texture of the abdomen, which is pitted in *Meriola* (Platnick & Ewing 1995) and smooth in *Thysanina*. The eye arrangement and chevron markings are similar. The cusps of male *Meriola* are elongated with a narrower, rounded point and indented base (Platnick & Ewing 1995: Figs 2–3), compared to the male *Thysanina*, which have a broad base with a relatively sharp point (Fig. 9).

While the presence of ventral leg cusps in males and absence of cusps in females is consistent amongst all species in the genus, an absence of leg spines is not. Two species, *T. similis* and *T. transversa*, have a limited number of regular leg spines in both sexes, but these are still very few compared to those found in the Corinninae and Castianeirinae. This indicates that leg spines may persist in some species of certain tracheline genera. Platnick & Ewing (1995) also reported that several species of the American genus *Meriola* Banks, 1895 have leg spines on the anterior femora, while most species in the genus lack spines. This variation in the presence of leg spines may yet display itself in other Afrotropical genera too, and requires further investigation. For one, Afrotropical *Cetonana* species appear to all have distinctive leg spines in both sexes, in addition to cusps in males, a character that may support the monophyly of this particular genus.

Regarding genitalic morphology, suggesting that a distinctive pattern of genitalic evolution is evident in *Thysanina* would be premature. For example, regarding male palpal morphology, four of the species (*T. absolvo*, *T. serica*, *T. similis* and *T. transversa*) have a broadly coiled embolus originating prolaterally and distally on the tegulum. This contrasts from a proximal prolaterally originating wire-like embolus in *T. gracilis*, and a short, distal peg-like embolus in *T. capensis*. Based on the current data presented in this paper, several species are known from very few specimens and localities. This has been compounded by the fact that large areas within the Afrotropical region have not been sampled or have only been poorly sampled, as well as the large number of unidentified tracheline specimens in museum collections. It is, therefore, likely that additional species remain undescribed, which could fill the gaps in determining the pattern of genitalic evolution and biogeography of the genus.

An earlier paper by Platnick (2001) on the genus *Paccius*, in which five new species were described from a single Madagascan reserve, as well as the current paper, exemplifies the currently poor knowledge of the systematics of Afrotropical tracheline sac spiders, and highlights the urgent need for further studies to more accurately determine the diversity of the group in the region. This revision is the first step in providing updated information on the group, with a long-term aim of resolving the phylogenetic and biogeographical relationships of the region's fauna.

ACKNOWLEDGEMENTS

The curators of the various institutions listed earlier are thanked for the loan of material. The two reviewers, Jan Bosselaers and Norman Platnick, as well as Martín Ramirez, are thanked for their various inputs and comments on the manuscript. The latter is thanked for providing sketches of the syntype female of *Thysanina serica*, which he examined prior to this study.

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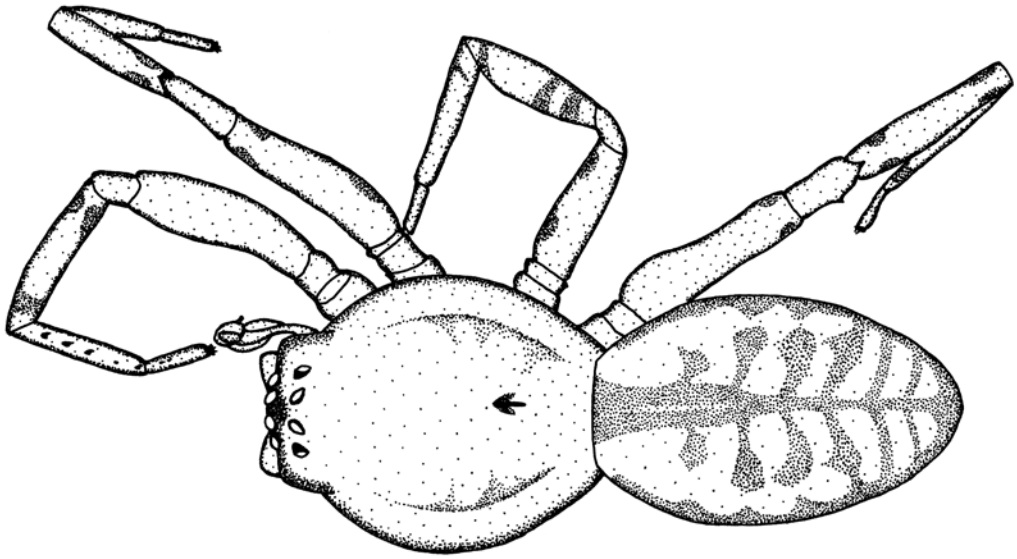
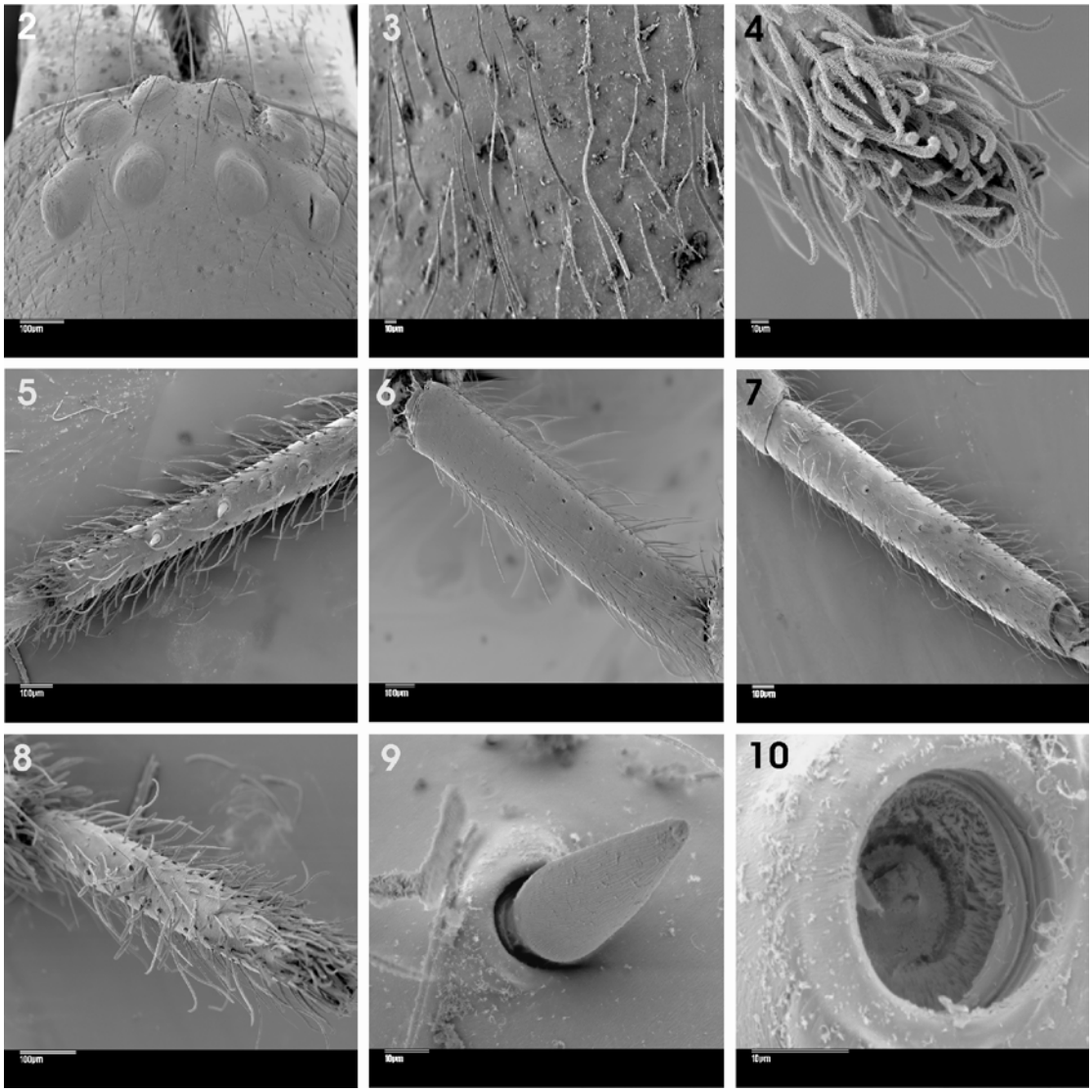
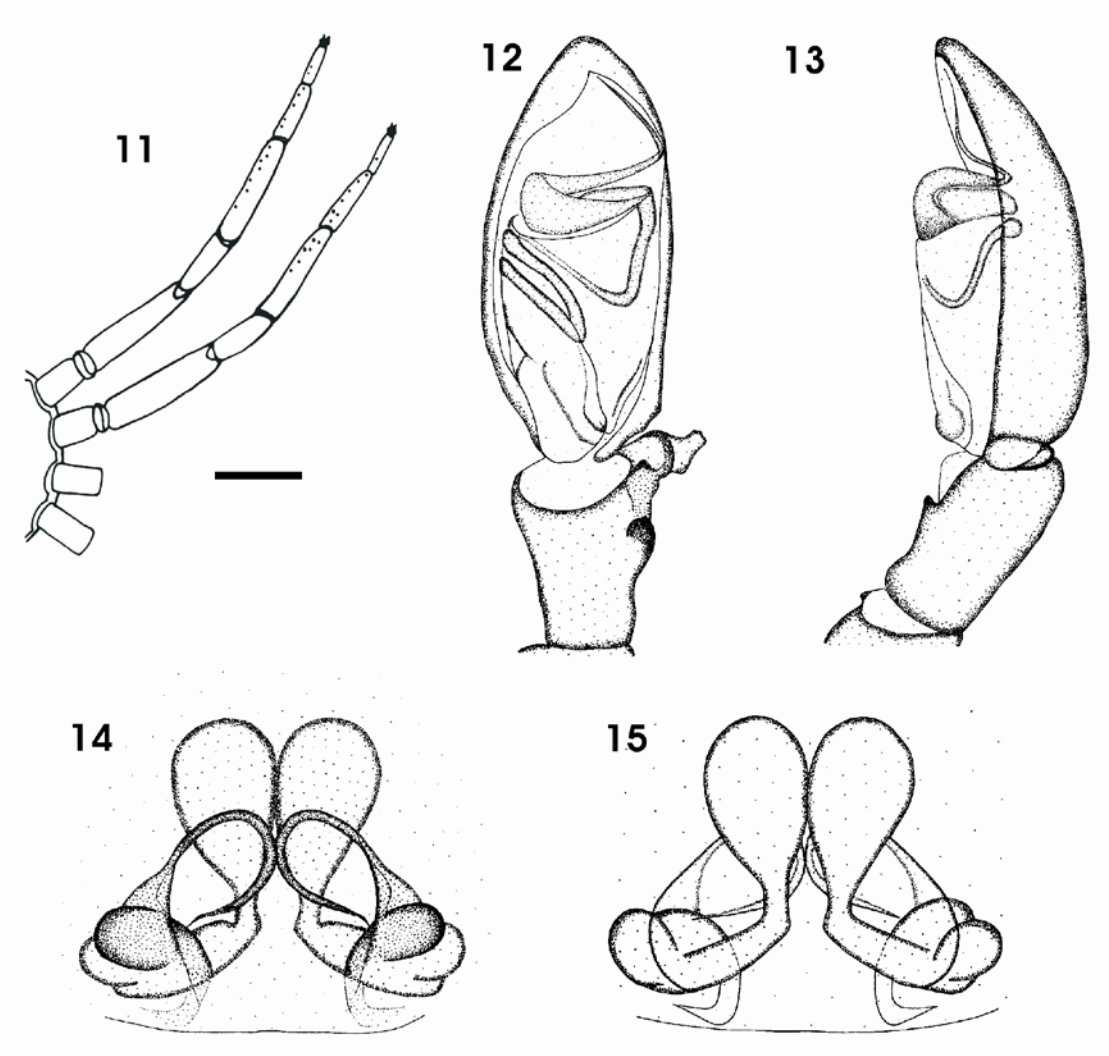


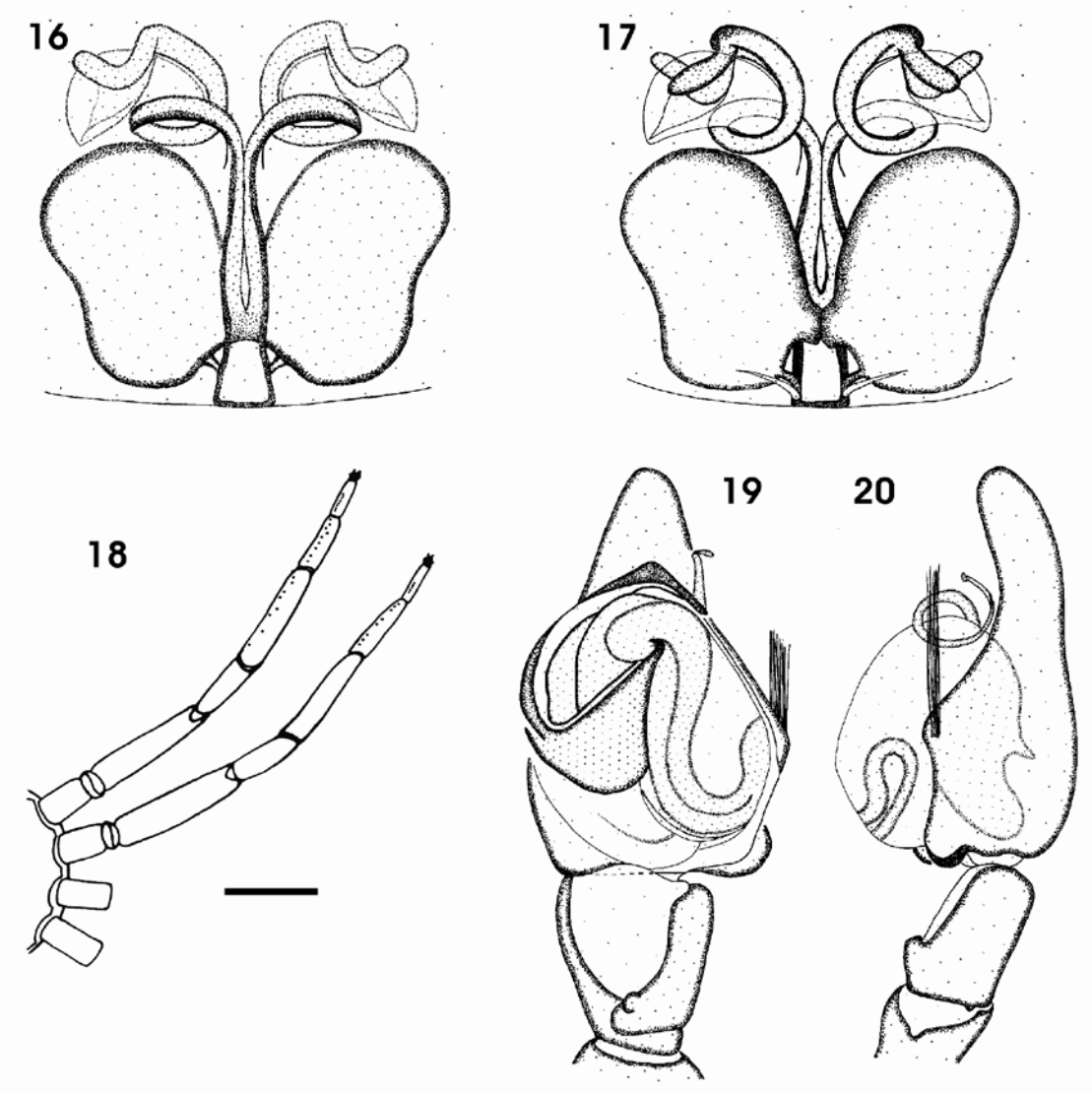
Fig. 1. General appearance of *Thysanina serica* Simon, 1910.



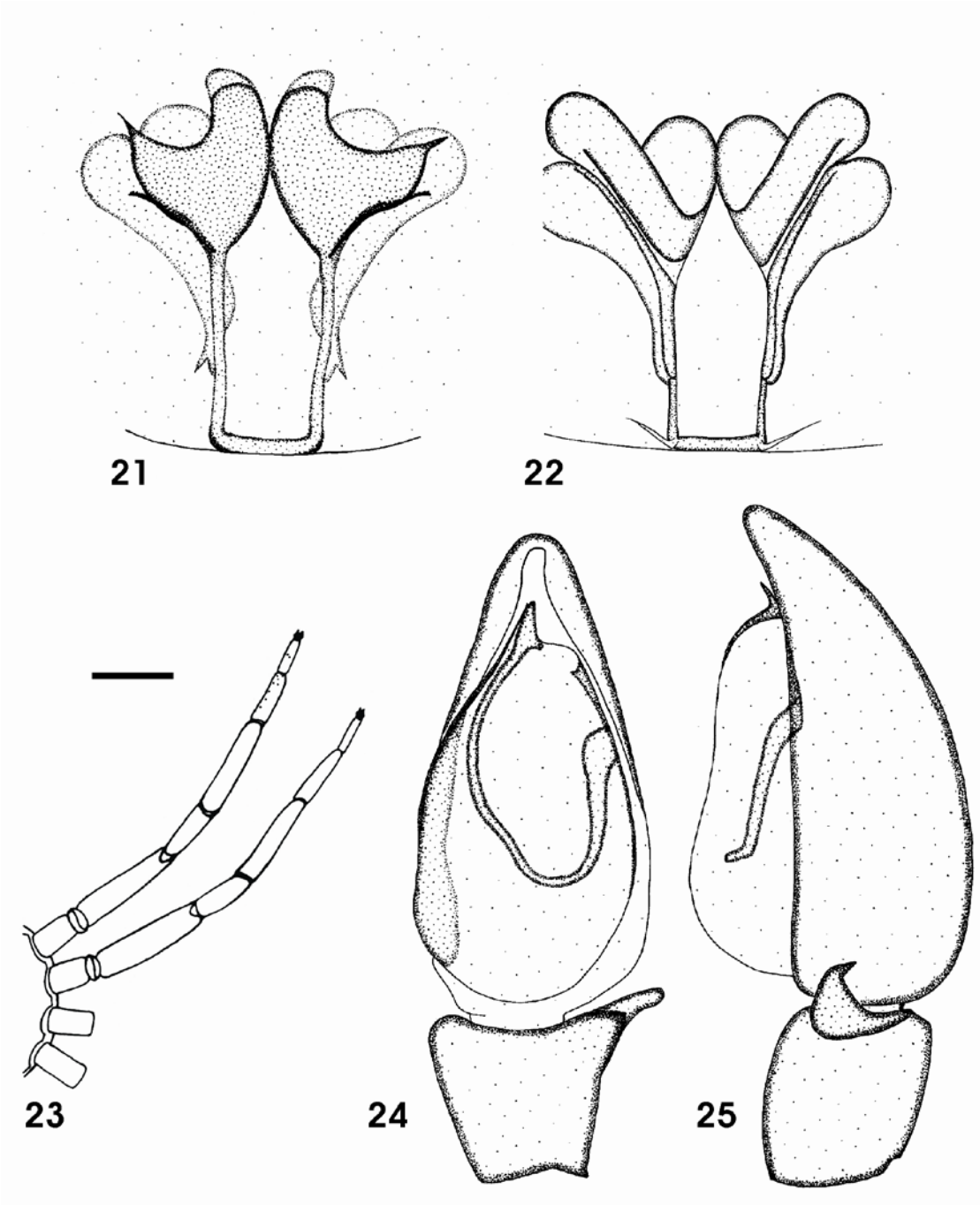
Figs 2–10. Scanning electron micrographs of male *Thysanina transversa* sp. n.: (2) eye region; (3) fine setae on smooth carapace surface; (4) paired tarsal claws covered by dense claw tuft; (5) metatarsus I with ventral cusps; (6) tibia I with ventral cusps; (7) metatarsus II with larger ventral cusps; (8) tarsus II with ventral cusps, located between dense setae; (9) structure of peg-like cusps found on the anterior legs; (10) cusp socket in integument.



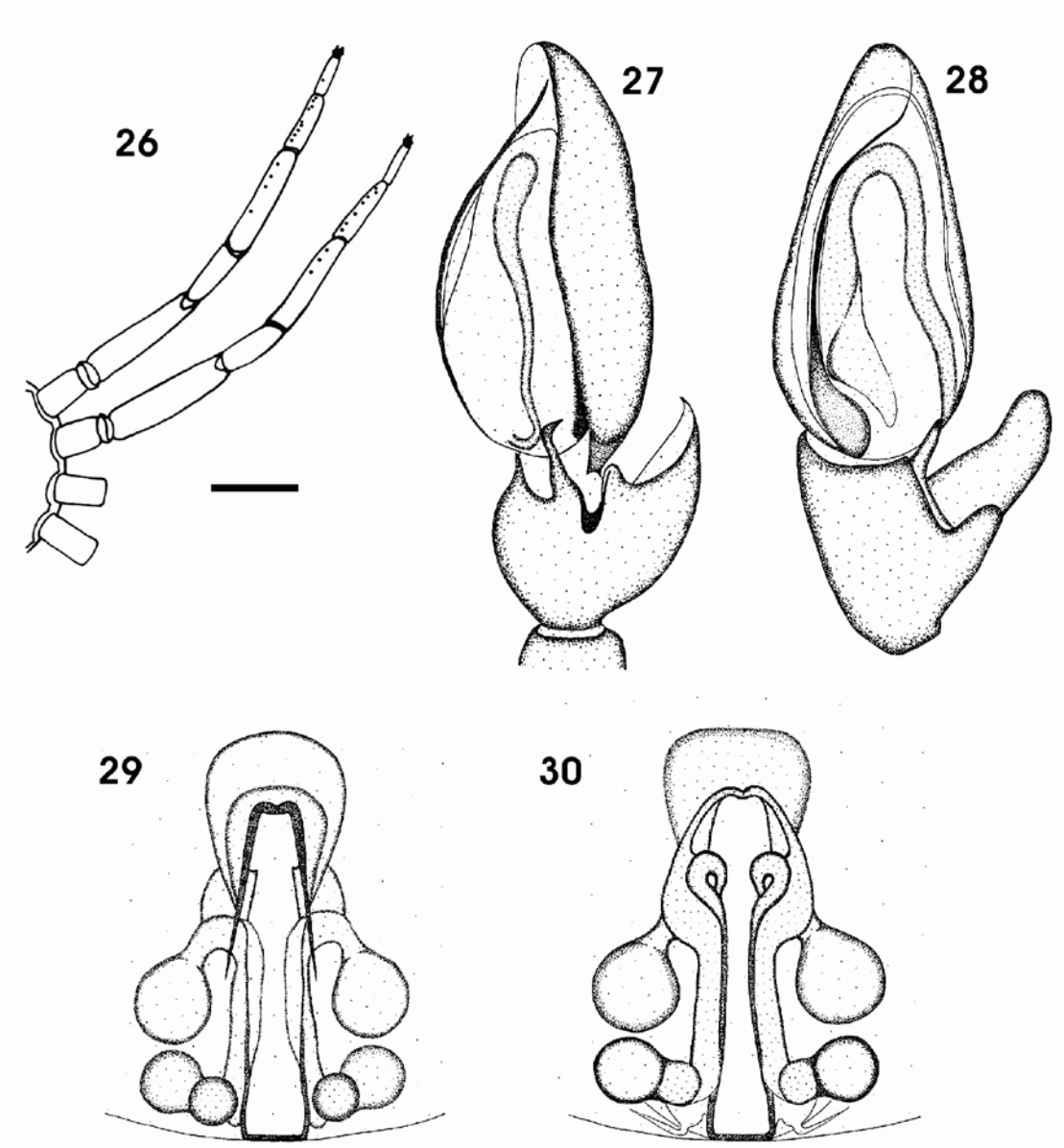
Figs 11–15. *Thysanina serica* Simon, 1910: (11–13) male: (11) schematic representation of cusp arrangement on legs I and II; (12) left palp, ventral view; (13) left palp, retrolateral view; (14–15) female: (14) epigyne, ventral view; (15) vulva, dorsal view. Scale bar (Figs 12–15) = 0.1 mm.



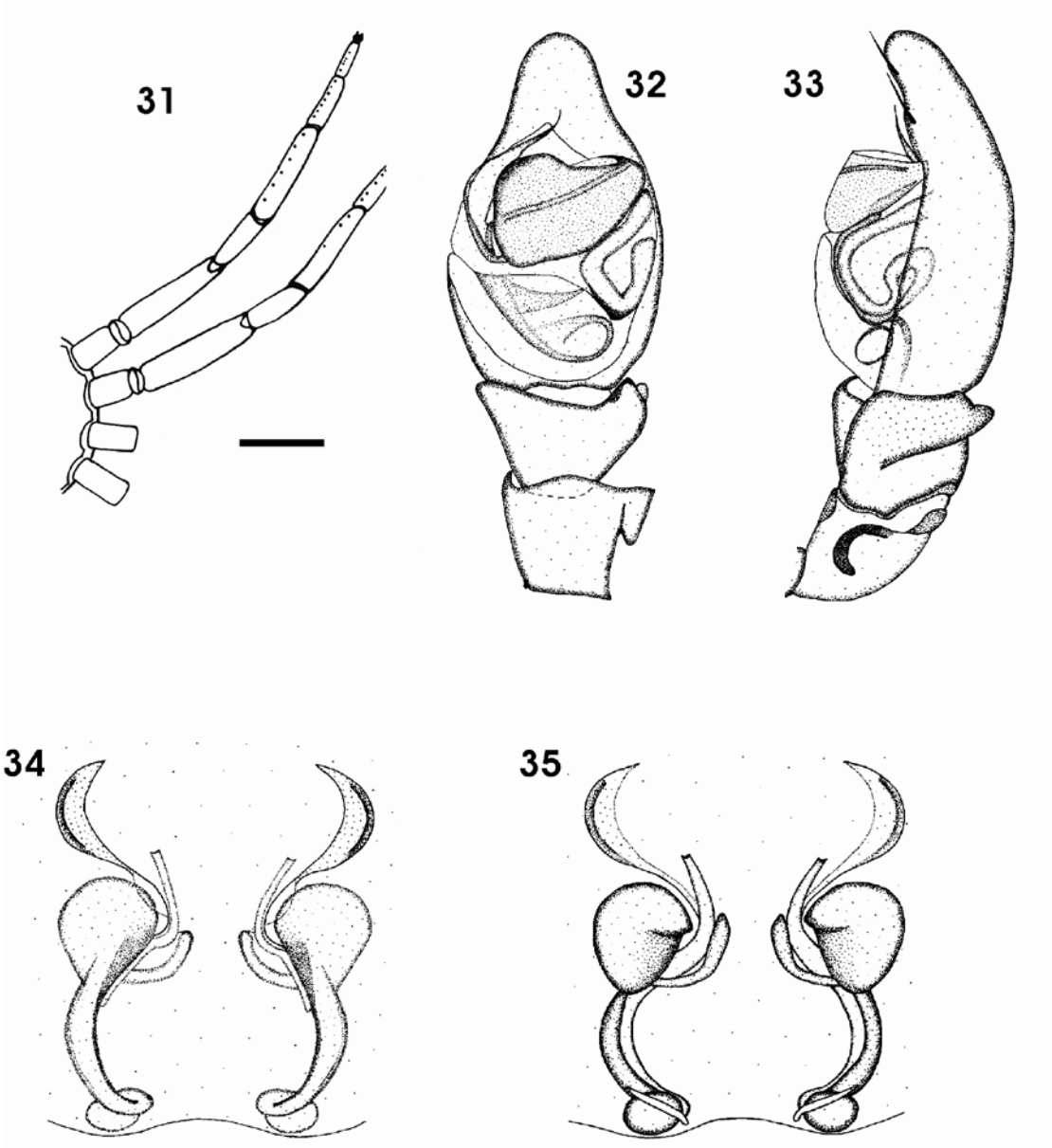
Figs 16–20. *Thysanina absolvo* sp. n.: (16–17) female: (16) epigyne, ventral view; (17) vulva, dorsal view; (18–20) male: (18) schematic representation of cusp arrangement on legs I and II; (19) left palp, ventral view; (20) left palp, retrolateral view. Scale bar (Figs 16, 17, 19, 20) = 0.1 mm.



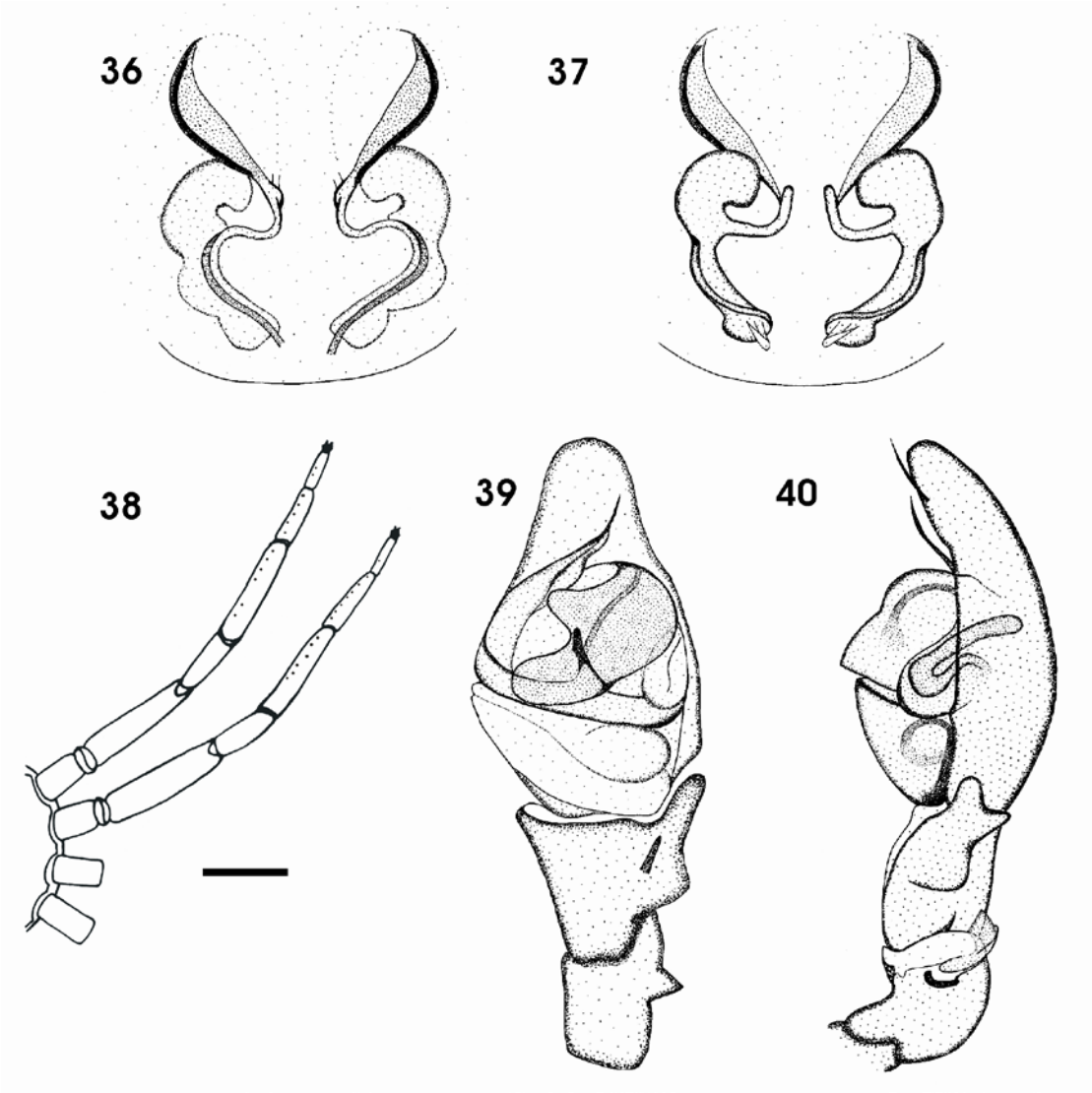
Figs 21–25. *Thysanina capensis* sp. n.: (21–22) female: (21) epigyne, ventral view; (22) vulva, dorsal view; (23–25) male: (23) schematic representation of cusp arrangement on legs I and II; (24) left palp, ventral view; (25) left palp, retrolateral view. Scale bar (Figs 21, 22, 24, 25) = 0.1 mm.



Figs 26–30. *Thysanina gracilis* sp. n.: (26–28) male: (26) schematic representation of cusp arrangement on legs I and II; (27) left palp, ventral view; (28) left palp, retrolateral view; (29–30) female: (29) epigyne, ventral view; (30) vulva, dorsal view. Scale bar (Figs 27–30) = 0.1mm.



Figs 31–35. *Thysanina similis* sp. n.: (31–33) male: (31) schematic representation of cusp arrangement on legs I and II; (32) left palp, ventral view; (33) left palp, retrolateral view; (34–35) female: (34) epigyne, ventral view; (35) vulva, dorsal view. Scale bar (Figs 32–35) = 0.1 mm.



Figs 36–40. *Thysanina transversa* sp. n.: (36–37) female: (36) epigyne, ventral view; (37) vulva, dorsal view; (38–40) male: (38) schematic representation of cusp arrangement on legs I and II; (39) left palp, ventral view; (40) left palp, retrolateral view. Scale bar (Figs 36, 37, 39, 40) = 0.1 mm.

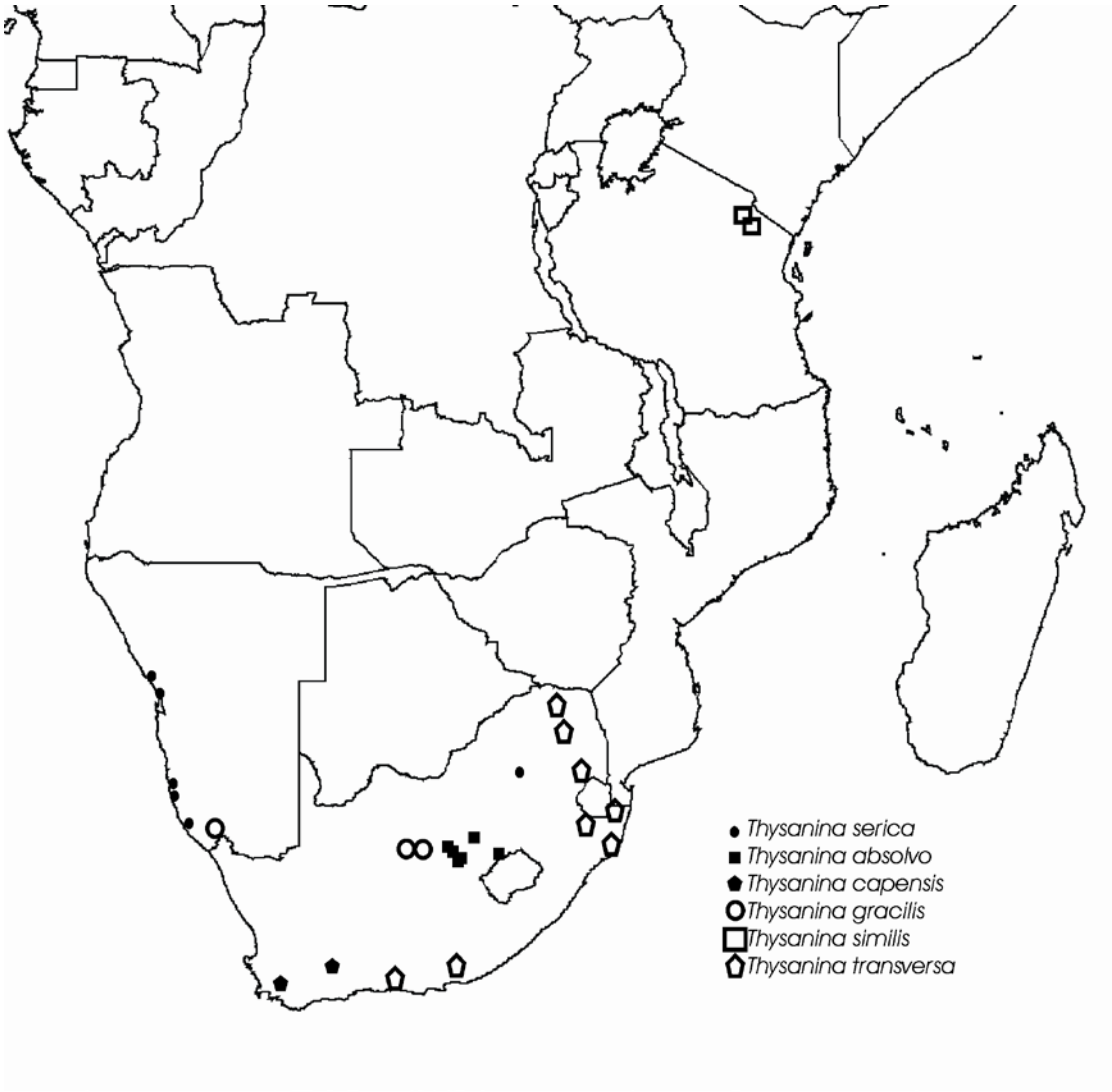


Fig. 41. Distribution of *Thysanina* in the Afrotropical region.

* Footnote 1, page 103: The female syntype was examined by Dr. Martin Ramírez (Museo Argentino de Ciencias Naturales, Buenos Aires, Argentina) during 2001, and his sketches of the female epigyne correspond adequately with those provided for this species here.

CHAPTER 4

♂ ***Trachelas schenkeli*** **Lessert, 1923** **(Photo by C. R. Haddad)**

A revision of the continental species of the sac spider genus *Trachelas* L. Koch, 1872 (Araneae: Corinnidae) in the Afrotropical Region

ABSTRACT

The genus *Trachelas* L. Koch, 1872, with the type species *T. minor* O. P. –Cambridge, 1872, has a worldwide distribution in the tropical and temperate regions. Here the continental species from the Afrotropical Region are revised. The species *T. chubbi* Lessert, 1921, *T. pusillus* Lessert, 1923, *T. schenkeli* Lessert, 1923, *T. sylvae* Caporiacco, 1949 and *T. roeweri* Lawrence, 1938 are redescribed. Forty-eight new species are described: *T. addis* sp. n., *T. amatola* sp. n., *T. angiportus* sp. n., *T. botulus* sp. n., *T. caecus* sp. n., *T. capensis* sp. n., *T. contortionis* sp. n., *T. conus* sp. n., *T. coronatus* sp. n., *T. cristatus* sp. n., *T. denticulatus* sp. n., *T. domiri* sp. n., *T. draconis* sp. n., *T. falsus* sp. n., *T. fisheri* sp. n., *T. flexuosus* sp. n., *T. funiculus* sp. n., *T. griswoldi* sp. n., *T. gladius* sp. n., *T. harrisi* sp. n., *T. hamus* sp. n., *T. humus* sp. n., *T. incurvus* sp. n., *T. jocquei* sp. n., *T. kakumensis* sp. n., *T. latus* sp. n., *T. lateralus* sp. n., *T. leggi* sp. n., *T. lejeunei* sp. n., *T. longinquus* sp. n., *T. malkini* sp. n., *T. maputensis* sp. n., *T. minutus* sp. n., *T. obliquus* sp. n., *T. penicillus* sp. n., *T. pressus* sp. n., *T. porrectus* sp. n., *T. purpureus* sp. n., *T. retortum* sp. n., *T. scutatus* sp. n., *T. setosus* sp. n., *T. smithi* sp. n., *T. sparsus* sp. n., *T. tortilis* sp. n., *T. taita* sp. n., *T. ugandensis* sp. n., *T. uncus* sp. n. and *T. ungulus* sp. n.. These new species are distributed throughout the continental Afrotropical Region. *T. scopulifer* Simon, 1896 is redescribed and its transfer to *Thysanina* Simon, 1910 proposed. The type of *T. punctatus* Simon, 1886 has been presumed lost, and this species is considered *nomen dubium*.

INTRODUCTION

Trachelas L. Koch, 1872 is a large and widespread genus (Platnick 1975), with 89 described species (Chami-Kranon, Likhitrakarn & Wongsawad 2007). The type species of the genus is *Trachelas minor* O.P.–Cambridge, 1872, which was described from France and occurs from West Africa, Mediterranean and Azerbaijan (Platnick 2008). Seven additional Afrotropical *Trachelas* species have been described, namely *T. chubbi* Lessert, 1921, *T. scopulifer* Simon, 1896, *T. punctatus* Simon, 1886, *T. pusillus* Lessert, 1923, *T. roeweri* Lawrence, 1938, *T. schenkeli* Lessert, 1923, and *T. sylvae* Caporiacco, 1949 (Platnick 2008).

According to Platnick (2000) the genus *Trachelas* has served as a “wastebasket” for relatively unmodified trachelines. This use of *Trachelas* as a dumping ground for trachelines emphasises the need to review the genus (Platnick & Ewing 1995), as the limits of the genus

are not really known. The poor knowledge of *Trachelas*, especially the Afrotropical species, further motivates the need for a taxonomic revision from this region.

Taxonomic revisions of New World *Trachelas* have showed that there is much work to be done in the genus, as these studies resulted in the description of several new species and the transfer of many *Trachelas* into other genera (Platnick & Shadab 1974a,b). Platnick (1975) revalidated the genus *Trachelopachys* Simon, 1897, describing new species and transferring *Trachelas keyserlingi* Roewer, 1951 and *Trachelas gracilis* Keyserling, 1891 to *Trachelopachys*. The South American genus *Meriola* Banks, 1895, previously a synonym of *Trachelas*, was redefined to include trachelines that have a posterior eye row that is neither recurved or nor widened, with elongate ventral cusps on the anterior leg segments of legs I and II (Platnick & Ewing 1995). In an attempt to bring order to the genus, Platnick & Shadab (1974a,b) divided the American species into distinct groups. Species were grouped according to shared genitalic traits. For this chapter, species with related traits were grouped together based on morphological and genitalic similarities.

Trachelas species from the Afrotropical Region have varied ecological preferences, and have often been collected from all strata of an ecosystem (e.g. Sørensen, Coddington & Scharff 2002). Specimens have been captured from the ground surface by pitfall trapping or sifting leaves, but have also been collected by fogging the tree canopy. Many South African species have been captured by beating foliage and branches, or by examining the base of grass tufts. Many immatures have been found at the base of tufts of grass (pers. obs.). *Trachelas schenkeli* has occasionally been collected in agroecosystems (Dippenaar-Schoeman, van den Berg, van den Berg & van den Berg 2001).

MATERIALS AND METHODS

All specimens were preserved and observed in 70% ethanol, and were observed for description using a light microscope. The epigynes of female paratypes were dissected with 0-size insect pins and cleared for eight minutes in a Branson 3200 ultrasonic bath, after which they were drawn in 70% ethanol. A left palp of a male paratype was dissected and drawn for each species.

All measurements are given in millimetres (mm). Body measurements (excluding legs) were determined from the smallest and largest specimens of both sexes to provide a size range. Eye and leg measurements were given for the largest specimen of each sex. Leg

spination follows the format Bosselaers & Jocqué (2000). Eye arrangements are described for the anterior view of the anterior eye row, and dorsal view of the posterior eye row. Species groups were based on morphological characters, not relationship.

The following abbreviations are used in the descriptions:

AER – anterior eye row
AL – abdomen length
ALE – anterior lateral eye
AME – anterior median eye
AW – abdomen width
CL – carapace length
CW – carapace width
FL – fovea length
PER – posterior eye row
TL – total length
vt – ventral terminal
PLE – posterior lateral eye
plv – prolateral ventral
PME – posterior median eye
rlv – retrolateral ventral
SL – sternum length
ST – spermatheca
SW – sternum width

Material for scanning electron microscopy was dehydrated in a graded ethanol series and then critical point dried in an argon chamber. Specimens were mounted onto stubs, sputter coated five times with gold, and then studied using a JEOL WinSEM at 10 kV. Automontage photographs of males and/or females of each species were taken using a Nikon Coolpix 8400 mounted on a Nikon SMZ800 stereomicroscope.

Holotype and paratype label data is quoted as it appears. A slash (/) signifies the end of a line of print, and two slashes (//) signifies data on a further label. Locality co-ordinates were provided when available.

Material used in this study was obtained from the following collections (curators are named in parentheses):

AMG – Albany Museum, Grahamstown, South Africa (A. Kirk-Spriggs).
AMNH – American Museum of Natural History, New York, U.S.A. (N. Platnick).
BMNH – British Museum of Natural History, London, England (J. Beccaloni).
CAS – California Academy of Sciences, San Francisco, U.S.A. (C. Griswold).
HNHM – Hungarian Natural History Museum, Budapest, Hungary (L. Forró).
MACN – Museo Argentino de Ciencias Naturales, Buenos Aires, Argentina (M. Ramírez).
MHNG – Museum d'Histoire Naturelle de la Ville de Genéve (P. Schwendinger).
MNHN – Museum National d'Histoire Naturelle, Paris, France (C. Rollard).
NCA – National Collection of Arachnida, ARC-Plant Protection Research Institute, Pretoria, South Africa (A. Dippenaar-Schoeman).

NMBA – National Museum, Bloemfontein, South Africa (L. Lotz).

NMSA – Natal Museum, Pietermaritzburg, South Africa (M. Mostovski).

MRAC – Museum Royale d'la Afrique Centrale, Tervuren, Belgium (R. Jocqué).

SAMC – South African Museum, Cape Town, South Africa (M. Cochrane).

TMSA – Transvaal Museum, Pretoria, South Africa (J. Harrison).

USNM – National Museum of Natural History, Smithsonian Institution, Washington DC, U.S.A. (J. A. Coddington).

UKL – Universität Koblenz-Landau, Koblenz, Germany (T. Wagner).

ZFMK – Zoologisches Forschungsmuseum Koenig, Germany (B. Huber).

ZMUC – Zoological Museum, University of Copenhagen, Copenhagen, Denmark (N. Scharff).

TAXONOMY

Trachelas L. Koch, 1872

Trachelas L. Koch 1872: 256; Pickard-Cambridge 1872: 256; Lessert 1921: 381; Lessert 1923: 195; Chickering 1972: 216; Grimm &Vilbel 1986: 10; Platnick & Shadab 1974a: 1; Platnick & Shadab 1974b: 1; Platnick 1975: 1; Paik 1991: 197; Platnick & Ewing 1995:2; Platnick & Rocha 1995: 3; Dippenaar-Schoeman & Jocqué 1997: 128; Ming-Shing, Song & Kim 1998: 425; Platnick 2000: 115; Bosselaers & Jocqué 2000: 243; Deeleman-Reinhold 2001: 393; Penney 2001: 987; Bosselaers & Jocqué 2002: 224; Grismado 2004: 1; Lyle & Haddad 2005: 68; Lyle & Haddad 2006a: 95; Lyle & Haddad 2006b: 57; Chami-Kranon, Likhitrakarn & Wongsawad 2007: 59; Platnick 2008.

Type species: *Trachelas minor* O.P.–Cambridge, 1872

Diagnosis: The genus *Trachelas* differs from other closely related genera, such *Thysanina* Simon, 1910, *Cetonana* Strand, 1929 and *Spinotrachelas* Haddad, 2006, in several respects. The most noticeable trait is their reduced size, significantly smaller than *Thysanina* and *Cetonana*, usually with a coarse texture, reddish-brown carapace that appears granulated with either a distinct or indistinct fovea. The eye region is distinctively narrowed. Abdomen usually mottled grey, usually without markings. Leg spines are completely absent in *Trachelas*, and ventral cusps on the anterior leg segments, usually common in males of other tracheline genera, occur sporadically within *Trachelas*. Leg cusps can occur in both sexes of

Trachelas, but have a very restricted appearance in Afrotropical *Trachelas* and are absent from females from the region.

Description: Small to medium sized spiders, 1.90-4.78 mm in length; male smaller and more robustly built than female, with legs and abdomen slightly more compact than female. Carapace slightly dorsoventrally flattened, highest point posterior to eye region, at one third carapace length; ocular region narrowest, broader medially and concave posteriorly; ocular region darkened with dark rings around eyes; anterior eye row slightly recurved, almost straight, posterior eye row recurved (Fig. 213); carapace usually orange to reddish-brown, rarely dark brown, paler posterior to fovea; carapace texture granular, varying in roughness, covered in short, fine setae; fovea short, usually narrow, either distinct or indistinct. Chelicerae usually with two or three promarginal teeth, and two or three retromarginal teeth; labium slightly longer than broad; endites twice as long as broad; serulla distinct. Sternum shield-shaped or elongated shield-shaped, usually longer than broad; short and long, fine setae scattered across smooth or finely granulated surface; colouration pale brown to reddish brown. Legs with paired tarsal claws; ventral cusps in males appearing sporadically in Afrotropical *Trachelas*, such as *T. schenkeli* and *T. roeweri* (Figs 214, 215); cusps are short and stout, broad at base with a rounded tip, with a slight curve (Figs 216, 217); sporadic setae found on all leg segments; relatively dense ventral setae usually found on metatarsi and tarsi of all legs (Fig. 220), predominately on legs III and IV; leg spines absent in both sexes; legs I to IV generally pale yellow to brown; anterior legs, especially leg I, darker than remaining legs. Abdomen broader anteriorly and tapering posteriorly; integument usually pale yellow to pale grey, rarely dark brown, with brown to dark grey sigillae; first pair slightly anterior to midpoint of abdomen, second pair posterior to midpoint of abdomen; some species with scutum, such as those in the *schenkeli* and *scutatus* species groups; some species in the *minor* and *uncus* species groups either with or without a chevron marking; many species, such as *denticulatus* and *domiri* species groups have lateral and dorsal lines extending to midpoint of abdomen. Great variability between reproductive organs of both sexes, hence the grouping of species based on genitalic morphology (Figs 219, 220).

Diagnoses of the continental Afrotropical *Trachelas* species groups

botulus species group

Diagnosis: Carapace dark brown; oval, elongated brown or mottled brown abdomen; abdominal scutum absent; femora of all legs darker than other leg segments; females with large, elongated spermatheca 2 and posterior lateral spermatheca 1; males with or without cusps; if present, usually elongate, appearing spine-like; palp with large dorsal femoral apophysis, varying in shape; patellar and tibial apophyses absent; embolus originating distally on tegulum.

***coronatus* species group**

Diagnosis: Carapace orange-brown to reddish-brown; abdominal scutum absent, abdomen usually pale yellow to pale grey; abdominal pattern occurring sporadically; males with short, distal embolus; tegulum broad; large retrolateral tibial apophysis present; femoral and patellar apophyses absent; females with entrance ducts that extend medially, twisting to lateral spermatheca 2; ST 1 oval, variable in size, posterior to midpoint of epigyne.

***denticulatus* species group**

Diagnosis: Carapace orange to reddish-brown; abdomen dark grey with pale lateral patches in anterior half; grey band extending transversely across abdomen at one third its length; males with two retrolateral tibial apophyses, dorsal apophysis with fine, dentate structures distally; femoral and patellar apophyses absent; embolus coiled; female epigynes with posterior projection.

***domiri* species group**

Diagnosis: Species without uniform markings or colouration; males with prominent dorsal patellar apophysis extending beyond palpal tibia; other palpal segments usually lacking apophyses; embolus extending retrolaterally along cymbium; females with copulatory openings situated anteriorly, with narrow twirling entrance ducts; structural arrangement of entrance ducts varies significantly between species.

***funiculus* species group**

Diagnosis: Carapace reddish-brown; abdomen grey, without markings; male with abdominal dorsal scutum, absent in females; males without ventral cusps and retrolateral tibial apophysis; embolus very long, slender, originating proximally on tegulum, curling around distal end of cymbium; patellar apophysis folded; small ventral femoral apophysis present; females with curved epigynal ridges and anterior copulatory openings; entrance ducts appear wrapped around the spermathecal ducts between spermatheca 1 and spermatheca 2.

***gladius* species group**

Diagnosis: Carapace yellow to reddish-brown; abdomen with or without markings; species without abdominal scutum and ventral cusps; males with small curved retrolateral tibial apophysis; embolus originating prolaterally on tegulum; females with anterolateral oval or circular spermatheca 2, with fine duct leading to oval spermatheca 1 posterior to midpoint of epigyne; epigynal hood sometimes present.

***hamus* species group**

Diagnosis: Carapace yellow-brown to dark brown; abdomen with or without markings; species without abdominal scutum and ventral cusps; males with hook-like retrolateral tibial apophysis; femoral and patellar apophyses absent; tegulum simple, with distal curved embolus; female epigyne with median copulatory openings, with large anterior spermatheca 2 and smaller, lateral spermatheca 1; arched epigynal hoods present, with variations in size and shape.

***latus* species group**

Diagnosis: Carapace brown to reddish-brown; abdomen with or without markings; species without scutum and ventral cusps; males with distally narrowed cymbium; embolus long and curved, originating prolaterally on tegulum, curving behind tegulum, with distakl end curving retrolaterally along cymbium; large narrow retrolateral patellar apophysis present, femoral and retrolateral tibial apophyses absent; females with anterior copulatory openings, entrance ducts directed posteriorly, coiling to posteromedian spermatheca 1.

***minor* species group**

Diagnosis: This group shows strong similarities with *T. minor*, which is the type species of the genus. Carapace orange to red-brown; abdomen with or without markings; abdominal scutum and ventral cusps absent; males with smooth simple tegulum and distal embolus, sometimes coiled; curved or tooth-like retrolateral patellar apophysis present; femoral and tibial apophyses usually absent; females with copulatory openings anterior to midpoint; anterior spermatheca 2 connected to spermatheca 1 by fine ducts; spermatheca 1 smaller than spermatheca 2, usually near epigastric fold, occasionally touching spermatheca 2.

***schenkeli* species group**

Diagnosis: Carapace brown to reddish-brown; abdomen grey, often with pale anterior markings; abdominal scutum and ventral cusps usually present in males, absent in females; males with simple tegulum and narrow embolus wrapped prolaterally around tegulum; large retrolateral patellar apophysis present; femoral and tibial apophyses absent; females with broad, anteriorly directed epigynal ridges, and lateral copulatory openings, spermatheca 1 small, posterior to midpoint, near epigastric fold.

***scutatus* species group**

Diagnosis: Carapace reddish-brown; abdomen pale grey, without markings; abdominal scutum present and ventral cusps absent in both sexes; males with looping distal embolus; retrolateral tibial and patellar apophyses present; femoral apophysis absent; females with median copulatory openings and looping entrance ducts; spermatheca 2 laterally situated, in same plane as copulatory openings; posteriorly small, oval spermatheca 1 near epigastric fold.

***uncus* species group**

Diagnosis: Carapace orange to reddish-brown; abdomen with or without markings; abdominal scutum and ventral cusps absent in both sexes; males with a cymbial apophysis varying in size; prominent retrolateral tibial apophysis present; patellar and femoral apophyses absent; females with variations in spermatheca 2 size and shape, spermatheca 1 smaller and near epigastric fold.

Key to the continental *Trachelas* species groups in the Afrotropical Region

1. Males……...……...….2
− Females……..……..…..17

2. Male palp without tibial and femoral apophyses….....***minor* species group, in part (11 species)**
− Male palp with apophysis on at least one segment..……3

3. Palp with retrolateral tibial apophysis……...……..4
− Palp without retrolateral tibial apophysis, usually with patellar apophysis or patella that appears folded, occasionally with femoral apophysis…….……..11

4. Palp with two retrolateral tibial apophyses, dorsal apophysis with fine, dentate structures; cymbial apophysis absent.....…….***denticulatus* species group (2 species)**
− Palp with single retrolateral tibial apophysis, with or without cymbial apophysis……..…5

5. Palp with proximal dorsal cymbial apophysis, ranging from small, simple to large and sharply hook-like.....……***uncus* species group (7 species)**
− Palp without a proximal dorsal cymbial apophysis……..…….....6

6. Abdomen with scutum covering entire dorsum; palp with triangular retrolateral patellar apophysis……..….***scutatus* species group (1 species)**
− Abdomen without dorsal scutum; palp without patellar apophysis…….7

7. Embolus long, slender or broad and sword-like; sperm ducts with sharp curves; variation in retrolateral tibial shape……8
− Short, distal embolus with a broad tegulum; simple curvature of sperm duct; retrolateral tibial apophysis medium (approximately half tibial segments length) to large (more than entire length of tibial segment) ……...….***coronatus* species group (3 species)**

8. Palpal tegulum with distinct peg-like distal conductor, directed prolaterally, crossing behind embolus (Fig. 171)….……..…….***minor* species group, in part (11 species)**

− Palpal tegulum without distal conductor…….9

9. Tegulum broad, with short distal retrolateral embolus, less than half tegulum length; retrolateral tibial apophysis protruding laterally……***coronatus* species group (2 species)**
− Tegulum round or oval, with long and slender or broad and sword-like embolus; embolus originating prolaterally or distally on tegulum; retrolateral tibial apophysis not protruding laterally……..……10

10. Embolus as long as tegulum from base to tip; retrolateral tibial apophysis broad in retrolateral view…….…….…***gladius* species group (7 species)**
− Embolus shorter than tegulum from base to tip; retrolateral tibial apophysis narrow and curved in retrolateral view…… …….….***hamus* species group (2 species)**

11. Palp with femoral apophysis, with or without folded retrolateral patellar apophysis; embolus structure variable……...…..…12
─ Palp without femoral apophysis, retrolateral patellar apophysis present; embolus extending retrolaterally along cymbium, sometimes over cymbium; prominent, large retrolateral patella apophysis …..……14

12. Femoral apophysis large, situated dorsally at distal end of segment; embolus short, originating distally on tegulum…….……...***botulus* species group (2 species)**
─ Femoral apophysis situated ventrally; embolus originating proximally on tegulum……13

13. Femoral apophysis short, situated distally on segment; embolus long and fine, curling retrolaterally around tegulum and cymbium tip……***funiculus* species group (1 species)**
─ Femoral apophysis claw-like, situated medially on segment; embolus curling prolaterally around tegulum……..……...***schenkeli* species group, in part (9 species)**

14. Patella with long dorsal or dorsal-retrolateral apophysis, usually longer than tibia; embolus curling retrolaterally along cymbium.……...…….15
─ Patella with retrolateral patellar apophysis, shorter than tibia; embolus not curling retrolaterally along cymbium……...……..……...…16

15. Patella with narrow dorsal retrolateral apophysis; embolus base prolaterally on tegulum, embolus partially hidden by distal end of tegulum; embolus tip broadened at distal end……..***latus* species group (2 species)**

− Patella with broad dorsal or dorsal-retrolateral apophysis; embolus originating retrolaterally or distally on tegulum; embolus not hidden by distal section of tegulum; embolus fine and hair-like distally…….....……***domiri* species group (6 species)**

16. Embolus originating retrolaterally or proximally on tegulum, usually long and slightly curved; embolus at least curving around tegulum prolaterally, occasionally proximally as well; patellar apophysis usually longer from base to tip than patellar width; dorsal scutum usually present……...***schenkeli* species group, in part (9 species)**

─ Embolus originating distally on tegulum, usually coiled or curved; embolus not curving tegulum prolaterally; patellar apophysis usually triangular, tooth-like, length from base to tip shorter than patellar width; dorsal scutum absent….***minor* species group, in part (11 species)**

17. Epigyne with rounded projection posteriorly, partially covering epigastric fold; ST 1 adjacent to epigastric fold.....***denticulatus* species group (2 species)**

─ Epigyne without posterior epigynal projection; spermatheca 1 variable……..18

18. Epigyne with elongate sausage-like spermatheca 2, nearly as long as epigyne; spermatheca 1 laterally in epigyne (Fig. 4).....……***botulus* species group (2 species)**

─ Epigyne usually with triangular, oval or round spermatheca 2, not sausage-like, much smaller than length of epigyne; spermatheca 1 medially or laterally situated….…….19

19. Spermatheca 2 oval, anterolaterally situated in epigyne, joined to spermatheca 1 by narrow converging ducts forming a V-shaped structure…....***gladius* species group (7 species)**

─ Spermatheca 2 variable in shape, situated anteriorly, medially or posterior to midpoint of epigyne; spermathecal ducts variable; not converging in V-shape to spermatheca 1……...20

20. Epigyne with broad arched median hood…….….…***hamus* species group (2 species)**

─ Epigyne without median hood……...…21

21. Entrance ducts twisted, looping or distinctively coiled……..22

─ Entrance ducts curved or straight……...……..….25

22. Entrance ducts coiled or twisted; abdominal scutum present ……...…….23

─ Entrance ducts looping; abdominal scutum present……..24

23. Entrance ducts twisted narrowly before spermatheca 2; spermatheca 1 separated from epigastric fold by distance at least half their length…...…***coronatus* species group (2 species)**

─ Entrance ducts forming a broad coil before entering spermatheca 2; spermatheca 1 close to epigastric fold, separated by distance less than half their length……..***latus* species group (2 species)**

24. Copulatory openings situated anteriorly; spermatheca 1 situated laterally; entrance ducts narrow, initially directed posterior, often twisted concentrically…….…..***domiri* species group (6 species)**

─ Copulatory openings situated medially; spermatheca 1 situated posteromedially; entrance ducts initially looping anteriorly, then posteriorly to spermatheca 2, not concentrical……...……***scutatus* species group (1 species)**

25. Entrance ducts wrapped around spermathecal ducts linking spermatheca 1 and spermatheca 2; copulatory openings situated anteriorly in oval ridge……***funiculus* species group (1 species)**

─ Entrance ducts clearly entering ST 2, not wrapped around spermathecal ducts; copulatory openings anteriorly or medially, with or without epigynal ridge……...……26

26. Copulatory openings laterally in epigynal ridges, with broad entrance ducts leading to small posterior spermatheca 1 and spermatheca 2; abdomen often grey with pale patches anteriorly, otherwise uniform grey……..……....***schenkeli* species group (9 species)**

─ Copulatory openings anteriorly, usually in oval epigynal ridges, with tube-like entrance ducts leading to median spermatheca 2 and posterior spermatheca 1; abdomen grey, often with dorsal chevron markings……..……..……..…27

27. Epigyne with distinctive oval or arched ridges (Figs 142, 150)…….……28

─ Epigyne without distinctive ridges; entrance ducts converging in V-shape, entering spermatheca 1 posteriorly (Fig. 268)…….…….***uncus* species group, in part (7 species)**

28. Epigyne with broad arched ridges extending width of epigyne, with lateral copulatory openings; copulatory ducts directed anteriorly, then curving medially and posteriorly; spermatheca 1 with fertilisation ducts converging medially (Figs 262, 265)…….***uncus* species group, in part (7 species)**

─ Epigyne with oval or arched epigynal ridges (Fig. 142); if arched, then extending half or less epigyne width (Fig. 150); position of copulatory openings usually anterior or posterior, rarely lateral; copulatory ducts usually looping around epigynal ridge, splitting medially into separate ducts that enter spermatheca 1 and spermatheca 2 independently; spermatheca 1 with fertilisation ducts diverging laterally (Fig. 138)……..……***minor* species group (11 species)**

Key to the *botulus* species group in the Afrotropical region

1. Males…….……....2

─ Females with sausage-shaped spermatheca 2 and small oval spermatheca 1; spermatheca 1 and 2 linked with narrow horizontal ducts (Figs 4, 5)…...……***botulus*** sp. n. (p. 155)

2. Embolus appearing folded laterally; sperm duct curved almost 90º; large, dorsal sharply pointed femoral apophysis (Figs 6, 7)..…….……..….…….***botulus*** sp. n. (p. 155)

─ Tip of embolus appearing folded behind base; large, dorsal bluntly pointed retrolateral femoral apophysis with small rounded ventral apophysis; large spine-like ventral cusps (Figs 8-10)……...…….……..***purpureus*** sp. n. (p. 158)

Key to the *coronatus* species group in the Afrotropical region

1. Males..……...…….…….2

− Females..……..3

2. Embolus short, compact; retrolateral tibial apophysis bluntly pointed, shorter than tibial segment length; dense setal tuft distally on cymbium dorsum (Figs 19, 20).....***coronatus*** sp. n. (p. 161)

− Embolus slender, lengthy; retrolateral tibial apophysis sharply pointed, longer than tibial segment length; cymbium lacking dorsal setal tuft (Figs 23, 24)...…***ugandensis*** sp. n. (p. 164)

3. Copulatory openings anteriorly situated; entrance ducts twisted longitudinally, with tiny anterior spermatheca 2; spermatheca 1 circular, directly posterior to entrance ducts (Figs 17, 18).....***conus*** sp. n. (p. 160)
− Copulatory openings situated medially; entrance ducts twisted horizontally, with median, lateral spermatheca 2, which extends anteriorly; spermatheca 1 posterior to midpoint…….4

4. Copulatory openings large, arched, with large, simply shaped entrance ducts; spermatheca 2 similar in size to spermatheca 1 (Figs 21, 22).....***coronatus*** sp. n. (p. 161)
− Copulatory openings small, gesticulated, with inwardly, sharply bent entrance ducts; ST 2 larger than spermatheca 1 (Figs 25, 26)…….…….....***ugandensis*** sp. n. (p. 164)

Key to the *denticulatus* species group in the Afrotropical region

1. Males…...…….……..…….2
− Females..……..3

2. Tegular cavity with dense setal tuft distally behind embolus; dorsal dentate retrolateral tibial apophysis directed towards cymbium tip (Figs 35, 36)…...…….***setosus*** sp. n. (p. 169)
− Tegular cavity without dense distal setal tuft; dorsal dentate retrolateral tibial apophysis directed dorsally (Figs 32, 33)…….…..…***denticulatus*** sp. n. (p. 167)

3. Copulatory openings anteriorly situated; epigyne with heart-shaped ridges/ducts that extend towards small, triangular posterior projection; spermatheca 1 and spermatheca 2 small and oval (Fig. 37).…….……...……..…...***setosus*** sp. n. (p. 169)
− Copulatory openings laterally situated; epigyne with large, broad tongue-like structure, extending past epigastric fold; spermatheca 1 and spermatheca 2 moderately large, elliptical in shape (Fig. 34)……...……....***denticulatus*** sp. n. (p. 167)

Key to the *domiri* species group in the Afrotropical region

1. Males……..……..…….…….2

− Females…..……..5

2. Patellar apophysis directed retrolaterally……..…….3
− Retrolateral patellar apophysis directed dorsally……...…..4

3. Embolus originating proximally on tegulum; patellar apophysis short, less than patellar length, with small denticles on its distal surface (Fig. 50)……....…***domiri*** sp. n. (p. 175)
− Embolus originating distally on tegulum; patellar apophysis longer than patellar length, without denticles on its distal surface (Figs 59, 60)……...……***porrectus*** sp. n. (p. 181)

4. Embolus curving towards tegulum base (Fig. 49)…...……..……..…***caecus*** sp. n. (p. 173)
− Embolus curving towards cymbium tip (Fig. 56)….……***draconis*** sp. n. (p. 178)

5. Entrance ducts appear predominately anterior to midpoint, with broad space between ducts and epigastric fold (Figs 46, 47)...…..…….……***angiportus*** sp. n. (p. 172)
− Entrance ducts extending posteriorly close to epigastric fold (Fig. 53)……..……...…....6

6. Spermatheca 1 anterolaterally in epigyne; entrance ducts looping twice before reaching ST 2 (Figs 53, 54)…….…***domiri*** sp. n. (p. 175)
− Spermatheca 1 mediolaterally in epigyne; entrance ducts looping five times before reaching ST 1; ST 2 indistinct (Figs 57, 58)..……..……***flexuosus*** sp. n. (p. 180)

Key to the *gladius* species group in the Afrotropical region

1. Males……...……2
− Females..……...…….……..3

2. Medium spider, > 2mm; embolus originating distally on tegulum; embolus broad at base, tapering to tip (Fig. 79)……...…..……...……..….……***gladius*** sp. n. (p. 188)
− Small spider, < 2mm; embolus originating prolaterally, near tegulum base; embolus fine and setiform (Fig. 89)…..…….……***minutus*** sp. n. (p. 196)

3. Copulatory openings anterior to midpoint; entrance ducts extend towards epigastric fold at a 45º angle, fertilisation ducts close together at epigastric fold; epigynal hood present....……4
− Copulatory openings are anterolateral to midpoint; entrance ducts extend towards epigastric fold obliquely, then longitudinally; fertilisation ducts widely separated near epigastric fold; epigynal hood absent……...……6

4. Spermatheca 2 smaller than spermatheca 1……....5
− Spermatheca 1 smaller than spermatheca 2……***gladius*** sp. n. (p. 188)

4. Anterior copulatory openings hidden by large, tongue-like hood; spermatheca 2 nearly twice and long as wide longer along its longitudinal axis (Fig. 87)...***maputensis*** sp. n. (p. 194)
− Copulatory openings not covered by small rectangular hood; spermatheca 1 small, cubed, spermatheca 2 oval, nearly round (Fig. 77)….…...……...…...……***amatola*** sp. n. (p. 185)

5. Copulatory openings either anterior to midpoint or near midpoint, directed towards epigastric fold…….…….……6
− Copulatory openings medially situated, openings directed towards centre of epigyne (Fig. 86)……...……..….***malkini*** sp. n. (p. 192)

6. Spermatheca 2 longer along longitudinal axis than transverse axis; spermathecal ducts at least one spermatheca 2 diameter away from spermatheca 2 (Figs 84, 85)……...…….***kakumensis*** sp. n. (p. 191)
− Spermatheca 2 longer along transverse axis than longitudinal axis; spermathecal ducts less than half ST 2 diameter away from spermatheca 2 (Fig. 78)……..…***fisheri*** sp. n. (p. 187)

Key to the *hamus* species group in the Afrotropical region

1. Males…….…….…….2
− Females…….…….……..3

2. Embolus long, broad, distinctly curved, approximately half tegular length; sharply hooked, dorsally pointed retrolateral tibial apophysis present (Figs 96, 97).....…..***hamus*** sp. n. (p. 197)

− Embolus long, slender C-shaped, almost equal to tegular length; retrolateral tibial apophysis appears only slightly curved (Figs 100, 101)……..…..***penicillus*** sp. n. (p. 199)

3. Large rounded, triangular epigynal hood at midpoint; spermatheca 2 large, elongated, curved inwards centre, tapering towards epigastric fold; spermatheca 1 smaller than S spermatheca 2, inverted pear-shaped at a 45º angle to epigastric fold, when examined dorsally; appear circular when examined ventrally (Figs 98, 99)…..…....***hamus*** sp. n. (p. 197)
− Small triangular ridges leading towards small copulatory openings; copulatory openings slightly posterior to midpoint; spermatheca 2 large, globular; spermatheca 1 slightly smaller than spermatheca 2, rounded in shape (Figs 102, 103)…...……...…...***penicillus*** sp. n. (p. 199)

Key to the *latus* species group in the Afrotropical region

1. Males with narrow cymbium tip; slightly broader at base; embolus long, slender, sharply curved in inverted 6-shape, extending over cymbium laterally; sharp, ventrally curving retrolateral patellar apophysis present (Figs 108, 109)...……..……...***latus*** sp. n. (p. 202)
− Females…….……..2

2. Copulatory openings large, oval, with broad, coiled entrance ducts; spermatheca 2 hidden behind entrance ducts; spermatheca 1 small, triangular, near epigastric fold (Figs 112, 113)…….….***pressus*** sp. n. (p. 205)
− Copulatory openings large with elliptical ridges, entrance ducts compactly coiled; spermatheca 2 posteromedially to midpoint, appearing folded; spermatheca 1 small, oval, touching epigastric fold (Figs 110, 111)……...…….....***latus*** sp. n. (p. 202)

Key to the *minor* species group in the Afrotropical region

1. Males…….….2
− Females……....…….10

2. Palp with retrolateral patellar apophysis, varying in shape and size; direction in which retrolateral patellar apophysis points can vary……...…….3

− Palp without retrolateral patellar apophysis, with or without a retrolateral tibial apophysis …….9

3. Retrolateral patella apophysis small to large; directed ventrally or dorsally; embolus usually relatively short, varying in complexity……..…….4
− Retrolateral patella apophysis usually large; directed proximally; embolus large usually slender with sharp point……...……...…8

4. Retrolateral patella apophysis small to large; directed ventrally; usually with a sharp point……5
− Retrolateral patella apophysis small, rounded; directed dorsally; embolus short, folded near base; sperm duct with wide curvature (Figs 152, 153)...……...……***leggi*** sp. n. (p. 220)

5. Embolus short with either brusquely curved, roughly inverted C- or 6-shape or vertically directed with almost no curvature……...……6
− Embolus long, slender folded at base with weak retrolateral curvature; large, bent retrolateral patella apophysis directed ventrally; sperm duct with small fold posteriorly (Figs 155, 156)..……..***pusillus*** **Lessert** (p. 221)

6. Embolus short with either brusquely curved, roughly inverted C- or 6-shape; embolus lateral along cymbium……..……...7
− Embolus short directed vertically; lacks fold at base; almost circular curve posteriorly in sperm duct; retrolateral patella apophysis moderately large in size, sharply pointed in a ventral direction (Figs 140, 141)……..……..…***falsus*** sp. n. (p. 212)

7. Embolus short with brusquely curved, inverted C-shaped; embolus tip finely feathered, appears finely folded; sharply pointed, small retrolateral patellar apophysis present (Figs 135, 136)……..……..……***chubbi*** **Lessert** (p. 208)
− Embolus short, well curved, comma-shaped; tip with fine point; retrolateral patellar apophysis small, with rounded point, directed ventrally (Figs 166, 167)……..…….**cf *sylvae* Caporiacco** (p. 229)

8. Embolus long, slender; folds prolaterally; retrolateral patellar apophysis curved (Figs 144)…….....…….***humus*** sp. n. (p. 215)

− Embolus long, slender, with fold prolaterally; retrolateral patellar apophysis subrectuangular (Figs 148)…….....……***lateralus*** sp. n. (p. 217)

9. Palp without any apophyses; embolus with finely curved tip, with small tegular apophysis near base of embolus; conductor absent (Figs 133, 134)….....***addis*** sp. n. (p. 207)
─ Palp with narrow retrolateral tibial apophysis nearly as long as tibia; embolus small, in front of prolaterally directed conductor (Figs 170-172)…….....***taita*** sp. n. (p. 231)

10. Epigyne with large, circular, either single or bilobed spermatheca 2 situated medially; spermatheca 1 smaller, almost or touching spermatheca 2; copulatory openings either partially covering or just touching ST 2……..……...…….11
− Variations in spermatheca 2 size and shape; spermatheca 2 not usually medially located…….……..13

11. Spermatheca 2 single, circular structure; copulatory openings either small, medially directed or large posterior directed; entrance ducts circular or rounded……..……...12
− Spermatheca 2 bilobed with one oval lobe partially covering other; entrance ducts elliptical; openings directed anteriorly; spermatheca 1 smaller, circular posterior to spermatheca 2 (Figs 161, 162)……..…….***smithi*** sp.n. (p. 225)

12. Small copulatory openings medially directed with oval, narrow entrance ducts; ST 2 circular, larger than rounded, cubed spermatheca 1 (Figs 142, 143)...……***falsus*** sp. n. (p. 212)
− Large, arched copulatory openings directed posterior, openings towards epigastric fold; entrance ducts fold laterally; spermatheca 2 large, circular with small, oval spermatheca 1 (Figs 157-160)…….…..…***pusillus*** **Lessert** (p. 221)

13. Spermatheca 2 varying in size, if larger not significantly larger; spermatheca 1 either triangular to globular in shape, not circular; variation in direction of copulatory openings……...…….…14
− Large globular spermatheca 2 anterior to midpoint and copulatory openings; spermatheca 2 significantly larger than small, circular spermatheca 1; spermatheca 1 slightly posterior to midpoint (Figs 150, 151)……...…….***lateralus*** sp. n. (p. 217)

14. Copulatory openings directed posteriorly towards epigastric fold……...…..…15

− Copulatory openings either medially or laterally directed…….17

15. Epigyne with ridges; spermatheca 2 not circular…….……...16
─Inverted egg-shaped entrance ducts extends into thickened entrance ducts; spermatheca 2 circular just posterior to midpoint; spermatheca 1 smaller, circular (Fig. 173)…….***taita*** sp. n. (p. 231)

16. Copulatory openings large with oval epigynal ridge; entrance ducts broad, folded over laterally; spermatheca 2 small pipe-like, just anterior to spermatheca 1 which is small and globular (Figs 168, 169)……...……...…….**cf *sylvae* Caporiacco** (p. 229)
− Copulatory opening large with spherical epigynal ridges; entrance ducts narrow, fold over laterally; large globular spermatheca 2 anterior to small triangular spermatheca 1 (Figs 137, 138)……..…..….***chubbi* Lessert** (p. 208)

17. Small copulatory openings medially directed, just anterior to midpoint; entrance ducts tightly coiled; spermatheca 1 large globular (Figs 164, 165)……***sparsus*** sp. n. (p. 227)
− Large copulatory openings laterally directed with horn-like entrance ducts, anterior to midpoint; spermatheca 1 large globular, as broad as entrance ducts (Figs 146, 147)……...…...***humus*** sp. n (p. 215)

Key to the *schenkeli* species group in the Afrotropical region

1. Males……..……..…….2
− Females...……..……..…….8

2. Embolus with retrolateral origin on tegulum…….....3
− Embolus with prolateral origin on tegulum…….4

3. Long, slender embolus originates median, retrolaterally on tegulum, extends proximally, prolaterally around tegulum towards cymbium tip; hairpin curve of sperm duct extends to approximately midpoint of tegulum; large retrolateral patella apophysis appears ridge, bent ventrally, with ventral cusps (Figs 223, 224).…….....***schenklei* Lessert** (p. 247)

− Long embolus broad at base, narrowing slightly towards tip; embolus originates just anterior to median, extend upright towards cymbium tip, does not curve around tegulum; sperm duct undulating horizontally across tegulum; small retrolateral patella apophysis, ventrally directed; lacks ventral cusps (Figs 204, 205)……..….***longinquus*** sp. n. (p. 242)

4. Retrolateral patella apophysis extends the entire length of tibial segment or just past it…...5
− Retrolateral patella apophysis extends ¾ tibial segment length; patellae apophysis curving dorsally, tip rounded; embolus moderately broad, slightly narrower at tip; originates prolaterally, near tegulum base, extends prolaterally along tegulum (Figs 196, 197)…..…..……..……***griswoldi*** sp. n. (p. 237)

5. Retrolateral patella apophysis extends the entire length of tibial segment or just past it; apophysis not more than half width or length of patellae segments…….……6
− Retrolateral patella apophysis longer than tibial segment, extends to over tegulum base; apophysis with sharply pointed tip and broad base which is more than half patella segment length; embolus originates prolaterally, near tegulum base; extends prolaterally along tegulum towards cymbium tip; slightly bent near feathered embolus tip (Figs 228, 229)……...……***ungulus*** sp. n. (p. 251)

6. Strong spines distally situated on tip of cymbium……..…7
− Lacks strong spines distally on cymbium tip; embolus narrows to a tipped point, originates at base of tegulum, prolaterally; large compactly curved sperm duct extend approximately ¾ tegulum length; embolus partially hidden prolaterally, beneath tegulum; slim, slightly curved retrolateral patella apophysis with rounded point (Figs 210, 211)……***roeweri*** sp. n. (p. 245)

7. Four strong spines at distally on cymbium tip; long, slender embolus with tapered tip, originates near tegulum base, prolaterally; moderately compact sperm duct extends entire length of tegulum; large, sharply ventrally pointed retrolateral patella apophysis (Figs 190, 191)……..…***capensis*** sp. n. (p. 234)
−Two strong spines retrolaterally on cymbium tip; embolus narrow, almost perpendicular bent near tip; originates at tegulum base prolaterally; sperm duct, with loose curves, extends almost entire length of tegulum; elongated, round tipped, retrolateral patella apophysis, distally directed (Figs 201, 202)…….……***incruvus*** sp. n. (p. 239)

8. Copulatory openings, posterior to midpoint; at 45º angle to epigastric fold; ST 1 small, usually circular, posterior to copulatory openings near or touching epigastric fold.....9
− Copulatory openings anterior to midpoint; often large and arched shaped; ST 1 small; usually circular, posterior to midpoint, near epigastric fold…….12

9. Copulatory openings with hook-like ridges which extend slightly wider than ST 2……..……...10
− Copulatory openings lacking hook-like ridges…….....11

10. Bilobed spermatheca 1 not partially hidden by copulatory openings, situated laterally to 45º angled openings; fertilization ducts large, distinct; spermatheca 2 large and globular, approximately ⅔ epigyne length (Figs 206, 207)…….…….…….***obliquus*** sp. n. (p. 243)
− Circular spermatheca 1 partially behind fertilization ducts, near foot of copulatory openings; hook-like ridges appear looped when examined dorsally; large globular spermatheca 2 approximately ⅔ epigyne length (Figs 226, 227)……..……..….***schenkeli*** **Lessert** (p. 247)

11. Large copulatory openings, partially covering approximately ½ spermatheca 1; spermatheca 1 small circular; with or without horned-like epigynal projection; found only in the Western Cape Province, South Africa (Figs 192-194)……..……***capensis*** sp. n. (p. 234)
− Large copulatory openings, partially covering whole of first lobe and partially second lobe of bilobed spermatheca 1 (Fig. 208)..……..….***roeweri*** **Lawrence** (p. 245)

12. Large, broadly arched copulatory openings with oblique epigynal ridges; spermatheca 2 globular, approximately ¼ epigyne length; spermatheca 2 bilobed, lobes linked by short ducts; posterior lobe appears folded, partially covering duct; found in South Africa (Fig. 203)……..***incurvus*** sp. n. (p. 239)
− Spermatheca 2 large, not globular in shape, narrower and elongated; large, arch-like copulatory openings……..……....13

13. Copulatory openings anterior to midpoint; entrance ducts extend medially; spermatheca 2 rectangular posterior to midpoint; spermatheca 1 small, triangular posterior to spermatheca 2, near epigastric fold (Figs 230, 231)…….***ungulus*** sp. n. (p. 251)

− Copulatory openings arched, just anterior to midpoint; contracted elongated spermatheca 2 with fold; spermatheca 1 small, oval touching epigastric fold (Figs 198, 199)……....***harrisi*** sp. n. (p. 238)

Key to the *uncus* species group in the Afrotropical region

1. Males……..……..……2
− Females.……..……..8

2. Embolus long, slender originating prolaterally either medially or near base of tegulum; embolus tip usually tapered; moderately pointed retrolateral tibial apophysis…….……..3
− Embolus vary in length and shape; originating anterior to midpoint of tegulum or retrolaterally posterior to midpoint; retrolateral tibial apophysis usually more rounded than pointed……..…5

3. Small cymbial apophysis, not sharply hooked; prolateral embolus originates at approximately ⅔ tegulum length……4
− Large sharp hooked cymbial apophysis; embolus originates prolaterally at base of tegulum; embolus folded twice, narrows towards tip; triangular retrolateral tibial apophysis round sharp point, distally directed (Figs 251, 252)……..……***contortionis*** sp. n. (p. 256)

4. Prolateral embolus originates at approximately ⅔ tegulum length; embolus with single fold before extending diagonally over cymbium to narrow into tapered point; sharp prolateral apophysis near tegulum base; retrolateral tibial apophysis vertically extended with round sharp point; tibial apophysis roughly length of cymbial apophysis (Figs 258, 259)……..…....***lejeunei*** sp. n. (p. 260)
− Embolus originates prolaterally, near tegulum base; numerous folds in embolus, extending retrolaterally; ends in tapered point; retrolateral tibial apophysis wing-like, sharply pointed, dorsally directed (Figs 260, 261)…….……...…….…***retortum*** sp. n. (p. 261)

5. Embolus either long or short with sharp tip, originates anterior to midpoint…….6

− Long embolus originates just posterior to midpoint, curves along tegulum base, extending prolaterally along tegulum; curves almost diagonally across cymbium with tip curving medially inwards (Figs 253, 254)...……..….……..……***cristatus*** sp. n. (p. 257)

6. Embolus short originates near distal tip of tegulum……...7
− Long embolus with large twist medially, extend towards cymbium tip; two cymbial apophysis, proximal hook-like apophysis and medially ventrally pointed retrolateral cymbial apophysis; small, peg-like retrolateral tibial apophysis (Figs 263, 264)….***tortilis*** sp. n. (p. 264)

7. Short, sharply pointed embolus dorsally, retrolaterally directed; sperm duct extends horizontally across tegulum, almost at midpoint, when examined ventrally; moderately large, cupped retrolateral cymbial apophysis (Figs 256, 257)..……...……***jocquei*** sp. n. (p. 259)
− Short, sharply pointed embolus, directed vertically towards cymbium tip; sperm duct curved almost to tegulum base; lacks retrolateral tibial apophysis; large sharply hooked cymbial apophysis (Figs 266, 267)..……..***uncus*** sp. n. (p. 266)

8. Copulatory openings anterior to midpoint, either arched, rounded or lateral; lacks epigynal hood.....….9
− Copulatory opening medially situated with V-shaped hood; entrance ducts appear fanned out; ST 1 and 2 posterior to midpoint; spermatheca 2 small and circular; oval spermatheca 1 larger than spermatheca 2 (Fig. 265)……...……..…***tortilis*** sp. n. (p. 264)

9. Large arched copulatory openings extending towards epigastric fold; spermatheca 2 anterior to copulatory openings, approximately ⅓ epigyne length; spermatheca 1 slightly oval, posterior to midpoint almost touching epigastric fold (Fig. 262)……..***retortum*** sp. n. (p. 261)
− Copulatory openings running alongside entrance ducts; entrance ducts at a 45º angle to epigastric fold; spermatheca 2 large inverted comma-shaped, while spermatheca 1 are smaller and elliptical (Fig. 268)……..…….***uncus*** sp. n. (p. 264)

botulus **species group**

Trachelas botulus **sp. n.**

Figs 1, 2, 4-7, 11

Etymology: The species name is derived from Latin for “sausage”, which refers to the sausage like shape of the ST 2 of the female.

Diagnosis: The female of this species can be recognised by the large, curved, sausage-like ST 2 and the small, oval ST 1 coupled to ST 2 by thin, lateral ducts (Figs 4, 5). The male of this species can be recognised by the large sharply pointed dorsal femoral apophysis and lack of a tibial and patellae apophyses (Figs 6, 7).

Description:

Female

Measurements: CL 1.00-1.10, CW 0.83-1.10, AL 1.00-1.70, AW 0.78-1.18, TL 2.00-3.00, FL 0.03-0.05, SL 0.63-0.73, SW 0.58-0.73, AME-AME 0.08, AME-ALE 0.03, ALE-ALE 0.18, PME-PME 0.10, PME-PLE 0.05, PLE-PLE 0.30. Length of leg segments (sequence from femur to tarsus, and total): I 0.80 + 0.45 + 0.65 + 0.50 + 0.38 = 2.78; II 0.75 + 0.40 + 0.58 + 0.48 + 0.35 = 2.56; III 0.68 + 0.35 + 0.50 + 0.48 + 0.28 = 2.29; IV 0.75 + 0.41 + 0.70 + 0.53 + 0.35 = 2.74.

Carapace reddish-brown to brown (Fig. 1); first three quarters of carapace slightly rounded, with gradual decline posteriorly, last quarter with steep decline; surface texture granular with short, fine setae; fovea short, indistinct, at two thirds CL. Ocular region dark brown with black rings around eyes; AER slightly recurved, almost straight; ALE slightly larger than AME; clypeus height equal to AME diameter; AME separated by distance equal to slightly more than their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER slightly recurved, almost straight; PME and PLE equal in size; PME separated by distance equal to twice their diameter; PLE separated by distance equal to PME diameter. Chelicerae brown, anterior surface covered in short, fine setae; two promarginal teeth, equal in size; two retromarginal teeth, largest tooth distal. Sternum brown, darker towards border, shield-shaped; surface smooth covered with short and long setae scattered throughout sternum. Abdomen mottled grey with pale yellow undertones dorsally; abdomen oval, elongated. Legs I to IV uniform brown, femora dark brown; all segments covered with scattered short, fine setae; slightly dense ventral scopulae on tibia, metatarsi and tarsi of all legs, more prominent on legs III and IV; regular leg spines, cusps absent. Epigyne weakly sclerotised; small laterally directed copulatory openings; ST 1 large, biconcaved sausage shaped connected by lateral ducts to small, circular ST along epigastric fold (Figs 4, 5).

Male

Measurements: CL 1.10-1.30, CW 1.00-1.18, AL 1.40-1.70, AW 0.95-1.15, TL 2.63-3.10, FL 0.03-0.06, SL 0.75-0.88, SW 0.65-0.83, AME-AME 0.08, AME-ALE 0.03, ALE-ALE 0.20, PME-PME 0.13, PME-PLE 0.08, PLE-PLE 0.45. Length of leg segments (sequence from femur to tarsus, and total): I 1.05 + 0.58 + 0.90 + 0.70 + 0.50 = 3.73; II 1.03 + 0.58 + 0.70 + 0.70 + 0.45 = 3.46; III 0.83 + 0.38 + 0.55 + 0.68 + 0.35 = 2.71; IV 0.98 + 0.52 + 0.85 + 0.85 + 0.43 = 3.63.

Carapace orange to brown (Fig. 2); first three quarters of carapace slightly rounded, with gradual decline posteriorly, last quarter with steep decline; highest point at ocular region; carapace finely granular, covered with short, fine setae; fovea short, indistinct at two thirds CL. Ocular region orange to pale brown with black rings around eyes; AER slightly procurved, almost straight; ALE slightly larger than AME; clypeus height equal to AME diameter; AME separated by distance equal to slightly more than their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER slightly procurved, almost straight; PLE larger than PME; PME separated by distance equal to twice their diameter; PLE separated by distance equal to PME diameter. Chelicerae pale brown, anterior surface covered in long, fine setae; three promarginal teeth, median tooth largest, distal tooth smallest; two retromarginal teeth, largest tooth proximal. Sternum brown, dark brown towards border, shield-shaped; surface smooth with short, fine setae scattered throughout sternum. Abdomen mottled brown with pale yellow undertones; covered with short, fine setae; abdomen oval and elongated. Legs I to IV uniform brown, femora darker than other segments; short, fine setae scattered throughout all legs segments; slightly dense ventral scopulae on tibia, metatarsi and tarsi of all legs, more prominent on legs III and IV; regular leg spines, cusps absent. Palp brown, embolus appears folded; sperm duct with almost right angle curves; lacks retrolateral and patella apophysis; large, pointed dorsal femoral apophysis (Figs 7, 8).

Holotype ♀ and allotype ♂: ‘Det. / Loc. Ghana, Kakum forest, secondary forest, / fogging / Rec. Jocqué R. & De Bakker D. & Baert L., / 24.XI.2005 / Mus. R. Afr. Centr. 218.287 // MT. 218.287 // Araneae / Corinnidae / Trachelinae / *Trachelas botulus* sp. n. / HOLOTYPE ♀ / ALLOTYPE ♂ / det. R. Lyle //’ (MRAC 218287).

Paratypes: 1♂ 1 juv. ‘Det. / Loc. Ghana, Akuapim région, Aburi / Rec. P. M. Room VII-IX.1969 / R. G. Mus. Afr. Centr. 135.828 // 135.828 //’ (MRAC 135828). 1♂ ‘Det. / Loc.

Ghana, Akuapim région, Aburi / Rec. P. M. Room VII-IX.1969 / R. G. Mus. Afr. Centr. 135.830 // 135.830 //' (MRAC 135830). 1♀ 'Det. / Loc. Ghana, Akuapim région, Aburi / Rec. P. M. Room VII-IX.1969 / R. G. Mus. Afr. Centr. 135.837 // 135.837 //' (MRAC 135837). 1♂ 2 juv. 'Det. / Loc. Ghana, Akuapim région, Aburi / Rec. P. M. Room VII-IX.1969 / R. G. Mus. Afr. Centr. 135.630 // 135.630 //' (MRAC 135630). 1♂ 1♀ 'Det. / Loc. Ghana, Kakum forest, secondary forest, / fogging / Rec. Jocqué R. & De Bakker D. & Baert L., / 19.XI.2005 / Mus. R. Afr. Centr. 210.269 // MT. 210.269 //' (MRAC 210269). 1♂ 'Det. / Loc. Ghana, Kakum forest, secondary forest, / fogging / Rec. Jocqué R. & De Bakker D. & Baert L., / 16.XI.2005 / Mus. R. Afr. Centr. 218.256 // MT. 218.256 //' (MRAC 218256). 1♂ 1♀ 'Det. / Loc. Ghana, Kakum forest, secondary forest, / fogging / Rec. Jocqué R. & De Bakker D. & Baert L., / 17.XI.2005 / Mus. R. Afr. Centr. 218.259 // MT. 218.259 //' (MRAC 218259). 3♂ 3♀ 'Det. / Loc. Ghana, Kakum forest, secondary forest, / fogging / Rec. Jocqué R. & De Bakker D. & Baert L., / 18.XI.2005 / Mus. R. Afr. Centr. 218.267 // MT. 218.267 //' (MRAC 218267). 1♂ 'UGANDA, Budongo Forest, / 1º45'S:31º25'E, 1200m a.s.l. / 1-10.VII.05, T. Wagner / Seasonal rainforest / *Trichilia rubescens* (Meliaceae), primary forest //' (UKL). 2♂ 'UGANDA, Budongo Forest / 1º45'S:31º25'E, 1200m a.s.l. / 11-20.VII.05, T. Wagner / Seasonal rainforest / *Trichilia rubescens*, secondary forest //' (UKL). 1♀ 'UGANDA, Budongo Forest / 1º45'S:31º25'E, 1200m a.s.l. / 21-31.VII.05, T. Wagner / Seasonal rainforest / *Rinorea beniensis*, secondary forest //' (UKL). 1♂ 'UGANDA, Budongo Forest / 1º45'S:31º25'E, 1200m a.s.l. / 15-25.I.97, T. Wagner / Seasonal rainforest, Dry season / *Rinorea beniensis*, secondary forest //' (UKL). 1♂ 'UGANDA, Budongo Forest / 1º45'S:31º25'E, 1200m a.s.l. / 15-25.I.97, T. Wagner / Seasonal rainforest, Dry season / *Rinorea beniensis*, secondary forest //' (UKL).

Other material examined: none.

Distribution: Known from forests in Western and Central Africa (Fig. 11).

***Trachelas purpureus* sp. n.**

Figs 3, 8-11

Etymology: This species name is derived from Latin for "dark brown", which refers to the dark colouration of the species.

Diagnosis: This species can be recognised by the large, subrectangular dorsal femoral apophysis (Fig. 10) and the large creased embolus of the male (Fig. 9). Additionally, this species has a small retrolateral patellar apophysis (Fig. 9) but lacks a retrolateral tibial apophysis. The cusps of this species are unique, unlike the typical *Trachelas* shape (Figs 216, 217) and are long, elongate, appearing spin-like. Female unknown.

Description:

Male

Measurements: CL 1.55, CW 1.23, AL 1.88, AW 1.00, TL 3.20, FL 0.08, SL 0.88, SW 0.75, AME-AME 0.08, AME-ALE 0.03, ALE-ALE 0.30, PME-PME 0.13, PME-PLE 0.08, PLE-PLE 0.43. Length of leg segments (sequence from femur to tarsus, and total): I 1.40 + 0.55 + 1.13 + 0.83 + 0.58 = 4.49; II 1.25 + 0.50 + 0.98 + 0.83 + 0.53 = 4.09; III 0.93 + 0.38 + 0.70 + 0.80 + 0.40 = 3.21; IV 1.53 + 0.50 + 1.25 + 1.33 + 0.53 = 5.14.

Carapace brown (Fig. 3); first two thirds carapace slightly rounded, with steep decline in last third; surface texture finely wrinkled, covered with short, fine setae; fovea short, distinct, at two thirds CL. Ocular region brown with black rings around eyes; AER slightly recurved, AME slightly larger than ALE; clypeus height equal to 1.5 times AME diameter; AME separated by distance equal to slightly less their diameter; AME separated from ALE by distance equal to 0.25 AME diameter; PER recurved, PME and PLE equal in size; PME separated by distance equal to 1.7 times PME diameter; PME separated from PLE by distance equal to approximately PME diameter. Chelicerae brown, anterior surface covered in short, fine setae; two promarginal teeth, distal tooth largest; two retromarginal teeth, distal tooth largest. Sternum brown, darker towards border, shield-shaped; surface smooth with short, fine setae scattered throughout sternum. Abdomen brown dorsally; covered with short, fine setae; abdomen oval, broad medially, slightly tapering posteriorly. Legs I to IV brown, dark femora; anterior legs more robust, darker than posterior legs; short, fine setae scattered over all leg segments; dense ventral scopulae on anterior leg segments of anterior legs; ventral cusps on metatarsus and tarsus on legs I and II; cusps elongated and slender, almost like spines; regular leg spines absent. Leg spination: tibiae: I *plv* 6 *rlv* 5 cusps, II *plv* 4 *rlv* 3 cusps; metatarsi: I *plv* 2 *rlv* 6 cusps, II *plv* 1 *rlv* 5 cusps (Fig. 8). Palp dark brown; embolus large, creased, originating distally on tegulum; retrolateral patellar apophysis small, rounded; dorsal femoral apophysis blunt, subrectangular (Figs 9, 10).

Female: unknown.

Holotype: ♂ 'Côte D'Ivoire Warda, near Bouake / I.X.1993. A. Russell-Smith / in tall *Andropogon* / fallow // Araneae / Corinnidae / Trachelinae / *Trachelas purpureus* sp. n. / HOLOTYPE ♂ / det. R. Lyle //' (MRAC 223572).

Other material examined: none.

Distribution: Known only from the type locality (Fig. 11).

***coronatus* species group**

***Trachelas conus* sp. n.**

Figs 12, 17, 18, 27

Etymology: This species name is derived from Latin for "cone", which refers to the spiraling ducts connecting spermathecae that resemble a cone.

Diagnosis: This species can be recognised by the hook-like epigynal hood that becomes narrower posteriorly and the spiraling fertilization ducts that resemble a cone in shape (Fig. 17). Male unknown.

Description:

Female

Measurements:

Carapace reddish brown (Fig. 12); first two thirds of carapace rounded, with steep decline in last third; carapace texture coarsely granular, covered in short, fine setae; fovea short, relatively distinct, at two thirds CL. Ocular region reddish-brown with dark brown rings; AER slightly recurved, AME slightly larger then ALE; clypeus height equal to approximately AME diameter; AME separated by distance equal to approximately their AME diameter; AME separated from ALE by distance equal to approximately 0.4 times AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae pale brown, covered

with scattered short, fine setae on anterior surface; three promarginal teeth, proximal tooth largest, distal tooth smallest; three retromarginal teeth, median tooth largest, proximal tooth smallest. Sternum pale brown, darker towards border, shield-shaped; surface smooth; short, fine setae scattered throughout sternum. Abdomen pale yellow with mottled pale grey dorsally, pale brown median line extending to midpoint of abdomen; two pairs of grey sigillae, first pair paler than second; broader anteriorly, tapering posteriorly. Legs I to IV pale brown; anterior legs slightly more robust and darker than posterior legs; regular leg spines, cusps absent. Epigyne pale yellow with hook-like hoods; twisted, cone-shaped ducts connecting spermatheca extending into circular ST 1 (Figs 17, 18).

Male: unknown.

Holotype: Holotype: ♀ '18.3.74 / IITA. IBADAN. NIGERIA / FALLOW BUSH // NIGERIA A. Russell-Smith // Araneae / Corinnidae / Trachelinae / *Trachelas conus* sp. n. / HOLOTYPE ♀ / det. R. Lyle //' (AMNH).

Other material examined: none.

Distribution: Known only from the type locality (Fig. 27).

***Trachelas coronatus* sp. n.**

Figs 13, 14, 19-22, 27

Etymology: This species name is Latin for "crown", which refers to the crown-like cymbial seta cluster found on the distal tip of the male palp.

Diagnosis: The male of this species is recognised by the dense cymbial setae (Fig. 20), the broad tegulum and the short, compact distal embolus (Fig. 19). The female of this species can be recognised by the broad curved copulatory openings and the twisted ducts connecting the spermatheca (Fig. 21).

Description:

Male

Measurements: CL 1.30-1.35, CW 1.22-1.23, AL 1.60-1.65, AW 1.03-1.08, TL 2.90-3.00, FL 0.05-0.08, SL 0.80-0.83, SW 0.65-0.68, AME-AME 0.05, AME-ALE 0.03, ALE-ALE 0.25, PME-PME 0.10, PME-PLE 0.08, PLE-PLE 0.44. Length of leg segments (sequence from femur to tarsus, and total): I 0.98 + 0.55 + 0.73 + 0.58 + 0.35 = 3.19; II 0.90 + 0.50 + 0.65 + 0.55 + 0.33 = 2.93; III 0.75 + 0.33 + 0.43 + 0.55 + 0.28 = 2.34; IV 0.98 + 0.33 + 0.70 + 0.73 + 0.30 = 3.04.

Carapace dark reddish-brown (Fig. 13); first two thirds of carapace slightly declining and rounded, with steep decline in last third; surface texture granular, covered with short, fine setae; fovea short, slender, distinct, at two thirds CL. Ocular region reddish-brown with black rings around eyes; AER slightly recurved, almost straight; ALE slightly larger than AME; clypeus height equal to AME diameter; AME separated by distance equal to 0.7 their diameter; AME separated from ALE by distance equal to 0.7 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae brown, anterior surface covered with scattered long, fine setae; three promarginal teeth, median tooth largest, distal tooth smallest; three retromarginal teeth, distal tooth largest, proximal tooth smallest. Sternum brown, darker towards border, shield shaped; slightly coarse surface covered with short, fine setae scattered throughout sternum surface. Abdomen pale yellow with brown marking dorsally, extending over almost entire length of abdomen; two pairs pale of brown sigillae, anterior and posterior to midpoint of abdomen; broader anteriorly, tapering posteriorly; covered in short, fine setae throughout. Legs I to IV uniform pale brown; anterior legs more robust, darker than posteriors; leg I with grainy texture; all segments covered with short, fine setae; moderately dense ventral scopulae on metatarsus and tarsus on all legs, more prominent on legs III and IV; regular leg spines, cusps absent. Palp pale brown; embolus short, compact originating distally on broad tegulum; retrolateral tibial apophysis blunt, broadened at base (Figs 19, 20).

Female

Measurements: CL 1.40-1.45, CW 1.15-1.28, AL 1.30-1.90, AW 1.13-1.45, TL 3.00-3.50, FL 0.05-0.08, SL 0.88-0.90, SW 0.73-0.75, AME-AME 0.03, AME-ALE 0.03, ALE-ALE 0.28, PME-PME 0.13, PME-PLE 0.10, PLE-PLE 0.50. Length of leg segments (sequence from femur to tarsus, and total): I 1.00 + 0.55 + 0.75 + 0.68 + 0.43 = 3.41; II 0.93 + 0.50 + 0.65 + 0.60 + 0.40 = 3.08; III 0.80 + 0.28 + 0.53 + 0.60 + 0.33 = 2.54; IV 1.10 + 0.60 + 0.85 + 0.85 + 0.35 = 3.70.

Carapace reddish-brown (Fig. 14); first two thirds of carapace rounded, with steep decline in last third; surface texture granular, covered with short, fine setae; fovea slightly thickened, distinct, at two thirds CL. Ocular region brown to reddish-brown with black rings around eyes; AER slightly recurved, ALE slightly larger than AME; clypeus height equal to slightly more than AME diameter; AME separated by distance equal to their diameter; AME separated from ALE by distance equal to 0.7 AME diameter; PER recurved, ALE slightly larger than AME; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae brown to dark brown, anterior surface covered with scattered long, fine setae; three promarginal teeth, proximal tooth largest, distal tooth smallest; three retromarginal teeth, distal tooth largest, proximal tooth smallest. Sternum pale brown, darker towards border, shield-shaped; smooth surface covered with short, fine setae scattered throughout. Abdomen mottled grey with brown scutum dorsally, covering almost entire length of abdomen; two pairs of brown sigillae; first pair anterior to midpoint; second pair darker, posterior to midpoint; abdomen broader anteriorly, tapering posteriorly. Legs I and IV uniform legs brown to pale brown; anterior legs more robust, darker in colour than posterior legs; all segments covered with short, fine setae; moderately dense scopulae on metatarsi and tarsi of all legs, more prominent on legs III and IV; regular leg spines, cusps absent. Epigyne with large copulatory openings, anterior to midpoint; copulatory openings extending into rounded horn-like structures; relatively small median ST 2 with twisted lateral ducts connecting to ST 1; ST 1 oval, posterior to midpoint (Figs 21, 22).

Holotype: ♂ ‘Det. / Loc. Congo, D.R., Bas Congo, Mayombe, Luki / Forest Reserve. Primary rainforest, fogging 3 / Rec. De Bakker D. & Michiels J. P., 10.XI.2006 / Mus. R. Afr. Centr. 220.924 // MT. 220.924 //’ (MRAC 220924).

Allotype: ♀ ‘RWANDA, Cyamudongo, Nyakabuye / 2º34"S, 28º59"E, 1750m a.s.l. / Montane rainforest / X.93, T. Wagner / *Carapa grandiflora* (Meliaceae) // Araneae / Corinnidae / Trachelinae / *Trachelas coronatus* sp. n. / ALLOTYPE ♀ / det. R. Lyle //’ (UKL).

Paratypes: 1♀ ‘‘RWANDA, Cyamudongo, Nyakabuye / 2º34"S, 28º59"E, 1750m a.s.l. / Montane rainforest / X.93, T. Wagner / *Carapa grandiflora* (Meliaceae) //’ (UKL). 1♀ ‘RWANDA, Cyamudongo, Nyakabuye / 2º34"S, 28º59"E, 1750m a.s.l. / Montane rainforest / X.93, T. Wagner / *Carapa grandiflora* (Meliaceae) //’ (UKL). 1♂ ‘Det. / Loc. Congo, D.R.,

Bas Congo, Mayombe, Luki / Forest Reserve. Primary rainforest, fogging 2 / Rec. De Bakker D. & Michiels J. P., 10.XI.2006 / Mus. R. Afr. Centr. 220.927 // MT. 220.927 //' (MRAC 220927).

Other material examined: none.

Distribution: Rainforests in central and west Africa (Fig. 27).

***Trachelas ugandensis* sp. n.**

Figs 15, 16, 23-27

Etymology: This species name is taken from the central African country Uganda, where the entire type series was collected.

Diagnosis: The male of species is recognised by the short, distal embolus and the sharply pointed retrolateral tibial apophysis, which has a small fold near the apophysis base (Fig. 23). The female of this species can be recognised by the short, small arched copulatory openings. It has similar twisted ducts to *T. coronatus*, but with larger ST 2 (Fig. 25).

Description:

Male

Measurements: CL 1.40-1.58, CW 1.25-1.38, AL 1.40-1.75, AW 1.05-1.15, TL 2.80-3.33, FL 0.10-0.10, SL 0.83-0.88, SW 0.65-0.73, AME-AME 0.08, AME-ALE 0.05, ALE-ALE 0.30, PME-PME 0.13, PME-PLE 0.13, PLE-PLE 0.55. Length of leg segments (sequence from femur to tarsus, and total): I 1.18 + 0.58 + 0.78 + 0.65 + 0.40 = 3.59; II 0.95 + 0.53 + 0.73 + 0.60 + 0.40 = 3.21; III 0.75 + 0.30 + 0.50 + 0.58 + 0.30 = 2.43; IV 1.05 + 0.43 + 0.80 + 0.78 + 0.33 = 3.39.

Carapace reddish-brown (Fig. 15); first two thirds of carapace rounded, with steep decline in last third; carapace texture granular; fovea small, distinct, slightly thickened, at two thirds CL. Ocular region dark brown with black rings around eyes; AER slightly recurved, almost straight; ALE slightly larger than AME; clypeus height equal to 0.7 AME diameter; AME separated by distance equal to 0.7 their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by

distance equal to 1.4 times their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae dark brown, anterior surface covered with scattered long, fine setae; three promarginal teeth, median tooth largest, proximal tooth smallest; three retromarginal teeth, distal tooth largest, proximal tooth smallest. Sternum brown, darker towards borders; shield-shaped; surface finely grainy covered with short, fine setae scattered throughout sternum. Abdomen pale yellow to pale grey dorsally, with or without brown scutum; two pairs of pale brown sigillae, one pair anterior to midpoint and second pair posterior to midpoint; abdomen broad anteriorly, tapering posteriorly. Legs I and IV uniform pale brown; anterior legs slightly more robust, darker than posterior legs; leg I with grainy texture compared to other legs; all leg segments covered with scattered short, fine setae; moderately dense ventral scopulae found on metatarsi and tarsi of all legs, more prominent on metatarsus and tarsus of leg III and IV; regular leg spines, cusps absent. Palp pale brown to brown; tegulum broad with short, distal embolus; embolus slender, curving in retrolaterally with tip directed distally; retrolateral tibial apophysis with broad base, becoming slender distally ending in a sharp, slim point; small fold at base of apophysis (Figs 23, 24).

Female

Measurements: CL 1.10-1.50, CW 1.05-1.20, AL 1.30-1.70, AW 1.03-1.25, TL 2.50-3.20, FL 0.03-0.10, SL 0.73-0.85, SW 0.60-0.70, AME-AME 0.03, AME-ALE 0.03, ALE-ALE 0.10, PME-PME 0.10, PME-PLE 0.05, PLE-PLE 0.34. Length of leg segments (sequence from femur to tarsus, and total): I 0.80 + 0.45 + 0.55 + 0.53 + 0.33 = 2.66; II 0.78 + 0.38 + 0.50 + 0.48 + 0.30 = 2.44; III 0.65 + 0.38 + 0.40 + 0.48 + 0.28 = 2.19; IV 0.90 + 0.35 + 0.68 + 0.48 + 0.28 = 2.69.

Carapace brown to reddish-brown (Fig. 16); first two thirds of carapace rounded, with steep decline in last third; surface texture granular, covered with short, fine setae; fovea small, slightly thickened, distinct, at two thirds CL. Ocular region brown with black rings around eyes; AER slightly recurved, almost straight; AME and ALE equal in size; clypeus height equal to approximately 1.5 times AME diameter; AME separated by distance equal to their diameter; AME separated from ALE by distance equal to 0.7 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to 2.7 times their diameter; PME separated from PLE by distance equal to 2.7 times PME diameter. Chelicerae pale brown to brown, anterior surface covered in scattered short, fine setae; three promarginal teeth, median tooth largest, distal tooth smallest; three retromarginal teeth, median tooth largest, other teeth equal in size. Sternum pale yellow to pale brown, darker towards border,

shield-shaped; surface slightly grainy covered with short, fine setae scattered throughout. Abdomen pale yellow with mottled grey dorsum, darkened posteriorly; two pairs of pale indistinct sigillae, first pair anterior to midpoint; second pair slightly darker, posterior to midpoint; abdomen broader anteriorly, tapering posteriorly. Legs I to IV brown to pale brown; anterior legs more robust, darker than posterior legs; all segments covered with short, fine setae; moderately dense scopulae on metatarsi and tarsi of all legs, more prominent on legs III and IV; regular leg spines, cusps absent. Epigyne with small, arched copulatory openings extend into cup-shaped entrance ducts; twisted median ducts extend to median lateral, elliptical ST 2; large ST 1 posterior to midpoint (Figs 25, 26).

Holotype: Holotype: ♂ 'UGANDA, Budongo Forest / 1º45'S,31º25'E, 1200m a.s.l / Seasonal Rainforest, Dry season / 15-25.I.97, T. Wagner / *Rinorea beniensis*, primary forest // Araneae / Corinnidae / Trachelinae / *Trachelas ugandensis* sp. n. / HOLOTYPE ♂ / det. R. Lyle //' (UKL).

Allotype: 1♀ 'UGANDA, Budongo Forest / 1º45'S,31º25'E, 1200m a.s.l / Seasonal Rainforest / 21-31,VII.95, T. Wagner / *Rinorea beniensis*, swamp forest // Araneae / Corinnidae / Trachelinae / *Trachelas ugandensis* sp. n. / ALLOTYPE ♂ / det. R. Lyle //' (UKL).

Paratypes: 1♂ 'UGANDA, Budongo Forest / 1º45'S, 31º25'E, 1200m a.s.l / Seasonal Rainforest, Dry season / 1-10.VII.95, T. Wagner / *Rinorea beniensis*, primary forest //' (UKL). 1♂ UGANDA, Budongo Forest / 1º45'S, 31º25'E, 1200m a.s.l / Seasonal Rainforest, Dry season /, 11-20.VII.95, T. Wagner / *Rinorea beniensis*, primary forest //' (UKL). 1♂ UGANDA, Budongo Forest / 1º45'S, 31º25'E, 1200m a.s.l / Seasonal Rainforest, Dry season / 5-15.I.97, T. Wagner / *Rinorea beniensis*, primary forest //' (UKL). 2♂ UGANDA, Budongo Forest / 1º45'S, 31º25'E, 1200m a.s.l / Seasonal Rainforest, Dry season / 15-25.I.97, T. Wagner / *Rinorea beniensis*, secondary forest, nights //'(UKL). 1♀ 'UGANDA, Budongo Forest / 1º45'S, 31º25'E, 1200m a.s.l / Seasonal Rainforest, Dry season / 15-25.I.1997 T. Wagner / *Rinorea beniensis*, secondary forest, nights //' (UKL).

Other material examined: none.

Distribution: Known only from the type locality (Fig. 27).

denticulatus species group

Trachelas denticulatus sp. n.

Figs 28, 29, 32-34, 38

Etymology: This species name is taken from the Latin '*denticula*', and refers to the teeth-like structures on the distal-retrolateral tibial apophysis.

Diagnosis: The male of this species can be recognised by the broad, coiled embolus, two retrolateral tibial apophyses, one with teeth-like structures distally (Fig. 33). The female can be recognised by the broad, tongue-like median posterior projection of the epigyne (Fig. 34), which partly covers the epigastric fold. ST 1 and ST 2 both oval, varying in size.

Description:

Male

Measurements: CL 1.13, CW 0.93, AL 1.28, AW 0.78, TL 2.20, FL 0.13, SL 0.70, SW 0.53, AME-AME 0.03, AME-ALE 0.01, ALE-ALE 0.18, PME-PME 0.08, PME-PLE 0.10, PLE-PLE 0.33. Length of leg segments (sequence from femur to tarsus, and total): I 0.68 + 0.35 + 0.48 + 0.45 + 0.28 = 2.24; II 0.58 + 0.35 + 0.45 + 0.40 + 0.28 = 2.06; III 0.50 + 0.25 + 0.33 + 0.38 + 0.23 = 1.69; IV 0.70 + 0.33 + 0.53 + 0.53 + 0.23 = 2.32.

Carapace reddish-brown (Fig. 28); first two thirds of carapace rounded, with steep decline in last third; surface texture granular; fovea short, distinct, at two thirds CL. Ocular region dark brown with black rings around eyes; AER slightly recurved, almost straight; ALE slightly larger than AME; clypeus height equal to less then 0.5 AME diameter; AME separated by distance equal to slightly less their diameter; AME separated from ALE by distance equal to slightly less than 0.5 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to slightly more than their diameter; PME separated from PLE by distance equal to twice PME diameter. Chelicerae brown, anterior surface covered with scattered long, fine setae; two promarginal teeth, distal tooth largest; three retromarginal teeth, distal tooth largest. Sternum brown, darker towards borders; shield-shaped; surface finely grainy texture, covered with short, fine setae scattered throughout sternum. Abdomen with pale yellow dorsum with grey median line, extending to midpoint; abdomen grey posteriorly, grey band across midpoint of abdomen; two pair of brown to grey sigillae, first pair anterior

to midpoint and second pair posterior to midpoint of abdomen; abdomen slightly elongated, broad anteriorly, tapering posteriorly. Legs I to IV uniform pale brown; anterior legs slightly more robust, darker than posterior legs; leg I with coarse texture compared to other legs; all leg segments covered in scattered short, fine setae, moderately dense ventral scopulae found on metatarsi and tarsi of all legs; regular leg spines, cusps absent. Palp brown; embolus long, coiled, appearing folded with tapered tip; dorsal retrolateral tibial apophysis larger, denticulated with small, rounded ventral retrolateral tibial apophysis (Figs 32, 33).

Female

Measurements: CL 1.00, CW 0.93, AL 1.18, AW 0.73, TL 2.18, FL 0.03, SL 0.63, SW 0.48, AME-AME 0.05, AME-ALE 0.03, ALE-ALE 0.15, PME-PME 0.05, PME-PLE 0.05, PLE-PLE 0.30. Length of leg segments (sequence from femur to tarsus, and total): I 0.53 + 0.30 + 0.38 + 0.33 + 0.28 = 1.82; II 0.50 + 0.25 + 0.33 + 0.33 + 0.28 = 1.69; III 0.38 + 0.23 + 0.28 + 0.28 + 0.15 = 1.32; IV 0.65 + 0.25 + 0.43 + 0.38 + 0.18 = 1.89.

Carapace brown (Fig 29); first two thirds of carapace rounded, with steep decline in last third; surface texture granular; fovea short, distinct, at two thirds CL. Ocular region brown with dark brown rings around eyes; AER slightly recurved, almost straight; AME and ALE equal in size; clypeus height equal to distance approximately 0.5 AME diameter; AME separated by distance equal to approximately 0.5 their diameter; AME separated from ALE by distance equal to slightly less than 0.5 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to approximately their diameter; PME separated from PLE by distance equal to 1.5 times PME diameter. Chelicerae brown, anterior surface covered with scattered long, fine setae; two promarginal teeth, distal tooth largest; three retromarginal teeth, distal tooth largest. Sternum brown in colour, darker towards borders; shield-shaped; surface texture finely grainy, covered with short, fine setae scattered throughout sternum. Abdominal dorsum pale yellow with grey median line, extending to midpoint; abdomen grey posteriorly, grey band across midpoint of abdomen; two pairs of brown to grey sigillae, first pair anterior to midpoint and second pair posterior to midpoint of abdomen; abdomen slightly elongated, broad anteriorly, tapering posteriorly. Legs I to IV pale brown; anterior legs slightly more robust, darker than posteriors; leg I with coarse texture compared to other legs; all leg segments covered in short, fine setae, moderately dense ventral scopulae found on metatarsi and tarsi of all legs; regular leg spines, cusps absent. Epigyne with median, tongue-like projection partly covering epigastric fold; ST 2 large, oval in shape, partly hidden behind slightly smaller ST 1 in ventral view (Fig. 34).

Holotype ♂ and Allotype ♀: 'Pongola, Tvl. / 22.IV.1969 / A.S.D. & others / Beating // Araneae / Corinnidae / Trachelinae / *Trachelas denticulatus* sp. n. / HOLOTYPE ♂ / ALLOTYPE ♀ / det. R. Lyle //' (NCA 84/485).

Paratype: ♂ 'R.S.A., KwaZulu Natal Province, / Ndumo Game Reserve, Hotwe Pan / 26º52'43.8"S, 32º18'27.1"E / 22.VI.2005, C. Haddad / Fever tree bark //' (NCA 2006/1510).

Other material examined: none.

Distribution: Restricted to the northern KwaZulu-Natal Province, South Africa (Fig. 38).

***Trachelas setosus* sp. n.**

Figs 30, 31, 35-38

Etymology: This species name refers to the tuft of setae situated distally on the tegulum cavity behind the embolus.

Diagnosis: The male of this species can be recognised by the tuft of dense setae distally on the tegulum cavity behind the embolus, the rounded tip of the embolus and the two retrolateral tibial apophyses. The ventral tibial apophysis is finger-like, and the second apophysis is retrolateral-dorsally situated, with small teeth-like structures covering the apophysis (Fig. 36). The female is easily recognised by the heart-shaped ducts extending from anterior ST 2 to the posterior, along the epigastric fold into ST 1 (Fig. 37).

Description:

Male

Measurements: CL 1.10-1.40, CW 0.93-1.08, AL 1.10-1.30, AW 0.75-0.88, TL 2.20-2.70, FL 0.08-0.20, SL 0.70-0.85, SW 0.55-0.63, AME-AME 0.03, AME-ALE 0.30, ALE-ALE 0.21, PME-PME 0.10, PME-PLE 0.13, PLE-PLE 0.43. Length of leg segments (sequence from femur to tarsus, and total): I 0.90 + 0.50 + 0.65 + 0.55 + 0.30 = 2.90; II 0.75 + 0.38 + 0.50 + 0.53 + 0.28 = 2.44; III 0.63 + 0.28 + 0.38 + 0.50 + 0.35 = 2.14; IV 0.85 + 0.33 + 0.65 + 0.55 + 0.23 = 2.61.

Carapace brown (Fig. 30); first two thirds of carapace rounded, with steep decline in last third; carapace texture finely granular; fovea short, narrow, relatively indistinct, at two thirds CL. Ocular region brown with dark brown rings around eyes; AER slightly recurved, almost straight; ALE slightly larger than AME; clypeus height equal to 0.5 AME diameter; AME separated by distance equal to their diameter; AME separated from ALE by distance equal to 0.5 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to 1.5 times their diameter; PME separated from PLE by distance equal to twice PME diameter. Chelicerae brown, anterior surface covered with scattered long, fine setae; two promarginal teeth, both teeth equal in size, one tooth distal and other proximal situated; two retromarginal teeth, distal tooth largest. Sternum brown, darker towards borders; elongated shield-shaped; surface smooth covered with short, fine setae scattered throughout sternum. Abdomen pale yellow with dorsal grey median line, extending to midpoint; abdomen grey posteriorly, grey band across midpoint of abdomen; two pairs of brown to grey sigillae, first pair anterior to midpoint, second pair posterior to midpoint of abdomen; abdomen slightly elongated, broad anteriorly, tapering posteriorly. Legs I to IV brown; anterior legs slightly more robust, darker than posterior legs; leg I with grainy texture compared to other legs; all leg segments covered in short, fine setae, moderately dense ventral scopulae found on metatarsi and tarsi of all legs, more prominent; regular leg spines, cusps absent. Palp brown; embolus coiled with rounded tip, with dense setae distally on the tegulum cavity behind embolus tip; two retrolateral tibial apophyses, ventral apophysis finger-like and dorsal apophysis rounded with small denticles (Figs 35, 36).

Female

Measurements: CL 1.00, CW 0.85, AL 1.45, AW 0.85, TL 2.60, FL 0.05, SL 0.65, SW 0.50, AME-AME 0.03, AME-ALE 0.03, ALE-ALE 0.18, PME-PME 0.60, PME-PLE 0.08, PLE-PLE 0.36. Length of leg segments (sequence from femur to tarsus, and total): I 0.65 + 0.35 + 0.43 + 0.38 + 0.25 = 2.06; II 0.55 + 0.30 +0.40 + 0.38 + 0.23 = 1.86; III 0.55 + 0.25 + 0.38 + 0.40 + 0.23 = 1.81; IV 0.70 + 0.20 + 0.28 + 0.58 + 0.23 = 1.99.

Carapace brown (Fig. 31); first two thirds of carapace rounded, with steep decline in last third; carapace texture granular, covered with short, fine setae; fovea short, indistinct, at two thirds CL. Ocular region brown with black rings around eyes; AER slightly recurved, almost straight; ALE slightly larger than AME; clypeus height equal to slightly more than 0.5 AME diameter; AME separated by distance equal to 0.5 their diameter; AME separated from ALE by distance equal to 0.5 AME diameter; PER recurved, PLE larger than PME; PME separated

by distance equal to twice their diameter; PME separated from PLE by distance equal to 2.5 times PME diameter. Chelicerae brown, anterior surface with scattered long, fine setae; two promarginal teeth, proximal tooth largest; three retromarginal teeth, distal tooth largest, proximal tooth smallest. Sternum brown, darker towards border; elongated shield-shaped; surface smooth with short, fine setae scattered throughout sternum. Abdomen pale yellow with brown scutum dorsally; dorsum covering almost entire length of abdomen; grey median line extending to midpoint of abdomen, extends covers abdomen posteriorly; median line dissected by grey lateral band; two pairs of grey sigillae, first pair anterior to midpoint, second pair posterior to midpoint of abdomen; abdomen broad anteriorly, tapering posteriorly. Legs I to IV uniform brown; anterior legs slightly more robust, darker than posteriors; short, fine setae scattered on all leg segment; moderately dense ventral scopulae found on metatarsi and tarsi of all legs, more prominent on leg III and IV; regular leg spines, cusps absent. Epigyne with ST 2 anterior to midpoint, heart-shaped ducts leading from ST 2 to posterior median ST 1 (Fig. 37).

Holotype: ♂ 'SOUTH AFRICA / Natal, 1.5km E of / Mtuzini Umlazi / Nature Res. 28º58'S. / 31º48'E. indigo. forest. / Dec. 1978. R. Miller. NM 12330 // Araneae / Corinnidae / Trachelinae / *Trachelas setosus* sp. n. / HOLOTYPE ♂ / det. R. Lyle //' (NMSA 12330).

Allotype: 1♀ 'SOUTH AFRICA: KwaZulu-Natal: / Sodwana Bay National Park, Mgoboseleni / trail, elev. 50m, 27º32'34.9"S 32º39'48.7"E, / 6-8.IV.2001, M. Ramirez // Araneae / Corinnidae / Trachelinae / *Trachelas setosus* sp. n. / ALLOTYPE ♀ / det. R. Lyle //' (MACN).

Paratype: 1♂ 'Onder Sabie / Skukuza / Kruger Nat. Park / 13.VIII.1991 / S. Neser / on plant //' (NCA 2002/364). 1♂ 'MOZAMBIQUE, near Marracuene / Marracuene Lodge / 25º46.379'S, 32º41.430'E / 12m a.s.l., R. Lyle & R. Fourie, 1.XII.2007 / beating shrubs, riverine forest //' (NCA 2008/175). 1♂ 'SOUTH AFRICA: KwaZulu-Natal: / St Lucia Game Reserve / Fanies Island, / elev. 25-30m, 28º06'36.8"S 32º25'52.5"E / 31.III-4.IV.2001, M. Ramirez //' (MACN).

Other material examined: none.

Distribution: Subtropical eastern parts of southern Africa (Fig. 38).

domiri species group

Trachelas angiportus sp. n.

Figs 39, 46, 47, 61

Etymology: This species name is Latin for “narrow street”, referring to the narrow, entrance ducts of the female.

Diagnosis: This species can easily be recognised by the narrow entrance ducts that appear congested, which extend from the medially situated ST 2 to the lateral ST 1 (Fig. 46). The copulatory openings are located anterolaterally with hood-like covers. Male unknown.

Description:

Female

Measurements: CL 1.10-1.15, CW 0.92-0.93, AL 1.40-1.50, AW 1.03-1.23, TL 2.60-2.80, FL 0.03-0.08, SL 0.63-0.68, SW 0.62-0.63, AME-AME 0.03, AME-ALE 0.03, ALE-ALE 0.23, PME-PME 0.10 PME-PLE 0.08, PLE-PLE 0.35. Length of leg segments (sequence from femur to tarsus, and total): I 0.93 + 0.38 + 0.68 + 0.55 + 0.38 = 2.92; II 0.85 + 0.35 + 0.65 + 0.60 + 0.38 = 2.83; III 0.55 + 0.33 + 0.60 + 0.48 + 0.25 = 2.21; IV 0.80 + 0.33 + 0.60 + 0.73 + 0.30 = 2.76.

Carapace orange-brown to reddish-brown (Fig. 39); first two thirds of carapace rounded, with steep decline in last third; carapace texture granular, covered with short, fine setae; fovea short, relatively distinct, at two thirds CL. Ocular region brown with black rings around eyes; AER recurved, ALE slightly larger than AME; clypeus height equal to approximately 1.7 times AME diameter; AME separated by distance equal to 0.4 AME diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 0.7 PME diameter. Chelicerae pale orange, anterior surface covered with scattered long, fine setae; three promarginal teeth, median tooth largest, proximal tooth smallest; two retromarginal teeth, distal tooth largest. Sternum bright orange, brown towards border, shield-shaped; surface slightly grainy with short, fine setae scattered throughout sternum. Abdomen pale yellow with mottled grey dorsum; sigillae indistinct; abdomen

broader anteriorly, tapering posteriorly. Legs I to IV pale yellow to yellow in colour, femur of legs I and II brown; anterior legs more robust, slightly darker than posteriors; moderately dense ventral scopulae on metatarsus and tarsus of leg I and II, more prominent on legs III and IV; regular leg spines, cusps absent. Genital area pale yellow to light brown; copulatory openings located anterolaterally, with narrow twisting ducts leading to median ST 2, ducts curving anterolaterally then posteriorly to round ST 1 posterior to midpoint (Figs 46, 47).

Male: unknown.

Holotype ♀ and Paratype ♀ : 'Br. CAMEROONS / Matute; Tiko Plan / tation IV-24.V-6-49 / B. Malkin // Imponderables // Araneae / Corinnidae / Trachelinae / *Trachelas angiportus* sp. n. / HOLOTYPE ♀ / det. R. Lyle //' (CAS).

Other material examined: none.

Distribution: Known from type locality (Fig. 61).

***Trachelas caecus* sp. n.**

Figs 40, 48, 49, 61

Etymology: This species name is derived from the Latin word "hidden", which refers to the embolus that is partly hidden behind the tegulum.

Diagnosis: This species can be recognised by the embolus, which is hidden behind the tegulum (Fig. 48). The dorsal distal patellar apophysis is triangular ending in a blunt point and the ventral retrolateral apophysis is smaller and triangular with a blunt point (Fig. 49). Ventral view of palp reveals a retrolateral patellar apophysis, which appears as a ridge when palp is examined retrolaterally. This species was collected in Matute, Cameroon together with the females of *T. angiportus* sp. n. and *T. flexuosus* sp. n., but since none of the species were captured together elsewhere we have not tried to match them. Female unknown.

Description:

Male

Measurements (eye and leg measurements from second largest specimen): CL 1.10-1.20, CW 0.93-0.98, AL 1.00-1.30, AW 0.88-0.95, TL 2.20-2.50, FL 0.10-0.10, SL 0.63-0.68, AME-AME 0.04, AME-ALE 0.03, ALE-ALE 0.20, PME-PME 0.08, PME-PLE 0.05, PLE-PLE 0.30. Length of leg segments (sequence from femur to tarsus, and total): I 0.95 + 0.38 + 0.78 + 0.60 + 0.25 = 2.96; II 0.80 + 0.35 + 0.68 + 0.63 + 0.40 = 2.86; III 0.55 + 0.28 + 0.35 + 0.45 + 0.25 = 1.88; IV 0.68 + 0.23 + 0.60 + 0.70 + 0.30 = 2.51.

Carapace reddish-brown (Fig. 40); first two thirds of carapace rounded, with steep decline in last third; surface texture granular, covered with short, fine setae; fovea short, slightly darker than carapace, indistinct, at two thirds CL. Ocular region reddish-brown with black rings around eyes; AER slightly recurved almost straight, ALE slightly larger than AME; clypeus height equal to approximately 1.4 times AME diameter; AME separated by distance equal to 0.7 AME diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 0.5 PME diameter. Chelicerae brown, anterior surface covered with scattered long, fine setae; two promarginal teeth, distal tooth largest; two retromarginal teeth, distal tooth largest. Sternum orange, darker towards border, shield-shaped; surface texture slightly grainy; short, fine setae scattered over sternum. Abdomen with pale brown scutum covering almost entire length of abdomen; scutum paler posterior to midpoint; one pair of dark brown sigillae posterior to midpoint; abdomen broader anteriorly, tapering posteriorly. Legs I to IV pale brown; anterior legs slightly darker, more robust that posterior legs; leg I with bumpy surface; all segments covered with short, fine setae; moderately dense ventral scopulae on tibiae, metatarsi and tarsi of all legs, scopulae more prominent on metatarsi and tarsi of legs III and IV; regular leg spines, cusps absent. Palp brown; embolus partly hidden behind tegulum; small ventral and large bluntly pointed distal dorsal patellar apophysis (Figs 48, 49).

Female: unknown.

Holotype: ♂ ‘Det. / Loc. Ghana, Kakum forest. Primary forest, / fogging / Rec. Jocqué r. & De Bakker D. & Baert L., / 21.XI.2005 / Mus. R. Afr. Centr. 212274 // MT. 218.274 //Araneae / Corinnidae / Trachelinae / *Trachelas caecus* sp. n. / HOLOTYPE ♂ / det. R. Lyle //’ (MRAC 218274).

Paratype: 2♂ ‘‘Br. CAMEROONS / Matute; Tiko Plan / tation IV-24.V-6-49 / B. Malkin // Imponderables // Araneae / Corinnidae / Trachelinae / *Trachelas caecus* sp. n. / PARATYPE ♂ / det. R. Lyle //’ (CAS).

Other material examined: none.

Distribution: Distributed limited to single localities in Cameroon and Ghana (Fig. 61)

Trachelas domiri sp. n.

Figs 41, 42, 50-54, 61

Etymology: This species is named after Domir De Bakker, who collected almost the entire type series during various fogging trips to the Democratic Republic of Congo.

Diagnosis: The male of this species can be recognised by the unique embolus of the male, which curves retrolaterally along tegulum from the base to almost to tip of the palp. When the embolus tip is examined ventrally, it extends almost completely across the palp prolaterally before curving sharply back retrolaterally, then back prolaterally (Figs 50, 51). The female of this species can be recognised by the unique, spherical concentric curvature of the entrance ducts, posterior to the midpoint of the epigyne (Fig. 54).

Description:

Male

Measurements: CL 1.00-1.30, CW 1.00-1.30, AL 1.40-1.50, AW 0.98-1.03, TL 2.40-2.90, FL 0.10, SL 0.60-0.80, SW 0.50-0.75, AME-AME 0.03, AME-ALE 0.03, ALE-ALE 0.23, PME-PME 0.10, PME-PLE 0.08, PLE-PLE 0.45. Length of leg segments (sequence for femur to tarsus, and total): I 1.23 + 0.33 + 1.08 + 0.80 + 0.53 = 3.97; II 1.15 + 0.40 + 0.95 + 0.78 + 0.50 = 3.78; III 0.78 + 0.35 + 0.53 + 0.63 + 0.33= 2.62; IV 1.05 + 0.38 + 0.90 + 0.90 + 0.40 = 3.63.

Carapace reddish-brown (Fig. 41); first three quarters of carapace rounded, with steep decline in last quarter; surface texture granular, covered with short, fine setae; fovea long, distinct, at two thirds CL. Ocular region reddish-brown with black rings around eyes; AER slightly recurved, almost straight; AME and ALE eyes equal in size; clypeus height equal to

approximately 1.25 AME diameter; AME separated by distance equal to approximately 0.25 their diameter; AME separated from ALE by distance equal to 0.25 AME diameter; PER recurved, PME and PLE equal in size; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 0.5 PME diameter. Chelicerae reddish-brown, anterior surface with scattered short, fine setae; three promarginal teeth, median tooth largest, proximal tooth smallest; two retromarginal teeth, proximal tooth largest. Sternum brown, darker towards border, shield-shaped; surface texture slightly grainy with short, fine setae scattered throughout sternum. Abdomen with pale yellow dorsum and grey median line, extends to midpoint; lateral lines along abdomen sides; two pairs of brown sigillae, first pair anterior to midpoint, second pair posterior to midpoint; abdomen broad anteriorly, tapering posteriorly. Legs I to IV pale brown, femur of all legs slightly darker; anterior legs more robust, darker in colour than posterior; long, erect setae found on tibia and metatarsus of leg I; all segments covered with scattered short, fine setae; moderately dense ventral scopulae on metatarsus and tarsus of all leg segments, more prominent on legs III and IV; regular leg spines, cusps absent. Palp pale brown to brown; embolus, extending retrolaterally along cymbium; embolus tip folded distally, directed prolaterally, bending sharply retrolaterally, then back prolaterally; two spines at distal tip of cymbium; sharp, proximal pointed retrolateral patellar apophysis present, with two small ventral denticles (Figs 50, 51).

Female

Measurements: CL 1.10-1.20, CW 0.93-1.00, AL 1.40-1.60, AW 0.80-1.18, TL 2.20-3.00, FL 0.03-0.05, SL 0.65-0.70, SW 0.65-0.68, AME-AME 0.03, AME-ALE 0.01, ALE-ALE 0.20, PME-PME 0.08, PME-PLE 0.05, PLE-PLE 0.35. Length of leg segments (sequence from femur to tarsus, and total): I 1.10 + 0.43 + 0.90 + 0.73 + 0.45 = 3.61; II 0.98 + 0.38 + 0.80 + 0.65 + 0.45 = 3.26; III 0.68 + 0.30 + 0.48 + 0.58 + 0.33 = 2.37; IV 0.98 + 0.30 + 0.78 + 0.83 + 0.38 = 3.27.

Carapace reddish-brown (Fig. 42); first three quarters of carapace rounded, with steep decline in last quarter; surface texture granular, covered with short, fine setae; fovea long, distinct, at two thirds CL. Ocular region reddish-brown with brown to black rings around eyes; AER slightly recurved, almost straight; AME and ALE equal in size; clypeus height equal to distance approximately AME diameter; AME separated by distance equal to approximately 0.5 their diameter; AME separated from ALE by distance equal to 0.25 AME diameter; PER recurved, PME and PLE equal in size; PME separated by distance equal to their 0.75 diameter; PME separated from PLE by distance equal to 0.5 PME diameter. Chelicerae

reddish-brown, anterior surface with scattered short, fine setae; three promarginal teeth, median tooth largest, proximal tooth smallest; two retromarginal teeth, proximal tooth largest. Sternum brown, darker towards border, shield-shaped; surface texture slightly grainy covered with short, fine setae scattered throughout sternum. Abdomen pale yellow dorsally; grey median line dorsally, extends to midpoint of abdomen; lateral lines along abdomen sides; two pairs of brown sigillae, first pair anterior to midpoint, second pair posterior to midpoint; abdomen broad anteriorly, tapering posteriorly. Legs I to IV pale brown to brown, femur of all legs dark ventrally than others; anterior legs more robust, darker in colour than posterior; long, erect setae found on tibia and metatarsus of leg I; all segments covered in short, fine setae; relatively dense ventral scopulae on metatarsus and tarsus of all leg segments, more prominent on legs III and IV; regular leg spines, cusps absent. Epigyne pale yellow to brown; copulatory openings near anterior of epigyne extending into concentrically curved entrance ducts; ST 1 median lateral in epigyne extending into narrow fertilization ducts (Figs 52-54).

Holotype: ♂ 'Det. / Loc. Congo, D. R., Bas Congo, Mayombe, Luki / Forest Reserve primary rainforest, near fogging site 1 and 2 / 5.XI.2006 / Rec. D. De Bakker & J. P. Michiels / Mus. R. G. Afr. Centr. 219976 // MT. 219976 // Araneae / Corinnidae / Trachelinae / *Trachelas domiri* sp. n. / HOLOTYPE ♂ / det. R. Lyle //' (MRAC 219976).

Allotype: ♀ 'Congo, D. R.: Kivu, camp de Makayoba, Semliki / 12.VII.1968 / Rec. M. Lejeune / Mus. R. G. Afr. Centr. 135777 // 135.777 // Araneae / Corinnidae / Trachelinae / *Trachelas domiri* sp. n. / ALLOTYPE ♀ / det. R. Lyle //' (MRAC 135777).

Paratypes: ♂ 1♀ 'Det. / Loc. Congo, D. R., Bas Congo, Mayombe, Luki / Forest Reserve, beating along trail near guest house, edge forest / Rec. D. De Bakker & J. P. Michiels, 14.XI.2006 / Mus. R. G. Afr. Centr. 219993 // MT. 219.993 //' (MRAC 219993). 8♂ 7♀ 'Det. / Loc. Congo, D. R., Bas Congo, Mayombe, Luki / Forest Reserve, primary rainforest, fogging / Rec. D. De Bakker & J. P. Michiels 13.XI.2006 / Mus. R. G. Afr. Centr. 220931 //' MT.220931 //' (MRAC 220931). 5♂ 7♀ 'Det. / Loc. Congo, D. R., Bas Congo, Mayombe, Luki / Forest Reserve primary rainforest, fogging 2 // Rec. D. De Bakker & J. P. Michiels, 7.XI.2006 / Mus. R. G. Afr. Centr. 220923 //' (MRAC 220923). 1♂ 'Det. / Loc: Congo, D. R.: Kivu, Vallée de la moyene Semliki / 9.VIII.1968 / rec. M. Lejeune //' (MRAC 132556). 1♂ 'Det. / Loc. Congo, D. R., Bas Congo, Mayombe, Luki / Forest Reserve primary rainforest, fogging ibis / 5.XI.2006 / Rec. D. De Bakker & J. P. Michiels / Mus. R. G. Afr.

Centr. 220922 // MT. 220922 //' (MRAC 220922). 1♂ 'Det. / Loc. Congo, D. R., Bas Congo, Mayombe, Luki / Forest Reserve primary rainforest, fogging 3 / 10.XI.2006 / Rec. D. De Bakker & J. P. Michiels / Mus. R. G. Afr. Centr. 220926 // MT. 220926 //' (MRAC 220926). 26♂ 23♀ 'Det. / Loc. Congo, D. R., Bas Congo, Mayombe, Luki / Forest Reserve, primary rainforest, fogging / Rec. D. De Bakker & J. P. Michiels 13.XI.2006 / Mus. R. G. Afr. Centr. 220928 //' MT.220928 //' (MRAC 220928).

Other material examined: CENTRAL AFRICAN REPUBLIC: 1♀ Prefecture Sangha-Mbaéré: Reserve Spéciale de Forét Dense de Dzanga-Sangha, 12.7km 326º NW Bayanga, elevation 420m, 3º0'18"N:16º11'36"E, 10-17.V.2001, rainforest, EC 30, beating, low vegetation, Collection Code: BLF 4087, B. L. Fisher (CAS). TANZANIA: 6♀ Rufigi District Namukutwa Forest Reserve, VIII-IX.1992, 8º19'S:39º00E, coast region, collecting by Frontier Tanzania (ZMUC). UGANDA: 1♀ Budongo Forest, 1º45'N:31º25'E, 1200m a.s.l., dry season, primary forest, *Rinorea beniensis*, T. Wagner (UKL); 1♀ same locality, seasonal rainforest, *Rinorea beniensis*, T. Wagner (UKL); 1♀ same locality, seasonal rainforest, secondary forest, *Trichilia rubescens*, T. Wagner (UKL); 1♀ same locality, swamp forest, *Teclea nobilis*, T. Wagner (UKL).

Distribution: Recorded from several countries in equatorial Africa (Fig. 61).

***Trachelas draconis* sp. n.**

Figs 43, 55, 56, 61

Etymology: The species name is derived from the Latin word for "a kind of snake, dragon", which refers to a kind of dragon. It refers to the embolus of the male which resembles the head and neck of a dragon.

Diagnosis: This species is recognised by the dragon-like embolus and rounded retrolateral ventral patellar apophysis (Fig. 55). This species is similar to *T. caecus* sp. n., however variation in the embolus shape separates them. Female unknown.

Description:

Male

Measurements: CL 1.10-1.20, CW 0.98-0.98, AL 1.20-1.30, AW 0.90-0.98, TL 2.10-2.65, SL 0.65-0.70, SW 0.63-0.65, AME-AME 0.03, AME-ALE 0.03, ALE-ALE 0.23, PME-PME 0.09, PME-PLE 0.05, PLE-PLE 0.36. Length of leg segments (sequence from femur to tarsus, and total): I 1.03 + 0.43 + 0.85 + 0.68 + 0.40 = 3.39; II 0.95 + 0.40 + 0.90 + 0.65 + 0.40 = 3.30; III 0.63 + 0.30 + 0.43 + 0.53 + 0.28 = 2.17; IV 0.80 + 0.30 + 0.60 + 0.80 + 0.30 = 2.80. Carapace brown to reddish-brown (Fig. 43); first two thirds of carapace rounded, with steep decline in last third; surface texture granular, covered with short, fine setae; fovea short, indistinct, at two thirds CL. Ocular region brown to reddish-brown with dark brown to black rings around eyes; AER slightly recurved, AME and ALE equal in size; clypeus height equal to approximately 1.25 times AME diameter; AME separated by distance equal to 0.25 their diameter; AME separated from ALE by distance equal to 0.25 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance their diameter; PME separated from PLE by distance equal to ½ PME diameter. Chelicerae orange to brown, anterior surface scattered with short, fine setae; three promarginal teeth, distal tooth smallest, other teeth equal in size; two retromarginal teeth, distal tooth largest. Sternum brown, darker towards border, shield-shaped; surface texture grainy; short, fine setae scattered throughout sternum. Abdomen with pale yellow to dark grey dorsum; brown scutum present, covering most of abdomen length; two pairs of brown sigillae, first pair anterior to midpoint, second pair posterior to midpoint; abdomen broader anteriorly, tapering posteriorly. Legs I to IV brown, femur of all legs darker brown; anterior legs more robust, darker than posterior; all segments covered in short, fine setae; relatively dense ventral scopulae on metatarsus and tarsus of all leg segments, more prominent on leg III and IV; regular leg spines, cusps absent. Palp brown; embolus with broad retrolateral section forming slightly curves stalk with feathered tip; sharply pointed dorsal patellar apophysis and retrolateral ventral apophysis present (Figs 55, 56).

Female: unknown.

Holotype ♂ and paratypes 2♂: ‘California Academy of Sciences / GABON: Province Ogooue-Maritime: / Reserve de Faune de la Moukalaba- / Dougoua, 12.2 km 305º NW / Doussala, 110m el., / rainforest, beating vegetation, / 2º17'0"S, 10º29'49"E / 24 February 2000 BLFisher, #2124 // Araneae / Corinnidae / Trachelinae / *Trachelas draconis* sp. n. / HOLOTYPE ♂ / PARATYPES 2♂ / det. R. Lyle //’ (CAS).

Other material examined: none.

Distribution: Known only from the type locality (Fig. 61).

***Trachelas flexuosus* sp. n.**

Figs 44, 57, 58, 61

Etymology: This species name is Latin from “winding”, which refers to the winding, turning internal ducts of the epigyne.

Diagnosis: This species can be recognised by the unique curvature of the internal ducts of the epigyne (Figs 57, 58). Male unknown.

Description:

Female

Measurements: CL 1.10-1.15, CW 0.92-0.93, AL 1.40-1.50, AW 1.03-1.23, TL 2.60-2.80, FL 0.03-0.08, SL 0.63-0.68, SW 0.62-0.63, AME-AME 0.03, AME-ALE 0.03, ALE-ALE 0.23, PME-PME 0.10, PME-PLE 0.08, PLE-PLE 0.35. Length of leg segments (sequence from femur to tarsus, and total): I 0.93 + 0.38 + 0.68 + 0.55 + 0.38 = 2.92; II 0.85 + 0.35 + 0.65 + 0.60 + 0.38 = 2.83; III 0.55 + 0.33 + 0.60 + 0.48 + 0.25 = 2.21; IV 0.80 + 0.33 + 0.60 + 0.73 + 0.30 = 2.76.

Carapace orange-brown to reddish-brown (Fig. 44); first two thirds of carapace rounded, with steep decline in last third; carapace texture granular, covered in short, fine setae; fovea short, relatively distinct, at two thirds CL. Ocular region brown with black rings around eyes; AER recurved, ALE slightly larger than AME; clypeus height equal to approximately 1.7 times AME diameter; AME separated by distance equal to 0.4 AME diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 0.7 PME diameter. Chelicerae pale orange, anterior surface covered with scattered long, fine setae; three promarginal teeth, median tooth largest, proximal tooth smallest; two retromarginal teeth, distal tooth largest. Sternum bright orange, brown towards border, shield-shaped; surface texture slightly grainy with short, fine setae scattered throughout sternum. Abdomen with pale yellow with mottled grey dorsally; sigillae indistinct; abdomen broader

anteriorly, tapering posteriorly. Legs I to IV pale brown with dark brown femora; anterior legs more robust, slightly darker than posteriors; moderately dense ventral scopulae on metatarsus and tarsus of leg I and II, more prominent on legs III and IV; regular leg spines, cusps absent. Copulatory openings anteriorly directed, extending into to winding turning entrance ducts; entrance ducts entering ST 2 medially (Figs 57, 58).

Male: unknown.

Holoype ♀ and paratype ♀: 'Br. CAMEROONS / Matute; Tiko Plan / tation IV-24.V-6-49 / B. Malkin // Imponderables // Araneae / Corinnidae / Trachelinae / *Trachelas flexuosus* sp. n. / HOLOTYPE ♀ AND PARATYPE ♀ / det. R. Lyle //' (CAS).

Other material examined: none.

Distribution: Known only from the type locality (Fig. 61)

***Trachelas porrectus* sp. n.**

Figs 45, 59-61

Etymology: This species name is Latin for 'stretched out, extended, long', which refers to the long male embolus.

Diagnosis: This species can be recognised by the long, slender embolus and the large, distal pointed retrolateral patellar apophysis. The patellar apophysis extends past the base of the tegulum (Fig. 59). Female unknown.

Description:

Male

Measurements: CL 1.10, CW 1.05, AL 1.50, AW 1.05, TL 2.70, FL 0.08, SL 0.73, SW 0.70, AME-AME 0.05, AME-ALE 0.03, ALE-ALE 0.20, PME-PME 0.10, PME-PLE 0.05, PLE-PLE 0.35. Length of leg segments (sequence from femur to tarsus, and total): I Missing; II Missing; III 0.75 + 0.43 + 0.70 + 0.55 + 0.40 = 2.83; IV 1.25 + ? + ? + ? + ? = ?.

Carapace dark reddish-brown (Fig. 45); first two third of carapace rounded, with steep decline in last third; carapace texture granular, covered with short, fine setae; fovea short, distinct, at two thirds CL. Ocular region brown with black rings around eyes; AER slightly recurved, ALE larger than AME; clypeus height equal to approximately AME diameter; AME separated by distance equal to their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PME and PLE equal in size; PME separated by distance equal to 1.4 their diameter; PME separated from PLE by distance equal to 0.7 PME diameter. Chelicerae brown, anterior surface covered in long, fine setae; two promarginal teeth, distal tooth largest; two retromarginal teeth, distal tooth largest. Sternum brown, darker towards border, shield shaped; surface texture slightly coarse covered with short, fine setae scattered throughout sternum. Abdomen with pale yellow dorsum and mottled grey scutum, extending over almost entire length of abdomen; sigillae absent; abdomen surface covered in short, fine setae; abdomen broader anteriorly, tapering posteriorly. Legs brown; anterior legs more robust, darker than posteriors; all segments covered with short, fine setae; moderately dense ventral scopulae on metatarsus and tarsus on all legs; regular leg spines, cusps absent. Palp brown; embolus long, originating retrolaterally distally on tegulum; embolus with broad base, becomes slender, extending along retrolateral side of tegulum, looping towards cymbium tip; strongly pointed, retrolateral patellar apophysis present, extending past tegulum base (Figs 59, 60).

Female: unknown.

Holotype: ♂ ‘RWANDA, Ibanda Makera, Rusumo / 2º09'S, 30º55'E, 1350m a.s.l. / X.93, T. Wagner / *Teclea nobilis* (Rutaceae) // Araneae / Corinnidae / Trachelinae / *Trachelas porrectus* sp. n. / HOLOTYPE ♂ / det. R. Lyle //’ (UKL).

Other material examined: none.

Distribution: Known only from the type locality (Fig. 61).

funiculus species group

Trachelas funiculus sp. n.

Figs 62-68

Etymology: This species name is derived from Latin for “thin rope or string”, which refers to the thin, rope-like embolus of the male.

Diagnosis: The male of the species can be recognised by the thin, long embolus of the male that twist around the cymbium tip (Fig. 64) and the patellar segment that appears to be folded over (Fig. 65). Females are recognised by the unique folded ducts that link ST 1 and ST 2 and copulatory openings incurved anterior ridges (Figs 66, 67).

Description:

Male

Measurements: CL 1.10-1.30, CW 1.03-1.08, AL 1.10-1.48, AW 1.00-1.08, TL 2.20-2.78, FL 0.08-1.00, SL 0.70-0.75, SW 0.68-0.69, AME-AME 0.05, AME-ALE 0.03, ALE-ALE 0.23, PME-PME 0.08, PME-PLE 0.05, PLE-PLE 0.35. Length of leg segments (sequence from femur to tarsus, and total): I 1.05 + 0.38 + 0.78 + 0.63 + 0.45 = 3.29; II 0.88 + 0.33 + 0.60 + 0.60 + 0.40 = 2.81; III 0.65 + 0.33 + 0.45 + 0.58 + 0.40 = 2.41; IV 0.88 + 0.40 + 0.73 + 0.85 + 0.35 = 3.21.

Carapace reddish-brown (Fig. 62); first two thirds of carapace rounded, with steep decline in last third; surface texture granular, covered with short, fine setae; fovea short, slightly darker in colour than carapace, distinct, at two thirds CL. Ocular region reddish-brown with black rings around eyes; AER slightly recurved, ALE eyes slightly larger than AME; clypeus height equal to approximately AME diameter; AME separated by distance equal to 0.25 their diameter; AME separated from ALE by distance equal to 0.25 AME diameter; PER recurved, PME and PLE equal in size; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 0.5 PME diameter. Chelicerae brown, anterior surface covered in scattered short, fine setae; two promarginal teeth, distal tooth largest; two retromarginal teeth, distal tooth largest. Sternum brown, darker towards border, shield-shaped; slightly grainy surface texture with short, fine setae scattered throughout sternum. Abdomen mottled grey with brown scutum dorsally; scutum covers almost entire length of abdomen; two pairs of brown sigillae; first pair of sigillae pale brown, anterior to midpoint;

second pair of sigillae darker, posterior to midpoint; abdomen broader anteriorly, tapering posteriorly. Legs I to IV reddish-brown to brown; anterior legs more robust, darker than posterior legs; short, fine setae scattered on all leg segments; moderately dense scopulae on metatarsi and tarsi of all legs, more prominent on legs III and IV; regular leg spines, cusps absent. Palp brown in colour; cymbium bent nearly 90º in distal half; thin, slender rope-like embolus originating proximally with broad base, extending retrolaterally around cymbium tip; patellar segment folded over; patellar with small denticles retrolaterally; small finger-shaped femoral apophysis (Figs 64, 65).

Female

Measurements: CL 1.10-1.15, CW 0.95-0.98, AL 1.40-1.50, AW 1.15-1.20, TL 2.65-2.70, FL 0.05-0.08, SL 0.68-0.70, SW 0.65-0.68, AME-AME 0.05, AME-ALE 0.01, ALE-ALE 0.20, PME-PME 0.08, PME-PLE 0.05, PLE-PLE 0.38. Length of leg segments (sequence from femur to tarsus, and total): I 0.98 + 0.35 + 0.70 + 0.58 + 0.40 = 3.01; II 0.88 + 0.35 + 0.63 + 0.60 + 0.35 = 2.81; III 0.58 + 0.23 + 0.43 + 0.58 + 0.28 = 2.10; IV 0.50 + 0.33 + 0.73 + 0.88 + 0.35 = 2.79.

Carapace reddish-brown (Fig. 63); first two thirds of carapace rounded, with steep decline in last third; surface texture granular, covered with short, fine setae; fovea short, slightly darker than carapace, indistinct, at two thirds CL. Ocular region reddish-brown with dark brown rings around eyes; AER slightly recurved, ALE slightly larger than AME; clypeus height equal to approximately AME diameter; AME separated by distance equal to 0.5 their diameter; AME separated from ALE by distance equal to 0.25 AME diameter; PER recurved, lateral eyes slightly larger than medians; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 0.7 PME diameter. Chelicerae brown, anterior surface covered in scattered short, fine setae; three promarginal teeth, median tooth largest, distal tooth smallest; two retromarginal teeth, distal tooth largest. Sternum orange, darker towards border, shield-shaped; surface smooth with short, fine setae scattered throughout sternum. Abdomen pale grey with two pairs of brown sigillae dorsally; first pair pale brown, anterior to midpoint; second pair darker, posterior to midpoint, abdomen broader anteriorly, tapering posteriorly. Legs I to IV uniform pale yellow, femora darker; anterior legs slightly more robust, darker than posterior legs; short, fine setae scattered over all leg segments; moderately dense scopulae on metatarsi and tarsi of all legs, more prominent on legs III and IV; regular leg spines, cusps absent. Epigyne weakly sclerotised; copulatory openings

anteriorly located in curved ridges; folded ducts linking small circular ST 2 to larger circular posterior ST 1 (Figs 66, 67).

Holotype 1♂ 'Det. / Loc. Ibadan, I.I.T.A., Nigeria (N 07° 14' E 003° 30') / Ecol. beaten from fallow bush, / Col. Col. by Russell-Smith A. on 23.VIII. / R.G. Mus. Afr. Centr. 177.238 // MT. 177.238 // Araneae / Corinnidae / Trachelinae / *Trachelas funiculus* sp. n. / HOLOTYPE ♂ / det. R. Lyle //' (MRAC 177238).'

Paratypes: 1♂ 'Riverine, Woodland / S. L. IITA, / IBADAN, 26.5.74 //' (BMNH). 2♀ 'Secondary forest, S. L. / IITA, IBADAN, NIGERIA, / 24.II.74 //' (BMNH). 2♀ 'UGANDA, Budongo Forest / 1º45'S:31º25"E, 1200m a.s.l / 43 5-15.I.97 T. Wagner / Seasonal Rainforest, Dry season / Secondary forest, *Rinorea beniensis* //' (UKL). 2♂ 1♀: 'Land: Nigeria, 10.VI.1981 / Loc. Ibadan, I.I.T.A., / Eco. beaten from shrub layer fallow / bush, W. Bank / Rec. Russell-Smith A. / R. G. Mus. Afr. Centr. 177.263 // MT. 177.263 //' (MRAC 177263).

Other material examined: none.

Distribution: Limited to single localities in Nigeria and Uganda (Fig. 68).

***gladius* species group**

***Trachelas amatola* sp. n.**

Figs 69, 77, 91

Etymology: This species is named after the Amatola Mountains, near Hogsback in the Eastern Cape Province, South Africa, where the type specimen was collected.

Diagnosis: This species can be recognised by the narrow anterior epigynal hood (Fig. 77) that is significantly smaller and not tongue-like in shape like that of *T. maputensis* and *T. gladius*; ST 2 small, globular, coupled to subrectangular ST 1 by ducts at a 60º angle to epigastric fold. Male unknown.

Description:

Female

Measurements: CL 1.30, CW 1.10, AL 1.60, AW 1.08, TL 3.00, FL 0.08, SL 0.83, SW 0.80, AME-AME 0.03, AME-ALE 0.01, ALE-ALE 0.20, PME-PME 0.08, PME-PLE 0.08, PLE-PLE 0.38. Length of leg segments (sequence from femur to tarsus, and total): I 0.98 + 0.53 + 0.68 + 0.63 + 0.40 = 3.22; II 0.88 + 0.48 + 0.68 + 0.60 + 0.25 = 2.89; III 0.73 + 0.33 + 0.50 + 0.63 + 0.30 = 2.35; IV 1.10 + 0.38 + 0.88 + 0.83 + 0.35 = 2.51.

Carapace pale brown (Fig. 69); first two thirds carapace rounded, with steep decline in last third; surface texture finely wrinkled, covered with short, fine setae; fovea short, narrow, indistinct, at two thirds CL. Ocular region brown with black rings around eyes; AER slightly recurved, AME slightly larger than ALE; clypeus height equal to less than AME diameter; AME separated by distance equal to 0.7 their diameter; AME separated from ALE by distance equal to 0.5 AME diameter; PER recurved, PLE larger than PME; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 0.75 PME diameter. Chelicerae brown, anterior surface covered in scattered short, fine setae; two promarginal teeth, distal tooth largest; three retromarginal teeth, median tooth largest, proximal tooth. Sternum pale yellow, slightly darker towards border, shield-shaped; surface smooth covered with short, fine setae scattered throughout sternum. Abdomen pale yellow to pale grey dorsally; covered with short, fine setae; two pairs of brown sigillae, first pair pale, anterior to midpoint, second pair darker, posterior to midpoint; abdomen broad anteriorly, tapering posteriorly. Legs pale brown; anterior legs slightly more robust, darker in colour than posteriors; short, fine setae on all leg segments; moderately dense ventral scopulae on anterior leg segments of metatarsi and tarsi of all legs, more prominent on legs III and IV; regular leg spines, cusps absent. Epigyne with narrow fingernail-like hood, anterior to copulatory openings; small, globular ST 2 connected to subrectangular ST 1 by ducts at 60º angle to epigastric fold (Fig. 77).

Male: unknown.

Holotype: ♀ ‘R.S.A., Eastern Cape Province, / Amatola mountains, Hogsback / Afromontane forest / 32º36'17.1"S, 26º56'34.8"E / C. Haddad, 25.III.2007 / Beats, foliage // Araneae / Corinnidae / Trachelinae / *Trachelas amatola* sp. n. / HOLOTYPE ♀ / det. R. Lyle //’ (NCA 2007/3838).

Other material examined: none.

Distribution: Known only from the type locality (Fig. 91).

***Trachelas fisheri* sp. n.**

Figs 70, 78, 91

Etymology: This species is named after Brian Fisher, who collected the type specimen of this species.

Diagnosis: This species can be recognised by the elliptically shaped anterolateral ST 2 and small, median circular ST 1 (Fig. 78). Male unknown.

Description:

Female

Measurements: CL 1.10, CW 0.95, AL 1.50, AW 1.23, TL 2.60, FL 0.05, SL 0.65, SW 0.63, AME-AME 0.03, AME-ALE 0.03, ALE-ALE 0.20, PME-PME 0.08, PME-PLE 0.05, PLE-PLE 0.23. Length of leg segments (sequence from femur to tarsus, and total): I 0.98 + 0.38 + 0.70 + 0.58 + 0.38 = 3.02; II 0.88 + 0.35 + 0.68 + 0.58 + 0.38 = 2.87; III 0.58 + 0.30 + 0.40 + 0.35 + 0.28 = 1.91; IV 0.80 + 0.25 + 0.68 + 0.78 + 0.33 = 2.84.

Carapace reddish-brown (Fig. 70); first two thirds of carapace rounded, with steep decline in last third; surface texture granular, covered in short, fine setae; fovea indistinct, at two thirds CL. Ocular region reddish-brown with black rings; AER slightly recurved, almost straight; ALE slightly larger than AME; clypeus height equal to approximately AME diameter; AME separated by distance equal to 0.4 their diameter; AME separated from ALE by distance equal to slightly less than 0.4 AME diameter; PER recurved, PME very slightly larger than PLE; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 0.4 PME diameter. Chelicerae brown, anterior surface scattered with long, fine setae; two promarginal teeth, proximal tooth largest; two retromarginal teeth, distal tooth largest. Sternum brown, darker towards border, shield-shaped; surface smooth covered with short, fine setae throughout sternum. Abdomen pale yellow dorsally with mottled pale grey median line, extending to midpoint; one pair of grey sigillae, posterior to midpoint of abdomen; abdomen broader anteriorly, tapering posteriorly. Legs I to IV pale brown, femora dark brown; anterior legs slightly more robust, slightly darker than posterior legs; leg I rough

texture compared to other legs; all segments covered with short, fine setae; dense ventral scopulae on metatarsi and tarsi of all legs, more prominent on legs III and IV; regular leg spines, cusps absent. Epigyne weakly sclerotised; elliptical, anterolateral ST 2 with narrow ducts leading to small circular ST 1; ST 1 slightly posterior to midpoint of epigyne; twirled spermathecal ducts posterior to ST 1 (Fig. 78).

Male: unknown.

Holotype: ♀ 'California Academy of Sciences / CENTRAL AFRICAN REPUBLIC: / Prefecture Sangha-Mbaéré: Réserve / Spéciale de Forét Dense de Dzanga- / Sangha, 12.7 km 326º NW Bayanga / Elev 420m, 3º0'18"N; 16º11'36"E / rainforest, EC30 beating low vegetation / 10-17.V.2001 / coll. B.L.Fisher Collection Code: BLF 4087 // Araneae / Corinnidae / Trachelinae / *Trachelas fisheri* sp. n. / HOLOTYPE ♀ / det. R. Lyle //' (CAS).

Additional material examined: none.

Distribution: Known only from the type locality (Fig. 91).

***Trachelas gladius* sp. n.**

Figs 71, 72, 79-83, 91

Etymology: This species name is derived from Latin for "gladius", which mean sword. This refers to the shape of the male embolus.

Diagnosis: The male palp has a tapering, slightly curved sword-like embolus (Fig. 81) with the short, broad retrolateral tibial apophysis (Fig. 80). The female can be recognised by the sharply curved, small copulatory openings anterior to ST 2, with an anteromedian hood of variable extent (Figs 81-83).

Description:

Male

Measurements: CL 1.10-1.70, CW 1.15-1.35, AL 1.30-1.90, AW 0.98-1.23, TL 2.60-3.65, FL 0.05-0.20, SL 0.80-0.98, SW 0.63-0.80, AME-AME 0.05, AME-ALE 0.03, ALE-ALE 0.28,

PME-PME 0.10, PME-PLE 0.13, PLE-PLE 0.50. Length of leg segments (sequence from femur to tarsus, and total): I 1.38 + 0.68 + 1.00 + 1.00 + 0.48 = 4.54; II 1.15 + 0.63 + 0.90 + 0.83 + 0.45 = 3.96; III 0.90 + 0.43 + 0.61 + 0.78 + 0.33 = 3.05; IV 1.28 + 0.53 + 1.03 + 1.08 + 0.38 = 4.30.

Carapace brown to reddish brown (Fig. 71); first three quarters of carapace rounded, with steep decline in last quarter; surface texture moderately granular, covered with short, fine setae; fovea long, distinct, at two thirds CL. Ocular region brown with black rings around eyes; AER slightly recurved, almost straight; AME and ALE equal in size; clypeus height equal to approximately 0.5 AME diameter; AME separated by distance equal to approximately 0.5 their diameter; AME separated from ALE by distance equal to 0.25 AME diameter; PER recurved, PME and PLE equal in size; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae brown, anterior surface with scattered short, fine setae; three promarginal teeth, median tooth largest, proximal tooth smallest; three retromarginal teeth, median tooth largest, distal tooth smallest. Sternum pale brown to brown, darker towards border; slightly elongated shield-shaped; surface with slightly grainy texture; short, fine setae scattered throughout sternum. Abdomen pale yellow dorsally with grey median line, extends to cover abdomen posterior to midpoint; two pairs of sigillae, first pair very pale brown, anterior to midpoint, second pair darker, posterior to midpoint; abdomen broad anteriorly, tapering posteriorly. Legs I to IV pale yellow to pale brown; anterior legs more robust, darker than posterior; all segments covered with short, fine setae; moderately dense ventral scopulae on metatarsus and tarsus of all leg segments, more prominent on legs III and IV; regular leg spines, cusps absent. Palp with cymbium tapering distally; embolus originating medially on tegulum, tapering distally, slightly curved, sword-like; short, broad retrolateral tibial apophysis (Figs 79, 80).

Female

Measurements: CL 1.20-1.40, CW 1.03-1.18, AL 1.65-2.30, AW 1.20-1.43, TL 2.85-3.80, FL 0.08-0.18, SL 0.78-0.88, SW 0.63-0.70, AME-AME 0.03, AME-ALE 0.01, ALE-ALE 0.20, PME-PME 0.08, PME-PLE 0.08, PLE-PLE 0.40. Length of leg segments (sequence from femur to tarsus, and total): I 0.95 + 0.53 + 0.73 + 0.40 + 0.40 = 3.01; II 0.88 + 0.50 + 0.70 + 0.53 + 0.40 = 3.01; III 0.78 + 0.35 + 0.53 + 0.58 + 0.30 = 2.53; IV 1.05 + 0.48 + 0.85 + 0.90 + 0.28 = 3.56.

Carapace orange to brown (Fig. 72); first two thirds of carapace rounded, with steep decline in last third; surface texture moderately granular, covered with short, fine setae; fovea short,

relatively distinct, at two thirds CL. Ocular region brown with black rings around eyes; AER slightly recurved, almost straight; AME larger than ALE; clypeus height equal to 0.7 AME diameter; AME separated by distance equal to 0.7 their diameter; AME separated from ALE by distance equal to approximately 0.4 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to slightly more their diameter; PME separated from PLE by distance equal to 0.4 PME diameter. Chelicerae pale brown, anterior surface with scattered short, fine setae; two promarginal teeth, distal tooth largest; three retromarginal teeth, distal tooth largest, proximal tooth smallest. Sternum pale brown, darker towards border, shield-shaped; smooth surface with short, fine setae scattered throughout sternum. Abdominal dorsum pale yellow to pale mottled grey; grey median line extending to midpoint of abdomen, covering abdomen posteriorly; sigillae not always distinct; two pairs of sigillae, first pair pale brown, anterior to midpoint, second pair darker, posterior to midpoint; abdomen oval in shape. Legs I to IV pale yellow to pale brown; anterior legs more robust, slightly darker than posteriors; all segments covered with short, fine setae; relatively dense ventral scopulae on metatarsus and tarsus of all leg segments; regular leg spines, cusps absent. Epigyne with hook-like copulatory openings posterior to ST 2; ST 2 long, elongated, almost two thirds epigyne length; thin fertilization ducts, at 45º angle to epigastric fold, leading to small, kidney-shaped ST 1; epigynal hood usually tongue-like often smaller (Figs 81-83).

Holotype ♂ and Allotype ♀: 'R.S.A., KwaZulu-Natal Province / Ndumo Game Res. / Pongola river, floodplain / 26º53'21.7"S, 32º19'53.5"E / C. Haddad, 8.VII.2004 / fever tree bark // Araneae / Corinnidae / Trachelinae / *Trachelas gladius* sp. n. / HOLOTYPE ♂ / ALLOTYPE ♀ / det. R. Lyle //' (NCA 2006/1517).

Paratypes: 1♀ 'False Bay Park / 28.I.2004 / J. Esterhuizen (Tsetse fly survey) //' (NCA 2004/778). 1♂ 2♀ 'R.S.A., KwaZulu-Natal Province / Ndumo Game Res. / S. boundary / fence, 26º55.6'S, 32º19.0'E / 13.VI.2005 / C. Haddad / *Commiophora harveyi* bark //' (NCA 2006/1340). 1♂ 'R.S.A., KwaZulu-Natal Province / Ndumo Game Res. / Sand forest, SE boundary fence / C. Haddad, 9.II.2005 / *Commiophora harveyi* bark //' (NCA 2005/1). 1♂ 'R.S.A., KwaZulu-Natal Province / Ndumo Game Res. / N. shore of Nyamiti Pan / C. Haddad, 07.VII.2006 / Fever tree bark //' (NCA 2002/413). 1♂ 'SOUTH AFRICA: Mpumalanga: Badplaas: / Embuleni Nature Reserve / grassveld savannah, in wooded areas / 25º57'12"S, 30º33'15"E / 1100m el., 28.III.2001 / D. & S. Ubick //' (CAS). 1♀ 1juv. SOUTH AFRICA: Mpumalanga Province: / Embuleni Reserve: / near Badplaas, 28.III.2001 (MACN).

1♀ ‘Phalaborwa / 13.VIII.2001 / S. Neser / from old pods of *Dichrostachys cinerea* //’ (NCA 2002/162). 2♀ ‘SOUTH AFRICA: Zululand, Mtunzini / Twin Streams Farm (I. F. Garland) / 28º57'S: 31º46'E, 19-29.I.1884 / T. & C. Griswold, P. Croeser & P. Reavell //’ (NMSA).

Other material examined: none.

Distribution: Recorded from subtropicaleastern South Africa (Fig. 91).

***Trachelas kakumensis* sp. n.**

Figs 73, 84, 85, 91

Etymology: This species name is named after the Kakum forest, where the entire type series was collected.

Diagnosis: This species can be recognised by the egg-shaped anterolateral ST 2, anterolateral copulatory openings, and long curved ducts leading to ST 1 (Fig. 84). ST 1 small, circular, medially situated. Male unknown.

Description:

Female

Measurements: CL 1.00-1.10, CW 0.90-0.95, AL 1.20-1.40, AW 0.98-1.18, TL 2.20-2.40, FL 0.45-0.50, SL 0.67-0.68, AME-AME 0.04, AME-ALE 0.03, ALE-ALE 0.20, PME-PME 0.08, PME-PLE 0.03, PLE-PLE 0.28. Length of leg segments (sequence from femur to tarsus, and total): I 0.90 + 0.38 + 0.73 + 0.55 + 0.28 = 2.84; II 0.85 + 0.33 + 0.65 + 0.55 + 0.35 = 2.73; III 0.58 + 0.30 + 0.33 + 0.50 + 0.25 = 1.96; IV 0.80 + 0.25 + 0.63 + 0.73 + 0.33 = 2.74.

Carapace reddish-brown (Fig. 73); first two thirds of carapace rounded, with steep decline in last third; surface texture granular, covered with short, fine setae; fovea short, distinct, at two thirds CL. Ocular region reddish-brown with black rings around eyes; AER slightly recurved, almost straight; ALE slightly larger than AME; clypeus height equal to slightly less than AME diameter; AME separated by distance equal to 0.4 their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PME and PLE approximately equal in size; PME separated by distance equal to 0.5 their diameter; PME separated from PLE by distance equal to 0.25 PME diameter. Chelicerae brown, anterior surface covered

with short, fine setae; two promarginal teeth, both teeth equal in size, situated distally; two retromarginal teeth, distal tooth largest. Sternum brown, darker towards border, shield-shaped; surface texture slightly grainy; short, fine setae scattered throughout sternum surface. Abdomen with pale yellow dorsum covered with short, fine setae; two pairs of pale brown sigillae, first pair paler, slightly smaller than second pair; abdomen broader anteriorly, tapering posteriorly. Legs I to IV pale brown, femora dark brown; anterior legs slightly darker, more robust that posteriors; all segments covered with short, fine setae; moderately dense ventral scopulae on tibiae, metatarsi and tarsi of all legs, scopulae more prominent on metatarsi and tarsi of legs III and IV; regular leg spines, cusps absent. Epigyne pale yellow, weakly sclerotised; anterolateral ST 2 with anterolateral copulatory openings with long curved ducts leading to ST 1; ST 1 small, circular medially situated (Figs 84, 85).

Male: unknown.

Holotype: ♀ 'Loc. Ghana, Kakum forest. Primary forest, / fogging / Rec. Jocqué R. & De Bakker D. & Baert L., / 21.XI.2005 / Mus. R. Afr. Centr. 212274 // MT. 218.274 // Araneae / Corinnidae / Trachelinae / *Trachelas kakumensis* sp. n. / HOLOTYPE ♀ / det. R. Lyle //' (MRAC 218274).

Paratype: 1♀ 'Loc. Ghana, Kakum forest. Primary forest, / fogging / Rec. Jocqué R. & De Bakker D. & Baert L., / 23.XI.2005 / Mus. R. Afr. Centr. 218283 // MT. 218283 //' (MRAC 218283).

Other material examined: none.

Distribution: Known only from the type locality (Fig. 91).

***Trachelas malkini* sp. n.**

Figs 74, 86, 91

Etymology: This species is named after the collector, Borys Malkin, who collected the only known specimen of the species. He donated much of his material from numerous trips to Africa throughout the 1940's to the 1980's, to the California Academy of Science.

Diagnosis: This species can easily be recognised by the circular anterolateral ST 2 and lateral copulatory openings situated medially (Fig. 86). ST 1 are positioned directly below the copulatory openings, and are small and circular in shape. Male unknown.

Description:

Female

Measurements: CL 1.10, CW 0.93, AL 1.50, AW 1.25, TL 2.80, FL 0.05, SL 0.65, SW 0.63, AME-AME 0.04, AME-ALE 0.03, ALE-ALE 0.20, PME-PME 0.10, PME-PLE 0.05, PLE-PLE 0.33. Length of leg segments (sequence from femur to tarsus, and total): I 0.90 + 0.35 + 0.68 + 0.55 + 0.38 = 2.86; II 0.74 + 0.33 + 0.65 + 0.58 + 0.33 = 2.63; III 0.53 + 0.28 + 0.35 + 0.40 + 0.25 = 1.81; IV 0.80 + 0.23 + 0.58 + 0.73 + 0.25 = 2.59.

Carapace reddish-brown (Fig. 74); first two thirds of carapace rounded, with steep decline in last third; surface texture granular, covered with short, fine setae; fovea short, distinct, at two thirds CL. Ocular region brown with black rings around eyes; AER slightly recurved, AME and ALE equal in size; clypeus height equal to approximately AME diameter; AME separated by distance equal to approximately their diameter; AME separated from ALE by distance equal to approximately 0.4 AME diameter; PER recurved, lateral eyes slightly larger than medians; PME separated by distance 1.25 times their diameter; PME separated from PLE by distance equal to 0.7 PME diameter. Chelicerae brown, anterior surface covered with short, fine setae; two promarginal teeth, proximal tooth largest; two retromarginal teeth, distal tooth largest. Sternum orange, darker towards border, shield-shaped; surface texture appears grainy; short, fine setae scattered throughout sternum. Abdomen dorsally pale yellow with grey median line; median line extending to midpoint of abdomen, spreads to cover abdomen posteriorly; two pairs of brown sigillae, first pair pale brown, anterior to midpoint, second pair darker, posterior to midpoint; abdomen oval in shape. Legs I to IV pale brown, femora darker; anterior legs more robust, darker than posteriors; all segments covered in short, fine setae; moderately dense ventral scopulae on metatarsus and tarsus of all leg segments, more prominent on leg III and IV; regular leg spines, cusps absent. Epigyne weakly sclerotised, with median copulatory openings, opening laterally; large circular anterolateral ST 2; small circular ST 1 directly posterior to copulatory openings (Fig. 86).

Male: unknown.

Holotype: ♀ ‘Br. CAMEROONS / Matute; Tiko Plan / tation IV-24.V-6-49 / B. Malkin // Imponderables // Araneae / Corinnidae / Trachelinae / *Trachelas malkini* sp. n. / HOLOTYPE ♀ / det. R. Lyle //’ (CAS).

Other material examined: none.

Distribution: Known only from the type locality (Fig. 91).

***Trachelas maputensis* sp. n.**

Figs 75, 87, 88, 91

Etymology: This species name is derived from the Maputaland ecoregion in northern KwaZaulu-Natal Province, South Africa and southern Mozambique where the type specimens were collected.

Diagnosis: This species can be recognised by the large tongue-like hood and the orientation of the copulatory openings anteriorly (Fig. 87). ST 2 is subtriangular and significantly smaller than that of *T. gladius*, but similar in shape. ST 1 is larger and more spherical than that of *T. gladius*, and is broader on its transverse axis. Male unknown.

Description:

Female

Measurements: CL 1.15-1.20, CW 0.85-0.90, AL 1.30-1.38, AW 0.90-0.95, TL 1.45-2.58, FL 0.09-0.10, SL 0.60-0.68, SW 0.55-0.60, AME-AME 0.05, AME-ALE 0.03, ALE-ALE 0.20, PME-PME 0.08, PME-PLE 0.08, PLE-PLE 0.40. Length of leg segments (sequence from femur to tarsus, and total): I 0.70 + 0.38 + 0.48 + 0.40 + 0.28 = 2.24; II 0.58 + 0.35 + 0.40 + 0.38 + 0.25 = 1.96; III 0.55 + 0.28 + 0.30 + 0.40 + 0.23 = 1.76; IV 0.83 + 0.35 + 0.48 + 0.63 + 0.25 = 2.54.

Carapace orange-brown (Fig. 75); first two thirds of carapace rounded, with steep decline in last third; surface texture granular, covered with short, fine setae; fovea short, distinct, at two thirds CL. Ocular region brown with black rings around eyes; AER slightly recurved, AME and ALE equal in size; clypeus height equal to approximately 0.5 AME diameter; AME separated by distance equal to 0.4 their diameter; AME separated from ALE by distance equal

to 0.4 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae orange, anterior surface scattered with long, fine setae; three promarginal teeth, proximal tooth largest, distal tooth smallest; two retromarginal teeth, distal tooth largest. Sternum pale brown, darker towards border, shield-shaped; surface smooth covered with short, fine setae scattered throughout sternum. Abdomen pale yellow with pale grey median line dorsally, extending towards midpoint; abdomen mottled grey posteriorly; two pairs of distinct brown sigillae, one pair anterior to midpoint and other pair posterior to midpoint of abdomen; abdomen broad anteriorly, tapering posteriorly. Legs I to IV pale yellow; anterior legs slightly more robust than posteriors; more noticeable in leg I; legs pale yellow in colour; all leg segments covered in short, fine setae; moderately dense ventral scopulae found on metatarsus and tarsus of legs I and II; regular leg spines, cusps absent. Epigyne with large, tongue-like hood extending over almost entire length of epigyne; copulatory openings anterolaterally situated, directed anteriorly with spermathecal ducts at 60º angle to epigastric fold; ST 2 small, subtriangular, anterolaterally situated; ST 1 larger, oval, near proximal end of epigynal hood (Figs 87, 88).

Male: unknown.

Holotype: ♀ ‘Mozambique / Village Hotel, / Inhaca Island / 23.XII.1992 / T. Steyn // Araneae / Corinnidae / Trachelinae / *Trachelas maputensis* sp. n. / HOLOTYPE ♀ / det. R. Lyle //’ (NCA 93/220).

Paratype: 1♀ ‘KwaZulu-Natal Province / Kosi Bay / Bush beating / M. Filmer / 28.X.87 // ’ (NCA 88/506).

Other material examined: none.

Distribution: Known from two localities along the coastline of Maputaland (Fig. 91).

***Trachelas minutus* sp. n.**

Figs 76, 89-91

Etymology: This name is derived from Latin and refers to the small size of the specimen. It is significantly smaller than other species.

Diagnosis: This species can be recognised by the simple cymbium with slender prolateral embolus originating at tegulum base, extending prolaterally along tegulum. The retrolateral tibial apophysis is rounded ventrally and sharply pointed dorsally. Female unknown.

Description:

Male

Measurements: CL 1.00, CW 0.80, AL 1.00, AW 0.70, TL 2.00, FL 0.05, SL 0.63, SW 0.50, AME-AME 0.05, AME-ALE 0.03, ALE-ALE 0.25, PME-PME 0.10, PME-PLE 0.08, PLE-PLE 0.33. Length of leg segments (sequence from femur to tarsus, and total): I 0.65 + 0.35 + 0.55 + 0.45 + 0.30 = 2.30; II 0.60 + 0.30 + 0.48 + 0.40 + 0.28 = 2.06; III 0.48 + 0.23 + 0.30 + 0.38 + 0.23 = 1.62; IV 0.63 + 0.25 + 0.48 + 0.53 + 0.20 = 2.09.

Carapace mottled orange-brown (Fig. 76); first three quarters of carapace rounded, with steep decline in last quarter; surface texture finely granular, covered with short, fine setae; fovea short, distinct, at two thirds CL. Ocular region brown with darken rings around eyes; AER slightly recurved, AME and ALE equal in size; clypeus height equal to AME diameter; AME separated by distance equal to 0.7 their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PME and PLE equal in size; PME separated by distance larger than their diameter; PME separated from PLE by distance equal to less than PME diameter. Chelicerae pale brown, anterior surface covered with short, fine setae; two promarginal teeth, largest distal; two retromarginal teeth, largest distal. Sternum brown, darker towards border, shield shaped; finely grainy surface covered with scattered long, fine setae throughout sternum. Abdomen with dark grey mottling dorsally with pale yellow undertones; surface covered with moderately dense short, fine setae; paired sigillae absent; broader anteriorly, tapering posteriorly. Legs I to IV uniform pale brown, with darkened femurs; anterior legs more robust, slightly darker than posterior; scattered short, fine setae on all leg segments; moderately dense ventral scopulae on tibia, metatarsi and tarsi of all legs; regular leg spines, cusps absent. Palp pale brown; sperm duct extending retrolaterally along tegulum towards prolateral embolus base; embolus extending along prolateral margin of

tegulum, tip at retrolateral margin of cymbium; broad retrolateral tibial apophysis with rounded lobe ventrally and sharp point dorsally (Figs 89, 90).

Female: unknown.

Holotype: ♂ 'Land: South Africa, 11.III.1993 / Loc. Cederberg, Sanddrif / Eco. Rocky area, / Rec. Jocqué R. R. G. Mus. Afr. Centr. 174.703 // MT. 174.703 // Araneae / Corinnidae / Trachelinae / *Trachelas minutus* sp. n. / HOLOTYPE ♂ / det. R. Lyle //' (MRAC 174703).

Other material examined: none.

Distribution: Known only from the type locality (Fig. 91).

***hamus* species group**

***Trachelas hamus* sp. n.**

Figs 92, 93, 96-99, 104

Etymology: This species name is derived from Latin meaning "a hook", which refers to the sharply hooked retrolateral tibial apophysis.

Diagnosis: The male of this species can be recognised by the sharply hooked retrolateral tibial apophysis (Fig. 97) and the extended, broad embolus (Fig. 96). The female of this species can be recognised by the rounded, triangular median epigynal hood, flanked by anterior large, piriform ST 2 and posterior small globular ST 1 (Fig. 98).

Description:

Male

Measurements: CL 1.20, CW 1.05, AL 1.43, AW 1.00, TL 2.63, FL 0.08, SL 0.80, SW 0.68, AME-AME 0.05, AME-ALE 0.03, ALE-ALE 0.25, PME-PME 0.08, PME-PLE 0.08, PLE-PLE 0.40. Length of leg segments (sequence from femur to tarsus, and total): I 1.15 + 0.55 + 0.90 + 0.73 + 0.48 = 3.81; II 0.93 + 0.45 + 0.73 + 0.63 + 0.40 = 3.14; III 0.93 + 0.48 + 0.70 + 0.60 + 0.23 = 2.94; IV 1.13 + 0.45 + 0.88 + 0.88 + 0.33 = 3.67.

Carapace yellow-brown (Fig. 92); first two third of carapace rounded, with steep decline in last third; surface texture granular, covered with short, fine setae; fovea short, distinct, at two thirds CL. Ocular region brown with black rings around eyes; AER slightly recurved, almost straight; AME slightly larger than ALE; clypeus height equal to distance less than AME diameter; AME separated by distance equal to 0.75 their diameter; AME separated from ALE by distance equal to 0.25 AME diameter; PER recurved, PME slightly larger PLE; PME separated by distance equal to 1.5 times their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae brown, anterior surface covered in scattered long, fine setae; three promarginal teeth, median tooth largest, proximal tooth smallest; two retromarginal teeth, distal tooth largest. Sternum pale yellow, darker towards border, shield shaped; smooth surface covered with short, fine setae scattered throughout sternum. Abdomen pale yellow with mottled pale to dark grey dorsally; paired sigillae absent; surface covered in short, fine setae; abdomen broader anteriorly, tapering posteriorly. Legs I to IV pale brown; femora slightly paler; anterior legs more robust, darker than posteriors; all segments covered with short, fine setae; moderately dense ventral scopulae on metatarsus and tarsus on all legs, more prominent on legs III and IV; regular leg spines, cusps absent. Palp pale brown; embolus broad, curved, flattened, originating at tip of tegulum; retrolateral tibial apophysis sharply hooked (Figs 96, 97).

Female

Measurements: CL 1.20-1.50, CW 1.13-1.33, AL 1.90-2.03, AW 1.33-1.55, TL 3.04-3.38, FL 0.05-0.05, SL 0.80-0.95, SW 0.68-0.83, AME-AME 0.05, AME-ALE 0.03, ALE-ALE 0.28, PME-PME 0.10, PME-PLE 0.08, PLE-PLE 0.45. Length of leg segments (sequence from femur to tarsus, and total): I 1.15 + 0.60 + 0.83 + 0.68 + 0.45 = 3.71; II 1.00 + 0.55 + 0.70 + 0.63 + 0.40 = 3.28; III 0.83 + 0.45 + 0.53 + 0.63 + 0.28 = 2.72; IV 1.25 + 0.50 + 0.98 + 0.93 + 0.40 = 4.06.

Carapace brown with orange undertones (Fig. 93); first two thirds of carapace rounded, with steep decline in last third; surface texture granular, covered with short, fine setae; fovea short, thin, distinct, at two thirds CL. Ocular region brown with dark brown rings around eyes; AER slightly recurved; ALE slightly larger than AME; clypeus height equal to less than 0.7 AME diameter; AME separated by distance equal to approximately 0.5 their diameter; AME separated from ALE by distance equal to approximately 0.4 AME diameter; PER recurved; PLE slightly larger than PME; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to slightly less than PME diameter. Chelicerae pale

brown; anterior surface covered with scattered short, fine setae; three promarginal teeth, proximal tooth largest, distal tooth smallest; three retromarginal teeth, median tooth largest; proximal tooth smallest. Sternum pale brown, darker towards border, shield-shaped; smooth surface covered with short, fine setae throughout. Abdomen pale yellow with mottled grey dorsally; very pale brown median line dorsally; paired sigillae, anterior pair paler than posterior pair; abdomen broader anteriorly, tapering posteriorly. Legs I to IV pale brown; anterior legs slightly larger than posteriors; all legs segments with short, fine setae; moderately dense ventral scopulae on metatarsi and tarsi of all legs, more prominent on legs III and IV; regular leg spines, cusps absent. Epigyne weakly sclerotised, with rounded, triangular median epigynal hood; ST 2 large, piriform, broader anteriorly than posteriorly; ST 1 smaller, circular when examined ventrally (Figs 98, 99).

Holotype: ♂ 'R.S.A., Limpopo Province / Soutpansberg Mountains / Woodland, / Pitfall site 49 / 11/05/05 // Araneae / Corinnidae / Trachelinae / *Trachelas hamus* sp. n. / HOLOTYPE ♂ / det. R. Lyle //' (NCA 2005/1884).

Allotype: 1♀ 'R.S.A., Limpopo Province / Soutpansberg Mountains / Lajuma Mountain Retreat / 23º02.414'S, 29º26.687'S / Woodland sifting / site & sample 1 / 6.XII.2004 / Ignota // Araneae / Corinnidae / Trachelinae / *Trachelas hamus* sp. n. / ALLOTYPE ♀ / det. R. Lyle //' (NCA 2005/1885)

Paratypes: 3♀ 'R.S.A., Limpopo Province / Soutpansberg Mountains / Lajuma Mountain Retreat / 23º02.414'S, 29º26.687'S / 6.II.2008, C. Haddad / Base of grass tussocks //' (NCA 2008/512).

Other material examined: none.

Distribution: Known only from the Soutpansberg Mountains in the Limpopo Province, South Africa (Fig. 104).

***Trachelas penicillus* sp. n.**

Figs 94, 95, 100-104

Etymology: The species name is derived from the Latin word for “painters brush”, which refers to the shape of the embolus tip in the lateral view.

Diagnosis: This species can be recognised by the sickle-shape embolus (Fig. 100), the rounded, broad retrolateral tibial apophysis, and the brush-like appearance of the embolus tip when palp is examined retrolaterally (Fig. 101). The female of this species can be recognised by the inverted V-shaped epigynal hood and the large, piriform ST 2 and smaller, rounded posterior ST 1 (Figs 102, 103).

Description:

Male

Measurements: CL 1.10-1.90, CW 0.93-1.15, AL 1.10-1.30, AW 0.80-0.98, TL 2.60-3.20, FL 0.13, SL 0.71-0.88, SW 0.55-0.70, AME-AME 0.05, AME-ALE 0.03, ALE-ALE 0.20, PME-PME 0.08, PME-PLE 0.08, PLE-PLE 0.40. Length of leg segments (sequence from femur to tarsus, and total): I 0.98 + 0.43 + 0.60 + 0.53 + 0.30 = 2.84; II 0.75 + 0.40 + 0.55 + 0.50 + 0.28 = 2.48; III 0.65 + 0.33 + 0.40 + 0.28 + 0.25 = 1.91; IV 0.90 + 0.35 + 0.68 + 0.70 + 0.30 = 2.93.

Carapace dark reddish-brown (Fig. 94); first two thirds of carapace rounded, with steep decline in last third; carapace texture finely granular, with short, fine setae; fovea short, thin, distinct, at two thirds CL. Ocular region brown with dark brown rings around eyes; AER slightly recurved, AME and ALE equal in size; clypeus height equal to slightly less than AME diameter; AME separated by distance equal to their diameter; AME separated from ALE by distance equal to 0.5 AME diameter; PER recurved, median and lateral eyes equal in size; PME separated by distance equal to twice their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae orange, anterior surface covered with scattered long, fine setae; three promarginal teeth, median tooth largest, distal tooth smallest; three retromarginal teeth, distal tooth largest, proximal tooth smallest. Sternum brown, darker towards borders; shield-shaped; surface smooth; short, fine setae scattered throughout sternum. Abdomen mottled grey dorsally, varying in shades; two pairs of brown to pale grey sigillae, one pair anterior to midpoint and second pair posterior to midpoint; abdomen broad anteriorly, tapering posteriorly. Legs I to IV brown, femora dark brown; anterior legs slightly more robust, darker than posterior; leg I with grainy texture compared to other legs; all leg segments covered with short, fine setae; moderately dense ventral scopulae found on metatarsi and tarsi of all legs, more prominent on leg III and IV; regular leg spines, cusps absent. Palp

brown, sperm duct running along tegulum margin, with sickle-shaped embolus distally (Fig. 100); retrolateral tibial apophysis winding when examined ventrally, broad and rounded when examined retrolaterally, with two small dorsal denticles (Figs 100, 101).

Female

Measurement: CL 1.20-1.50, CW 1.10-1.35, AL 1.00-2.20, AW 1.30-1.68, TL 2.20-3.40, FL 0.08-0.13, SL 0.63-0.78, SW 0.63-0.70, AME-AME 0.05, AME-ALE 0.03, ALE-ALE 0.25, PME-PME 0.10, PME-PLE 0.09, PLE-PLE 0.43. Length of leg segments (sequence from femur to tarsus, and total): I 0.83 + 0.35 + 0.53 + 0.53 + 0.25 = 2.49; II 0.63 0.38 + 0.48 + 0.48 + 0.30 = 2.27; III 0.53 + 0.38 + 0.35 + 0.43 + 0.23 = 1.92; IV 0.78 + 0.35 + 0.65 + 0.60 + 0.20 = 2.58.

Carapace reddish brown (Fig. 95); first two thirds of carapace rounded, with steep decline in last third; surface texture granular, covered with short, fine setae; fovea short, thin, distinct, at two thirds CL. Ocular region brown, dark brown rings around eyes; AER very slightly recurved, almost straight; ALE larger than AME; clypeus height equal to approximately AME diameter; AME separated by distance equal to 1.7 their diameter; ALE separated by distance equal to AME diameter; PER recurved, PLE larger than PME; PME separated by distance equal to slightly larger than their diameter. PME separated from PLE by distance equal to approximately double PME diameter. Chelicerae brown, anterior surface scattered with long, fine setae; three retromarginal teeth, proximal tooth largest, distal tooth smallest; three promarginal teeth, proximal tooth largest, distal tooth smallest. Sternum; brown, shield-shaped smooth surface covered in short, fine setae. Abdomen with pale yellow with mottled grey dorsum; very pale sigillae, anterior to midpoint; abdomen broad anteriorly, tapering posteriorly. Legs I to IV pale brown with incomplete band arrangement; anterior legs more robust, slightly darker than posteriors; legs I to IV with incomplete band arrangement, femur I and II with distal incomplete band, patella none, tibia two incomplete bands, one distal and one proximal, metatarsi 1 incomplete, proximal, tarsi none; all leg segments scattered with fine setae, tarsi and metatarsi of leg III and IV with moderately dense, ventral scopulae; regular leg spines, cusps absent. Epigyne weakly sclerotised, inverted V-shaped hood extending to copulatory openings; copulatory openings small, slightly posterior to midpoint; ST 2 large, piriform, located anteriorly; ST 1 smaller, circular, near epigastric fold (Figs 102, 103).

Holotype: 1♂ ‘5km from Groblersdal / 20.IV.1979 / A. S. Dippenaar / sweeps, grass // Araneae / Corinnidae / Trachelinae / *Trachelas penicillus* sp. n. / HOLOTYPE ♂ / det. R. Lyle //’ (NCA 97/767).

Allotype: 1♀ ‘R.S.A., EASTERN CAPE / HOGSBACK / 2º56'34.8"S, 26º56'34.8"E / 27.III.2008 / J. SAAIMAN / BEATS, AFROMONTANE / FOREST // Araneae / Corinnidae / Trachelinae / *Trachelas penicillus* sp. n. / ALLOTYPE ♀ / det. R. Lyle //’ (NCA 2008/572).

Paratype: 1♂ ‘Pietermaritzburg, Town Bush / S. Slopes Hogsback / El. 1000m (29.33S, 30.21E) / from leaf litter and shrubs in / indigenous forest near Bats Cave / 20 Sep. 1984 / P. M. C. Croeser, C. & T. Griswold //’ (NMSA). 1 ♀ ‘SOUTH AFRICA: Western Cape Province / coast at Indigenous Forest Natures Valley / 34ºS; 24ºE, I-II.1991 / V. D. & B. Roth //’ (CAS). 1♀ ‘SOUTH AFRICA: Western Cape Province / Table Mountain Skeleton Gorge / 34ºS; 18º30'E / 13.II.1991, V. D. & B. Roth //’ (CAS). 1♂ ‘R.S.A., Eastern Cape Prov. / 20 km W of Grahamstown on / N2 Highway, 33º25.237'S / 26º21.266'E / 13.VIII.2005 / C. Haddad & R. Lyle / Under *Eucalyptus* bark //’ (NCA 2006/1333).

Other material examined: none.

Distribution: Widely but sporadically distributed in South Africa (Fig. 104).

***latus* species group**

***Trachelas latus* sp. n.**

Figs 105, 106, 108-111, 114

Etymology: The species name is taken from the Latin for “side, flank”, referring to the long embolus of the male, which extends along lateral side of cymbium.

Diagnosis: The male of this species can be recognised by the inverted comma-shaped embolus, which extends along the retrolateral side of the cymbium (Fig. 109). The female can be recognised by the perpendicularly compressed entrance ducts posterior to copulatory openings (Fig. 110).

Description:

Male

Measurements: CL 1.10-1.20, CW 0.95-1.05, AL 1.40-1.50, AW 1.03-1.18, TL 2.40-2.70, FL 0.05-0.08, SL 0.63-0.70, SW 0.60-0.70, AME-AME 0.05, AME-ALE 0.03, ALE-ALE 0.25, PME-PME 0.10, PME-PLE 0.08, PLE-PLE 0.40. Length of leg segments (sequence from femur to tarsus, and total): I 1.05 + 0.38 + 0.70 + 0.55 + 0.43 = 3.11; II 0.90 + 0.35 + 0.73 + 0.55 + 0.40 = 2.50; III 0.80 + 0.30 + 0.45 + 0.53 + 0.38 = 2.46; IV 1.13 + 0.40 + 0.75 + 0.70 + 0.33 = 3.31.

Carapace brown, with slight red undertones (Fig. 105); first two thirds of carapace rounded, with steep decline in last third; surface texture granular, covered with short, fine setae; fovea short, slender, distinct, at two thirds CL. Ocular region brown with black rings around eyes; AER slightly recurved, almost straight; lateral eyes larger than medians; clypeus height equal to AME diameter; AME separated by distance equal to 0.7 their diameter; AME separated from ALE by distance equal to approximately 1.25 AME diameter; PER recurved, PME and PLE equal in size; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 0.5 PME diameter. Chelicerae brown, anterior surface scattered with short, fine setae; three promarginal teeth, median tooth largest, distal tooth smallest; two retromarginal teeth, distal tooth largest. Sternum pale brown, darker towards border, shield-shaped; slightly grainy surface texture scattered with short, fine setae throughout sternum. Abdomen with pale yellow to pale grey dorsally; brown scutum present, extending over ¾ of abdomen length; two pairs of brown sigillae, first pair pale, anterior to midpoint, second pair darker, posterior to midpoint, abdomen broader anteriorly, tapering posteriorly. Legs I to IV brown, femora darker; anterior legs more robust, slightly darker than posterior; all segments covered with short, fine setae; moderately dense ventral scopulae on metatarsus and tarsus of all leg segments, more prominent on leg III and IV; regular leg spines, cusps absent. Palp elongated, cymbium narrower distally; embolus inverted comma-shaped, extends retrolaterally along cymbium; long, tapered retrolateral patellar apophysis (Figs 108, 109).

Female

Measurements (eye and leg measurements from second largest specimen): CL 1.40-1.45, CW 1.15-1.28, AL 1.30-1.90, AW 1.13-1.45, TL 3.00-3.50, FL 0.05-0.08, SL 0.88-0.90, SW 0.73-0.75, AME-AME 0.03, AME-ALE 0.03, ALE-ALE 0.28, PME-PME 0.13, PME-PLE 0.10, PLE-PLE 0.50. Length of leg segments (sequence from femur to tarsus, and total): I 1.00 +

0.55 + 0.75 + 0.68 + 0.43 = 3.41; II 0.93 + 0.50 + 0.65 + 0.60 + 0.40 = 3.08; III 0.80 + 0.28 + 0.53 + 0.60 + 0.33 = 2.54; IV 1.10 + 0.60 + 0.85 + 0.85 + 0.35 = 3.70.

Carapace brown to reddish-brown (Fig. 106); first two third of carapace rounded, with steep decline in last third; surface texture slightly granular, covered with short, fine setae; fovea short, slender, distinct, at two thirds CL. Ocular region brown to reddish-brown with dark rings around eyes; AER slightly recurved; ALE larger than AME; clypeus height equal to slightly more than AME diameter; AME separated by distance equal to less then 0.4 their diameter; AME separated from ALE by distance equal to 0.4 diameter; PER recurved, lateral PLE slightly larger than PME; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 0.7 PME diameter. Chelicerae brown, anterior surface scattered with long, fine setae; two promarginal teeth, distal tooth largest; two retromarginal tooth, distal tooth largest. Sternum pale yellow, darker towards border, shield shaped; smooth surface covered with long, fine setae. Abdomen pale dorsally with very pale mottled grey across surface; sigillae absent; broader anteriorly, tapering posteriorly. Legs uniform pale yellow to pale brown; anterior legs slightly larger than posteriors; scattered setae on all leg segments; regular legs spines, ventral cusps absent. Epigyne with curved, anterior copulatory openings, entrance ducts forming compressed; coils; ST 2 hidden behind ducts when examined ventrally; ST 1 elliptical, touching epigastric fold (Figs 110, 111).

Holotype: ♂ ‘Uganda, Budongo Forest / 1º45'S, 31º25'E, 1-10.VII.05, 1200m a.s.l. / Seasonal Rainforest / *Rinorea beiensis*, Secondary forest // Araneae / Corinnidae / Trachelinae / *Trachelas latus* sp. n. / HOLOTYPE ♂ / det. R. Lyle //’ (UKL).

Allotype: ♀ ‘Det. Congo: Kivu, camp de Makayoba / Loc. (Semleki) 12/7/1968 / Rec. R. P. M. Lejeune / R. G. Mus. Afr. Centr. 135.754 // 135.754 // Araneae / Corinnidae / Trachelinae / *Trachelas latus* sp. n. / ALLOTYPE ♀ / det. R. Lyle //’ (MRAC 135.754).

Paratypes: 1♂ ‘Uganda, Budongo Forest / 1º45'S, 31º25'E, 1-10.VII.05, 1200m a.s.l. / Seasonal Rainforest / *Cynometra alexandri* Secondary forest //’ (UKL). 2♂ ‘Uganda, Budongo Forest / 1º45'S, 31º25'E, 11-20.VII.05, 1200m a.s.l. / Seasonal Rainforest / *Trichilia rubescens*, Secondary forest //’ (UKL). 1♂ ‘Uganda, Budongo Forest / 1º45'S, 31º25'E, 5-15.I.97, 1200m a.s.l. / Seasonal Rainforest (dry season) / *Rinorea beniensis (=ardisiifolia)* (Violaceae), Secondary forest //’ (UKL). 1♂ ‘Uganda, Budongo Forest / 1º45'S, 31º25'E, 5-15.I.97, 1200m a.s.l. / Seasonal Rainforest (dry season) / *Cynometra alexandri*

(Caesalpiniaceae), Secondary forest //' (UKL). 1♂ 'Uganda, Budongo Forest / 1º45'S, 31º25'E, 15-25.I.97, 1200m a.s.l. / Seasonal Rainforest (dry season) / *Rinorea beniensis*, Swamp forest //' (UKL). 1♂ 'Uganda, Budongo Forest / 1º45'S, 31º25'E, 15-25.I.97, 1200m a.s.l. / Seasonal Rainforest (dry season) / *Rinorea beniensis*, Secondary forest //' (UKL). 1♀ 'Uganda, Budongo Forest / 1º45'S, 31º25'E, 11-20.VII.05, 1200m a.s.l. / Seasonal Rainforest / *Trichilia rubescens*, Secondary forest //' (UKL). 1♀ 'Uganda, Budongo Forest / 1º45'S, 31º25'E, 15-26.I.97, 1200m a.s.l. / Seasonal Rainforest (dry season) / *Cynometra alexandri* (Caesalpiniacae), Secondary forest //' (UKL). 1♀ 'Uganda, Budongo Forest / 1º45'S, 31º25'E, 15-25.I.97, 1200m a.s.l. / Seasonal Rainforest (dry season) / *Cynometra alexandri* (Caesalpiniacae), Secondary forest //' (UKL). 1♀ 'Uganda, Budongo Forest / 1º45'S, 31º25'E, 15-15.I.97, 1200m a.s.l. / Seasonal Rainforest (dry season) / *Rinorea beniensis*, Secondary forest (nights) //' (UKL). 1♀ 'Uganda, Budongo Forest / 1º45'S, 31º25'E, 5-15.I.97, 1200m a.s.l. / Seasonal Rainforest (dry season) / *Rinorea beniensis (=ardisiifolia)* (Violaceae), Secondary forest //' (UKL). 2♀ 'Uganda, Budongo Forest / 1º45'S, 31º25'E, 5-15.I.97, 1200m a.s.l. / Seasonal Rainforest (dry season) / *Rinorea beniensis (=ardisiifolia)* (Violaceae), Secondary forest //' (UKL).

Other material examined: none.

Distribution: Two localities in the Democratic Republic of Congo and Uganda (Fig. 114).

***Trachelas pressus* sp. n.**

Figs 107, 112-114

Etymology: This species name is derived from the Latin for "pressum", which refers to the appearance of the coiled entrance ducts pressing or pushing each other medially.

Diagnosis: This species can be recognised by the large, oval copulatory openings that extend into large, coiled entrance ducts (Fig. 113). The ST 2 are hidden behind the entrance ducts when examined ventrally, with the small, triangular posterior ST 1 clearly seen (Fig. 112). Male unknown.

Description:

Female

Measurements: CL 1.40-1.50, CW 1.35-1.43, AL 2.10-2.50, AW 1.40-1.85, TL 3.50-4.00, FL 0.07-0.08, SL 0.88-0.93, SW 0.85-0.88, AME-AME 0.08, AME-ALE 0.03, ALE-ALE 0.30, PME-PME 0.13, PME-PLE 0.05, PLE-PLE 0.48. Length of leg segments (sequence from femur to tarsus, and total): I 1.53 + 0.58 + 1.18 + 1.00 + 0.60 = 4.89; II 1.48 + 0.58 + 1.15 + 0.95 + 0.63 = 4.79; III 1.05 + 0.40 + 0.50 + 0.90 + 0.45 = 3.30; IV 1.55 + 0.53 + 1.25 + 1.35 + 0.58 = 5.26.

Carapace brown to reddish-brown (Fig. 107); first two thirds of carapace rounded, with steep decline in last third; surface texture slightly granular, covered with short, fine setae; fovea short, slender, distinct, at two thirds CL. Ocular region brown to reddish-brown with dark rings around eyes; AER very slightly procurved; ALE larger than AME; clypeus height equal to slightly more than AME diameter; AME separated by distance equal to less then their diameter; AME separated from ALE by distance equal to 0.4 diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to 1.4 their diameter; PME separated from PLE by distance equal to 0.7 PME diameter. Chelicerae brown, anterior surface scattered with long, fine setae; two promarginal teeth, distal tooth largest; two retromarginal tooth, distal tooth largest. Sternum pale yellow, darker towards border, shield shaped; smooth surface covered with long, fine setae. Abdomen pale dorsally with very pale mottled grey across surface; sigillae absent; abdomen broader anteriorly, tapering posteriorly. Legs uniform pale yellow to pale brown; anterior legs slightly larger than posterior legs; scattered setae on all leg segments; regular leg spines, cusps absent. Epigyne with large, oval anterior openings; entrance ducts broad, spiraling; ST 2 hidden behind entrance ducts when examined ventrally; ST 1 small, triangular in shape (Figs 112, 113).

Male: unknown.

Holotype: ♀ ‘Det. / Loc. Kenya, Kakamega forest. N 00° 13’ E 034° 54’, Malaise trap / Rec. Shilabira Smith D., 14.IX.2002 / Mus. R. Afr. Centr. 220.240 // MT. 220.240 // Araneae / Corinnidae / Trachelinae / *Trachelas pressus* sp. n. / HOLOTYPE ♀ / det. R. Lyle //’ (MRAC 220240).

Paratype: 1♀ ‘Det. / Loc. Kenya, Kakamega Forest. Malaise trap / Rec. Shilibira Smith D., 20.IV.2000 / Mus. R. Afr. Centr. 220.501 // MT. 220.501 //’ (MRAC 200501).

Other material examined: none.

Distribution: Known only from the type locality (Fig. 114).

***minor* species group**

***Trachelas addis* sp. n.**

Figs 115, 133, 134, 139

Etymology: This species name is derived from a noun in apposition of the type locality, Addis Abada.

Diagnosis: This species can be recognised by the elongate cymbium with hook like embolus and small rounded tegular apophysis, slightly anterior to midpoint of tegulum (Fig. 133). Female unknown.

Remark: This species is tentatively placed in the *minor* group based on the embolus shape, and the simple tegulum and cymbium, although it lacks a patellar apophysis.

Description:

Male

Measurements: CL 1.20, CW 1.10, AL 1.40, AW 0.95, TL 2.70, FL 0.03, SL 0.75, SW 0.68, AME-AME 0.08, AME-ALE 0.03, ALE-ALE 0.25, PME-PME 0.10, PME-PLE 0.08, PLE-PLE 0.38. Length of leg segments (sequence from femur to tarsus, and total): I 0.93 + 0.40 + 0.68 + 0.58 + 0.43 = 3.02; II 0.88 + 0.38 + 0.73 + 0.60 + 0.40 = 2.99; III 0.75 + 0.28 + 0.43 + 0.55 + 0.28 = 2.29; IV 0.75 + 0.28 + 0.58 + 0.65 + 0.38 = 2.64.

Carapace brown (Fig. 115); first two thirds of carapace rounded, with steep decline in last third; surface texture granular, covered with short, fine setae; fovea indistinct, at two thirds CL. Ocular region brown with dark brown rings around eyes; AER slightly recurved, almost straight; lateral eyes larger than medians; clypeus height equal to 1.4 AME diameter; AME separated by distance equal to their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 0.75 PME diameter.

Chelicerae brown, anterior surface covered in long, fine setae; two promarginal teeth, distal tooth largest; two retromarginal teeth, proximal tooth largest. Sternum shield-shaped; pale brown in colour, darker towards border; smooth surface scattered with short, fine setae throughout sternum. Abdomen pale yellow dorsally with grey median line, extends to midpoint of abdomen and covers abdomen posteriorly; median line intersected by grey horizontal band slightly anterior to midpoint; two pairs of brown sigillae, first pair brown anterior to midpoint, second pair posterior to midpoint; abdomen broader anteriorly, tapering posteriorly. Legs I to IV pale yellow; anterior legs more robust, darker than posteriors; all segments covered with short, fine setae; moderately dense ventral scopulae on metatarsus and tarsus of all leg segments, more prominent on leg III and IV; regular leg spines, cusps absent. Palp pale brown, elongated cymbium; conical embolus tip, board near base; small tegulum apophysis, anterior to midpoint; lacks tibial and patellar apophysis; large, flattened femoral apophysis (Figs 133, 134).

Female: unknown.

Holotype: ♂ 'Ethiopia, 17 km East of Addis Ababa / under stones, stream valley / A. Russell-Smith, 20.V.1988 // Araneae / Corinnidae / Trachelinae / *Trachelas addis* sp. n. / HOLOTYPE ♂ / det. R. Lyle // (ANMH).

Other material examined: none.

Distribution: Known only from the type locality (Fig. 139).

Trachelas chubbi **Lessert, 1921**

Figs 116, 117, 135-139

Trachelas chubbi Lessert, 1921: 435, figs 74-76

Diagnosis: This species can be recognised by the short, distally twisted embolus with rounded tip, somewhat comma-shaped when the palp examined retrolaterally. Retrolateral patellar apophysis small, sharply pointed (Fig. 136). The female of this species can be recognised by

the small circular ridges that lead to the copulatory openings and the larger globular ST 2. ST 1 is triangular in shape, slightly posterior midpoint (Fig. 137).

Redescription:

Male

Measurements: CL 1.44-2.24, CW 1.20-1.76, AL 1.65-2.40, AW 1.10-1.92, TL 2.60-4.72, FL 0.08-0.12, SL 0.86-1.10, SW 0.80-1.04, AME-AME 0.08, AME-ALE 0.04, ALE-ALE 0.37, PME-PME 0.18, PME-PLE 0.12, PLE-PLE 0.65. Length of leg segments (sequence from femur to tarsus, and total): I 1.69 + 0.73 + 1.31 + 0.94 + 0.63 = 5.31; II 1.43 + 0.65 + 1.12 + 0.86 + 0.65 = 4.71; III 1.12 + 0.45 + 0.78 + 0.94 + 0.41 = 3.70; IV 1.41 + 0.59 +1.10 + 1.31 + 0.51 = 4.92.

Carapace reddish brown (Fig. 116); first half of carapace rounded, with highest point at one quarter CL; gradual decline in third quarter, steep decline in last quarter; carapace surface granular, covered with short, fine setae; fovea small, distinct, slightly thickened, at two thirds CL. Ocular region reddish brown with darkened, almost black, rings around eyes; AER slightly recurved, AME and ALE roughly equal; clypeus height equal to 1.2 AME diameter; AME separated by 0.5 their diameter; AME separated from ALE by distance equal to 0.2 AME diameter; PER recurved, PME and PLE equal in size; PME are separated by distance equal to approximately 1.2 their diameter; PME separated from PLE by distance equal to PLE diameter. Chelicerae reddish brown to brown, anterior surface covered in long fine setae; three promarginal teeth, proximal tooth largest, distal tooth smallest; two retromarginal teeth, distal tooth largest. Sternum orange, brown towards borders; shield-shaped; smooth surface scattered with short, fine setae throughout sternum. Abdomen creamy white to pale yellow dorsally with dark brown to grey chevron marking; brown median line extending into transverse branches posterior to midpoint with grey lines laterally along abdomen length; paired sigillae absent; surface covered with fine setae; abdomen broader anteriorly, tapering posteriorly. Legs I to IV pale brown with incomplete band arrangement; anterior legs more robust, slightly darker than posteriors; legs I to IV with incomplete band arrangement, femur I and II with distal incomplete band, patella none, tibia two incomplete bands, one distal and one proximal, metatarsi 1 incomplete, proximal, tarsi none; all legs segments covered with short, fine setae; moderately dense ventral scopulae on metatarsi and tarsi of all legs; regular leg spines, cusps absent. Palp pale brown to brown in colour; embolus short, twisting with rounded tip; sperm duct with broad posterior bend; curved, sharply pointed retrolateral patellar apophysis (Figs. 135, 136).

Female

Measurements: CL 1.18-1.92, CW 0.98-1.16, AL 1.84-3.04, AW 1.41-2.08, TL 2.70-4.88, FL 0.01-0.06, SL 0.76-1.08, SW 0.69-1.02, AME-AME 0.08, AME-ALE 0.04, ALE-ALE 0.37, PME-PME 0.14, PME-PLE 0.12, PLE-PLE 0.65. Length of leg segments (sequence from femur to tarsus, and total): I 1.41 + 0.71 + 1.02 + 0.86 + 0.59 = 5.59; II 1.37 + 0.67 + 1.10 + 0.90 + 0.55 = 4.59; III 0.94 + 0.59 + 1.90 + 0.86 + 0.47 = 4.76; IV 1.49 + 0.63 + 1.10 + 1.06 + 0.32 = 4.60.

Carapace surface reddish-brown (Fig. 117); first two thirds of carapace gradually rounded, with relatively steep decline in last third; surface texture slightly granular, covered with short, fine setae; fovea indistinct, at roughly two thirds CL. Ocular region orange to brown with dark brown to black rings around eyes; AER recurved, AME larger than ALE; clypeus height equal to twice AME diameter; AME separated by approximately 0.5 their diameter; AME separated from ALE by distance equal to 0.25 ALE diameter; PER recurved, PME slightly larger PLE; PME separated by distance equal to 1.4 their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae brown to pale orange, anterior surface scattered with long fine setae; three promarginal teeth, median tooth largest, distal tooth smallest; two retromarginal teeth, distal tooth largest. Sternum orange, brown towards border, shield-shaped; slightly grainy surface texture with scattered short, fine setae. Abdomen with creamy white to pale yellow dorsum; chevron marking present; dorsal brown median line extending to three quarters length of abdomen, with brown to dark grey lines laterally; paired sigillae absent abdomen broader anteriorly, tapering posteriorly. Legs I to IV pale yellow to pale brown, with incomplete band arrangement; anterior legs pairs more robust, slightly darker than posteriors; legs I to IV with incomplete band arrangement, femora I and II with distal incomplete band, patellae none without bands, tibiae two incomplete bands, one distal and one proximal, metatarsi 1 incomplete, proximal, tarsi none; all legs segments covered in short, fine setae; relatively dense, pale ventral scopulae on tibiae, metatarsi and tarsi; regular leg spines, cusps absent. Genital area relatively well sclerotised, brown to dark brown; curved copulatory openings at median in epigyne; ST 2 globular below openings; ST 2 in posterior half of epigyne, above epigastric fold (Figs 137, 138).

Holotype ♂ and Allotype: ♀ ‘Collection Roger de Lessert No. 32 / *Trachelas chubbi* Lessert, 1921 / Loc. Kibonoto Lona des cultures IX // Museum Geneve / coll. de Lessert: Afrique //’ (MHNG).

Other material examined: BURUNDI: 1♀ Forêt de Rwegura, 02°55'S:29°31'E, alt. 2200m a.s.l., 10.IV.2002, versant est, by hand, B. Nzigidahera (MRAC 214149). DEMOCRATIC REPUBLIC OF CONGO: 1♂ Bikara, 18 km south of Lubéro, Lubéro-Goma road, 00° 15'S:29°12'E, alt 2100m a.s.l., XII.1976, 2.100 m a.s.l., feuilles sèches de lobélies M. Lejeune (MRAC 159934); 1♀ Bikara, 18 km S of Lubero, Lubéro-Goma road, 00°15'S:29°12'E, alt. 2100m a.s.l., dans vieilles tiges de lobélies, M. Lejeune (MRAC 221588); 1♂ Kivu, Mt. Lubwe, S.E. de Butembo, 00°02'N:29°18'E, alt. 2400m a.s.l., 13.IV.1971, dans mousse, M. Lejeune (MRAC 138905); 1♀ Rutshuru, 01°11'S:29°27'E, V. 1937, J. Ghesquière (MRAC 174313). KENYA: 2♂ 2♀ 2 juv. Castle Forest lodge, 1.5 km South, 00°23'S:37°18'E, 1985m a.s.l., 21.IV.2004, mountain forest, beating, R. Jocqué, Warui & Van den Spiegel (MRAC 215131); 1♂ 1♀ Castle Forest lodge, 1,5 km South, 00°23'S:37°18'E, 1985m a.s.l., 21.IV.2004, mountain forest, beating, R. Jocqué, Warui & Van den Spiegel (MRAC 215136); 1♀ Kakamega Forest, Ileho, 00°13'N:34°54'E, 22.IX.2002, malaise trap, D. Shilabira Smith (MRAC 220199); 1♀ Kakamega Forest, 00°13'N:34°54'E, 14.IX.2002, malaise trap, D. Shilabira Smith (MRAC 220239); 1♀ Kakamega Forest, 00°13'N:34°54'E, 28.IX.2002, malaise trap, D. Shilabira Smith (MRAC 220255); 1♀ Kakamega Forest, 00°13'N:34°54'E, 22.VI.2002, malaise trap, D. Shilabira Smith (MRAC 220261); 1♀ Kakamega Forest, 00°13'N:34°54'E, 29.VI.2002, malaise trap, D. Shilabira Smith (MRAC 220483); 1♀ Kakamega Forest, 00°13'N:34°54'E, 20.VI.2002, malaise trap, D. Shilabira Smith (MRAC 220502); 1♀ Nairobi, Karara forest, 8.XII.1979, dense edge trees & climbers, P. Reavell (NMSA 13405). TANZANIA: 1♀ Kilimanjaro, Marangu, 3°17'S:37°31'E, 1550m a.s.l., N. Leleup & J. Leleup (MRAC 112233); 1♀ Mountain Hanang, south slope, 4°26'S:35°24'E, 2200-2300m a.s.l., 24-25.V.1957, forêt avec Cupressus, gorge du Himit, Unknown (MRAC 111723); 2♀ Mkomazi Game Reserve, 1.II.1996, roadside, in grass litter, A. Russell-Smith (PCRS); 2♂ 4♀ 8 juv. Tanga, East Usambara mountains, Amani forest, 5º5.7'S:38º38'E, 950m a.s.l.., 27.X-9.XI.1995, C. E. Griswold, N. Scharff & D. Ubick (CAS); 10♀ 28 juv. Tanga, East Usambara mountains, Amani Mbomole Hill, 5º5.7'S:38º37'E, 1000m a.s.l., 5-8.XI.1995, C. E. Griswold, N. Scharff & D. Ubick (CAS); 1♂ 2 juv. Tanga, East Usambara mountains, Sangarawe forest, 5º6.5'S:38º35.7'E, 990m a.s.l., 5-6.XI.1995, C. E. Griswold, N. Scharff & D. Ubick (CAS); 2♂ 4♀ 8 juv. Tanga, East Usambara mountains, Sangarawe forest, 5º5.7'S:38º38'E, 950m a.s.l., 27.X-9.XI.1995, C. E. Griswold, N. Scharff & D. Ubick (CAS); 4♂ 5♀ 24 juv. Tanga, West Usambara mountains, Mazumbai forest, 4º49'S:38º30'E, 1400-1800m a.s.l., 10-20.XI.1995, C. E. Griswold, N. Scharff & D. Ubick (CAS); 1♂ 2♀ 12

juv. Tanga, West Usambara mountains, Mazumbai forest, 4º49'S:38º29'E, 1800-1900m a.s.l., 10-20.XI.1995, C. E. Griswold, N. Scharff & D. Ubick (CAS); 2♂ Top of Ibaya hill, Mkomazi Game Reserve, 04°00'S:38°00'E, 29.I.1996, dry *Spirostachys* forest, A. Russell-Smith (MRAC 211322); 1♂ Uluguru Mountains, Lupanga West, 1900m a.s.l, I-VII.1981, pitfall trap, M. Scholtze & N. Scharff (ZMUC); 1♀ East Usambara Mountains, Amani, 1000m a.s.l., 20.VII.1980, M. Scholtze & N. Scharff (ZMUC).

Distribution: Tropical East and Central Africa (Fig. 139).

***Trachelas falsus* sp. n.**

Figs 118, 119, 140-143, 154

Etymology: This species name is taken from the Latin for "mistaken or misled", which refers to the mistaken identification of this species as *T. minor* by some arachnologists.

Diagnosis: The male of this species can easily be recognised by the small, looping distal embolus with the tip directed distally to the cymbium tip (Fig. 140), and small sharply pointed retrolateral tibial apophysis (Fig. 141). This differs from *T. minor*, which has a small, distally curved embolus that extends from a small globular extension of the tegulum. The female of this species can be recognised by the circular entrance ducts that partially obscure the large circular ST 2, and divide medially to enter ST 1 and ST 2 separately; ST 1 cube-like with rounded edges (Figs 142, 143). The female of this species differs from *T. minor*, the epigyne is more elongate, with a more rounded ST 2 and cubed ST 1.

Description:

Male

Measurements: CL 0.86-1.10, CW 0.74-0.88, AL 0.82-1.33, AW 0.71-1.10, TL 1.76-2.31, FL 0.06-0.08, SL 0.53-0.61, SW 0.53-0.57, AME-AME 0.06, AME-ALE 0.02, ALE-ALE 0.22, PME-PME 0.04, PME-PLE 0.06, PLE-PLE 0.33. Length of leg segments (sequence from femur to tarsus, and total): I 0.78 + 0.41 + 0.43 + 0.31 + 0.37 = 2.30; II 0.61 + 0.27 + 0.57 + 0.47 + 0.33 = 2.25; III 0.55 + 0.27 + 0.37 + 0.41 + 0.25 = 1.85; IV 0.80 + 0.29 + 0.55 + 0.69 + 0.29 = 2.62.

Carapace brown to reddish-brown (Fig. 118); first three quarters of carapace rounded, with steep decline in last quarter; surface texture finely granular, covered in short, fine setae; fovea short, slender, distinct, at two thirds CL. Ocular region orange to brown with dark brown to black rings around eyes; AER slightly recurved, almost straight; AME and ALE equal in size; clypeus height equal to distance slightly more than AME diameter; AME separated by distance equal to 0.7 their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PME and PLE equal in size; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 0.7 PME diameter. Chelicerae brown, anterior surface scattered with long, fine setae; three promarginal teeth, median tooth largest, distal tooth smallest; two retromarginal teeth, distal tooth largest, distal tooth smallest. Sternum pale brown, darkens towards border; slightly elongated shield-shaped; surface texture slightly granulate, covered with scattered short, fine setae. Abdominal dorsum pale yellow to pale grey covered with short, fine setae; two pairs of pale brown to brown sigillae, first pair paler, anterior to midpoint, second pair darker, posterior to midpoint; abdomen broad anteriorly, tapering posteriorly. Legs I to IV pale brown; anterior legs more robust, darker than posteriors; all segments covered with short, fine setae; relatively dense ventral scopulae on metatarsi and tarsi of all leg segments, more prominent on legs III and IV; regular leg spines, cusps absent. Palpal cymbium slightly narrower distally; small, looping embolus distally on tegulum, with tip directed at cymbium tip; sperm duct with strong curl proximally; retrolateral patellar apophysis small, sharply pointed (Figs 140, 141).

Female

Measurements: CL 0.86-1.06, CW 0.86-1.76, AL 1.15-1.61, AW 0.47-1.22, TL 1.90-2.74, FL 0.04-0.08, SL 0.53-0.65, SW 0.55-0.60, AME-AME 0.04, AME-ALE 0.02, ALE-ALE 0.22, PME-PME 0.08, PME-PLE 0.06, PLE-PLE 0.33. Length of leg segments (sequence from femur to tarsus, and total): I 0.73 + 0.29 + 0.55 + 0.41 + 0.33 = 2.31; II 0.63 + 0.29 + 0.49 + 0.41 + 0.31 = 2.15; III 0.51 + 0.25 + 0.37 + 0.39 + 0.24 = 1.76; IV 0.78 + 0.29 + 0.65 + 0.67 + 0.29 = 2.72.

Carapace orange to reddish-brown (Fig. 119); first two thirds of carapace rounded, with steep decline in last third; surface texture finely granular, covered with short, fine setae; fovea short, relatively distinct, at two thirds CL. Ocular region orange to brown with black rings around eyes; AER slightly recurved, almost straight; AME and ALE are equal in size; clypeus height equal to distance slightly more than AME diameter; AME separated by distance equal to 0.7 their diameter; AME separated from ALE by distance equal to approximately 0.4 AME

diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 0.5 PME diameter. Chelicerae brown, anterior surface scattered with long, fine setae; three promarginal teeth, median tooth largest, proximal tooth smallest; two retromarginal teeth, distal tooth largest. Sternum pale brown, darker towards border, shield-shaped; surface texture slightly granulate, with scattered short, fine setae. Abdominal oval, dorsum pale yellow to pale grey; two pairs of sigillae, first pair pale brown, anterior to midpoint, second pair darker, posterior to midpoint; surface covered in short, fine setae. Legs I to IV pale yellow to pale brown; anterior legs slightly more robust, slightly darker than posterior; all segments covered with short, fine setae; moderately dense ventral scopulae on metatarsi and tarsi of all leg segments; regular leg spines, cusps absent. Epigyne with small copulatory openings posteriorly in oval anterior ridges, partly overlapping large, round ST 2; entrance ducts dividing medially to enter ST 1 and ST 2 separately; ST 1 smaller, cube-like, near epigastric fold (Figs 142, 143).

Holotype: ♂ 'Det. / Loc. Côte d'Ivoire, Bouaké, F.-Foro, piège / coloré /, Rec. Couturier G. 26-28.VIII.1974 / Mus. R. Afr. Centr. 216.452 // MT. 216.452 // Araneae / Corinnidae / Trachelinae / *Trachelas falsus* sp. n. / HOLOTYPE ♂ / det. R. Lyle //' (MRAC 216452).

Allotype: ♀ 'Det. / Loc. Côte d'Ivoire, Bouaké, F.-Foro, piège / coloré /, Rec. Couturier G. 26-28.VIII.1974 / Mus. R. Afr. Centr. 216.359 // MT. 216.359 // Araneae / Corinnidae / Trachelinae / *Trachelas falsus* sp. n. / ALLOTYPE ♀ / det. R. Lyle //' (MRAC 216359).

Paratypes: 2♀ 'Det. / Loc. Côte d'Ivoire, Bouaké, F.-Foro, piège / coloré /, Rec. Couturier G. 26-28.VIII.1974 / Mus. R. Afr. Centr. 216.482 // MT. 216.482 //' (MRAC 216482). 1♀ 'Det. / Loc. Côte d'Ivoire, Bouaké, F.-Foro, piège / coloré /, Rec. Couturier G. 26-28.VIII.1974 / Mus. R. Afr. Centr. 216.383 // MT. 216.383 //' (MRAC 216383). 1♂ 'Det. / Loc. Côte d'Ivoire: Bouaflé, Klébo / I.1981, pièges, / Rec. J. Everts / R. G. Mus. Afr. Centr. 166.407 // 166.407 //' (MRAC 166407). 1♂ 1♀ 'Det. / Loc. Côte d'Ivoire: Bouaflé, Koudougou, / II.1981, pièges, / Rec. J. Everts / R. G. Mus. Afr. Centr. 166.259 // 166.259 //' (MRAC 166259).

Other material examined: IVORY COAST: 1♀ Bouaflé, Koudougou, III.1980, piéges, J. Everts (MRAC 166253); 1♂ Bouaflé, Klébo, I.1981, piéges, J. Everts (MRAC 166407); 1♂ Bouaflé, 29.I.1981, pitfalls. J. Everts (MRAC 173993). NIGERIA: 1♀ Ibadan, I.I.T.A.,

24.V.1981, sweeping ground layer and shrubs, secondary forest, A. Russell-Smith (MRAC 177308); 1♀ same locality, 12.VI.1981, beaten from shrub layer, bush plots, corp site, A. Russell-Smith (MRAC 177312); ♀ I.I.T.A., Corp. Plots, 04, 23.V.1974, A. Russell-Smith (BMNH); 5♂ 6♀ same locality, Corp Site 28.VII.1974, Fallow bush S.L. (BMNH). TANZANIA: 2♂ 2♀ Kikolo plot, Mkomazi Game Reserve, 04º00'S:38º00'E, 25.I.1996, thick grass below *Commiphora* trees, A. Russell-Smith (MRAC 211321).

Distribution: Known only from Ivory Coast, Nigeria and Tanzania (Fig. 154).

***Trachelas humus* sp. n.**

Figs 120, 121, 144-147, 154

Etymology: This species name is derived from Latin for "ground", which refers to the habitat of this species.

Diagnosis: The male of this species can be recognised by the slender embolus, almost reaching the cymbium tip, the sharply folded sperm duct (Fig. 144), and the slightly curved patellar apophysis (Fig. 145). The female can be recognised by the elliptical ridges, anterior copulatory openings and the subtriangular ST 1 (Fig. 147).

Description:

Male

Measurements: CL 1.08, CW 0.93, AL 1.30, AW 0.95, TL 2.20, FL 0.08, SL 0.65, SW 0.60, AME-AME 0.05, AME-ALE 0.03, ALE-ALE 0.24, PME-PME 0.08, PME-PLE 0.05, PLE-PLE 0.35. Length of leg segments (sequence from femur to tarsus, and total): I 1.05 + 0.40 + 0.98 + 0.70 + 0.50 = 3.63; II 0.83 + 0.33 + 0.73 + 0.55 + 0.40 = 2.84; III 0.63 + 0.30 + 0.33 + 0.63 + 0.28 = 2.17; IV 1.00 + 0.33 + 0.85 + 0.75 + 0.35 = 3.28.

Carapace brown (Fig. 120); first two thirds of carapace rounded, with steep decline in last third; surface texture granular, covered with short, fine setae; fovea short, distinct, slightly thickened, at two thirds CL. Ocular region brown with dark brown rings around eyes; AER slightly recurved, AME and ALE equal in size; clypeus height equal to 1.7 times AME diameter; AME separated by distance equal to their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PME slightly larger than PLE; PME

separated by distance equal to slightly more than their diameter; PME separated from PLE by distance equal to approximately 0.5 PME diameter. Chelicerae brown, anterior surface covered with scattered long, fine setae; two promarginal teeth, proximal tooth largest; two retromarginal teeth, distal tooth largest. Sternum pale brown, darker towards borders; shield-shaped; surface texture finely granulate, covered with scattered short, fine setae. Abdomen with dorsum pale yellow, covered with short, fine setae; two pairs of brown sigillae, one pair very pale, anterior to midpoint; second pair darker, posterior to midpoint; abdomen broad anteriorly, tapering posteriorly. Legs I to IV pale brown, femora of legs I and II brown; anterior legs slightly more robust, darker than posterior legs; all leg segments covered with short, fine setae; moderately dense ventral scopulae found on tibiae, metatarsi and tarsi of all legs; regular leg spines, cusps absent. Palp with cymbium narrowed distally; embolus slender, elongate, curving retrolaterally to cymbium tip; retrolateral patellar apophysis slightly curved (Figs 144, 145).

Female

Measurements: CL 1.00-1.13, CW 0.93-0.95, AL 1.25-1.78, AW 0.85-1.35, TL 2.23-2.70, FL 0.05-0.08, SL 0.63-0.70, SW 0.53-0.63, AME-AME 0.08, AME-ALE 0.03, ALE-ALE 0.23, PME-PME 0.10, PME-PLE 0.05, PLE-PLE 0.38. Length of leg segments (sequence from femur to tarsus, and total): I 0.95 + 0.40 + 0.75 + 0.63 + 0.45 = 3.18; II 0.85 + 0.35 + 0.65 + 0.53 + 0.37 = 2.75, III 0.63 + 0.45 + 0.43 + 0.50 + 0.30 = 1.23; IV 1.00 + 0.38 + 0.85 + 0.88 + 0.40 = 3.51.

Carapace orange-brown (Fig. 121); first two thirds of carapace rounded, with steep decline in last third; surface texture granular, covered with short, fine setae; fovea short, slightly darker than rest of carapace, distinct, at two thirds CL. Ocular region brown with dark brown rings around eyes; AER slightly recurved, ALE slightly larger than AME; clypeus height equal to slightly more than AME diameter; AME separated by distance equal to their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PME slightly larger than PLE; PME separated by distance equal to slightly more than their diameter; PME separated from PLE by distance equal to 0.7 PME diameter. Chelicerae orange, anterior surface covered with scattered long, fine setae; three promarginal teeth, distal tooth largest, proximal tooth smallest; three retromarginal teeth, median tooth largest, distal tooth smallest. Sternum pale brown, darker towards borders, shield-shaped; surface smooth, with short, fine setae scattered throughout sternum. Abdomen with dorsum pale yellow to pale mottled grey, covered in short, fine setae; two pairs of brown sigillae, one pair very pale, anterior to

midpoint; second pair darker, posterior to midpoint; abdomen broad anteriorly, tapering posteriorly. Legs I to IV uniform pale brown; anterior legs slightly more robust, slightly darker than posterior legs; all leg segments covered with short, fine setae; moderately dense ventral scopulae found on tibiae, metatarsi and tarsi of all legs; regular leg spines, cusps absent. Copulatory openings, anteriorly in elliptical ridges, anterior to midpoint; entrance ducts dividing medially to enter ST 1 and ST 2 separately; ST 2 coiled; ST 1 subtriangular, near epigastric fold (Figs 146, 147).

Holotype ♂ and 6♀ Paratypes: R.S.A., KwaZulu-Natal Province / Greater St. Lucia Wetland Park / Eastern Shores Nature Reserve /29º05.726'S, 26º09.435'E / C. Haddad, 3.VII.2007 / leaf litter // Araneae / Corinnidae / Trachelinae / *Trachelas humus* sp. n. / HOLOTYPE ♂ / PARATYPES ♀ / det. R. Lyle //' (NCA 2007/2896).

Paratype: ♀ 'Caprivi Strip, Kuando / R. Phragmites & Papyrus / F. Wanless & A. Russell-Smith / 24.3.76 //' (BMNH).

Other material examined: none.

Distribution: Known from two isolated localities in southern Africa (Fig. 154).

***Trachelas lateralus* sp. n.**

Figs 122, 123, 148-151, 154

Etymology: This species name in derived from Latin, referring to lateral. This refers to the embolus that extends laterally towards cymbium tip.

Diagnosis: This species is closely related to *T. humus* but can be recognised by the larger subtriangular retrolateral patellar apophysis. The female of this species can be recognised by the slightly arched, lateral copulatory openings with large bubble-shaped ST 2, situated anterior to the copulatory openings (Fig. 150), which are linked to the posterior small, circular ST 1 with two ducts, varying in size (Fig. 151).

Description:

Male

Measurements: CL 1.40, CW 1.25, AL 1.60, AW 1.20, TL 2.70, FL 0.05, SL 0.80, SW 0.81, AME-AME 0.05, AME-ALE 0.03, ALE-ALE 0.30, PME-PME 0.13, PME-PLE 0.10, PLE-PLE 0.53. Length of leg segments (sequence from femur to tarsus, and total): I 1.25 + 0.50 + 0.95 + 0.80 + 0.45 = 3.95; II 1.15 + 0.48 + 0.90 + 0.78 + 0.43= 3.74; III 0.83 + 0.38 + 0.58 + 0.73 + 0.35 = 2.87; IV 1.18 + 0.38 + 0.80 + 1.05 + 0.43 = 3.84.

Carapace reddish-brown (Fig. 122); first two thirds of carapace slightly rounded, with steep decline in last third; surface texture granular, covered with short, fine setae; fovea short, distinct, at two thirds CL. Ocular region orange with brown rings around eyes; AER very slightly recurved, almost straight; AME slightly larger than ALE; clypeus height equal to AME diameter; AME separated by distance equal to 0.5 their diameter; AME separated from ALE by distance equal to 0.25 AME diameter; PER recurved, PME and PLE equal in size; PME separated by distance slightly more than their diameter; PME separated from PLE by distance equal to twice PME diameter. Chelicerae pale brown, anterior surface covered in scattered long, fine setae; two promarginal teeth, distal tooth largest; two retromarginal teeth, distal tooth largest. Sternum bright orange, darker towards border, shield shaped; smooth surface with short, fine setae scattered throughout sternum. Abdomen dorsum yellow with mottled dark brown; brown median line extending to cover abdomen posteriorly; brown band dissects median at two thirds; surface covered in short, fine setae; abdomen broader anteriorly, tapering posteriorly. Legs I to IV pale brown, anterior legs more robust, darker than posteriors; all segments covered with short, fine setae; relatively dense ventral scopulae on metatarsi and tarsi on all legs, more prominent on legs III and IV; regular leg spines, cusps absent. Palp slightly narrower distally; embolus slender, curved retrolaterally and distally towards cymbium tip; sperm duct slender, curved, with small twist proximally; large, proximally directed subtriangular retrolateral patellar apophysis (Figs 148, 149).

Female

Measurements: CL 1.40-1.60, CW 1.23-1.33, AL 1.70-2.40, AW 1.33-1.85, TL 3.10-4.00, FL 0.05-0.13, SL 0.80-0.88, SW 0.75-0.78, AME-AME 0.08, AME-ALE 0.05, ALE-ALE 0.35, PME-PME 0.13, PME-PLE 0.15, PLE-PLE 0.58. Length of leg segments (sequence from femur to tarsus, and total): I 0.98 + 0.38 + 0.73 + 0.60 + 0.38 = 3.07; II 0.98 + 0.40 + 0.65 + 0.60 + 0.35 = 2.98; III 0.98 + 0.38 + 0.35 + 0.53 + 0.25 = 2.49; IV 0.85 + 0.40 + 0.70 + 0.78 + 0.28 = 3.01.

Carapace reddish-brown (Fig. 123); first three quarters of carapace raised, with steep decline in last quarter; surface texture granular, with short, fine setae scattered throughout; fovea short, indistinct, at two thirds CL. Ocular region reddish-brown with brown to black rings around eyes; AER slightly recurved, AME and ALE equal in size; clypeus height equal to approximately AME diameter; AME separated by distance equal to their diameter; AME separated from ALE by distance equal to 0.5 AME diameter; PER recurved; PLE slightly larger than PME; PME separated by distance equal to 1.25 time their diameter; PLE separated by distance equal to 1.25 times PME diameter. Chelicerae dark brown, anterior surface with scattered short, fine setae; two promarginal teeth; distal tooth largest; two retromarginal teeth, distal tooth largest. Sternum reddish-brown, darker towards border, shield-shaped; surface texture slightly granulate, covered with scattered short, fine setae. Abdomen pale yellow with dark grey mottling dorsally; sigillae absent; abdomen broader anteriorly, tapering posteriorly. Anterior legs slightly darker, slightly more robust that posterior legs; legs pale brown in colour; all segments covered in short, fine setae; relatively dense ventral scopulae on tibiae, metatarsi and tarsi of all legs; regular leg spines, cusps absent. Epigyne with slightly arched, lateral copulatory openings; ST 2large, bubble-shaped, anterior to copulatory openings; ST 1 significantly smaller, circular, posterior to copulatory openings, coupled to ST 2 by two ducts, varying in size (Figs 150, 151).

Holotype: ♂ ‘m. CORINNIDAE / Trachelas AT 2 / 028 det. J. A. Murphy 1988 // Tanzania, Uzungwe Mts., / Mwanihana Forest above Sanje / 1000m., 01.viii.1981 / M. Stoltze & N. Scharff leg. / Zool. Museum, Copenhagen // Araneae / Corinnidae / Trachelinae / *Trachelas lateralus* sp. n. / HOLOTYPE ♂ / det. R. Lyle //’ (ZMUC).

Allotype: ♀ ‘f. CORINNIDAE / Trachelas AT 2 / 028 det. J. A. Murphy 1988 // Tanzania, Uzungwe Mts., / Mwanihana Forest above Sanje / 1000m., 01.viii.1981 / M. Stoltze & N. Scharff leg. / Zool. Museum, Copenhagen // Araneae / Corinnidae / Trachelinae / *Trachelas lateralus* sp. n. / ALLOTYPE ♀ / det. R. Lyle //’ (ZMUC).

Paratypes: 1♀ ‘TANZANIA, Tanga, E. Usambara Mountains, Amani, Mbomole Hill, 5º5.7'S; 38º37'E, 1000 m el., 5—8.XI.1995’ (CAS). 1♀, 2 juv. TANZANIA, Tanga, E. Usambara Mountains, Amani, forest, 5º5.7'S; 38º38'E, 950m el., 27.X—9.XI.1995, C. E. Griswold, N. Scharff & D. Ubick (CAS). 1♂ ‘m. CORINNIDAE / Trachelas AT 2 / 028 det. J. A. Murphy

1988 // Tanzania, Uzungwe Mts., / Mwanihana Forest above Sanje / 1000m., 01.viii.1981 / M. Stoltze & N. Scharff leg. / Zool. Museum, Copenhagen //' (ZMUC).

Other material examined: none.

Distribution: Known from Tanzania (Fig. 154).

***Trachelas leggi* sp. n.**

Figs 124, 152-154

Etymology: This species is named after the collector, Robert Legg, who collected the only known specimen of this species.

Diagnosis: This species can be recognised by the short, transversely coiled embolus and broad proximal curve of the sperm duct (Fig. 152). This species differs from *T. falsus* by the broad proximal curve of the sperm duct. The two species can also be separated by the shape of the retrolateral patellar apophysis. *T. leggi* has a small rounded medially situated apophysis (Fig. 153) while *T. falsus* has a pointed distally situated apophysis. Female unknown.

Description:

Male

Measurements: CL 0.88, CW 0.70, AL 1.00, AW 0.65, TL 1.90, FL 0.03, SL 0.53, SW 0.50, AME-AME 0.03, AME-ALE 0.03, ALE-ALE 0.15, PME-PME 0.05, PME-PLE 0.05, PLE-PLE 0.25. Length of leg segments (sequence from femur to tarsus, and total): I 0.68 + 0.25 + 0.55 + 0.48 + 0.43 = 2.39; II 0.55 + 0.20 + 0.40 + 0.38 + 0.33 = 1.50; III 0.43 + 0.18 + 0.28 + 0.35 + 0.23 = 1.44; IV 0.55 + 0.23 + 0.43 + 0.43 + 0.28 = 1.94.

Carapace orange with mottled dark brown (Fig. 124); first two thirds of carapace rounded, highest point slightly anterior to two thirds, with steep decline in last third; surface texture finely granulate, covered with short, fine setae; fovea small, indistinct, at two thirds CL. Ocular region brown with the brown rings around eyes; AER slightly recurved, ALE larger than AME; clypeus height equal to AME diameter, AME separated by distance equal to 0.5 their diameter; AME separated from ALE by distance equal to 0.5 AME diameter; PER slightly recurved; PER slight recurved, almost straight; PME and PLE equal in size; PME

separated by distance equal to their diameter; PME separated from PLE by distance equal PME diameter. Chelicerae brown pale, paler towards fang base; anterior surface scattered with long, fine setae; two promarginal teeth, distal tooth largest; two retromarginal teeth, distal tooth largest. Sternum brown, darker towards borders; shield-shaped; surface smooth covered with short, fine setae. Abdominal dorsum mottled grey with dark brown undertones; surface covered with fine, pale setae; abdomen broader anteriorly, tapering posteriorly. Legs I to IV uniform pale brown; anterior legs slightly more robust, lightly darker than posteriors; all legs covered with scattered short, fine setae; moderately dense, ventral scopulae on metatarsi and tarsi of all legs; regular leg spines, cusps absent. Palp pale yellow; embolus short, transversely coiled sperm duct with broad proximal curve; retrolateral patellar apophysis small, rounded, medially situated (Figs 152, 153).

Female: unknown.

Holotype: ♂ 'Land. South Africa; 21.IV-5.V.1991 / Loc. Cape Peninsula, Muizenberg, / Eco. dunes to the North, / Rec. Legg R. / R. G. Mus, Afr. Centr. 173.691 // MT. 173.691 // Araneae / Corinnidae / Trachelinae / *Trachelas leggi* sp. n. / HOLOTYPE ♂ / det. R. Lyle //' (MRAC 173691).

Other material examined: none.

Distribtuion: Known only from the type locality (Fig. 154).

Trachelas pusillus **Lessert, 1923**

Figs 125, 126, 155-160, 163

Trachelas pusillus Lessert, 1923: 195, figs 42-46

Diagnosis: The male of this species can be recognised by the long narrow embolus, which curves prolaterally from a fold at its base (Fig. 155), the large triangular retrolateral patellar apophysis curves ventrally (Fig. 156). The female of this species has large, circular, medially situated ST 2 and small oval ST 1 situated near the epigastric fold (Figs 157). Copulatory openings situated anterior to midpoint, directed towards epigastric fold.

Redescription:

Male

Measurements: CL 1.00-1.60, CW 0.83-1.38, AL 1.00-2.50, AW 0.80-1.38, TL 1.90-3.60, FL 0.03-0.13, SL 0.65-0.90, SW 0.58-0.90, AME-AME 0.10, AME-ALE 0.03, ALE-ALE 0.35, PME-PME 0.25, PME-PLE 0.08, PLE-PLE 0.55. Length of leg segments (sequence from femur to tarsus, and total): I 1.30 + 0.55 + 1.05 + 0.80 + 0.53 = 4.23; II 1.13 + 0.55 + 0.95 + 0.83 = 3.45; III 0.85 + 0.38 + 0.60 + 0.65 + 0.33 = 2.81; IV 1.13 + 0.48 + 0.98 + 1.00 + 0.40 = 3.99.

Carapace orange to reddish (Fig. 125); first two thirds of carapace well rounded with highest point at midpoint of carapace length, with relatively steep decline in the last third; surface texture granulate, covered with short, fine setae; fovea short, distinct, very slightly thickened, at two thirds of CL. Ocular region orange with light brown rings around eyes; AER slightly recurved, AME and ALE approximately equal in size; clypeus height equal to approximately AME diameter; AME separated by distance approximately equal to their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by approximately 1.25 their diameter; PME separated from PLE by approximately PME diameter. Chelicerae orange, pale orange towards fang base; anterior surface with scattered long, fine setae; three promarginal teeth, median tooth largest, distal tooth smallest; two retromarginal teeth, distal tooth largest. Sternum pale yellow, light brown towards borders, shield-shaped; surface smooth, with scattered fine, short setae throughout sternum. Abdomen creamy white to pale yellow dorsally, mottled brown over last three quarters of abdomen length; two pairs of sigillae, first pair pale brown, anterior to midpoint, second pair slightly darker, posterior to midpoint of abdomen; abdomen broader anteriorly, tapering posteriorly. Legs I to IV pale yellow to pale brown; anterior legs more robust, slightly darker than posteriors; surface covered with short, fine setae; moderately dense scopulae on metatarsi and tarsi of all legs; regular leg spines, cusps absent. Palp pale yellow to brown; embolus long, curving prolaterally from its base; sperm ducts gradually curved; retrolateral patellar apophysis large, triangular, slightly curved (Figs 155, 156).

Description:

Female

Measurements: CL 1.25-1.75, CW 1.10-1.48, AL 1.70-2.40, AW 1.20-1.80, TL 2.95-4.15, FL 0.05-0.10, SL 0.78-0.90, SW 0.73-0.83, AME-AME 0.08, AME-ALE 0.05, ALE-ALE 0.28,

PME-PME 0.13, PME-PLE 0.08, PLE-PLE 0.45. Length of leg segments (sequence from femur to tarsus, and total): I 0.48 + 0.48 + 0.83 + 0.68 + 0.25 = 2.72; II 1.00 + 0.50 + 0.78 + 0.60 + 0.40 = 3.28; III 0.80 + 0.38 + 0.55 + 0.65 + 0.30 = 2.68; IV 0.13 + 0.48 + 0.98 + 0.98 + 0.40 = 2.97.

Carapace pale brown to reddish-brown (Fig. 126); first two thirds of carapace rounded, with steep decline in last third; surface texture granulate, surface with covered short, fine setae; fovea short, distinct at two thirds CL. Ocular region brown, dark brown to black rings around eyes; AER slightly recurved, almost straight; AME and ALE equal in size; clypeus height equal to approximately AME diameter; AME separated by distance equal to 0.4 AME diameter; AME separated from ALE by distance equal approximately 0.4 AME diameter; PER recurved, PME slightly larger than PLE; PME separated by distance approximately equal to their diameter; PME separated from PLE by distance equal to 0.7 PME diameter. Chelicerae pale brown, anterior surface scattered with long, fine setae; three promarginal teeth, median tooth largest, distal tooth smallest; two retromarginal teeth, distal tooth largest. Sternum pale brown, darker towards border, shield-shaped; surface granular, covered with scattered with short, fine setae. Abdomen with pale yellow to pale grey dorsum, with pale brown mottling over surface; surface covered with short, fine setae; abdomen broader anteriorly, tapering posteriorly. Legs I to IV uniform pale yellow to pale brown; anterior legs slightly more robust, slightly darker than posteriors; all leg segments covered with scattered short, fine setae; moderately dense ventral scopulae on metatarsi and tarsi of all legs; regular leg spines, cusps absent. Epigyne weakly sclerotised with broad, arched, anteriorly directed copulatory openings; ST 2 large, circular, medially situated; ST 1 smaller, oval ST 1 posteriorly situated, near epigastric fold (Figs 157-160).

Holotype: ♂ '*Trachelas pusillus* Lessert – 1921 / ♂ type Grahamstown / Hewitt // Museum Geneve / coll. de Lessert: Afrique' (MHNG).

Other material examined: ANGOLA: 1♂ Centro de Estudes de Cela, Aarbeie, 16.IV.1972, M. K. P. Meyer (NCA 76/1887). BOTSWANA: 1♂ 1♀ Maun, Boronyane, 6.IX.1975, in rushes in shallow water, A. Russell-Smith (BMNH); 5♂ 2♀ Maun, Floodplain grassland, R. Thamalakane, III.76, F. Wanless & A. Russell-Smith (BMNH); 1♂ 1♀ Maun, Govt. Camp, House 36, I-II.1977, A. Russell-Smith (BMNH); 11♂ Maun, G.L. Thamalakane River, *Setaria* grassland, 13.III.1971 (BMNH); ♂ same data (BMNH); 2♀ Maun, Island Safari Lodge, 29.9.1975, riverine forest, A. Russell-Smith (BMNH); 3♂ 3♀ Maun, Maphaneng Pan,

III.1976, edge of riverine woodlands, ground layer, F. Wanless & A. Russell-Smith (BMNH); 1♀ Maun, N. Maphaneng Pan, 21.II.1976, riverine wood, ground layer, F. Wanless & A. Russell-Smith (BMNH); 1♀ Maun, Okavango, side of Thalamakane River, 24.VIII.1975, A. Russell-Smith (BMNH); 2♂ 1♀ Maun, Thamalakane River, 5.II.1976, *Setaria* grassland, A. Russell-Smith (BMNH); 1♂ 1♀ same locality, 11.IX.1976, *Setaria* grassland, A. Russell-Smith (BMNH); 13♂ 12♀ Maun, Thalamakane River, 25.VII.1975, grazed *Setaria* grassland, A. Russell-Smith (BMNH); 2♂ 5♀ same locality, 7.III.1976, F. Wanless & A. Russell-Smith (BMNH); 1♂ same locality, F. Wanless & A. Russell-Smith (BMNH); 1♂ 1♀ Maxwee, Okavango Delta floodplain, 1.IV.1975, grassland, A. Russell-Smith (BMNH); 1♀ Moreni Lagoon, 30.VI.2003, sweep net, A. Russell-Smith (BMNH); 2♀ Okavango, Mbomba Lagoon, 19.XI.1972, moist *Hyparrhenia* grassland, A. Russell-Smith (BNMH); 1♂ Pom Pom, Okavango Delta, 18.VIII.2001, dry riparian vegetation, pit trap 4, M. Dangerfield (NCA 2001/419). DEMOCRATIC REPUBLIC OF CONGO: 1♂ Bikara, 18 km S of Lubero, Lubéro-Goma road, 00°15'S:29°12'E, 2100m a.s.l., XII.1976, dans vieilles tiges de lobélies, M. Lejeune (MRAC 159839); 1♂ Face N. du Ruwenzori, camp de Kikura, 00°35'N:29°57'E, 2000m a.s.l., VII-VIII.1974, M. Lejeune (MRAC 154732); 1♂ Kivu, Kambaila, 00°10'N: 29°10'E, VI.1973, M. Lejeune (MRAC 145812); 1♂ Route Lubero-Butembo, région de Lukanga, forêt de Vukengete, 05°01'S: 14°18'E, 2210m a.s.l., XII.1974-I.1975, mousses couverte de graminés, M. Lejeune (MRAC 168091); 2♂ 2♀ 1 juv. Sake, 01°34'S:29°02'E, V.1937, J. Ghesquière (MRAC 174292). KENYA: 1♂ Mt. Kenya, Sirimontrack, 00°10'S:37°20'E, 2550m a.s.l., 25.VII.1975, bergregenwoud, R. Bosmans (MRAC 161902). LESOTHO: 1♂ Sehlabathebe National Park, 2364m a.s.l., 29º52.931'S:29º07.144'E, 10.XI.2002, under sandstone rocks, montane grassland, C. Haddad (NCA 2006/1342). MALAWI: 1♂ Chintheche, 11°50'S:33°13'E, 9.VI.1978, beach, R. Jocqué (MRAC 153506); RWANDA: Bugesera, rives lac Tsohoa, 02°06'S:30°00'E, IX.1957, N. Leleup, (MRAC 97139); 1♂ Lulana, lac Ihema, 01°55'S:30°45'E, 6.VI.1969, R. Kiss (MRAC 159694). SOUTH AFRICA: *Free State Province*: 1♂ Erfenis Dam Nature Reserve, 28º30.431'S:26º48.547'E, 28.II.2006, at base of *Themeda* grass, C. Haddad (NCA 2006/671). *Gauteng Province*: 1♂ Pretoria 31.VIII.2002, on table in garden, C. Haddad (NCA 2006/1335). *KwaZulu-Natal Province*: 1♂ 75 km of West South West of Estcourt, Cathedral Peaks forest station Meteorological station, Little Berg, 1860m, 21-31.XII.1979, malaise trough, veld, S. & J. Peck (AMNH); 1♂ Coastal Cashews, near KwaNgwanase/Manguzi, 12.I.2002, beats, cashew trees, C. Haddad (NCA 2006/1336); 1♂ Ndumo Game Reserve, South Boundary Fence, 26º55.6'S:32º19.0'E, 13.VI.2005, *Commiophora harveyi* bark, C.

Haddad (NCA 2006/1337); 1♂ Hluhluwe Reserve, 28º05'S:32º02'E, 900ft a.s.l., 1.VI.1985, C. E. Griswold (NMSA). *Limpopo Province*: 1♂ 5km Warmbad, 17.II.1977, sweepnet, grass, I. Vosloo (NCA 77/471); 1♂ Tuinplaas, Springbokvlakte, Settlers Lodge, 29.V.2001, aru2649 grass, pitfalls, M. van Jaarsveld (NCA 2003/1358). *Mpumalanga Province*: 1♀ Marble Hall, 3.V.2002, Bt. cotton survey, pit traps, M. Mellett (NCA 2004/1334). *Northern Cape Province*: 1♂ Douglas Holiday Resort, 15.IV.1997, veldgrass, E. van den Berg, A. Swart & M. Marais (NCA 97/494); Green Valley Nuts, Prieska, 29°35'S:22°56'E, 20.IX.2001, under cut grass, ground covers, C. Haddad (NCA 2002/480); 2♂ 3♀ same locality, 28.I.2001, C. Haddad (NCA). *North West Province*: 1♂ Hartebeespoort Navigation Station, 28.XI.1984, op gras, E. Ueckerman (NCA 85/92); 1♂ 3♀ Brits, I-II.1988, Katoen-hele plant metode, A. van der Berg (NCA 89/550). *Western Cape Province*: 1♂ Riviersonderend, 34º9'S:19º55'E, in cow dung SAW-ENW-C003370, A. J. Prins (SAMC 3370). UGANDA: 1♂ Rukungiri District, Kitahurita Bwindi, Impenetrable National Park, 0º15'S:29º41'E, Ca. 1740m a.s.l., 18-20.IX.1996, C.E. Griswold (CAS).

Distribution: Widely distributed in central, eastern and southern Africa (Fig. 163).

***Trachelas smithi* sp. n.**

Figs 127, 161-163

Etymology: This species is named after D. Shilabira Smith, who collected the entire type series.

Diagnosis: This species can easily be recognised by the incomplete oval ridges that lead to the copulatory openings at the midpoint of the epigyne (Fig. 161). ST 2 bilobed, circular in shape and ST 1 smaller, circular, near epigastric fold (Fig. 162). Male unknown.

Description:

Female

Measurements: CL 1.60-1.73, CW 1.48-1.65, AL 2.18-2.40, AW 1.68-1.95, TL 3.80-4.28, FL 0.05-0.10, SL 0.90-1.03, SW 0.93-1.05, AME-AME 0.08, AME-ALE 0.03, ALE-ALE 0.35, PME-PME 0.15, PME-PLE 0.10, PLE-PLE 0.38. Length of leg segments (sequence from femur to tarsus, and total): I 1.65 + 0.65 + 1.25 + 1.08 + 0.70 = 5.33; II 1.40 + 0.63 + 1.25 +

0.93 + 0.60 = 4.81; III 1.00 + 0.53 + 0.75 + 0.93 + 0.45 = 3.66; IV 1.55 + 0.53 + 1.25 + 1.38 + 0.50 = 5.21.

Carapace reddish-brown (Fig. 127); first two thirds of carapace rounded, with steep decline in last third; surface texture granulate, covered with short, fine setae; fovea small, indistinct, slightly darker than carapace, at two thirds carapace length. Ocular region reddish-brown, with black rings around eyes; AER slightly recurved, almost straight, AME slightly larger than ALE; clypeus height equal to slightly less than AME diameter; AME separated by distance equal to 0.5 their diameter; AME separated from ALE by distance equal to 0.25 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to 1.7 times their diameter; PME separated from PLE by distance equal to 0.7 PME diameter. Chelicerae brown, anterior surface covered in long, fine setae; two promarginal teeth, distal tooth largest; two retromarginal teeth, distal tooth largest. Sternum mottled brown, darker towards borders, shield-shaped; surface smooth, covered with scattered short, fine setae. Abdomen pale yellow with brown chevron marking dorsally; two pairs of pale brown sigillae, one pair anterior to midpoint and second pair posterior to midpoint; abdomen broad anteriorly, tapering posteriorly. Legs I to IV pale brown, femora darker; anterior legs slightly more robust, darker than posteriors; all leg segments covered with scattered short, fine setae, moderately dense ventral scopulae found on metatarsi and tarsi of all legs, more prominent on metatarsi and tarsi of legs III and IV; regular leg spines, cusps absent. Epigyne with oval entrance ducts, leading from median copulatory openings, which are medially directed; ST 2 large, bilobed, posterior lobe partially obscured beneath first; ST 1 small, circular, close to epigastric fold (Figs 161, 162).

Male: unknown.

Holotype: ♀ ‘Det. / Loc. Kenya, Kakamega forest. N 00° 13’ E 034° 54’, malaise trap, Alt. 1654 m a.s.l / Rec. Shilabira Smith D., 3-10.III.2002 / Mus. R. Afr. Centr. 212.720 // MT. 212.720 // Araneae / Corinnidae / Trachelinae / *Trachelas smithi* sp. n. / HOLOTYPE ♀ / det. R. Lyle //’ (MRAC 212720).

Paratypes: 1♀ ‘Det. / Loc. Kenya, Kakamega forest. N 00° 13’ E 034° 54’, malaise trap / Rec. Shilabira Smith D., 27.IV.2002 / Mus. R. Afr. Centr. 220.271 // MT. 220.271 //’ (MRAC 220271). 1♀ ‘Det. / Loc. Kenya, Kakamega forest. N 00° 13’ E 034° 54’, pitfall trap / Rec.

Shilabira Smith D., 13.IV.2002 / Mus. R. Afr. Centr. 220.547 // MT. 220.547 //' (MRAC 220547).

Other material examined: none.

Distribution: Only known from the type locality (Fig. 163)

***Trachelas sparsus* sp. n.**

Figs 128, 164, 165, 174

Etymology: This species name is derived from the Latin word for "scattered", which refers to the scattered distribution of the type series. Male unknown.

Diagnosis: This species can be easily recognised by the narrowly coiled entrance ducts that are directed inwards (Fig. 164). ST 1 is large, bilobed.

Description:

Female

Measurements: CL 1.00-1.20, CW 0.95-1.08, AL 1.50-1.58, AW 1.08-1.20, TL 2.50-2.70, FL 0.03-0.10, SL 0.63-0.70, SW 0.60-0.70, AME-AME 0.08, AME-ALE 0.13, ALE-ALE 0.26, PME-PME 0.10, PME-PLE 0.05, PLE-PLE 0.33. Length of leg segments (sequence from femur to tarsus, and total): I 0.88 + 0.40 + 0.63 + 0.53 + 0.45 = 2.89; II 0.70 + 0.38 + 0.55 + 0.50 + 0.40 = 2.53; III 0.63 + 0.33 + 0.43 + 0.48 + 0.28 = 2.15; IV 0.93 + 0.35 + 0.70 + 0.70 + 0.28 = 2.96.

Carapace brown to reddish-brown (Fig. 128); first two thirds of carapace rounded, with steep decline in last third; surface texture granular, covered with short, fine setae; fovea short, darker than carapace, relatively distinct, at two thirds carapace length. Ocular region brown to reddish-brown with black rings around eyes; AER recurved, median and lateral eyes equal in size; clypeus height equal to slightly larger than AME diameter; AME separated by distance equal to 1.4 times their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PME and PLE equal in size; PME separated by distance equal to 1.7 their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae brown, anterior surface scattered with short, fine setae; three promarginal teeth, median tooth

largest, distal tooth smallest; two retromarginal teeth, distal tooth largest. Sternum pale brown to brown, darker towards border, shield-shaped; smooth surface covered with short, fine setae scattered throughout sternum. Abdomen pale yellow dorsally, darkening to grey posteriorly; abdomen covered in short, fine setae; abdomen broad anteriorly, tapering posteriorly. Legs I to IV uniform pale brown; anterior legs slightly more robust, slightly darker than posteriors; all leg segments covered with short, fine setae; moderately dense ventral scopulae on all distal leg segments; regular leg spines, cusps absent. Epigyne strongly sclerotised; copulatory opening small, distinct, slight anterior to midpoint; entrance ducts narrowly coiled; ST 1 large, bi-lobed, extending nearly entire posterior ⅔ of epigyne (Figs 164, 165).

Male: unknown.

Holotype: ♀ 'Lesotho, Mohale Dam / Island 3, 2040m a.s.l. / 29º25.396'S, 28º05.903'E, 16.XII.2003 / C. Haddad / under rocks, montane grasslands // Araneae / Corinnidae / Trachelinae / *Trachelas sparsus* sp. n. / HOLOTYPE ♀ / det. R. Lyle //' (NCA 2006/1338).

Paratype: 1♀ 'Loc. Malawi: Chintheche, beach / 9/VI/1978 / Rec. R. Jocqué / M. G. Mus. Afr. Centr 153.506 // 153.506 //' (MRAC 153506). 1♀ 'Elsenberg / Volschenk / weiding, 8.5.1972 //' (NCA 76/1097). 1♀ 'Stellenbosch 28 / Clover / H. Lombaard //' (NCA 2007/1329). 1♀ 'SOUTH AFRICA, North East KwaZulu-Natal Province / Tembe Elephant Park, Maputoland /10.IV.1998 / A. Leroy leaf litter sample //' (NCA). 1♀ 'R.S.A., Western Cape Province / De Hoop Nat. Reserve / Koppie Alleen / C. Haddad, 6.IX.2007 / active search //' (NCA 2007/119). 1♀ 'SOUTH AFRICA, Western Cape Province, Swellendam, Bontebok National Park, 3404S: 2027E, 30.X.1987, Entomology staff (various methods) //' (NMBA).

Other material examined: none.

Distribution: Numerous localities scattered throughout southern and central Africa (Fig. 174).

Trachelas cf. *sylvae* Caporiacco, 1949

Figs 129, 130, 166-169, 174

Trachelas sylvae Caporiacco, 1949: 448, figs 74a-b

Diagnosis: The male of this species can be recognised by the sharply pointed embolus tip, which differs from *T. chubbi*, which has a feather-like embolus tip. The embolus tip differs from that of *T. falsus*, which has a more rounded, blunt tip. The retrolateral tibial apophysis is smaller and more blunt than in *T. chubbi*. The female of this species can be recognised by the large, epigynal ridges that extend nearly ⅔ epigyne length, with very small posterior ST 1 and ST 2.

Remark: While the types could not be traced and examined, Caporiacco's (1949: figs 76a-b) drawings correspond most closely to this species. Caporiacco refers to Mau as the type locality.

Redescription:

Male

Measurements: CL 1.30-1.33, CW 1.08-1.15, AL 1.30-1.80, AW 0.85-1.13, TL 2.60-2.80, FL 0.03-0.05, SL 0.73-0.80, SW 0.70-0.75, AME-AME 0.05, AME-ALE 0.03, ALE-ALE 0.20, PME-PME 0.10, PME-PLE 0.10, PLE-PLE 0.44. Length of leg segments (sequence from femur to tarsus, and total): I 0.93 + 0.45 + 0.88 + 0.70 + 0.48 = 3.44; II 0.90 + 0.40 + 0.78 + 0.68 + 0.43 = 3.19; III 0.70 + 0.30 + 0.53 + 0.60 + 0.30 = 2.43; IV 0.98 + 0.38 + 0.78 + 0.90 + 0.35 = 3.39.

Carapace brown to reddish-brown (Fig. 129); first three quarters of carapace rounded, gradually declining, with steep decline in last quarter; surface texture granulate covered with short, fine setae; fovea short, slender, distinct, at two thirds CL. Ocular region brown to reddish brown with dark rings around eyes; AER slightly recurved, ALE and AME equal in size; clypeus height approximately equal to AME diameter; AME separated by distance equal to 0.7 their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PME and PLE equal in size; PME separated by distance equal to 1.4 times their diameter; PME separated from PLE by distance equal to 1.4 time PME diameter. Chelicerae pale brown, anterior surface with scattered short, fine setae; two promarginal teeth, distal tooth largest; two retromarginal teeth, distal tooth largest. Sternum pale yellow, orange

towards border, shield-shaped; surface smooth, covered with short, fine setae. Abdomen pale yellow, with brown to grey chevron markings dorsally; median line extending almost length of abdomen, with numerous lateral branches; surface covered with short, fine setae; abdomen broader anteriorly, tapering posteriorly. Legs I to IV uniform pale yellow to pale brown with incomplete band arrangement; anterior legs more robust than posteriors; legs I to IV with incomplete band arrangement, femora I and II with distal incomplete band; patellae without bands; tibiae two incomplete bands, one distal and one proximal; metatarsi I with incomplete, proximal band; tarsi without bands; all leg segments with scattered short, fine setae; moderately dense ventral scopulae on metatarsi and tarsi of all legs; regular leg spines, cusps absent. Palp brown; embolus inverted, comma-shaped when examined retrolaterally; retrolateral patellar apophysis small, rounded (Figs 166, 167).

Description:

Female

Measurements: CL 1.60-1.98, CW 1.48-1.63, AL 2.65-2.80, AW 2.15-2.33, TL 4.35-4.78, FL 0.08-0.13, SL 0.98-1.10, SW 0.88-1.00, AME-AME 0.08, AME-ALE 0.03, ALE-ALE 0.33, PME-PME 0.15, PME-PLE 0.10, PLE-PLE 0.58. Length of leg segments (sequence from femur to tarsus, and total): I 1.58 + 0.65 + 1.23 + 0.98 + 0.65 = 5.09; II 1.45 + 0.60 + 1.23 + 1.00 + 0.60 = 4.88; III 1.08 + 0.50 + 0.78 + 0.88 + 0.43 = 3.67; IV 1.43 + 0.55 + 1.20 + 1.35 + 0.50 = 5.03.

Carapace reddish-brown (Fig. 130); first two thirds of carapace rounded, with steep decline in last third; surface texture granulate, covered with short, fine setae; fovea short, darkened, indistinct, at two thirds carapace length. Ocular region brown with black rings around eyes; AER slightly recurved, almost straight; ALE slightly larger than AME; clypeus height equal to AME diameter; AME separated by distance equal to their diameter; AME separated from ALE by distance equal to 0.5 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to 1.25 times their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae orange, anterior surface with scattered long, fine setae; two promarginal teeth, distal tooth largest; two retromarginal tooth, distal tooth largest. Sternum orange, brown towards border, shield-shaped; surface texture slightly granulate, covered with short, fine setae. Abdomen pale yellow with mottled grey dorsally; chevron marking present, with dark grey median line extending to midpoint of abdomen with numerous lateral branches; abdomen covered with short, fine setae; abdomen oval, broader medially, tapering posteriorly. Legs I to IV uniform brown with incomplete band

arrangement; anterior legs more robust, slightly darker than posteriors; femora I and II with incomplete distal band; patella without bands; tibiae with two incomplete bands, one distal and one proximal; metatarsi I with incomplete proximal band; tarsi without band; all segments covered with scattered short, fine setae; dense ventral setae on metatarsi and tarsi of all legs; regular leg spines, cusps absent. Epigyne with large, oval ridges which extend ⅔ of epigyne length, with anterolateral copulatory openings; entrance ducts broad, curving anteriorly, then medially, dividing before entering ST 2 and ST 1 posteriorly; ST 2 small, elliptical, posterior to midpoint; ST 1 small, oval, close to epigastric fold (Figs. 168, 169).

Holotype: Kenya (Mau forest) HNHM, not examined.

Other material examined: CAMEROON: 1♀ Southwest Province, Meme Division, Mount Kupe above Nyassossa, 4º50'N:9º41'E, 1200-1600m a.s.l., 16-19.ii.1992, forest, Griswold, Scharff, Wanzie, Larcher, Masongo (ZMUC). DEMOCRATIC REPUBLIC OF CONGO: 1♀ Bikara, â 18 km, au Sud de Lubéro, route Lubéro-Gama, 1200ft. a.s.l., XII/1976, M. Lejeune (MRAC 158.861). UGANDA: 3♂ 2♀ Ruwenzori, 1952, Coll. G. O. Evans (BMNH).

Distribution: Scattered localities in equatorial Africa (Fig. 174).

***Trachelas taita* sp. n.**

Figs 131, 132, 170-174

Etymology: The species named is a noun is apposition of Taita, Kenya, where most of the types were collected.

Diagnosis: The male of this species can be recognised by the retrolaterally pointed embolus tip, which is in front of fine prolaterally directed conductor. It also has a large, almost flap-like retrolateral tibial apophysis, which is almost thee quarters of the length of the tibial segment. The female of this species can be recognised by the teardrop-shaped epigynal ridge with posterior copulatory openings (Fig. 173).

Remarks: This species is tentatively placed in the *minor* group due to the structure of the female epigyne, although the male has a retrolateral tibial apophysis and lacks a patellar apophysis.

Description:

Male

Measurements: CL 1.02-1.10, CW 0.86-0.92, AL 1.04-1.18, AW 0.65-1.69, TL 2.06-2.23, FL 0.04-0.16, SL 0.59-0.65, SW 0.49-0.55, AME-AME 0.04, AME-ALE 0.02, ALE-ALE 0.22, PME-PME 0.10, PME-PLE 0.10 PLE-PLE 0.41. Length of leg segments (sequence from femur to tarsus, and total): I 0.80 + 0.41 + 0.61 + 0.51 + 0.24 = 2.57; II 0.63 + 0.33 + 0.47 + 0.47 + 0.25 = 2.15; III 0.55 + 0.29 + 0.35 + 0.45 + 0.24 = 1.88; IV 0.78 + 0.33 + 0.65 + 0.65 + 0.25 = 2.66.

Carapace brown to reddish brown (Fig. 131); first three quarters of carapace slightly rounded, with steep decline in last quarter; surface texture slightly granulate, covered with short, fine setae; fovea long, distinct, at two thirds CL. Ocular region brown with dark brown to black rings around eyes; AER recurved, AME slightly larger than ALE; clypeus height equal to AME diameter; AME separated by distance equal to 0.4 their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PME larger than PLE; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 1.4 PME diameter. Chelicerae pale brown, anterior surface with scattered long, fine setae; three promarginal teeth, median tooth largest, distal tooth smallest; two retromarginal teeth, distal tooth largest. Sternum pale brown, darker towards border, shield-shaped; surface smooth, covered in short, fine setae throughout sternum. Abdomen pale yellow with mottled grey dorsally, paler grey anterior to midpoint, darker posteriorly; sigillae absent; abdomen broader anteriorly, tapering posteriorly. Legs I to IV uniform pale brown; anterior legs slightly more robust, slightly darker than posterior legs; legs pale brown; all segments covered with scattered short, fine setae; dense ventral scopulae on metatarsi and tarsi of all legs, more prominent on legs III and IV; regular leg spines, cusps absent. Palp pale brown; embolus pointed, retrolaterally directed; conductor small prolaterally directed behind embolus tip; narrow flap-like retrolateral tibial apophysis present, extends almost entire length of tibia (Figs 170-172).

Female

Measurements: CL 1.20, CW 1.10, AL 1.80, AW 1.30, TL 3.10, FL 0.08, SL 0.78, SW 0.73, AME-AME 0.08, AME-ALE 0.01, ALE-ALE 0.25, PME-PME 0.10, PME-PLE 0.05, PLE-PLE 0.40. Length of leg segments (sequence from femur to tarsus, and total): I 0.90 + 0.40 + 0.70 + 0.58 + 0.40 = 2.98; II Missing; III 0.65 + 0.28 + 0.48 + 0.55 + 0.30 = 2.26; IV 0.98 + 0.35 + 0.78 + 0.85 + 0.33 = 3.29.

Carapace brown to reddish brown (Fig. 132); first two thirds of carapace slightly rounded, with steep decline in last third; surface texture granulate covered with short, fine setae; fovea short, distinct, at two thirds CL. Ocular region brown with dark brown rings; AER recurved, AME slightly larger than ALE; clypeus height equal to AME diameter; AME separated by distance equal to 0.7 their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PME larger than PLE; PME separated by distance equal to 0.75 their diameter; PME separated from PLE by distance equal to 0.5 PME diameter. Chelicerae pale brown, anterior surface with scattered long, fine setae; two promarginal teeth, proximal tooth largest; two retromarginal teeth, distal tooth largest. Sternum pale brown, darker towards border, shield-shaped; surface smooth, covered in short, fine setae. Abdomen pale yellow with mottled grey dorsally, covering almost entire abdomen; pale yellow median line extending to midpoint; sigillae absent; abdomen broader anteriorly, tapering posteriorly. Legs I to IV uniform pale brown; anterior legs slightly more robust, slightly darker than posterior legs; legs pale brown; all segments covered with scattered short, fine setae; dense ventral scopulae on metatarsi and tarsi of all legs, more prominent on legs III and IV; regular leg spines, cusps absent. Epigyne weakly sclerotised; epigynal ridges teardrop-shaped, with round posterior copulatory openings; entrance ducts dividing anteriorly, copulatory openings extending to large circular ST 2 and posteriorly to small circular ST 1 (Fig. 173).

Holotype: ♂ ‘Det. / Loc. Kenya, Kenya coast, Taita Discovery Center / malaise trap, 03º25'S: 38º46'E / Rec. E. Selempo, 29.VII-5.VIII.2001 / R. G. Mus. Afr. Centr. 211.528 // MT. 211.528 // Araneae / Corinnidae / Trachelinae / *Trachelas taita* sp. n. / HOLOTYPE ♂ / det. R. Lyle //’ (MRAC 211528).

Allotype: 1♀ ‘KENYA: Naro Moru. / Country Life Lodge / 6300' 25-XII-1969 / M. E. Irwin & / E. S. Ross // Araneae / Corinnidae / Trachelinae / *Trachelas taita* sp. n. / ALLOTYPE ♀ / det. R. Lyle //’ (CAS).

Paratypes: 1♂ 'Det. / Loc. Kenya, Kenya coast, Taita Discovery Center / malaise trap, 03º25'S: 38º46'E / Rec. E. Selempo, 5-19.VIII.2001 / R. G. Mus. Afr. Centr. 211.552 // MT. 211.552 //' (MRAC 211552). 1♂ 'Det. / Loc. Kenya, Kenya coast, Taita Discovery Center / malaise trap, 03º25'S: 38º46'E / Rec. E. Selempo, 21-28.VIII.2001 / R. G. Mus. Afr. Centr. 211.567 // MT. 211.567 //' (MRAC 211567). 1♂ 'Det. / Loc. Kenya, Kenya coast, Taita Discovery Center / pitfall trap, 03º25'S: 38º46'E / Rec. E. Selempo, 15-20.I.2002 / R. G. Mus. Afr. Centr. 212.900 // MT. 212.900 //' (MRAC 212900). 1♂ 'Det. / Loc. Kenya, Kenya coast, Taita Discovery Center / malaise trap, 03º25'S: 38º46'E / Rec. E. Selempo, 13-24.II.2002 / R. G. Mus. Afr. Centr. 212.980 // MT. 212.980 //' (MRAC 212980).

Other material examined: none.

Distribution: Known from type localities only (Fig. 174)

***schenkeli* species group**

***Trachelas capensis* sp. n.**

Figs 175, 176, 189-194, 212

Etymology: This species name is taken from the Western Cape Province of South Africa, where the type series was collected.

Diagnosis: The male of this species can be recognised by large, curved retrolateral patellar apophysis, which ends in a ventrally directed point (Fig. 191). The presence of four strong spines on the distal tip of the cymbium (Fig. 190) separates it from other species in the group. The female of this species has large lateral copulatory openings that enter at a 45º degree angle to the epigastric fold, with large ST 2 medially to copulatory openings (Fig. 193). Large horn-like projections are found anterior to the midpoint, but are not always present (Figs 192, 193).

Male

Measurements: CL 1.20-1.40, CW 0.95-1.23, AL 1.20-1.50, AW 0.95-1.13, TL 2.45-2.90, FL 0.08-0.10, SL 0.73-0.83, SW 0.58-0.68, AME-AME 0.08, AME-ALE 0.03, ALE-ALE 0.30,

PME-PME 0.10, PME-PLE 0.13, PLE-PLE 0.46. Length of leg segments (sequence from femur to tarsus, and total): I 0.95 + 0.45 + 0.65 + 0.53 + 0.40 = 2.98; II 0.83 + 0.40 + 0.60 + 0.55 + 0.28 = 2.66; III 0.53 + 0.28 + 0.30 + 0.45 + 0.23 = 1.79; IV 0.73 + 0.58 + 0.30 + 0.65 + 0.25 = 2.51.

Carapace brown to reddish-brown (Fig. 175); first two thirds of carapace rounded, with steep decline in last third; surface texture granulate, covered with short, fine setae; fovea short, darker than carapace, indistinct, at two thirds CL. Ocular region reddish-brown with dark brown to almost black rings around eyes; AER slightly recurved, ALE slightly larger than AME; clypeus height slightly less than AME diameter; AME separated by distance equal to their diameter; AME separated from ALE by distance equal to 0.5 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae brown, anterior surface with scattered long, fine setae; two promarginal teeth, proximal tooth largest; one retromarginal tooth, proximally situated. Sternum brown, darker towards border, shield-shaped; surface texture slightly granulate, covered with short, fine setae. Abdominal dorsum mottled grey with brown scutum, covering almost entire length of abdomen; mottled grey median line extending to midpoint of abdomen; abdomen broader anteriorly, tapering posteriorly. Legs I to IV uniform pale brown to brown; anterior legs more robust, slightly darker than posteriors; all segments covered with short, fine setae; dense ventral setae on metatarsi and tarsi of all legs, more prominent on legs III and IV; ventral cusps present on distal leg segments of legs I and II; regular legs spines absent. Leg spination: tibiae: I *plv* 3 cusps; metatarsi: I *plv* 4 cusps, II *plv* 1 *vt* 1 cusps; tarsi: I *plv* 2 cusps, II *plv* 2 cusps (Fig. 189). Palp brown; retrolateral patellar apophysis large, curved, with ventrally directed tip; embolus originating prolaterally, proximally on tegulum, extending prolaterally around tegulum, embolus tip sharp, ending retrolaterally near cymbium tip; distal end of cymbium with four strong spines (Figs 190, 191).

Female

Measurements: CL 1.18-1.30, CW 0.95-1.13, AL 1.45-1.70, AW 1.10-1.40, TL 2.60-3.30, FL 0.05-0.10, SL 0.65-0.73, SW 0.55-0.63, AME-AME 0.08, AME-ALE 0.08, ALE-ALE 0.38, PME-PME 0.10, PME-PLE 0.10, PLE-PLE 0.45. Length of leg segments (sequence from femur to tarsus, and total): I 0.90 + 0.43 + 0.63 + 0.53 + 0.35 = 2.84; II 0.85 + 0.40 + 0.60 + 0.60 + 0.40 = 2.83; III 0.65 + 0.35 + 0.43 + 0.45 + 0.25 = 2.13; IV 0.78 + 0.38 + 0.65 + 0.68 + 0.28 = 2.77.

Carapace reddish-brown (Fig. 176); first two thirds of carapace rounded, with steep decline in last third; surface texture granulate, covered with short, fine setae; fovea short, darker than carapace, indistinct, at two thirds CL. Ocular region dark reddish-brown with dark brown to almost black rings around eyes; AER recurved, AME slightly larger than ALE; clypeus height equal to AME diameter; AME separated by distance equal to 0.7 their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PME and PLE equal in size; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 1.4 times PME diameter. Chelicerae reddish-brown, anterior surface with scattered long, fine setae; one promarginal teeth, tooth distally situated; two retromarginal tooth, distal tooth largest. Sternum dark brown, darker towards border, shield-shaped; surface slightly granulate, short, fine setae. Abdomen mottled pale grey dorsally with two pairs brown sigillae; first pair anterior to midpoint and second pair posterior to midpoint; abdomen covered in short, fine setae; abdomen broader anteriorly, tapering posteriorly. Legs I to IV uniform brown to pale brown; anterior legs slightly more robust, slightly darker than posteriors; all segments covered with scattered short, fine setae; dense ventral setae on metatarsi and tarsi of all legs, more prominent on legs III and IV; regular leg spines, cusps absent. Epigyne weakly sclerotised, usually pale yellow, with or without horn-like projection medially; copulatory openings at 45º angle to epigastric fold; ST 2 large, anterior to copulatory openings; ST 1 small, circular near epigastric fold (Figs 192-194).

Holotype ♂ and Allotype ♀: 'R.S.A., Western Cape Province / De Hoop Nature Reserve / Lekkerwater road / 04º24.002'S, 20º33.151'E / C. Haddad, 26.III.2005 / Beats, fynbos // Araneae / Corinnidae / Trachelinae / *Trachelas capensis* sp. n. / HOLOTYPE ♂ / ALLOTYPE ♀ / det. R. Lyle //' (NCA 2007/3833).

Paratype: 2♂ 'R.S.A., Western Cape Province / De Hoop Nature Reserve / Lekkerwater road / 4º24.002'S, 20º33.151'E / C. Haddad, 26.IX.2007 / Under *Thamnochortis* grass //' (NCA 2007/3653); 1♀ 'R.S.A., Western Cape Province / De Hoop Nat. Res. / Lekkerwater Road / 34º24.023'S, 20º33.189'E / 26.III.2005, C. Haddad / beats, fynbos foliage //' (NCA 2006/1550).

Other material examined: none.

Distribution: Known only from the type locality (Fig. 212).

***Trachelas griswoldi* sp. n.**

Figs 177, 195-197, 212

Etymology: This species is named after Charles Griswold, who collected the only known specimen of this species, in recognition of the large contribution he has made to the study of African spiders.

Diagnosis: The male of this species can be recognised by the strongly, curved retrolateral patellar apophysis, which ends in a rounded tip (Fig. 196). The embolus origin is similar to that of *T. roeweri* and *T. capensis*, but the embolus is broader and ends in a broad, rounded tip, compared to the others, which are pointed or slender and rounded. Female unknown.

Description:

Male

Measurements: CL 1.60, CW 1.33, AL 1.20, AW 1.30, TL 3.30, FL 0.13, SL 0.85, SW 0.78, AME-AME 0.08, AME-ALE 0.05, ALE-ALE 0.33, PME-PME 0.10, PME-PLE 0.15, PLE-PLE 0.58. Length of leg segments (sequence from femur to tarsus, and total): I 1.13 + 0.53 + 0.78 + 0.65 + 0.45 = 3.54; II 0.95 + 0.43 + 0.70 + 0.68 + 0.40 = 3.11; III 0.70 + 0.38 + 0.45 + 0.55 + 0.25 = 2.35; IV 0.88 + 0.40 + 0.65 + 0.73 + 0.28 = 2.51.

Carapace reddish-brown (Fig. 177); first two thirds of carapace slightly rounded, with steep decline in last third; surface texture finely wrinkled, covered with short, fine setae; fovea short, distinct, at two thirds CL. Ocular region reddish-brown with black rings around eyes; AER slightly recurved, AME and ALE equal in size; clypeus height approximately equal to distance AME diameter; AME separated by distance equal to 0.5 diameter; AME separated from ALE by distance approximately equal to 0.5 AME diameter; PER recurved, PME and PLE equal in size; PME separated by distance equal to slightly more than PME diameter; PME separated from PLE by distance equal to 1.5 times PME diameter. Chelicerae brown, anterior surface scattered with short, fine setae; two promarginal teeth, proximal tooth largest; two retromarginal teeth, distal tooth largest. Sternum brown, darker towards border, shield-shaped; surface smooth, covered with scattered short, fine setae. Abdomen pale yellow with mottled grey dorsally; dorsal scutum brown, covering almost entire abdomen length; two pairs of brown sigillae present; first pair very pale, anterior to midpoint; second pair darker,

distinct, posterior to midpoint; abdomen broad anteriorly, tapering posteriorly. Legs I to IV uniform brown; anterior legs more robust, darker than posteriors; short, fine setae scattered on all leg segments; dense ventral scopulae on distal segments of anterior legs; ventral cusps on metatarsus and tarsus on leg I; regular leg spines absent. Leg spination: tibiae: I *plv* 2 cusps; metatarsi: I *plv* 2 cusps (Fig. 195). Palp brown; embolus originating prolaterally, proximally on tegulum, extending prolaterally around tegulum; embolus ending in broad retrolaterally slightly rounded tip; strongly curved retrolateral patellar apophysis with rounded tip present (Figs 196, 197).

Female: unknown.

Holotype: ♂ 'California Academy of Sciences / TANZANIA: Tanga: W Usambara / Mtns.: Mazumba, forest / 4º49'S: 38º30'E 1400-1800m / 10—20.xi.1995 / C. E. Griswold, N. Scharff, D. Ubick // Araneae / Corinnidae / Trachelinae / *Trachelas griswoldi* sp. n. / HOLOTYPE ♂ / det. R. Lyle //' (CAS).

Other material examined: none.

Distribution: Known only from the type locality (Fig. 212).

***Trachelas harrisi* sp. n.**

Figs 178, 198, 199, 212

Etymology: This species is named after the collector, Rupert Harris, who collected the only known specimen of this species.

Diagnosis: This species can be recognised by the large, arch-like epigynal ridges with lateral copulatory openings which extend into narrow and folded anterior ST 2 (Fig. 198). ST 1 elongate, oval near epigastric fold (Fig. 199). Male unknown.

Description:

Female

Measurements: CL 1.40, CW 1.23, AL 1.88, AW 1.40, TL 3.28, FL 0.08, SL 0.83, SW 0.73, AME-AME 0.05, AME-ALE 0.05, ALE-ALE 0.30, PME-PME 0.10, PME-PLE 0.10, PLE-PLE 0.45. Length of leg segments (sequence from femur to tarsus, and total): I 1.00 + 0.45 + 0.55 + 0.58 + 0.40 = 2.98; II 0.90 + 0.40 + 0.65 + 0.58 + 0.35 = 2.88; III 0.65 + 0.38 + 0.40 + 0.50 + 0.25 = 2.18; IV 0.85 + 0.38 + 0.65 + 0.50 + 0.23 = 2.61.

Carapace reddish-brown (Fig. 178); first two thirds of carapace rounded, with steep decline in last third; carapace texture finely granulate, almost smooth, covered with short, fine setae; fovea distinct, at two thirds CL. Ocular region brown with dark brown rings around eyes; AER recurved, ALE slightly larger than AME; clypeus height equal to approximately AME diameter; AME separated by distance equal to 0.7 their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to twice their diameter; PME separated from PLE by distance equal to twice PME diameter. Chelicerae reddish-brown, anterior surface covered with scattered long, fine setae; one distal promarginal tooth present; two retromarginal teeth, distal tooth largest. Sternum brown, darker towards borders, shield-shaped; surface smooth, covered with scattered short, fine setae. Abdomen pale yellow with mottled grey dorsally; two pairs of pale brown sigillae, one pair anterior to midpoint, second darker, pair posterior to midpoint; abdomen broad anteriorly, tapering posteriorly. Legs I to IV uniform pale brown; anterior legs slightly more robust, darker than posteriors; leg I with granular texture, other legs smooth; all leg segments covered in short, fine setae, relatively dense ventral scopulae found on metatarsi and tarsi of legs I and II; regular leg spines, cusps absent. Epigyne pale yellow; epigynal ridges large, arch-like, with lateral copulatory openings; ST 2 narrow, folded, situated anteriorly; ST 1 elongate, oval, near epigastric fold (Figs 198, 199).

Male: unknown.

Holotype: ♀ ‘Westphalia, / 27.V.1983 / R. Harris // Araneae / Corinnidae / Trachelinae / *Trachelas harrisi* sp. n. / HOLOTYPE ♀ / det. R. Lyle //’ (NCA 95/165).

Other material examined: none.

Distribution: Known only from the type locality (Fig. 212).

***Trachelas incurvus* sp. n.**

Figs 179, 180, 200-203, 212

Etymology: This species name is derived from Latin for “bent, crooked”, which refers to the sharp, almost 90º bend of the male embolus.

Diagnosis: The male of this species can be recognised by the sharp, almost 90º bend of the embolus (Fig. 201), which separates it from other species in this group. The female can be recognised by large, arch-like anterior copulatory openings, with the bilobed ST 1 posterior to the midpoint of the epigyne (Fig. 203).

Description:

Male

Measurements: CL 1.20, CW 1.10, AL 1.40, AW 1.03, TL 2.60, FL 0.05, SL 0.70, SW 0.65, AME-AME 0.05, AME-ALE 0.03, ALE-ALE 0.35, PME-PME 0.15, PME-PLE 0.13, PLE-PLE 0.55. Length of leg segments (sequence from femur to tarsus, and total): I 1.00 + 0.53 + 0.68 + 0.63 + 0.43 = 3.27; II 0.93 + 0.45 + 0.73 + 0.70 + 0.48 = 3.29; III 0.68 + 0.38 + 0.43 + 0.58 + 0.28 = 2.35; IV 0.83 + 0.38 + 0.65 + 0.65 + 0.28 = 2.79.

Carapace orange-brown (Fig. 179); first two thirds of carapace slightly rounded, with steep decline in last third; surface texture granulate, covered with short, fine setae; fovea short, distinct, at two thirds carapace length. Ocular region orange with brown rings; AER slightly recurved, almost straight; AME and ALE equal in size; clypeus height equal to AME diameter; AME separated by distance equal to 0.7 their diameter; AME separated from ALE by distance equal to 0.7 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to 1.4 times their diameter; PME separated from PLE by distance equal to 1.4 times PME diameter. Chelicerae brown, anterior surface with scattered short, fine setae; two promarginal teeth, distal tooth largest; two retromarginal teeth, distal tooth largest. Sternum orange, brown towards border, shield-shaped; surface smooth, covered with scattered short, fine setae. Abdomen pale yellow with brown scutum dorsally; scutum extending over almost entire length of abdomen; two pairs of grey sigillae present; smaller first pair anterior to midpoint, larger second pair posterior to midpoint; abdomen broader anteriorly, tapering posteriorly. Legs I to IV brown; anterior legs more robust, darker than posterior legs; legs pale brown in colour; all segments covered with scattered short, fine setae; moderately dense ventral scopulae on metatarsi and tarsi of all legs, more prominent on legs III and IV; ventral

cusps on tibiae, metatarsi and tarsi of leg I; regular leg spines absent. Leg spination: tibiae: I *plv* 3 cusps; metatarsi: I *plv* 3 cusps; tarsi: I *plv* 1 cusp (Fig. 201). Palp brown; embolus originating prolaterally, proximally on tegulum, wrapped prolaterally around tegulum; embolus bent distally at nearly 90º, with tip at retrolateral margin of cymbium; retrolateral patellar apophysis rounded, peg-like (Figs 201, 202).

Female

Measurements: CL 1.23, CW 1.00, AL 1.60, AW 1.13, TL 2.70, FL 0.08, SL 0.75, SW 0.60, AME-AME 0.05, AME-ALE 0.03, ALE-ALE 0.23, PME-PME 0.10, PME-PLE 0.08, PLE-PLE 0.40. Length of leg segments (sequence from femur to tarsus, and total): I 0.78 + 0.40 + 0.53 + 0.45 + 0.35 = 2.51; II 0.65 + 0.33 + 0.35 + 0.38 + 0.30 = 2.01; III 0.60 + 0.35 + 0.63 + 0.63 + 0.25 = 2.46; IV 0.83 + 0.35 + 0.63 + 0.63 + 0.25 = 2.69.

Carapace reddish-brown (Fig. 180); first two thirds of carapace slightly rounded, with steep decline in last third; surface texture granulate, covered with short, fine setae; fovea short, narrow, indistinct, at two thirds CL. Ocular region brown with black rings around eyes; AER very slightly recurved, almost straight; ALE slightly larger than AME; clypeus height approximately equal to AME diameter; AME separated by distance equal to their diameter; AME separated from ALE by distance equal to AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance more than twice their diameter; PME separated from PLE by distance more than twice PME diameter. Chelicerae pale brown, anterior surface covered in scattered long, fine setae; two promarginal teeth, distal tooth largest; three retromarginal teeth, distal tooth largest, proximal tooth smallest. Sternum orange, brown towards border, shield shaped; smooth surface, covered with scattered short, fine setae. Abdomen pale yellow with mottled grey, with median line dorsally; two pairs of pale brown sigillae, anterior and posterior to midpoint of abdomen; surface covered in short, fine setae; abdomen broader anteriorly, tapering posteriorly. Legs I to IV uniform brown; anterior legs more robust, darker than posteriors; femora I darker than other segments; scattered short, fine setae on all leg segments; moderately dense ventral scopulae on metatarsi and tarsi of all legs; regular leg spines, cusps absent. Epigyne with broad, arch-like, rounded copulatory openings, extending anteriorly to ST 2; ST 1 bilobed, posterior to midpoint of epigyne, near epigastric fold; spermathecal ducts runing medially (Fig. 203).

Holotype: ♂ with one juvenile ‘Calif. Acad. Sciences / SOUTH AFRICA: Northern Province, / Entabeni Forest, Soutpansberg, ca. / ca. 20 km N Levubu, 22º59'S; 30º17'E / el. 1360m, 1-

2.XII.1996 C. E. Griswold // Araneae / Corinnidae / Trachelinae / *Trachelas incurvus* sp. n. / HOLOTYPE ♂ / det. R. Lyle //' (CAS).

Allotype: ♀ 'AMNH / REPUBLIC SOUTH AFRICA: E. / Transvaal, 11 km SE Pilgrims Rest, 1400m, 11-13.XII.1985 // S&J Peck, relict native / forest FITs #85-275 // Araneae / Corinnidae / Trachelinae / *Trachelas incurvus* sp. n. / ALLOTYPE ♀ / det. R. Lyle //' (AMNH 85-275).

Other material examined: none.

Distribution: Known from two scattered localities in northern South Africa (Fig. 212).

***Trachelas longinquus* sp. n.**

Figs 181, 204, 205, 212

Etymology: This species name is derived from Latin for "long", which refers to the long embolus of the male.

Diagnosis: The male of this species can be recognised by the simple, curved, elongate embolus that is as long as the tegulum (Fig. 204), and the small, triangular retrolateral patellar apophysis that points ventrally (Fig. 205). Female unknown.

Description:

Male

Measurements: CL 1.50, CW 1.33, AL 1.90, AW 1.48, TL 3.30, FL 0.10, SL 0.85, SW 0.83, AME-AME 0.08, AME-ALE 0.03, ALE-ALE 0.35, PME-PME 0.15, PME-PLE 0.10, PLE-PLE 0.55. Length of leg segments (sequence from femur to tarsus, and total): I 1.18 + 0.50 + 0.90 + 0.73 + 0.48 = 3.79; II 1.13 + 0.48 + 0.83 + 0.73 + 0.48 = 3.65; III 0.80 + 0.38 + 0.55 + 0.65 + 0.30 = 2.68; IV 1.10 + 0.43 + 0.85 + 0.93 + 0.35 = 3.66.

Carapace reddish-brown (Fig. 181); first three quarters of carapace rounded, with steep decline in last quarter; surface texture granulate, covered with short, fine setae; fovea short, distinct, at two thirds CL. Ocular region dark brown with black rings around eyes; AER slightly recurved, AME and ALE subequal in size; clypeus height equal to AME diameter;

AME separated by distance equal to 0.5 their diameter; AME separated from ALE by distance equal to 0.5 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to 1.5 their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae brown, anterior surface covered in scattered long, fine setae; two promarginal teeth, distal tooth largest; two retromarginal teeth, distal tooth largest. Sternum brown, darker towards border, shield-shaped; surface texture finely granulate, covered with scattered short, fine setae. Abdomen pale yellow with brown scutum covering almost entire length of abdomen dorsally; two pairs of brown sigillae, anterior and posterior to midpoint of abdomen; abdomen broader anteriorly, tapering posteriorly. Legs I to IV uniform pale brown; anterior legs slightly darker, more robust that posteriors; tibiae of legs I and II with long, erect ventral setae; all segments covered with scattered short, fine setae; moderately dense ventral scopulae on tibiae, metatarsi and tarsi of all legs; regular leg spines, cusps absent. Palp cymbium narrow distally, rounded posteriorly; embolus simple, curved elongate, with transverse curving sperm duct, extending laterally; palpal patella with small triangular retrolateral apophysis, with tip directed ventrally; palpal tibia with small rounded retrolateral apophysis (Figs 204, 205).

Female: unknown.

Holotype: ♂ ‘California Academy of Sciences / CENTRAL AFRICAN REPUBLIC: / Prefecture Sangha-Mbaéré: Réserve / Spéciale de Forét Dense de Dzanga- / Sangha, 12.7 km 326º NW Bayanga / Elev 420m, 3º0'18"N; 16º11'36"E / rainforest, EC30 beating low vegetation / 10-17.V.2001 / coll. B.L.Fisher Collection Code: BLF 4087 // Araneae / Corinnidae / Trachelinae / *Trachelas longinquus* sp. n. / HOLOTYPE ♂ / det. R. Lyle //’ (CAS).

Other material examined: none.

Distribution: Known only from the type locality (Fig. 212).

***Trachelas obliquus* sp. n.**

Figs 182, 206, 207, 212

Etymology: This species name is derived from Latin for “oblique”, which refers to the slanting, 45º angle of the epigynal ridges and copulatory openings of the female epigyne.

Diagnosis: This species can be recognised by 45º angle of the epigynal ridges and copulatory openings (Fig. 206), the ST 1 that appear bilobed when examined dorsally (Fig. 207), and the broad spermathecal ducts that fold medially from ST 2 to ST 1. Male unknown.

Description:

Female

Measurements: CL 1.55, CW 1.15, AL 1.90, AW 1.25, TL 3.60, FL 0.05, SL 0.85, SW 0.68, AME-AME 0.03, AME-ALE 0.03, ALE-ALE 0.25, PME-PME 0.08, PME-PLE 0.08, PLE-PLE 0.43. Length of leg segments (sequence from femur to tarsus, and total): I 0.97 + 0.43 + 0.70 + 0.55 + 0.48 = 3.13; II 0.93 + 0.43 + 0.65 + 0.60 + 0.43 = 3.04; III 0.73 + 0.40 + 0.45 + 0.58 + 0.30 = 2.46; IV 0.90 + 0.43 + 0.70 + 0.78 + 0.35 = 3.16.

Carapace reddish-brown (Fig. 182); first two thirds of carapace slightly rounded, with steep decline in last third; surface texture granulate, covered with short, fine setae; fovea short, indistinct, slightly darker than carapace, at two thirds CL; carapace more elongate compared to other *Trachelas* species. Ocular region brown with black rings around eyes; AER slightly recurved, almost straight; AME and ALE equal in size; clypeus height approximately equal to AME diameter; AME separated by distance equal to 0.7 their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance slightly larger than their diameter; PME separated from PLE by distance equal to 1.4 PME diameter. Chelicerae brown, anterior surface covered with long, fine setae; two promarginal teeth, distal tooth largest; two retromarginal teeth, proximal tooth largest. Sternum pale brown, darker towards border, shield shaped; smooth surface with scattered short, fine setae. Abdomen dark grey, with two pairs of pale yellow sigillae, anterior and posterior to midpoint of abdomen; surface covered with short, fine setae; abdomen broader anteriorly, tapering posteriorly. Legs I to IV uniform brown, femora darker than other segments; anterior legs more robust, darker than posterior legs; all segments covered with short, fine setae; relatively dense ventral scopulae on metatarsi and tarsi of all legs, more prominent on legs III and IV; regular leg spines, cusps absent. Epigyne weakly sclerotised; epigynal ridges and copulatory openings at 45º angle to epigastric fold, copulatory openings laterally situated; large ST 2 connected with lateral entrance ducts, with folded median

spermathecal ducts connecting ST 1 and ST 2; ST 1 bilobed when examined dorsally (Figs 206, 207).

Male: unknown.

Holotype: ♀ 'Det. / Loc. Tanzania, near Dindira Dam, Mkomazi / Game Res.. in gall on Acacia drepanolobium / Det. / Rec. Russell-Smith A., 25.I.1996 / Mus. R. Afr. Centr. 211323 // MT. 211.323 // Araneae / Corinnidae / Trachelinae / *Trachelas obliquus* sp. n. / HOLOTYPE ♀ / det. R. Lyle //' (MRAC 211323).

Other material examined: none.

Distribution: Known only from the type locality (Fig. 212).

***Trachelas roeweri* Lawrence, 1938**

Figs 183, 184, 208-212

Trachelas roeweri Lawrence, 1938: 502, fig. 27

Diagnosis: The female of this species can be recognised by the epigynal ridges that are at a 45º degree angle to the epigastric fold, with lateral copulatory openings entering large globular ST 2, and the small spermathecal duct extending posteriorly to the bilobed ST 1 (Fig. 208). The male can be recognised by the distal retrolateral patellar apophysis that is curved dorsally with a rounded tip. The sperm duct is broad, starting at the distal margin of the tegulum, curving in a sharp S-shape, with the posterior portion of sperm duct compressed and becoming narrower (Fig. 210). The embolus originates proximally on the tegulum, curves prolaterally around the tegulum, tapering into a rounded point retrolaterally near cymbium tip.

Redescription:

Female

Measurements: CL 1.95, CW 1.68, AL 1.95, AW 1.60, TL 4.10, FL 0.05, SL 1.10, SW 0.98, AME-AME 0.05, AME-ALE 0.01, ALE-ALE 0.40, PME-PME 0.15, PME-PLE 0.15, PLE-PLE 0.73. Length of leg segments (sequence from femur to tarsus, and total): I 1.28 + 0.65 +

0.73 + 0.78 + 0.45 = 3.89; II 1.15 + 0.58 + 0.83 + 0.75 + 0.43 = 3.74; III 0.88 + 0.38 + 0.60 + 0.65 + 0.30 = 2.81; IV 1.15 + 0.48 + 0.88 + 0.83 + 0.33 = 3.67.

Carapace orange (Fig. 183); first two thirds of carapace slightly rounded, with steep decline in last third; surface texture fine granulate, covered with short, fine setae; fovea short, indistinct, at two thirds CL. Ocular region orange with pale brown rings around eyes; AER slightly recurved, almost straight; ALE slightly larger than AME; clypeus height equal to AME diameter; AME separated by distance slightly less their diameter; AME separated from ALE by distance equal to AME diameter; PER recurved; PLE slightly larger than PME; PME separated by distance equal to 1.2 times PME diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae orange, slightly paler at fang base; anterior surface with scattered long, fine setae; two promarginal teeth, distal tooth largest; three retromarginal teeth, median tooth largest, distal tooth smallest. Sternum brown, darker towards border, shield-shaped; surface smooth, with scattered fine, pale setae. Abdomen pale yellow with very pale grey mottling dorsally; one faint pair of sigillae present; abdomen broader anteriorly, tapering posteriorly. Legs I and II pale brown, legs III to IV pale yellow, femora slightly darker than other segments; anterior legs more robust than posteriors; moderately dense ventral scopulae on metatarsi and tarsi of all legs, more prominent on posterior legs; regular leg spines, cusps absent. Genital area pale yellow; epigynal ridges at 45º angle to epigastric fold, with lateral copulatory openings; ST 2 large, globular, extending posteriorly into small, bilobed ST 1 (Fig. 208).

Description:

Male

Measurements: CL 1.70-1.80, CW 1.50-1.55, AL 1.80-2.00, AW 1.45-1.55, TL 3.50-3.70, FL 0.10-0.13, SL 0.98-1.00, SW 0.83-0.88, AME-AME 0.08, AME-ALE 0.08, ALE-ALE 0.43, PME-PME 0.15, PME-PLE 0.20, PLE-PLE 0.75. Length of leg segments (sequence from femur to tarsus, and total): I 1.25 + 0.65 + 0.88 + 0.63 + 0.38 = 3.79; II 1.10 + 0.53 + 0.83 + 0.70 + 0.38 = 3.54; III 0.85 + 0.38 + 0.48 + 0.65 + 0.28 = 2.64; IV 1.03 + 0.43 + 0.75 + 0.85 + 0.30 = 3.36.

Carapace reddish-brown (Fig. 184); first two thirds of carapace rounded, with steep decline in last third; surface texture finely wrinkled, covered with short, fine setae; fovea short, fine, distinct, at two thirds CL. Ocular region brown to dark brown with black rings; AER recurved, AME and ALE equal in size; clypeus height equal to approximately 1.5 times AME diameter; AME separated by distance equal to 0.5 their diameter; AME separated from ALE

by distance equal to 0.75 AME diameter; PER recurved, PME and PLE equal in size; PME separated by distance equal to twice their diameter; PME separated from PLE by distance more than twice PME diameter. Chelicerae brown, anterior surface with scattered long, fine setae; three promarginal teeth, median tooth largest, distal tooth smallest; two retromarginal teeth, distal tooth largest. Sternum brown, darker towards border, shield-shaped; surface texture finely granulate, with scattered short, fine setae. Abdomen brown to mottled grey, with scutum covering almost entire length of abdomen; dorsum pale yellow; two pairs of sigillae present, first pair pale brown, anterior to midpoint; second pair darker, posterior to midpoint; abdomen broader anteriorly, tapering posteriorly. Legs I to IV uniform brown; anterior legs more robust, slightly darker than posterior legs; all leg segments covered with scattered short, fine setae; moderately dense ventral scopulae on metatarsi and tarsi of all legs, more prominent on legs III and IV; ventral cusps on anterior segments of leg I; regular leg spines absent. Leg spination: tibiae: I *plv* 5 cusps; metatarsi: I *plv* 5 cusps; tarsi: I *plv* 1 cusp (Fig. 209). Palp brown; embolus originating prolaterally at tegulum base; curving prolaterally along tegulum, ending in rounded point retrolaterally near cymbium tip; retrolateral patellar apophysis long, curved dorsally with rounded tip (Figs 210, 211).

Holotype: ♀ '1383 (Holotype) / *Trachelas roeweri* // 1383 TYPE (HOLO) / *T. roeweri* ♀ // 1383 Jan 37 / Nkhandla //' (NMSA 1383).

Other material examined: SOUTH AFRICA: *KwaZulu-Natal Province*: ♂ Zululand / Dlinza forest, Eshowe, 17.I.1984, Sweeping herbs, P. Reavell (NMSA). 1♂ Zululand, Eshowe, 28º54'S:31º28'E, XI-XII.1943, L. Bevis (NMSA 12114).

Distribution: Known only from northern KwaZulu-Natal Province, South Africa (Fig. 212).

***Trachelas schenkeli* Lessert, 1923**

Figs 185, 186, 213-228, 231

Trachelas schenkeli Lessert, 1923: 197, figs 47-49; 1933: 130, figs 49-50; Bosselaers & Jocqué 2002: 250, fig. 3H

Diagnosis: The male of this species can be recognised by retrolateral origin of the embolus, curling proximally and prolaterally around tegulum to end in a sharp point medially near the cymbium tip (Fig. 223). The retrolateral patellar apophysis is curved ventrally, with a ridged surface (Fig. 224). The female is recognised by laterally hooked, large, copulatory openings,with epigynal ridges at a 45º angle to the epigastric fold (Fig. 225). ST 2 are large and globular, anterior to the copulatory openings, occupying two thirds of the length of the epigyne, while ST 1 is smaller and circular, touching the epigastric fold.

Redescription:

Male

Measurement: CL 1.20-1.70, CW 1.03-1.48, AL 1.40-1.80, AW 1.00-1.38, TL 2.50-3.50, FL 0.05-0.10, SL 0.63-0.83, SW 0.58-0.80, AME-AME 0.08, AME-ALE 0.05, ALE-ALE 0.38, PME-PME 0.10, PME-PLE 0.15, PLE-PLE 0.60. Length of leg segments (sequence from femur to tarsus, and total): I 1.23 + 0.65 + 0.93 + 0.68 + 0.30 = 3.79; II 1.10 + 0.48 + 0.75 + 0.73 + 0.43 = 3.49; III 0.85 + 0.38 + 0.33 + 0.58 + 0.28 = 2.42; IV 0.95 + 0.43 + 0.75 + 0.80 + 0.30 = 3.23.

Carapace reddish brown (Fig. 185); first two thirds of carapace evenly high, with relatively steep decline in last third; carapace texture finely granulate, covered with short, fine setae; fovea short, distinct, slightly thickened, at two thirds CL. Ocular region brown with black rings around eyes; AER slightly procurved (Fig. 213), AME and ALE equal in size; clypeus height equal to approximately AME diameter; AME separated by distance equal to 0.7 their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PME and PLE equal in size; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 1.7 times PME diameter. Chelicerae brown, paler towards fang base; anterior surface scattered with long, fine setae; three promarginal teeth, median tooth largest, distal tooth smallest; two retromarginal teeth, distal tooth largest. Sternum brown, darker towards borders; shield-shaped; surface smooth, with scattered fine setae. Abdomen pale yellow with grey median line dorsally, extending to midpoint; abdomen grey posterior to midpoint, grey transverse band across abdomen at ⅓ its length; two pairs of brown to grey sigillae; first pair anterior to midpoint, second pair posterior to midpoint of abdomen; abdomen broad anteriorly, tapering posteriorly. Legs I to IV brown; anterior legs more robust, darker than posteriors, especially leg I; leg I with granulate texture on femora; all segments covered with scattered short, fine setae; dense ventral scopulae found on distal leg segments of all legs; erect ventral setae found on tibiae of leg I; ventral cusps on leg I (Figs

214-217); regular leg spines absent. Leg spination: tibiae: I *plv* 3-10 cusps; metatarsi: I *plv* 4-6, *rlv* 1-2 cusps; tarsi: I *plv* 0-2 cusps (Fig. 222). Palp brown; embolus originating retrolaterally on tegulum, curling proximally and prolaterally around tegulum, with sharply pointed embolus tip, ending medially near cymbium tip; retrolateral patellar apophysis bent, curving ventrally (Figs 218, 219, 223, 224).

Female

Measurements: CL 1.00-1.50, CW 0.83-1.25, AL 1.20-2.00, AW 0.95-1.53, TL 2.20-3.70, FL 0.05-0.10, SL 0.60-0.85, SW 0.58-0.75, AME-AME 0.08, AME-ALE 0.05, ALE-ALE 0.05, PME-PME 0.10, PME-PLE 0.13, PLE-PLE 0.50. Length of leg segments (sequence from femur to tarsus, and total): I 1.03 + 0.48 + 0.75 + 0.50 + 0.30 = 3.06; II 0.88 + 0.33 + 0.65 + 0.65 + 0.40 = 2.91; III 0.70 + 0.35 + 0.40 + 0.48 + 0.20 = 2.13; IV 0.88 + 0.35 + 0.60 + 0.68 + 0.25 = 2.76.

Carapace orange to reddish brown (Fig. 186); first two thirds of carapace evenly high, with relatively steep decline in last third; carapace texture finely granulate, covered with short, fine setae; fovea short, distinct, at two thirds CL. Ocular region orange to reddish-brown with darkened rings around eyes; AER slightly recurved, AME slightly larger than ALE; clypeus height equal to 0.5 AME diameter; AME separated by distance slightly larger than their diameter; AME separated from ALE by distance equal to AME diameter; PER recurved, PME and PLE equal in size; PME separated by distance slightly larger than their diameter; PME separated from PLE by distance equal to 1.5 times PME diameter. Chelicerae orange to brown, paler towards fang base; fangs orange; anterior surface with scattered long, fine setae; two promarginal teeth, distal tooth largest; two retromarginal teeth, distal tooth largest. Sternum pale orange to brown, darker towards border, shield-shaped; surface smooth, with scattered fine setae. Abdomen creamy white to pale yellow dorsally; dorsum with grey median line, extending to midpoint; abdomen grey posteriorly; grey transverse band across abdomen at ⅓ its length; two pairs of brown to grey sigillae, first pair anterior to midpoint, second pair posterior to midpoint of abdomen; abdomen broader anteriorly, tapering posteriorly. Legs I to IV pale brown to brown; anterior legs slightly more robust, darker than posteriors; all segments covered with short, fine setae; moderately dense ventral scopulae found on anterior leg segments of all legs (Fig. 220); erect ventral setae found on tibiae of leg I; regular leg spines, cusps absent. Genitalic area relatively well sclerotised, with hooked copulatory openings situated laterally in epigyne, in ridges at approximately 45º to epigastric

fold; copulatory openings extending into large globular ST 2, extending ⅔ epigyne length; ST 1 small, circular, touching the epigastric fold (Figs 221, 225, 226).

Holotype: ♂ '*Trachelas schenkeli* de Lessert. / Ngxwala Hill, Zululand. 1915. / Female. TYPE. Durban Museum. //' (NMSA).

Paratype: ♀ 'Cotype / Collection Roger de Lessert / *Trachelas schenkeli* Lessert, 21 / Loc: Durban (Chubb) ♀ // Museum Geneve / coll. de Lessert: Afrique //' (MHNG).

Other material examined: SOUTH AFRICA: *Eastern Cape Province*: 1♂ Grahamstown, 20.IX.1979, on fig tree in garden, P. Croeser (NCA 83/424); 6♂ 1 juv. Coffee Bay, 32°58.862'S:29°09.199'E, 28.X.2006, beats, coastal dune forest; C. Haddad & R. Lyle (NCA 2006/1552); 1♂ Cwebe Nature Reserve, 32°14.588'S:28°54.772'E, 30.X.2006, grassy litter, C. Haddad (NCA 2007/3931); 1 juv. Kasouga, WSW of Port Alfred, 33º39'S:26º45'E, I.1940, coastal reserve, J. Omer-Cooper (NMSA). *KwaZulu-Natal Province*: 1♂ 1♀ 1.5 km East of Mtunzini, Umlalazi Nature Reserve, 2831Dd, 4.XI.1979, coastal indigenous forest R. Miller (NMSA 12805); 1♀ Greater St. Lucia Wetlands Park, Hell's Gate, 12.IV.2004, tsetse fly trap, block B, J. Esterhuizen (NCA 2005/316); 1♂ Ndumo Game Reserve, 26º53'S:32º19'E, beating, semi-aquatic vegetation, C. Haddad (NCA 2004/309); 1♀ near Enseleni, 7.III.1980, dense sandveld, bush in climbers, P. Reavell (NMSA 13128); 1♀ Richards Bay, 10.III.1995, beating low vegetation, T. Wassenaar (NCA 99/352); 1♀ Richards Bay, 10.III.1995, beating low vegetation, T. Wassenaar (NCA 99/371); 1♀ Richards Bay area, 28º50'S:32º05'E, 4.II.1983, P. Reavell (NCA 95/125); 1♀ Richards Bay, 10.XII.1995, on pisteal water lettuce, T. Wassenaar (NCA 99/370); 1♂ Tembe Elephant Park, 27º01'S:32º24'E, 8.I.2002, beats, deep sand forest, C. Haddad (NCA 2002/412); 1♂ 1♀ Tembe Elephant Park, 15.III.2003, A. Honiball (NCA 2004/266); 1♀ University of Zululand, 28º45'S:31º45'E, 7.II.1983, in climbers, in swamp forest, P.E. Reavell (NMSA); 1♀ Vernon Crookes Nature Reserve, near Park Rynie, 25.III.1985, R. Maartens (NCA 86/586); 2♂ Durban Bluff, 17.IV.1976, coastal dune scrub, shrub layer, F. Wanless & A. Russell-Smith (BMNH); 1♀ 1.5 km E. of Mtunzini, Umlalazi Nature Reserve, 28º58'S:31º48'E, indigo. forest, XII.1978, R. Miller (NMSA 12330). *Limpopo Province*: 1♂ Mogwadi [Dendron], 1970, H.K. Munro (NCA 76/373). *Mpumalanga Province*: 4♂ 1♀ beneath Sabie, Skukuza, Kruger National Park, 13.VIII.1991, on plant, S. Neser (NCA 2002/364); 1♀ beneath Sabie, Skukuza, Kruger National Park, 13.VIII.1991, on plant, S. Neser (NCA 2002/365).

Distribution: Distributed in subtropical southern Africa (Fig. 231).

***Trachelas ungulus* sp. n.**

Figs 187, 188, 227-231

Etymology: This species name is derived from Latin for “claw”, which refers the claw-like femoral apophysis.

Diagnosis: The male of this species can be recognised by slender, forked embolus tip, the large, pointed retrolateral patellar apophysis and the strongly curved, claw-like femoral apophysis (Fig. 229). The female can be recognised by the long, curved epigynal ridges, the broad, anteriorly directed copulatory openings, and both ST posterior to midpoint. ST 2 is longitudinally rectangular, with a smaller, triangular ST 1 close to the epigastric fold (Fig. 230).

Description:

Male

Measurements (eye and leg measurements from second largest specimen): CL 1.40-1.48, CW 1.25-1.28, AL 1.90-1.95, AW 1.23-1.35, TL 2.80-3.45, FL 0.08-0.10, SL 0.80-0.85, SW 0.73-0.78, AME-AME 0.06, AME-ALE 0.03, ALE-ALE 0.28, PME-PME 0.10, PME-PLE 0.05, PLE-PLE 0.43. Length of leg segments (sequence from femur to tarsus, and total): I 1.33 + 0.53 + 1.03 + 0.90 + 0.53 = 4.32; II 1.25 + 0.50 + 0.95 + 0.85 + 0.53= 4.08; III 0.88 + 0.35 + 0.60 + 0.75 + 0.35 = 2.93; IV 1.28 + 0.43 + 1.00 + 1.18 + 0.35 = 4.24.

Carapace reddish-brown (Fig. 187); first three quarters of carapace rounded, with steep decline in last quarter; surface texture granulate, covered with short, fine setae; fovea short, distinct, at two thirds CL. Ocular region brown with black rings around eyes; AER slightly recurved, almost straight; ALE very slightly larger than AME; clypeus height approximately equal to AME diameter; AME separated by distance approximately equal to 0.5 their diameter; AME separated from ALE by distance equal to 0.25 AME diameter; PER recurved, PME and PLE equal in size; PME separated by distance equal to 0.8 times their diameter; PME separated from PLE by distance equal to 0.4 times PME diameter. Chelicerae dark brown, anterior surface scattered with scattered short, fine setae; two promarginal teeth,

proximal tooth largest; two retromarginal teeth, distal tooth largest. Sternum pale brown, darker towards border, shield-shaped; surface texture slightly granulate, with scattered long, fine setae. Abdomen dark grey with brown scutum dorsally, extending over almost entire length of abdomen; two pairs of dark brown sigillae; first pair very pale, anterior to midpoint; second pair dark, distinct, posterior to midpoint; abdomen broader anteriorly, tapering posteriorly. Legs I to IV brown with uniform incomplete grey band arrangement on all legs; anterior legs more robust, slightly darker than posteriors; femora I and II with incomplete distal band, femora III and IV without bands; patellae almost totally covered by band; tibiae with two incomplete bands, one distal and one proximal; metatarsi I with incomplete proximal band; tarsi without bands; all segments covered with scattered short, fine setae; moderately dense ventral scopulae on metatarsi and tarsi of all leg segments, more prominent on legs III and IV; regular leg spines, cusps absent. Palp brown; embolus long, slender, elongate, with forked tip; retrolateral tibial apophysis large, triangular, sharply pointed; femora with small, claw-like ventral apophysis (Figs 227, 228).

Female

Measurements: CL 1.30-1.50, CW 1.13-1.23, AL 2.20-2.50, AW 1.50-1.60, TL 3.50-4.00, FL 0.04-0.05, SL 0.78-0.83, SW 0.68-0.70, AME-AME 0.05, AME-ALE 0.03, ALE-ALE 0.30, PME-PME 0.12, PME-PLE 0.10, PLE-PLE 0.48. Length of leg segments (sequence from femur to tarsus, and total): I 1.03 + 0.48 + 0.73 + 0.58 + 0.48 = 5.08; II 0.93 + 0.43 + 0.73 + 0.63 + 0.45 = 3.97; III 0.75 + 0.35 + 0.48 + 0.63 + 0.35 = 2.56; IV 1.03 + 0.43 + 0.78 + 0.80 + 0.43 = 3.47.

Carapace reddish-brown (Fig. 188); first three quarters of carapace rounded, with steep decline in last quarter; surface texture granulate, covered with short, fine setae; fovea very short, distinct, at two thirds CL. Ocular region brown with dark brown rings around eyes; AER slightly recurved, almost straight; ALE larger than AME; clypeus height approximately equal to AME diameter; AME separated by distance equal to 0.5 their diameter; AME separated from ALE by distance approximately equal to 0.25 AME diameter; PER recurved, PME slightly larger than PLE; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 0.6 times PME diameter. Chelicerae pale brown, anterior surface with scattered short, fine setae; three promarginal teeth, proximal tooth largest, distal tooth smallest; two retromarginal teeth, distal tooth largest. Sternum pale brown, darker towards border, shield-shaped; surface texture finely granulate, with scattered short, fine setae. Abdomen pale yellow to pale grey with dark grey median line dorsally;

median line extending to midpoint of abdomen, spreading laterally to cover abdomen posteriorly; abdomen broader anteriorly, tapering posteriorly. Legs I to IV uniform pale yellow; anterior legs more robust, slightly darker than posteriors; all segments covered with scattered short, fine setae; moderately dense ventral scopulae on metatarsus and tarsus of all leg segments, more prominent on legs III and IV; regular leg spines, cusps absent. Epigyne weakly sclerotised, copulatory openings anterolaterally situated in broad curved epigynal ridges; ST 2 longitudinally rectangular, extending posterior from midpoint; ST 1 triangular, near epigastric fold (Figs 229, 230).

Holotype: ♂ 'UGANDA, Budongo Forest / 1º45'S, 31º25'E, 1200m a.s.l. / 46 5-15.I.97, T. Wagner / Seasonal Rainforest (dry season) / *Rinorea beniensis (=ardisiifolia)* (Violaceae), Secondary forest // Araneae / Corinnidae / Trachelinae / *Trachelas ungulus* sp. n. / HOLOTYPE ♂ / det. R. Lyle //' (UKL).

Allotype: ♀ 'UGANDA, Budongo Forest / 1º45'S, 31º25'E, 1200m a.s.l. / 15-25.I.97, T. Wagner / Seasonal Rainforest (dry season) / *Cynometra alexandri* (Caesalpiniacae), Secondary forest // Araneae / Corinnidae / Trachelinae / *Trachelas ungulus* sp. n. / ALLOTYPE ♀ / det. R. Lyle //' (UKL).

Paratypes: 1♀ 'UGANDA, Budongo Forest / 1º45'S, 31º25'E, 1200m a.s.l. / 15-25.I.97, T. Wagner / Seasonal Rainforest (dry season) / *Cynometra alexandri* (Caesalpiniacae), Secondary forest //' (UKL). 1♂ 'Det. / Loc. Kenya, Kakamega Forest, 00º13'N: 34º54'E / pitfall traps / Rec. D. Shilabira Smith, 14.IX.2002 //' (MRAC 220274).

Other material examined: none.

Distribution: Rainforests in central and east Africa (Fig. 231).

***scutatus* species group**

***Trachelas scutatus* sp. n.**

Figs 233-240

Etymology: This species name is derived from the Latin for the “scutum”, which refers to the abdominal scutum present in both male and female.

Diagnosis: The male of this species can be recognised by the long, looping, distal embolus (Fig. 234) and the retrolateral tibial and patellar apophyses (Fig. 235). The female can be recognised by the median copulatory openings that lead to looping entrance ducts, and flanked by the teardrop-shaped ST 2 (Figs 236-238).

Description:

Male

Measurements: CL 1.30-1.50, CW 1.13-1.15, AL 1.30-1.50, AW 1.08-1.13, TL 2.60-2.80, FL 0.08-0.10, SL 0.70-0.80, SW 0.63-0.80, AME-AME 0.03, AME-ALE 0.03, ALE-ALE 0.25, PME-PME 0.08, PME-PLE 0.05, PLE-PLE 0.38. Length of leg segment (sequence from femur to tarsus, and total): I 1.08 + 0.53 + 0.85 + 0.65 + 0.35 = 3.46; II 1.05 + 0.45 + 0.75 + 0.65 + 0.38 = 3.28; III 0.68 + 0.35 + 0.53 + 0.50 + 0.38 = 2.44; IV 0.98 + 0.35 + 0.68 + 0.78 + 0.28 = 3.07.

Carapace reddish brown (Fig. 232); first two thirds rounded, with steep decline in last third; highest point slightly anterior to midpoint; surface texture granulate, covered with short, fine setae; fovea short, indistinct, at two thirds CL. Ocular region reddish-brown with black rings around eyes; AER slightly recurved, ALE larger then AME; clypeus height approximately equal to 1.25 AME diameter; AME separated by distance equal to 0.5 their diameter; AME separated from ALE by distance equal to 0.5 AME diameter; PER recurved, PLE larger than PME; PME separated by their diameter; PME separated from PLE by approximately distance equal to 0.5 PME diameter. Chelicerae brown, anterior surface with scattered short, fine setae; two promarginal teeth, distal tooth largest; two retromarginal teeth, distal tooth largest. Sternum brown, darker toward border; surface texture finely granulate covered with short, fine setae. Abdomen pale yellow dorsally; dorsal scutum brown, covering almost entire length of abdomen; two pairs of brown sigillae, first pair paler, anterior to midpoint; second pair darker, posterior to midpoint; abdomen broader anteriorly, tapering posteriorly. Legs I to IV uniform pale brown, anterior legs more robust, darker than posteriors; all segments with scattered setae; regular leg spines, cusps absent. Palp with looping distal embolus, tip broadened, ending along retrolateral margin of cymbium; retrolateral tibial apophysis broad, rounded; retrolateral patellar apophysis small, triangular with pointed tip (Fig. 234, 235).

Female

Measurements: CL 1.00-1.10, CW 0.88-1.00, AL 1.30-1.60, AW 0.98-1.30, TL 2.40-2.70, FL 0.08-0.10, SL 0.55-0.63, SW 0.50-0.65, AME-AME 0.03, AME-ALE 0.03, ALE-ALE 0.20, PME-PME 0.08, PME-PLE 0.05, PLE-PLE 0.33. Length of leg segments (sequence from femur to tarsus, and total): I 0.88 + 0.35 + 0.60 + 0.43 + 0.33 = 2.59; II 0.80 + 0.30 + 0.53 + 0.50 + 0.30 = 2.43; III 0.58 + 0.28 + 0.38 + 0.45 + 0.20 = 1.89; IV 0.80 + 0.28 + 0.60 + 0.65 + 0.23 = 2.56.

Carapace reddish-brown (Fig. 233); first two thirds of carapace rounded, with steep decline in last third; surface texture granulate, covered with short, fine setae; fovea short, indistinct, at two thirds CL. Ocular region brown with black rings around eyes; AER slightly recurved, ALE slightly larger than AME; clypeus height equal to AME diameter; AME separated by distance equal to 0.7 their diameter; AME separated from ALE by distance equal to 0.7 their diameter; PER recurved, PLE larger than PME; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 0.7 PME diameter. Chelicerae reddish-brown, anterior surface with scattered short, fine setae; two promarginal teeth, proximal tooth largest; two retromarginal teeth, distal tooth largest. Sternum orange, darker towards border, shield-shaped; surface smooth, covered with short, fine setae. Abdomen pale yellow to pale grey dorsally; brown dorsal scutum covering almost entire length of abdomen; abdomen broader anteriorly, tapering posteriorly. Legs I to IV uniform pale yellow, anterior legs slightly more robust than posteriors; all leg segments with scattered short, fine setae; moderately dense ventral setae on metatarsi and tarsi of all legs; regular leg spines, cusps absent. Epigyne with median copulatory openings, leading to looping entrance ducts; ST 2 teardrop-shaped; ST 1 small, elliptical, near epigastric fold (Figs 236-238).

Holotype ♂ and Allotype ♀ with one juvenile: ‘NIGERIA: Agege / Lagos Colony / 5.XII.1948 / B. Malkin //’ (CAS).

Paratypes: 1♂ 7♀ ‘Det. / Loc. Ghana, Kakum forest. Secondary forest, / fogging / Det. / Rec. Jocqué R. & De Bakker D. & Baert L. / 17.XI.2005 / Mus. R. Afr. Centr. 218262 // MT. 218262 //’ (MRAC 218262). 2♂ 3♀ ‘Det. / Loc. Ghana, Kakum forest. Secondary forest, / fogging / Det. / Rec. Jocqué R. & De Bakker D. & Baert L. / 17.XI.2005 / Mus. R. Afr. Centr. 218271 // MT. 218271 //’ (MRAC 218271).

Other material examined: none.

Distribution: Forests in Ghana and Nigeria (Fig. 239).

uncus species group

Trachelas contortionis sp. n.

Figs 240, 250, 251, 254

Etymology: This species name is derived from the Latin word for “whirling”, which refers to the whirling embolus.

Diagnosis: This species can be recognised by the long, whirling embolus and the elongate, hooked dorsal proximal cymbial apophysis (Fig. 252). The male of this species has a sharp, triangular retrolateral tibial apophysis that protrudes laterally and points distally. Female unknown.

Description:

Male

Measurements: CL 1.60, CW 1.45, AL 1.50, AW 1.18, TL 3.00, FL 0.13, SL 0.90, SW 0.80, AME-AME 0.05, AME-ALE 0.03, ALE-ALE 0.23, PME-PME 0.13, PME-PLE 0.13, PLE-PLE 0.60. Length of leg segments (sequence from femur to tarsus, and total): I 1.28 + 0.65 + 1.08 + 0.80 + 0.38 = 4.19; II 1.03 + 0.53 + 0.85 + 0.73 + 0.38 = 3.52; III 0.75 + 0.28 + 0.58 + 0.73 + 0.23 = 2.57; IV 1.13 + 0.50 + 1.03 + 1.00 + 0.40 = 4.06.

Carapace reddish-brown (Fig. 240); first two thirds of carapace rounded, with steep decline in last third; surface texture granulate, covered with short, fine setae; fovea short, narrow, distinct, at two thirds CL. Ocular region reddish-brown with black rings around eyes; AER slightly recurved, almost straight; ALE slightly larger than AME; clypeus height slightly less than AME diameter; AME separated by distance equal to their diameter; AME separated from ALE by distance equal to 0.5 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to twice their diameter; PME separated from PLE by distance equal to 1.5 times PME diameter. Chelicerae brown, anterior surface covered in scattered short, fine setae; two promarginal teeth, distal tooth largest; three retromarginal teeth, median tooth largest, proximal tooth smallest. Sternum brown, darker towards border,

shield-shaped; surface texture slightly granulate, with scattered short, fine setae. Abdomen white to pale yellow with pale grey mottling dorsally; two pairs of grey sigillae present, first pair anterior to midpoint, second pair posterior to midpoint; abdomen broader anteriorly, tapering posteriorly. Legs I to IV pale brown; anterior legs more robust, slightly darker than posteriors; leg I with granulate texture compared to others; all segments covered with scattered short, fine setae; moderately dense scopulae on metatarsi and tarsi of all legs, more prominent on legs III and IV; regular leg spines, cusps absent. Palp brown; cymbium narrower distally; cymbial apophysis hook-like; embolus originating prolaterally near tegulum base, whirling around prolateral and distal margins, with elongate tip retrolaterally; retrolateral tibial apophysis triangular, protruding distally (Figs 250, 251).

Female: unknown.

Holotype: ♂ 'Uganda, Dist. Bundibugyo / Semliki Forest, 0º44'S/29º57'E / 670m a.s.l., Rainforest / *Ficus capensis* (Moraceae) // Araneae / Corinnidae / Trachelinae / *Trachelas contortionis* sp. n. / HOLOTYPE ♂ / det. R. Lyle //' (UKL).

Other material examined: none.

Distribution: Known only from the type locality (Fig. 254).

Trachelas cristatus **sp. n.**

Figs 242, 252-254

Etymology: This species name is derived from the Latin word for 'with a crest or comb", which refers to the comb-like setae at the distal end of tegular cavity.

Diagnosis: The male of this species can be recognised by the comb-like setae at the distal end of the tegular cavity and the C-shaped path of the embolus from base to tip (Fig. 253). Female unknown.

Description:

Male

Measurements: CL 1.33, CW 1.10, AL 1.37, AW 1.37, TL 2.59, FL 0.14, SL 0.73, SW 0.57, AME-AME 0.06, AME-ALE 0.02, ALE-ALE 0.24, PME-PME 0.10, PME-PLE 0.10, PLE-PLE 0.45. Length of leg segments (sequence from femur to tarsus, and total): I 0.82 + 0.45 + 0.55 + 0.49 + 0.31 = 2.64; II 0.71 + 0.37 + 0.47 + 0.47 + 0.31 = 2.33; III 0.71 + 0.39 + 0.49 + 0.45 + 0.31 = 2.35; IV 0.78 + 0.33 + 0.59 + 0.57 + 0.27 = 2.54.

Carapace brown (Fig. 242); first two thirds of carapace rounded, with steep decline in last third; surface texture granulate, covered in short, fine setae; fovea short, distinct, at two thirds CL. Ocular region brown with black rings around eyes; AER slightly recurved, AME and ALE equal in size; clypeus height equal to AME diameter; AME separated by distance equal to approximately 0.7 their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER slightly recurved, PME larger than PLE; PME separated by distance equal to 0.4 their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae brown, anterior surface with scattered long, fine setae; two promarginal teeth, proximal tooth largest; three retromarginal teeth, distal tooth largest, median tooth smallest. Sternum orange, darker towards border, shield-shaped; surface smooth, with scattered short, fine setae. Abdomen mottled pale grey dorsally; one pair of grey sigillae present, posterior to midpoint of abdomen; abdomen broad anteriorly, tapering posteriorly. Legs I to IV pale brown, leg I darker than others; anterior legs slightly more robust than others; all leg segments covered in short, fine setae; relatively dense ventral scopulae found on metatarsi and tarsi of all legs, more prominent on legs III and IV; regular leg spines, cusps absent. Palp pale yellow with C-shaped embolus; tegular cavity with comb-like setae at distal end; cymbial apophysis simple, rounded; retrolateral tibial apophysis broad, slightly curved dorsally (Figs 252, 253).

Holotype: 1♂ ‘Det. / Loc. CONGO, D. R. Kivu, Butembo, vallée Musosa, N 00º09' E 29º17' / alt. 1745m a.s.l., IV.1968 / Rec. M. Lejeune / R. G. Mus. Afr. Centr. 134.011 // 134.011 // Araneae / Corinnidae / Trachelinae / *Trachelas cristatus* sp. n. / HOLOTYPE ♂ / det. R. Lyle //’ (MRAC 134011).

Other material examined: none.

Distribution: Forest in the north-eastern Democratic Republic of Congo (Fig. 254).

***Trachelas jocquei* sp. n.**

Figs 242, 255, 256, 269

Etymology: This species named after the collector of the type specimen, Rudy Jocqué, in recognition of the large quantity of valuable spider material he has collected in central Africa, and his contribution to the study of African spiders.

Diagnosis: This species can be recognised by the curved, sharply point distal embolus when palp is examined retrolaterally, and the large scooped-shaped proximal cymbial apophysis (Fig. 255). Female unknown.

Description:

Male

Measurements: CL 1.25, CW 1.02, AL 1.69, AW 1.12, TL 2.90, FL 0.08, SL 0.73, SW 0.61, AME-AME 0.04, AME-ALE 0.02, ALE-ALE 0.22, PME-PME 0.08, PME-PLE 0.10, PLE-PLE 0.41. Length of leg segments (sequence from femur to tarsus, and total): I 0.90 + 0.41 + 0.67 + 0.53 + 0.33 = 2.84; II 0.73 + 0.35 + 0.53 + 0.49 + 0.31 = 2.41; III 0.59 + 0.27 + 0.39 + 0.49 + 0.24 = 1.98; IV 0.82 + 0.31 + 0.63 + 0.63 + 0.27 = 2.66.

Carapace reddish-brown (Fig. 242); first two thirds of carapace rounded, with steep decline in last third; surface texture granulate, covered with short, fine setae; fovea long, narrow, distinct, at two thirds CL. Ocular region brown with dark brown rings around eyes; AER very slightly recurved, almost straight; AME and ALE equal in size; clypeus height equal to AME diameter; AME separated by distance equal to 0.7 their diameter; AME separated from ALE by distance equal to approximately 0.4 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 1.4 times PME diameter. Chelicerae brown, anterior surface scattered with long, fine setae; three promarginal teeth, median tooth largest, distal tooth smallest; three retromarginal teeth, proximal tooth largest, other teeth equal in size. Sternum brown, darker towards border, shield-shaped; surface smooth, with scattered short, fine setae. Abdomen pale yellow dorsally, covered with short, fine setae; abdomen broader anteriorly, tapering posteriorly. Legs I to IV uniform pale brown; anterior legs more robust, darker than posteriors; all segments covered with scattered short, fine setae; moderately dense ventral scopulae on metatarsi and tarsi of all leg segments, more prominent on leg III and IV; regular leg spines, cusps absent. Cymbium narrower distally, slightly cupped cymbial apophysis;

sharply pointed embolus at 45º angle when examined ventrally; C-shaped, distally pointed when examined retrolaterally (Figs 255, 256).

Female: unknown.

Holotype: ♂ 'Det. / Loc. Malawi, Viphya Mountains, Chikangawa / IX-X.1977 / Rec. R. Jocqué / R. G. Mus. Afr. Centr. 153.229 // 153.229 // Araneae / Corinnidae / Trachelinae / *Trachelas jocquei* sp. n. / HOLOTYPE ♂ / det. R. Lyle //' (MRAC 153229).

Other material examined: none.

Distribution: Known only from the type locality (Fig. 269).

***Trachelas lejeunei* sp. n.**

Figs 243, 257, 258, 269

Etymology: This species named after the collector of the type specimen, M. Lejeune.

Diagnosis: This species can be recognised by the long, elongate, curved embolus arching transversely across the cymbium, the proximally extended tegulum obscures most of the palpal tibial and the straight retrolateral tibial apophysis ending in a rounded point (Fig. 257). Cymbial apophysis with simple, rounded apophysis (Fig. 258). Female unknown.

Description:

Male

Measurements: CL 1.49, CW 1.31, AL 1.69, CW 1.18, TL 3.06, FL 0.20, SL 0.84, SW 0.71, AME-AME 0.06, AME-ALE 0.02, ALE-ALE 0.27, PME-PME 0.11, PME-PLE 0.09, PLE-PLE 0.47. Length of leg segments (sequence from femur to tarsus, and total): I 1.14 + 0.63 + 0.92 + 0.67 + 0.31 = 3.67; II 0.92 + 0.51 + 0.69 + 0.61 + 0.35 = 3.08; III 0.78 + 0.41 + 0.57 + 0.65 + 0.27 = 2.68; IV 1.06 + 0.45 + 0.90 + 0.88 + 0.31 = 3.60.

Carapace reddish-brown (Fig. 243); first two thirds of carapace rounded, with steep decline in last third; surface texture granulate, covered with short, fine setae; fovea long, distinct, at two thirds CL. Ocular region brown with black rings around eyes; AER slightly recurved, AME

and ALE equal in size; clypeus height equal to AME diameter; AME separated by distance equal to approximately 0.7 their diameter; AME separated from ALE by distance approximately equal to 0.4 AME diameter; PER recurved, PME and PLE equal in size; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae brown, anterior surface with scattered short, fine setae; three promarginal teeth, median tooth largest, proximal and distal teeth equal in size; three retromarginal teeth, distal tooth largest, proximal tooth smallest. Sternum pale orange, darker towards border, shield-shaped; surface texture finely granulate, with scattered short, fine setae. Abdomen pale yellow dorsally, pale grey posterior to midpoint; two pairs of brown sigillae present, first pair anterior to midpoint, second pair posterior to midpoint; abdomen broader anteriorly, tapering posteriorly. Legs I to IV uniform pale brown; anterior legs more robust, darker than posteriors; leg I with rough, granular texture; all segments covered with scattered short, fine setae; moderately dense ventral scopulae on metatarsi and tarsi of all leg segments, more prominent on legs III and IV; regular leg spines, cusps absent. Palp with cymbium narrowed distally; cymbial apophysis simple, rounded; embolus elongate, originating prolaterally, curving transversely across cymbium, extending far beyond retrolateral cymbial margin (Figs 257, 258).

Female: unknown.

Holotype: ♂ ‘Det. / Loc. Congo D. R., Kivu, Vallée de la moyenne Semliki / N 01º13' E 30º32' / 3.VIII.1968 / Rec. M. Lejeune / R. G. Mus. Afr. Centr. 135.498 // 135.498 // Araneae / Corinnidae / Trachelinae / *Trachelas lejeunei* sp. n. / HOLOTYPE ♂ / det. R. Lyle //’ (MRAC 135498).

Other material examined: none.

Distribution: Known only from the type locality (Fig. 269).

***Trachelas retortum* sp. n.**

Figs 244, 245, 259-261, 269

Etymology: This species name is Latin for “twisted back’, which refers to the sharp bent of the embolus medially.

Diagnosis: The male of this species can be recognised by the N-shaped embolus which is bent back sharply medially (Fig. 259), and the sharply pointed retrolateral tibial apophysis (Fig. 260). The female can be recognised by the large, rounded epigynal ridge with anterior copulatory openings. ST 2 are large and rounded, cube-shaped, anterior to copulatory openings, and ST 1 are small, circular and close to epigastric fold (Fig. 261).

Description:

Male

Measurements: CL 1.70, CW 1.45, AL 1.70, AW 1.20, TL 3.50, FL 0.10, SL 0.93, SW 0.80, AME-AME 0.05, AME-ALE 0.03, ALE-ALE 0.35, PME-PME 0.13, PME-PLE 0.13, PLE-PLE 0.60. Length of leg segments (sequence from femur to tarsus, and total): I 1.45 + ? + ? + ? + ?= ?; II ? + ? + ? + ? + ? = ?; III 0.90 + 0.35 + 0.73 + 0.53 + 0.43 = 2.94; IV 1.25 + ? + ? + ? + ? = ?.

Carapace reddish-brown (Fig. 244); first three quarters of carapace rounded, with steep decline in last quarter; surface texture granulate, covered with short, fine setae; fovea long, distinct, at two thirds CL. Ocular region brown with black rings around eyes; AER slightly recurved, almost straight; ALE slightly larger than AME; clypeus height slightly less than AME diameter; AME separated by distance equal to 0.7 their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PME and PLE equal in size; PME separated by distance equal to 1.7 times their diameter; PME separated from PLE by distance equal to 1.7 times PME diameter. Chelicerae reddish-brown, anterior surface with scattered short, fine setae; three promarginal teeth, median tooth largest, distal tooth smallest; two retromarginal teeth, distal tooth largest. Sternum brown, darker towards border, shield-shaped; surface texture granulate, with scattered short, fine setae. Abdomen pale yellow dorsally; two pairs of brown sigillae present, first pair paler, anterior to midpoint; second pair darker, posterior to midpoint; abdomen broader anteriorly, tapering posteriorly. Most legs missing, except leg I; leg I pale brown, regular leg spines, cusps absent. Palp brown; cymbium elongate with proximal dorsal apophysis; embolus elongate, N-shaped, with distal section extending from tegulum; retrolateral tibial apophysis sharply pointed dorsally (Figs 259, 260).

Female

Measurements: CL 1.40, CW 1.25, AL 1.90, AW 1.35, TL 2.30, FL 0.10, SL 0.80, SW 0.73, AME-AME 0.05, AME-ALE 0.03, ALE-ALE 0.28, PME-PME 0.13, PME-PLE 0.10, PLE-PLE 0.48. Length of leg segments (sequence from femur to tarsus, and total): I 0.93 + 0.53 + 0.65 + 0.55 + 0.35 = 3.01; II 0.78 + 0.48 + 0.55 +0.53 + 0.35 = 2.69; III 0.78 + 0.38 + 0.53 + 0.58 + 0.28 = 2.55; IV Missing.

Carapace reddish-brown (Fig. 245); first two thirds of carapace rounded, with steep decline in last third; surface texture granulate, covered with short, fine setae; fovea short, slender, distinct, at two thirds CL. Ocular region brown with black rings around eyes; AER slightly recurved, almost straight; AME slightly larger than ALE; clypeus height less than AME diameter; AME separated by distance equal to 0.7 their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance 1.4 times their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae brown, anterior surface with scattered short, fine setae; three promarginal teeth, proximal tooth largest, distal tooth smallest; three retromarginal teeth, all equal in size. Sternum brown, slightly darker towards border, shield-shaped; surface texture finely granulate, with scattered short, fine setae. Abdomen pale yellow with grey median line dorsally, extending to midpoint of abdomen; two pairs of pale grey sigillae present, first pair anterior to midpoint, second pair posterior to midpoint; abdomen broader anteriorly, tapering posteriorly. Legs I to IV uniform pale brown; anterior legs slightly more robust, slightly darker than posteriors; all segments covered with scattered short, fine setae; moderately dense ventral scopulae on metatarsi and tarsi of all leg segments, more prominent on leg III; regular leg spines, cusps absent. Epigyne pale yellow, weakly sclerotised; epigynal ridges large, rounded, with anterior copulatory openings; ST 2 large, rounded, cubed-shaped anterior to copulatory openings; ST 1 small, circular, near to epigastric fold (Figs 261).

Holotype: ♂ ‘UGANDA, Budongo Forest, / 1º45'S:31º25'E, 1200m a.s.l. / 1-10.VII.05, T. Wagner / Seasonal rainforest / *Trichilia rubescens* (Meliaceae), primary forest // Araneae / Corinnidae / Trachelinae / *Trachelas retortum* sp. n. / HOLOTYPE ♂ / det. R. Lyle //’ (UKL).

Allotype: ♀ ‘UGANDA, Budongo Forest, / 1º45'S:31º25'E, 1200m a.s.l. / 1-10.VII.05, T. Wagner / Seasonal rainforest / *Trichilia rubescens* (Meliaceae), primary forest // Araneae / Corinnidae / Trachelinae / *Trachelas retortum* sp. n. / ALLOTYPE ♀ / det. R. Lyle //’ (UKL).

Other material examined: none.

Distribution: Known only from the type locality (Fig. 269).

***Trachelas tortilis* sp. n.**

Figs 246, 247, 262-264, 269

Etymology: This species name is derived from the Latin word for “twisted”, which refers to the twisted embolus of the male.

Diagnosis: This species can be recognised by the slender, twisted embolus of the male, as well as by the two cymbial apophyses (Fig. 262, 263). The retrolateral cymbial apophysis is rounded laterally. The proximal dorsal apophysis is claw-like. The short, bifid retrolateral tibial apophysis is also unique. The female can be recognised by the V-shaped epigynal ridges, meeting medially, with lateral copulatory openings, and the fan-like entrance ducts (Fig. 264).

Description:

Male

Measurements: CL 1.20, CW 1.03, AL 1.40, AW 0.95, TL 2.60, FL 0.13, SL 0.70, SW 0.60, AME-AME 0.03, AME-ALE 0.03, ALE-ALE 0.23, PME-PME 0.08, PME-PLE 0.08, PLE-PLE 0.41. Length of leg segments (sequence from femur to tarsus, and total): I 0.90 + 0.48 + 0.65 + 0.60 + 0.33 = 2.96; II 0.78 + 0.40 + 0.58 + 0.50 + 0.30 = 2.56; III 0.50 + 0.35 + 0.38 + 0.55 + 0.25 = 2.03; IV 0.88 + 0.40 + 0.68 + 0.78 + 0.33 = 3.07.

Carapace orange (Fig. 246); first two thirds of carapace slightly rounded, with steep decline in last third; surface texture granulate, covered with short, fine setae; fovea long, distinct, at two thirds CL. Ocular region orange with dark brown rings around eyes; AER slightly procurved, almost straight; ALE slightly larger than AME; clypeus height equal to AME diameter; AME separated by distance equal to 0.7 their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to 1.4 times their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae brown, anterior surface covered in short, fine setae; three promarginal teeth, all equal in size; three retromarginal teeth, median tooth largest, proximal

tooth smallest. Sternum pale orange, pale brown towards border, shield-shaped; smooth surface, with scattered short, fine setae. Abdomen pale yellow with grey mottling dorsally; sigillae absent; abdomen covered with short, fine setae; abdomen broader anteriorly, tapering posteriorly. Legs I to IV uniform pale brown; anterior legs more robust, slightly darker than posterior legs; all segments covered with scattered short, fine setae; moderately dense ventral scopulae on metatarsi and tarsi on all legs, more prominent on legs III and IV; regular leg spines, cusps absent. Palpal cymbium narrower distally; retrolateral cymbial apophysis rounded laterally, proximal cymbial apophysis claw-like; retrolateral tibial apophysis small, bifid; embolus slender, originating prolaterally, proximally on tegulum, looping prolaterally to distal end of tegulum, back proximally across tegulum, curving back towards cymbium tip (Figs 262, 263).

Female

Measurements: CL 1.50, CW 0.85, AL 1.10, AW 1.15, TL 2.80, FL 0.10, SL 0.60, SW 0.48, AME-AME 0.03, AME-ALE 0.03, ALE-ALE 0.18, PME-PME 0.08, PME-PLE 0.08, PLE-PLE 0.35. Length of leg segments (sequence from femur to tarsus, and total): I 0.65 + 0.38 + 0.47 + 0.43 + 0.28 = 2.21; II 0.58 + 0.30 + 0.43 + 0.40 + 0.28 = 1.99; III 0.53 + 0.25 + 0.33 + 0.40 + 0.23 = 1.74; IV 0.73 + 0.35 + 0.50 + 0.60 + 0.25 = 2.43.

Carapace brown (Fig. 247); first two thirds of carapace rounded, with steep decline in last third; surface texture finely granulate, covered with short, fine setae; fovea short, narrow, distinct, at two thirds CL. Ocular region brown with dark brown rings; AER slightly recurved, ALE slightly larger then AME; clypeus height less than 0.7 AME diameter; AME separated by distance approximately 0.5 their diameter; AME separated from ALE by distance approximately equal to 0.4 AME diameter; PER recurved, PLE slightly larger than PME; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae pale brown, covered in short, fine setae; three promarginal teeth, proximal tooth largest, distal tooth smallest; three retromarginal teeth, median tooth largest, proximal tooth smallest. Sternum pale brown, darker towards border, shield-shaped; surface smooth, with scattered short, fine setae. Abdomen pale yellow with pale grey mottling dorsally; dorsum with pale brown median line extending to midpoint of abdomen; two pairs of grey sigillae present, first pair paler than second; abdomen broader anteriorly, tapering posteriorly. Legs I to IV uniform pale brown; anterior legs slightly more robust, slightly darker than posteriors; regular leg spines, cusps absent. Epigyne with V-shaped epigynal ridges meeting medially, with lateral copulatory openings, entrance ducts fan-like, broad,

anterior to copulatory openings; ST 2 circular posterior to midpoint; ST 1 elliptical, slightly anterior to epigastric fold laterally (Fig. 264).

Holotype: ♂ 'Det. / Loc. Ghana: Akwapin, region, Aburi / Rec. P. M. Room VII/IX/1969 / R. G. Mus. Afr. Centr. 135.838 // 135.838 // Araneae / Corinnidae / Trachelinae / *Trachelas tortilis* sp. n. / HOLOTYPE ♂ / det. R. Lyle //' (MRAC 135838).

Allotype: ♀ 'Det. / Loc. Ghana: Lagon X/XII/1969 / Rec. P.A. Room / R.G. Mus. Afr. Centr. 135.992 // 135.992 // Araneae / Corinnidae / Trachelinae / *Trachelas tortilis* sp. n. / ALLOTYPE ♀ / det. R. Lyle //' (MRAC 135992).

Other material examined: none.

Distribution: Known only from two localities in Ghana (Fig. 269).

***Trachelas uncus* sp. n.**

Figs 248, 249, 265-269

Etymology: This species name is derived from Latin for "hook-like", which refers to the large, hook-like structure of the male's cymbial apophysis.

Diagnosis: The male of this species can be recognised by the large, hook-like cymbial apophysis (Fig. 265), which curves ventrally, and the short, peg-like embolus (Fig. 266). Tegular cavity with a dense tuft of setae distally. The female can be recognised by the V-shaped entrance ducts that are widely separated anteriorly becoming closer towards the epigastric fold, but never touching (Fig. 267), entering ST 1 posteriorly (Fig, 268).

Remark: Left palp of male missing.

Description:

Male

Measurements: CL 1.45, CW 1.15, AL 1.98, AW 1.08, TL 3.43, FL 0.10, SL 0.78, SW 0.63, AME-AME 0.05, AME-ALE 0.03, ALE-ALE 0.25, PME-PME 0.08, PME-PLE 0.10, PLE-

PLE 0.43. Length of leg segments (sequence from femur to tarsus, and total): I 0.98 + 0.50 + 0.70 + 0.63 + 0.38 = 3.19; II 0.83 + 0.40 + 0.58 + 0.55 + 0.38 = 2.74; III 0.68 + 0.33 + 0.40 + 0.53 + 0.30 = 2.24; IV 0.79 + 0.40 + 0.63 + 0.65 + 0.33 = 2.80.

Carapace reddish-brown (Fig. 248); first two thirds of carapace rounded, with steep decline in last third; surface texture granulate, covered with short, fine setae; fovea short, distinct, at two thirds CL. Ocular region reddish-brown with black rings around eyes; AER slightly recurved, ALE larger than AME; clypeus height equal to AME diameter; AME separated by distance equal to ⅔ their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PLE larger than PME; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 1.4 times PME diameter. Chelicerae brown, anterior surface with scattered long, fine setae; three promarginal teeth, median tooth largest, proximal tooth smallest; three retromarginal teeth, median tooth largest, proximal tooth smallest. Sternum brown, darker towards border; elongate shield-shaped; surface smooth, with scattered short, fine setae. Abdomen pale yellow dorsally, with brown scutum covering almost entire length of abdomen; grey median line extending to midpoint of abdomen; two pairs of brown sigillae present, first pair anterior to midpoint, second pair posterior to midpoint of abdomen; abdomen broad anteriorly, tapering posteriorly. Legs I to IV uniform pale brown; anterior legs more robust, darker than posterior legs; all leg segments covered with scattered short, fine setae; moderately dense ventral scopulae found on metatarsi and tarsi of legs I and II; regular leg spines, cusps absent. Palp with broad cymbium, with large, ventrally curved, hook-like proximal cymbial apophysis; embolus short, peg-like; tegular cavity with dense tuft of setae distally; retrolateral tibial apophysis broad, subtriangular laterally flattened (Figs 265, 266).

Female

Measurements: CL 1.13-1.15, CW 0.85-0.88, AL 1.40-1.45, AW 1.13-1.20, TL 2.45-2.50, FL 0.05-0.06, SL 0.65-0.68, SW 0.58-0.59, AME-AME 0.08, AME-ALE 0.03, ALE-ALE 0.18, PME-PME 0.08, PME-PLE 0.05, PLE-PLE 0.30. Length of leg segments (sequence from femur to tarsus, and total): I 0.80 + 0.33 + 0.63 + 0.50 + 0.38 = 2.64; II 0.75 + 0.40 + 0.58 + 0.48 + 0.38 = 2.59; III 0.38 + 0.28 + 0.40 + 0.45 + 0.28 = 1.79; IV 0.83 + 0.30 + 0.70 + 0.73 + 0.30 = 2.86.

Carapace reddish-brown (Fig. 249); first two thirds of carapace slightly rounded, with steep decline in last third; surface texture granulate, covered with short, fine setae; fovea short, slightly thickened, distinct, at two thirds CL. Ocular region reddish-brown with black rings

around eyes; AER recurved, AME and ALE equal in size; clypeus height approximately double AME diameter; AME separated by distance equal to their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PME and PLE subequal; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to 0.5 PME diameter. Chelicerae brown, anterior surface covered with long, fine setae; three promarginal teeth, median tooth largest, distal tooth smallest; two retromarginal teeth, distal tooth largest. Sternum brown, darker towards border, shield shaped; surface texture slightly coarse, with scattered short, fine setae. Abdomen pale yellow with mottled dark grey dorsally, with slightly darker grey median line extending towards midpoint of abdomen; two pairs of pale yellow sigillae present, anterior and posterior to midpoint of abdomen; surface covered with short, fine setae; abdomen broader anteriorly, tapering posteriorly. Legs I to IV uniform pale brown; anterior legs slightly more robust, slightly darker than posterior legs; all segments covered with scattered short, fine setae; moderately dense ventral scopulae on metatarsi and tarsi on all legs, more prominent on legs III and IV; regular leg spines, cusps absent. Epigyne with V-shaped entrance ducts, broader anteriorly at copulatory openings, becoming narrower toward epigastric fold, never touching; entrance ducts entering ST 1 posteriorly; ST 2 droplet-shaped, anterior to midpoint; ST 1 smaller, oval, posterior to midpoint (Figs 267, 268).

Holotype: ♂ ‘Kenya, Kikuyu-Esc., Gatamayu / 0º58'N, 36º42'E, 1600m / Montane foresee (*Popocarpus-Croton*) / *Tecelae nobilis* (Rutaceae) // Araneae / Corinnidae / Trachelinae / *Trachelas uncus* sp. n. / HOLOTYPE ♂ / det. R. Lyle //’ (UKL).

Allotype: ♀ ‘Det. / Loc. Kenya, Kakamega forest. Malaise trap / Rec. Silabira Smith D., 8.I.2002 / Mus. R. Afr. Centr. 220181 // MT. 220.181 // Araneae / Corinnidae / Trachelinae / *Trachelas uncus* sp. n. / ALLOTYOE ♀ / det. R. Lyle //’ (MRAC 220181).

Paratype: 1♀ ‘Det. / Loc. Kenya, Kakamega forest. Malaise trap / Rec. Silabira Smith D., 20.VI.2002 / Mus. R. Afr. Centr. 220507 // MT. 220.507 //’ (MRAC 220507).

Other material examined: none.

Distrubtion: Limited distribution in Kenya (Fig. 269).

MISPLACED SPECIES

Thysanina scopulifer (Simon, 1896)

Figs 270-273

Trachelas scopulifer: Simon 1896: 412 Comb nov.

Diagnosis: This species can be recognised by the large arched copulatory openings (Figs 271, 272). The entrance ducts are broad and spiral towards the anterior, bending back posteriorly along the spiral axis before entering posterolateral ST 1. Male unknown.

Remark: The transfer of this species to *Thysanina* is supported by the dense ventral scopulae on the anterior legs, the smooth carapace texture and the colouration of the specimen examined.

Redescription:

Female

Measurements (eye and leg measurements from second largest specimen): CL 1.60-1.70, CW 1.33-1.53, AL 2.38-2.50, AW 1.68-1.95, TL 3.98-4.20, FL 0.08-0.13, SL 1.00-1.08, SW 0.87-0.88, AME-AME 0.08, AME-ALE 0.03, ALE-ALE 0.30, PME-PME 0.10, PME-PLE 0.10, PLE-PLE 0.48. Length of leg segments (sequence from femur to tarsus, and total): I 1.48 + 0.68 + 1.13 + 0.95 + 0.60 = 4.84; II 1.25 + 0.63 + 0.95 + 0.83 + 0.50 = 4.16; III 1.00 + 0.48 + 0.65 + 0.73 + 0.38 = 3.24; IV 1.45 + 0.53 + 1.18 + 1.13 + 0.48 = 4.77.

Carapace brown (Fig. 270); first two thirds of carapace rounded, with steep decline in last third; surface texture smooth, covered with short, fine setae; fovea short, distinct, at two thirds CL. Ocular region brown with black rings around eyes; AER slightly recurved, almost straight; ALE larger than AME; clypeus height approximately equal to AME diameter; AME separated by distance equal to their diameter; AME separated from ALE by distance equal to 0.4 AME diameter; PER recurved, PME and PLE equal in size; PME separated by distance equal to their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae brown, anterior surface covered with scattered fine, dark, long setae; three promarginal teeth, proximal tooth largest, distal tooth smallest; two retromarginal teeth, equal in size. Sternum light brown, darker towards border, shield-shaped; surface smooth, covered

in scattered short, fine setae. Abdomen dorsum pale yellow with grey chevron; chevron with dark grey median line, extending to ⅔ abdomen length, with several branches extending laterally; abdomen broad anteriorly, tapering posteriorly. Legs I to IV uniform pale brown with distinct, incomplete grey bands on femora to metatarsi; femora with two closed distal bands, patellae covered almost entirely by single band; tibiae and metatarsi with single distal and proximal bands; relatively dense dark scopulae ventrally on metatarsi and tarsi; remaining leg segments with scattered fine, pale setae; regular leg spines, cusps absent. Epigyne weakly sclerotised, triangular, rounded, epigynal ridges with lateral copulatory openings; entrance ducts broad, spiraling anteriorly bending back posteriorly along spiral axis, diverging posteriorly before entering small, oblique elongate ST 1 (Figs 271, 272).

Holotype: ♀ '16638 Tr. Scopulifer ES / Cap! // 16.638 //' (MNHN).

Other material: SOUTH AFRICA: *Western Cape Province*: 1♀ Hermanus, Fernkloof Nature Reserve, 34º23.815'S:19º16.256'E, 29.XI.2007, beats, fynbos, R. Lyle (NCA 2007/3837); 1♀ Vredendal, Grootfontein 105, 32º04'S:18º39'E, 21.X.1987, beating, L.N. Lotz (NMBA 01991).

Distribution: Endemic to the Western Cape Province, South Africa (Fig. 273).

NOMINA DUBIA

Trachelas punctatus Simon, 1886

Trachelas punctatus: Simon 1886: 376

This species was described from Senegal on the base of a juvenile. The type specimen could not be traced and is presumed lost; the original description is insufficient to identify the species.

DISCUSSION

This chapter highlights how poorly the tracheline spiders of the Afrotropical Region have been studied. The opportunity to group species with similar morphology and genitalic traits has revealed how morphologically diverse this genus is within the region. Species groups such as the *minor* and *schenkeli* groups have wide distribution throughout the Afrotropical region.

Several characters may prove useful to separate *Trachelas* into different genera once a cladistic analysis can be performed on the world fauna: eye sizes, eye arrangement, presence or absence of scuta, and various genitalic characters. Such an analysis can only be undertaken once the Neotropical and Asian fauna have been more thoroughly revised.

Unlike New World *Trachelas*, Afrotropical *Trachelas* species have a distinct of lack ventral cusps in females, while the presence of ventral cusps in males is rather limited and sporadic. The stable appearance of cusps in males of other genera such as *Cetonana* and *Thysanina* illustrates the importance of ventral cusps as a diagnostic characteristic. Variation in the shape and size of an individual cusp can be used as a taxonomic aid to help distinguish between different genera. However, in the case of *Trachelas* cusp morphology is not a strong diagnostic tool. Rather the examination of genitalic structures and somatic morphology can be used more reliably. The examination of these traits has helped to arrange the Afrotropical *Trachelas* into species groups.

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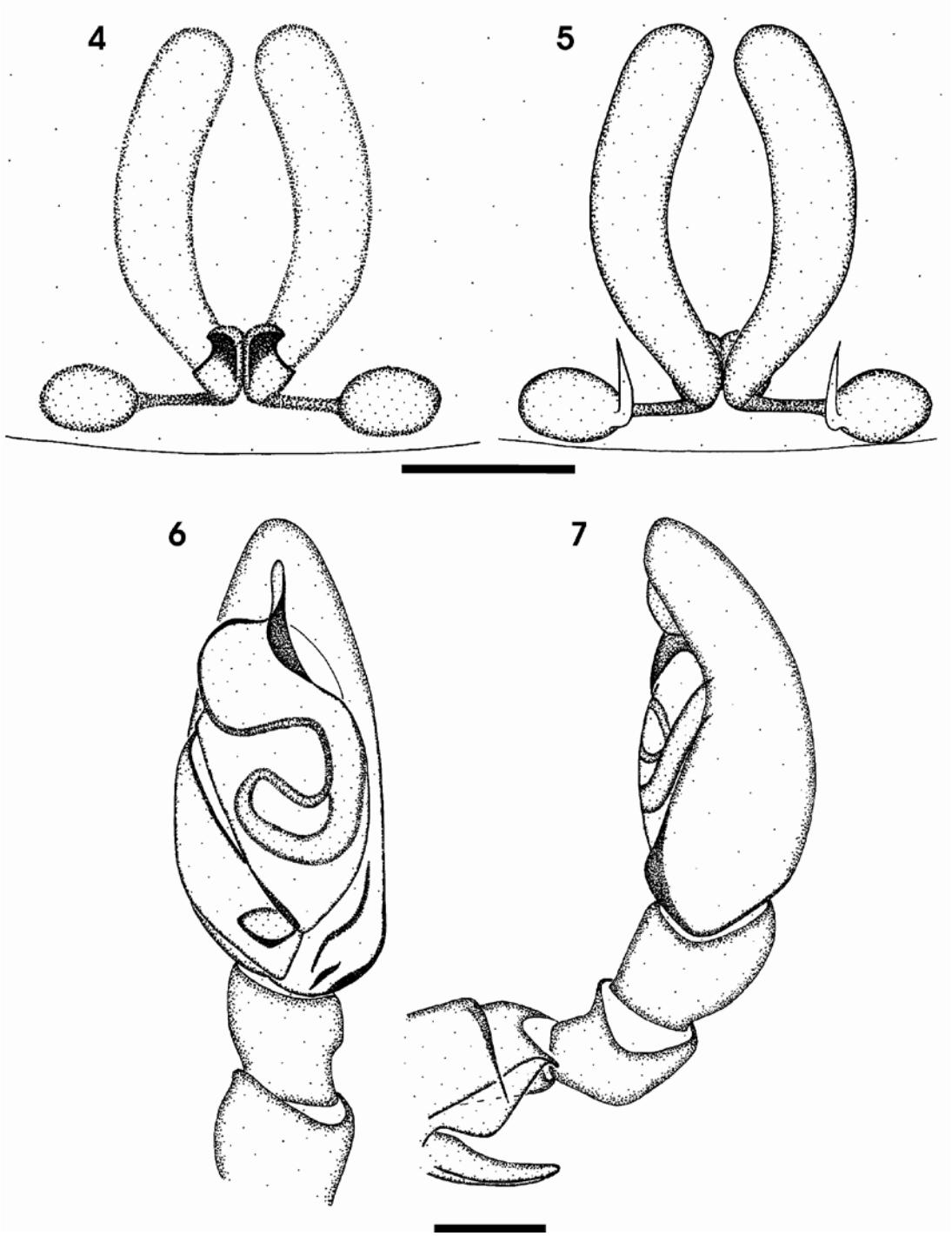
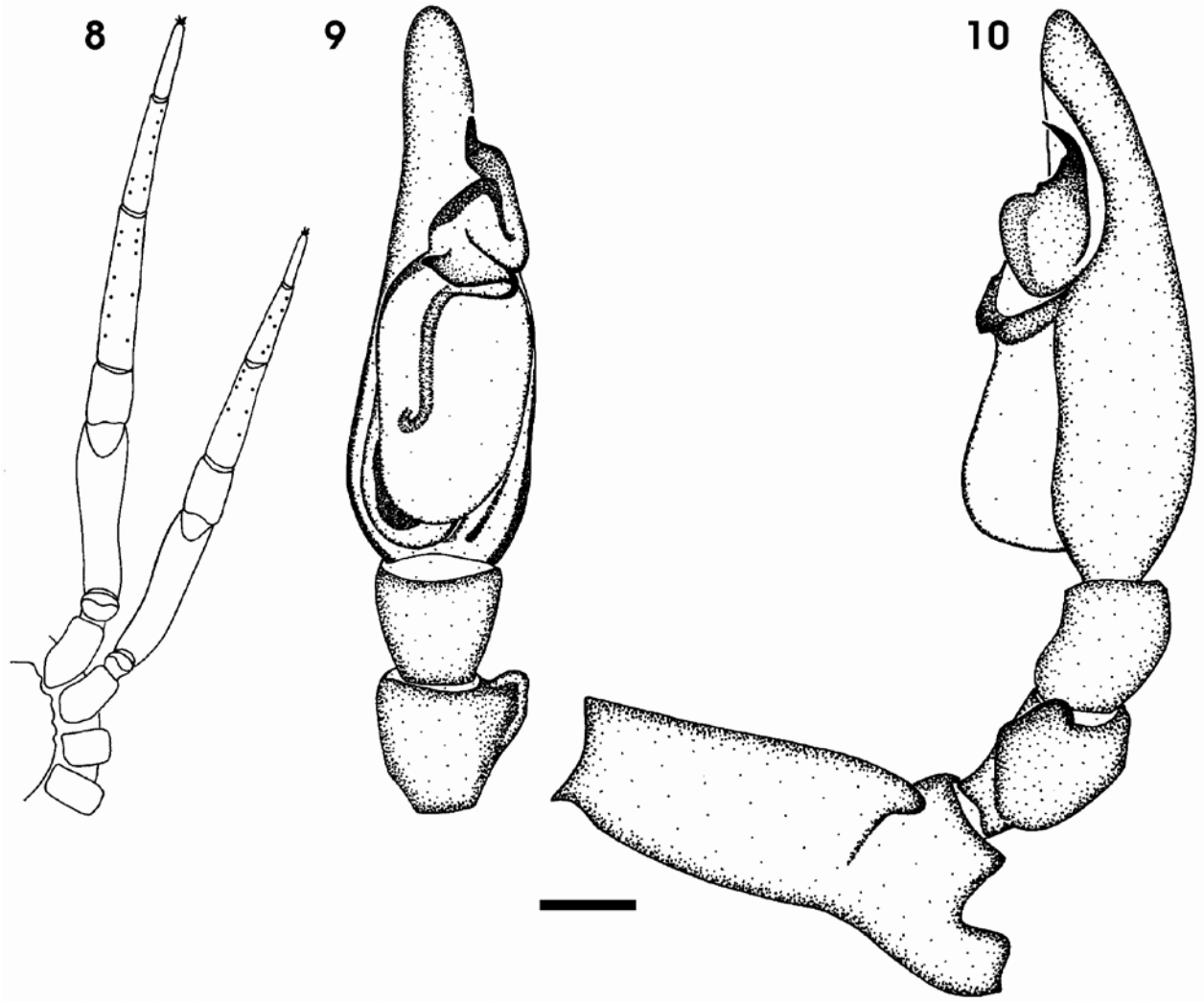
Figs 1-3. General appearance of *botulus* species group of *Trachelas*: *T. botulus* sp. n. (1) male; (2) female; *T. purpureus* sp. n. (3) male.



Figs 4-7. *Trachelas botulus* sp. n.: (4, 5) female: (4) epigyne, ventral view; (5) vulva, dorsal view; (6, 7) male: (6) left palp, ventral view; (7); left palp, retrolateral view. Scale bars = 0.1mm.



Figs 8-10. *Trachelas purpureus* sp. n.: male: (8) schematic representation of cusp arrangement on legs I and II; (9) left palp, ventral view; (10); left palp, retrolateral view. Scale bar = 0.1mm.

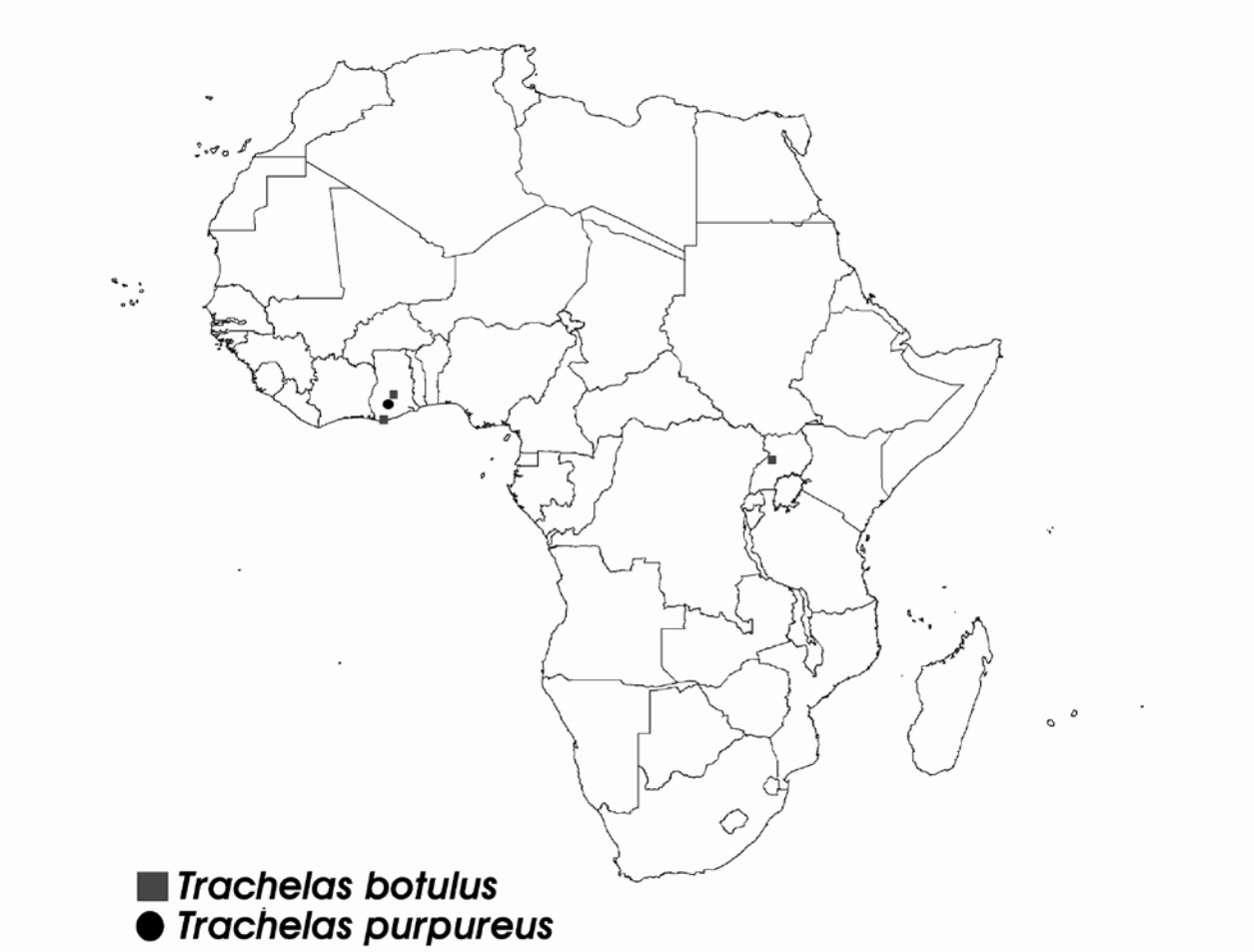
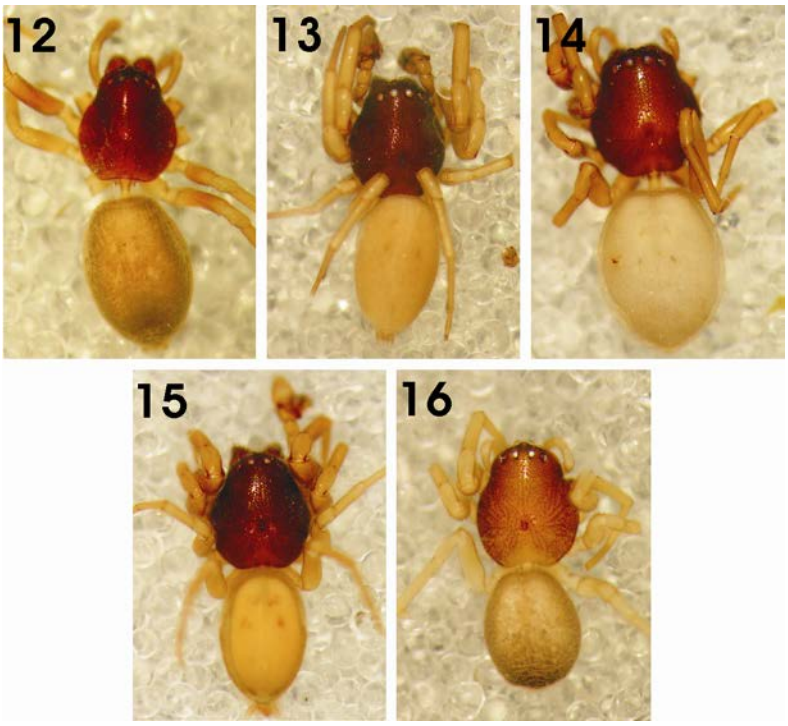
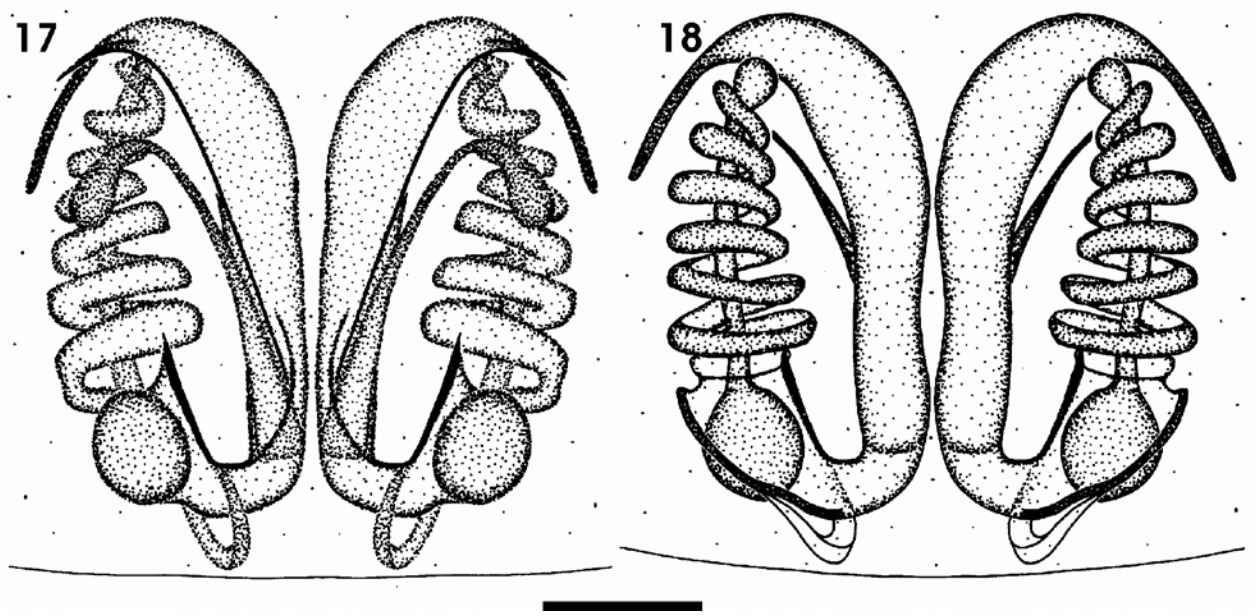


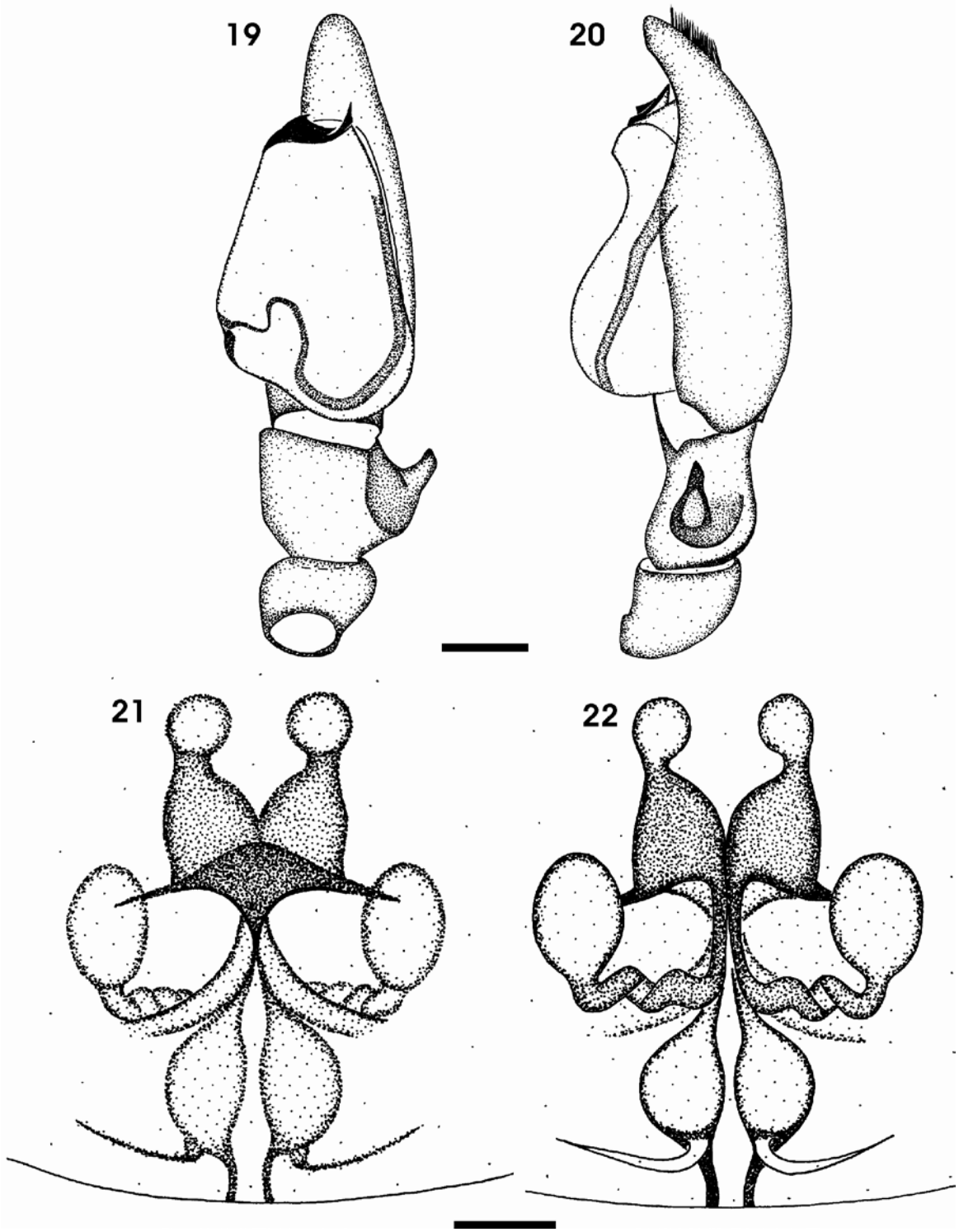
Fig. 11. Distribution of the *botulus* species group of *Trachelas* in the Afrotropical Region.



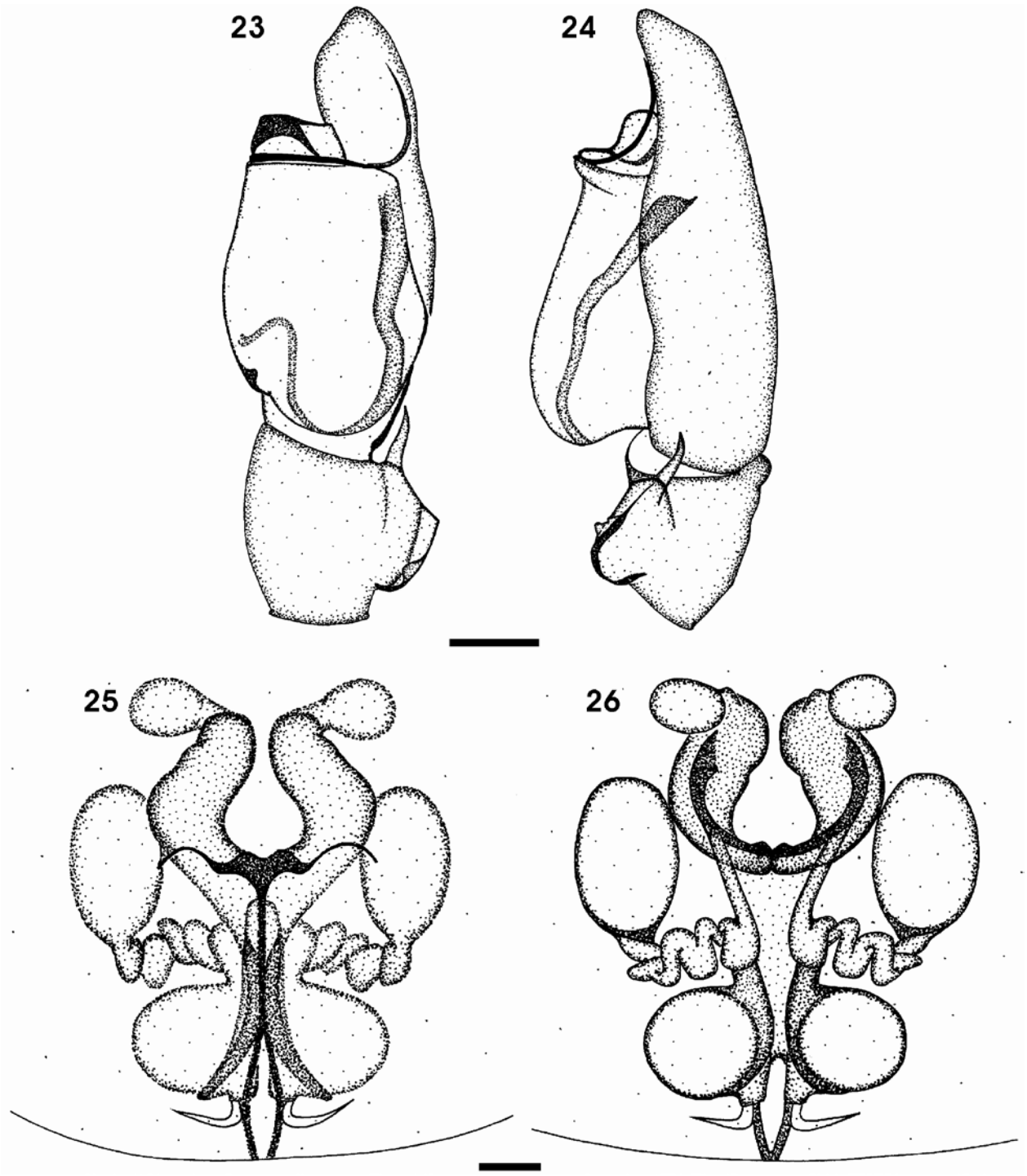
Figs 12-16. General appearance of *coronatus* species group of *Trachelas*: *T. conus* sp. n. (12) female; *T. coronatus* sp. n. (13) male, (14) female; *T. ugandensis* sp. n. (15) male, (16) female.



Figs 17-18. *Trachelas conus* sp. n.: female: (17) epigyne, ventral view; (18) vulva, dorsal view. Scale bar = 0.1mm.



Figs 19-22. *Trachelas coronatus* sp. n.: (19, 20) male: (19) left palp, ventral view; (20) left palp, retrolateral view; (21, 22) female: (21) epigyne, ventral view; (22) vulva, dorsal view. Scale bars = 0.1mm.



Figs 23-26. *Trachelas ugandensis* sp. n.: (23, 24) male: (23) left palp, ventral view; (24) left palp, retrolateral view; (25, 26) female: (25) epigyne, ventral view; (26) vulva, dorsal view. Scale bars = 0.1mm.

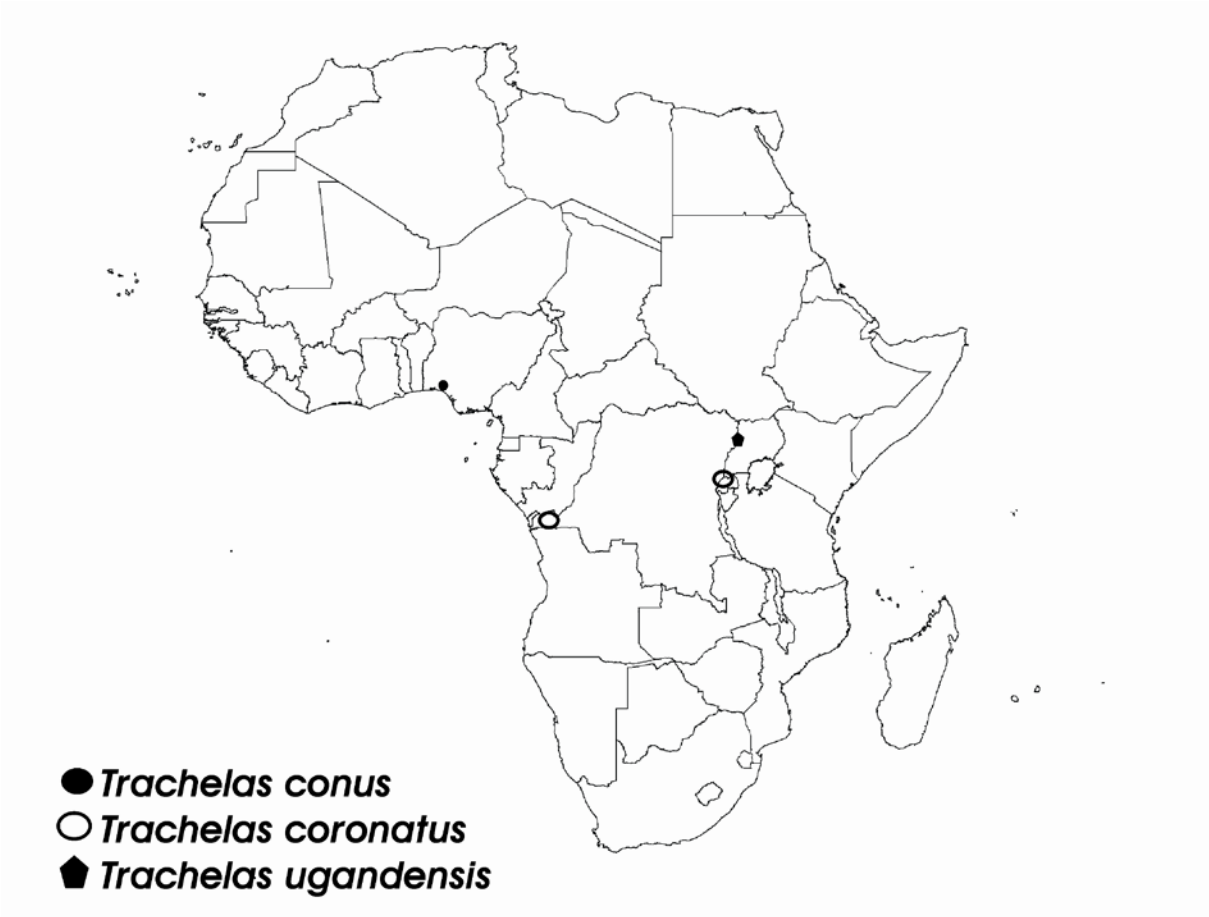
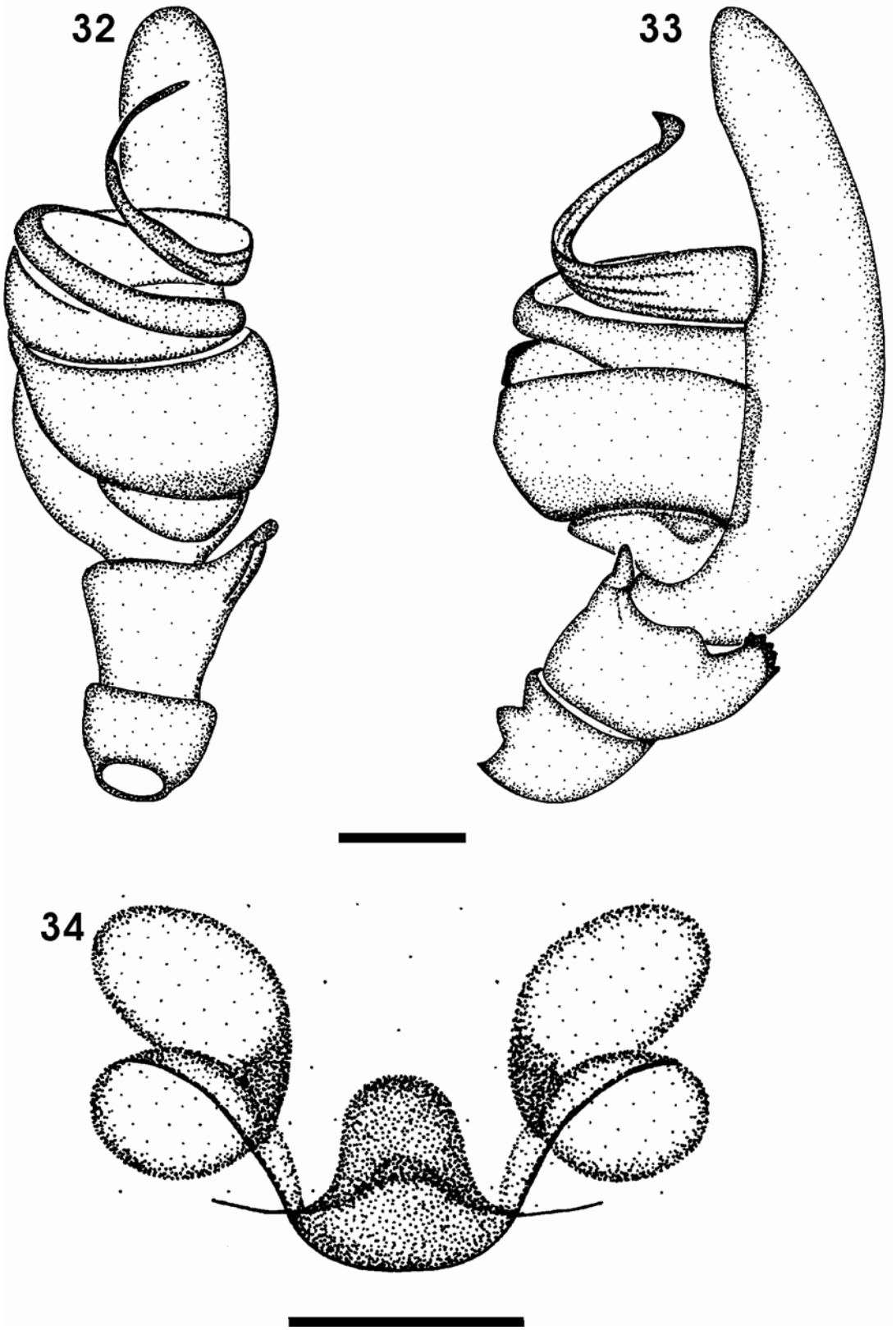
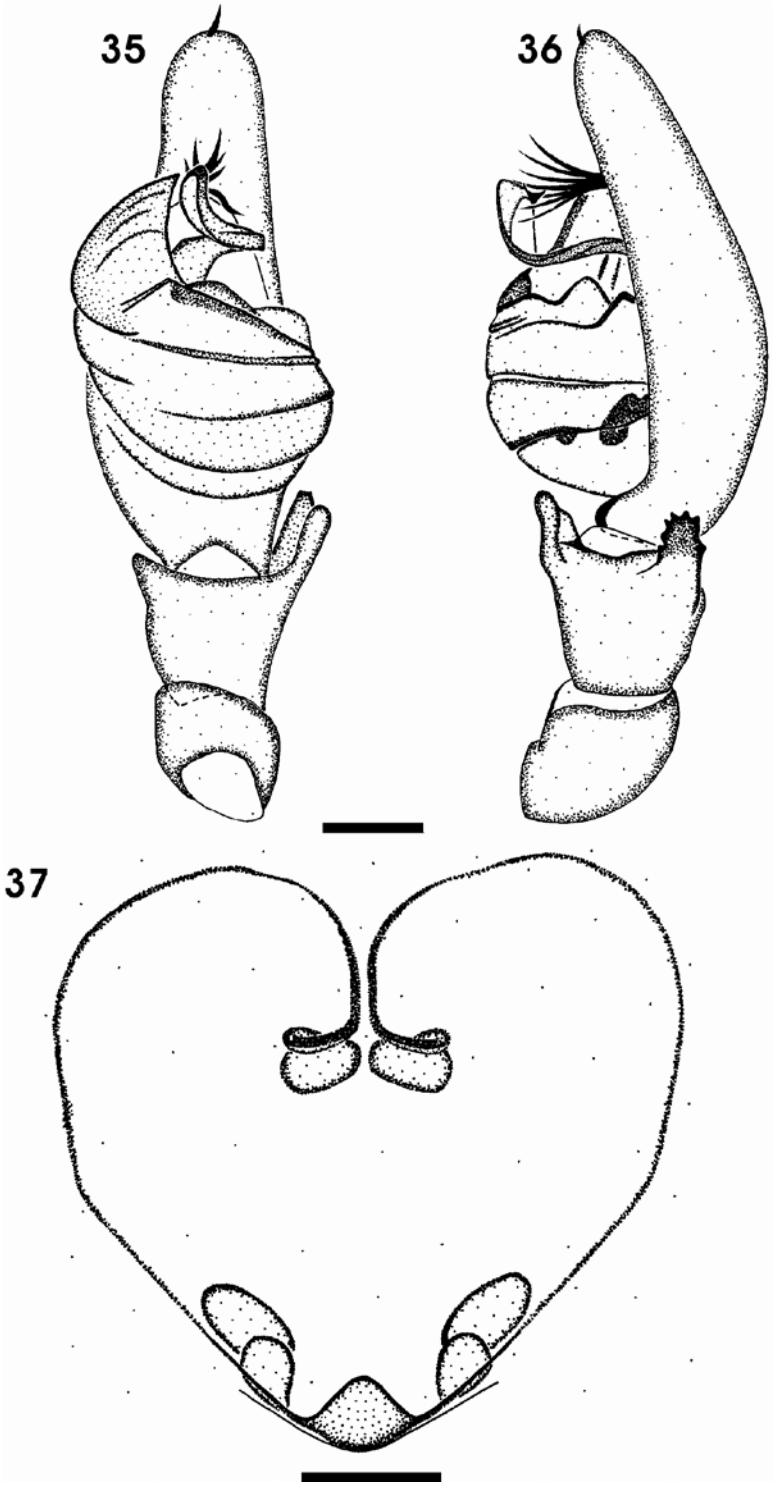


Fig. 27. Distribution of the *coronatus* species group of *Trachelas* in the Afrotropical Region.

Figs 28-31. General appearance of *Trachelas* species in the *denticulatus* species group: *T. denticulatus* sp. n. (28) male, (29) female; *T. setosus* sp. n. (30) male, (31) female.



Figs 32-34. *Trachelas denticulatus* sp. n.: (32, 33) male: (32) left palp, ventral view; (33) left palp, retrolateral view; (34) female: epigyne, ventral view. Scale bars = 0.1mm.



Figs 35-37. *Trachelas setosus* sp. n.: (35, 36) male: (35) left palp, ventral view; (36) left palp, retrolateral view; (37) female: epigyne, ventral view. Scale bars = 0.1mm.

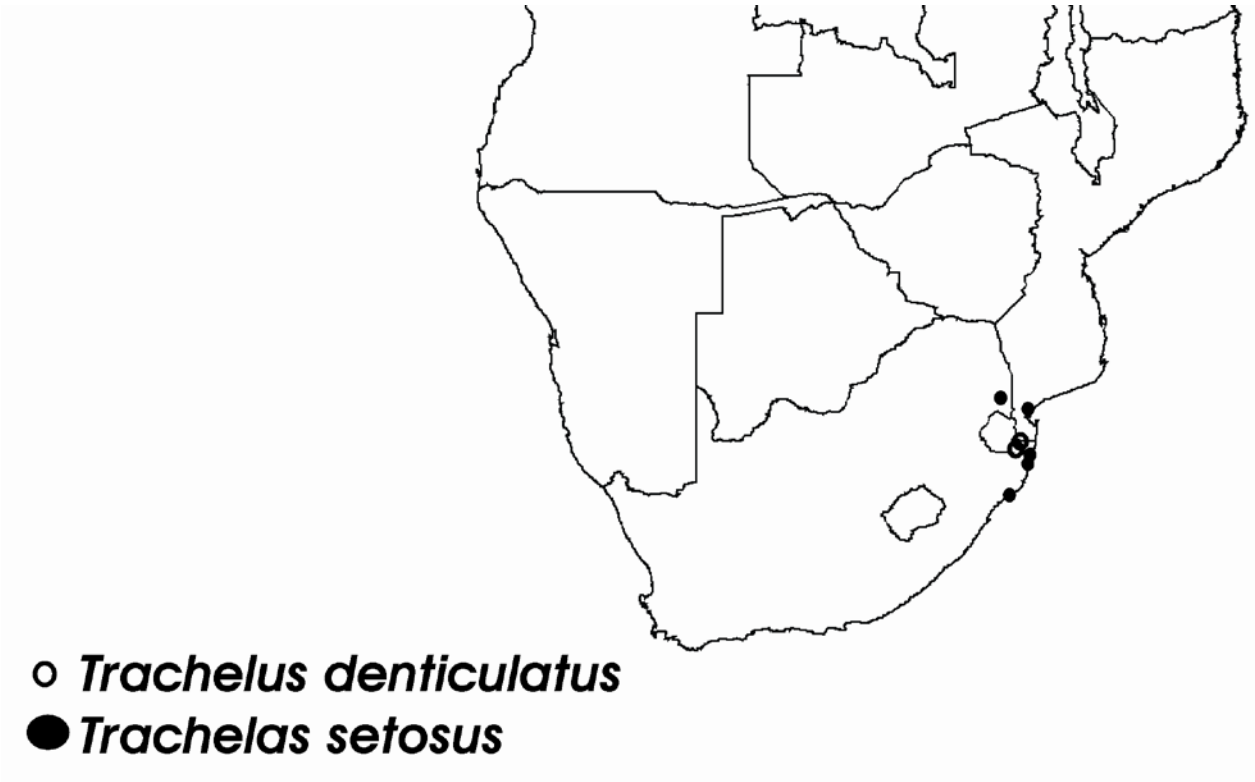
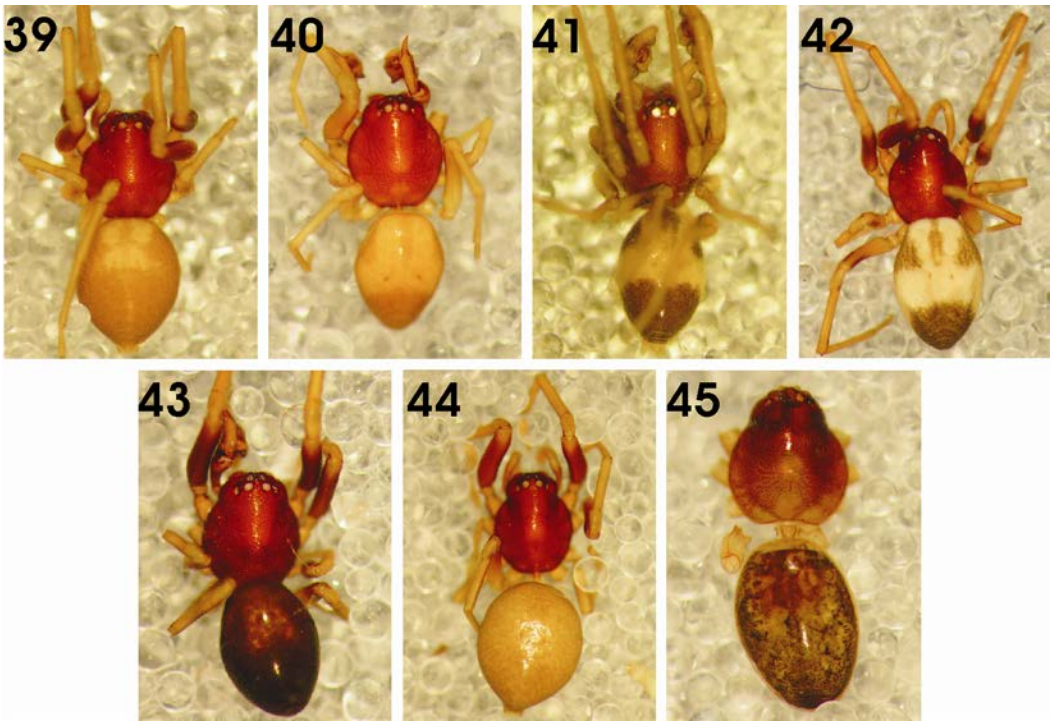
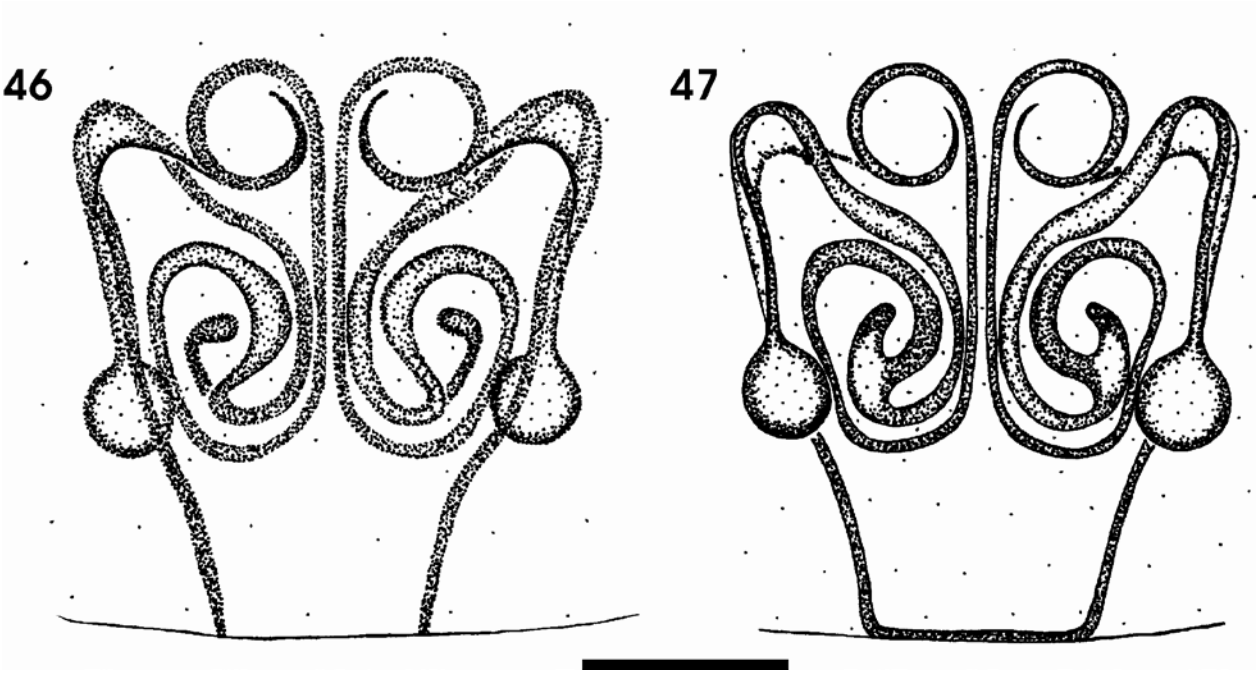


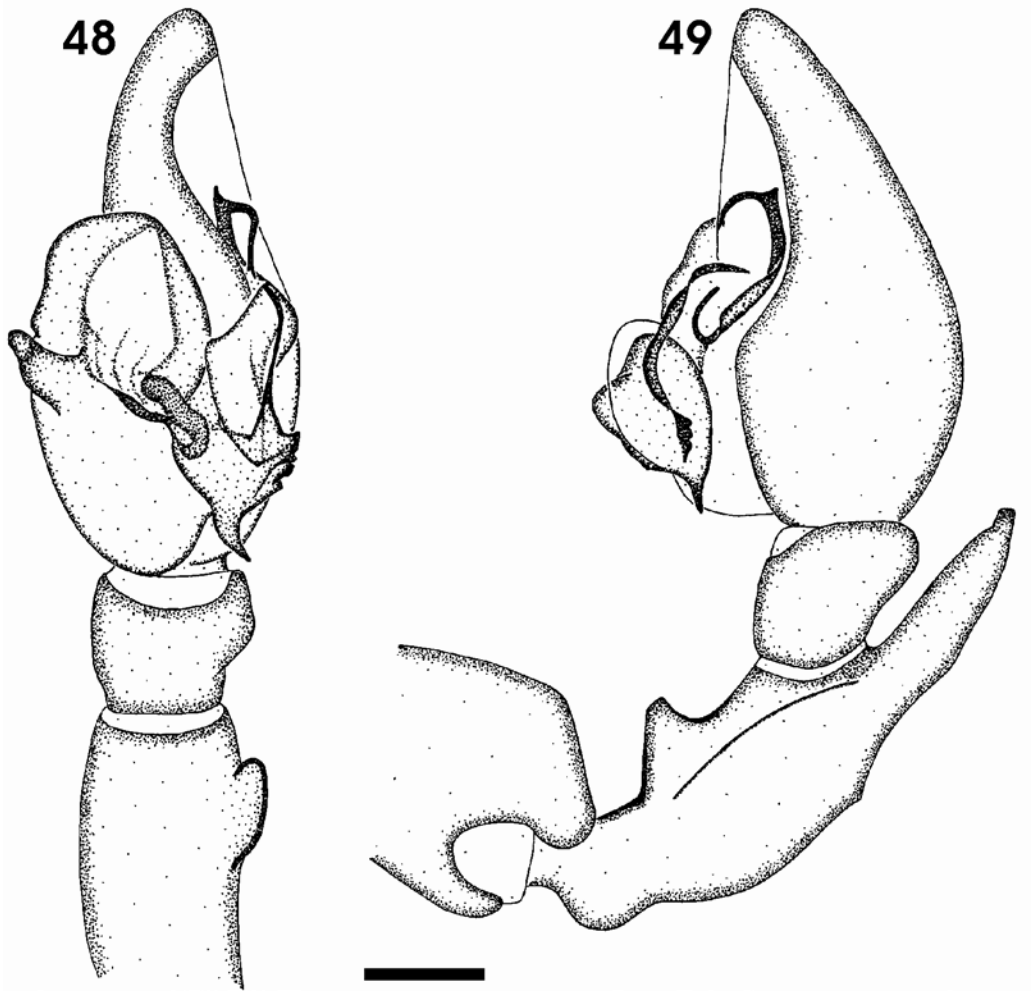
Fig. 38. Distribution of the *denticulatus* species group of *Trachelas* in southern Africa.



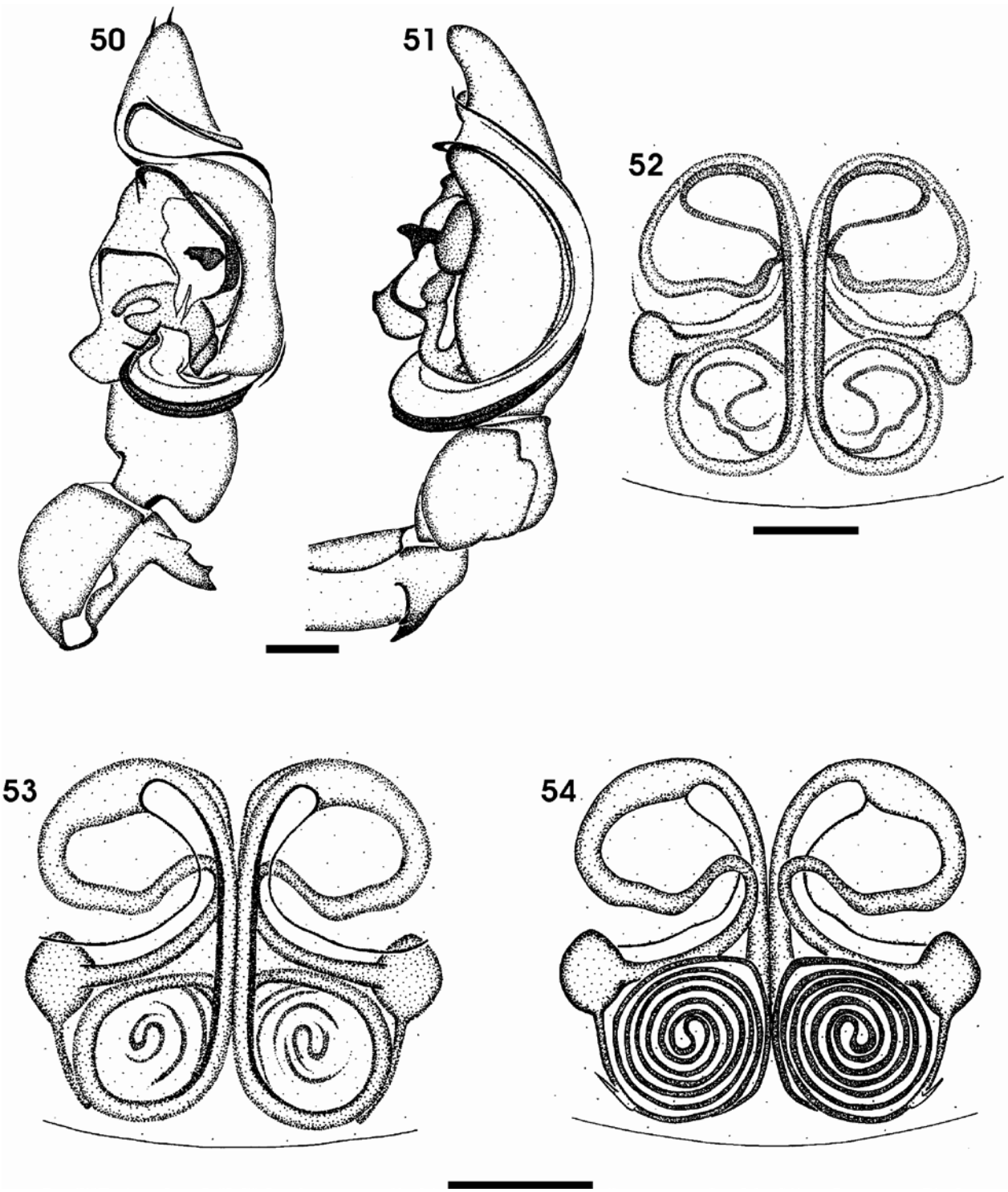
Figs 39-45. General appearance of *Trachelas* species in the *domiri* species group: *T. angiportus* sp. n. (39) female; *T. caecus* sp. n. (40) male; *T. domiri* sp. n. (41) male, (42) female; *T. draconis* sp. n. (43) male; *T. flexuosus* sp. n. (44) female; *T. porrectus* sp. n. (45) male.



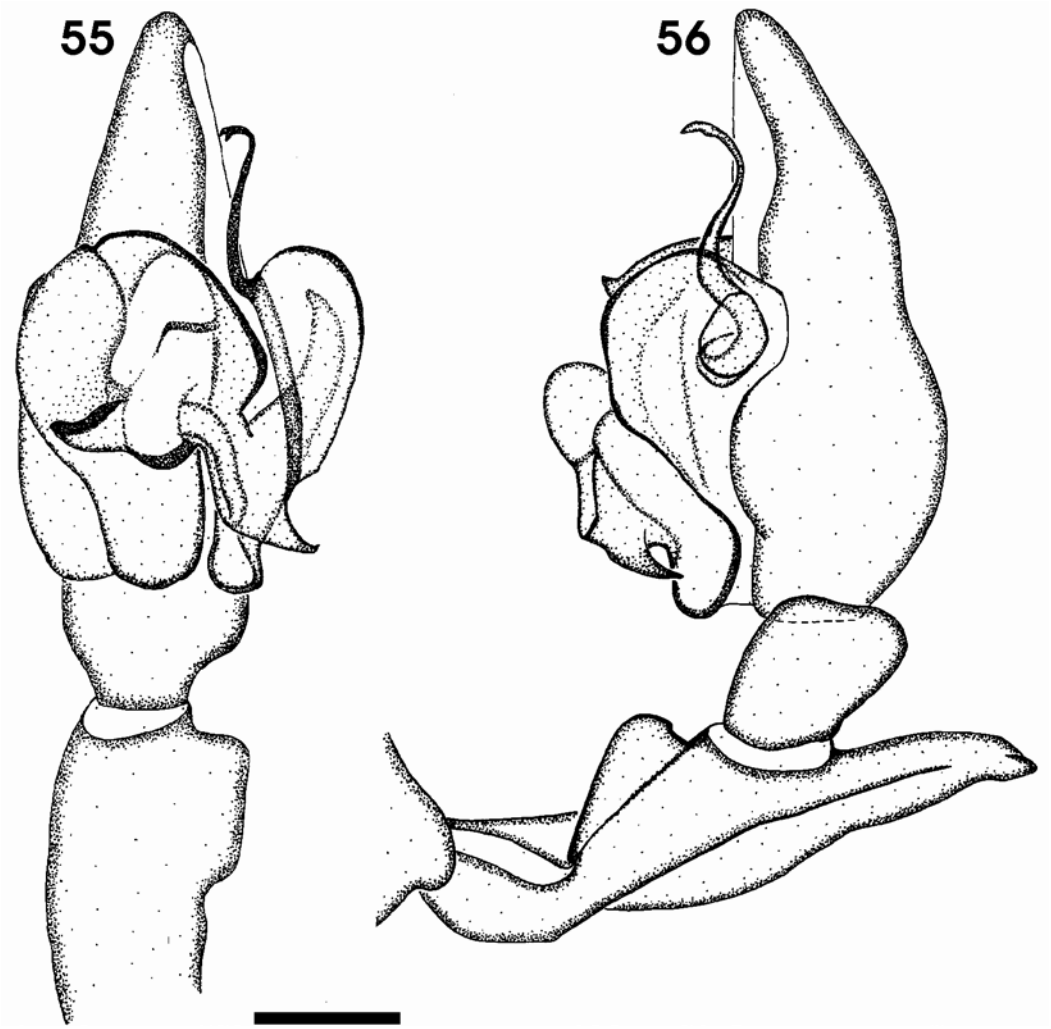
Figs 46-47. *Trachelas angiportus* sp. n.: female: (46) epigyne, ventral view; (47) vulva, dorsal view. Scale bar = 0.1mm.



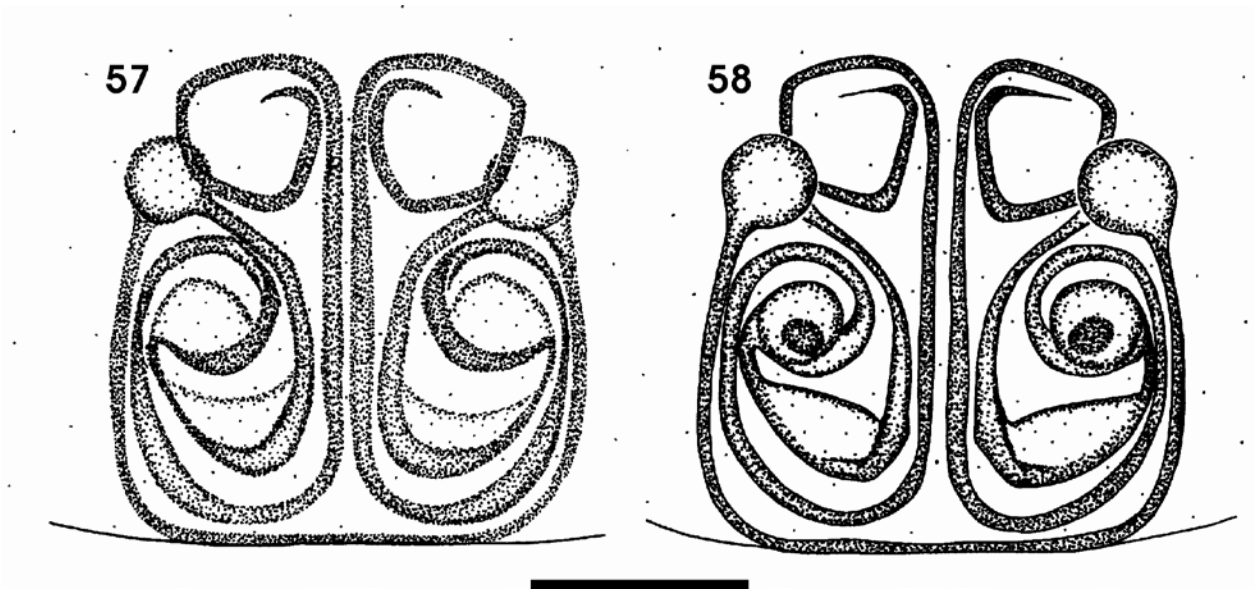
Figs 48-49. *Trachelas caecus* sp. n.: male: (48) left palp, ventral view; (49) left palp, retrolateral view. Scale bar = 0.1mm.



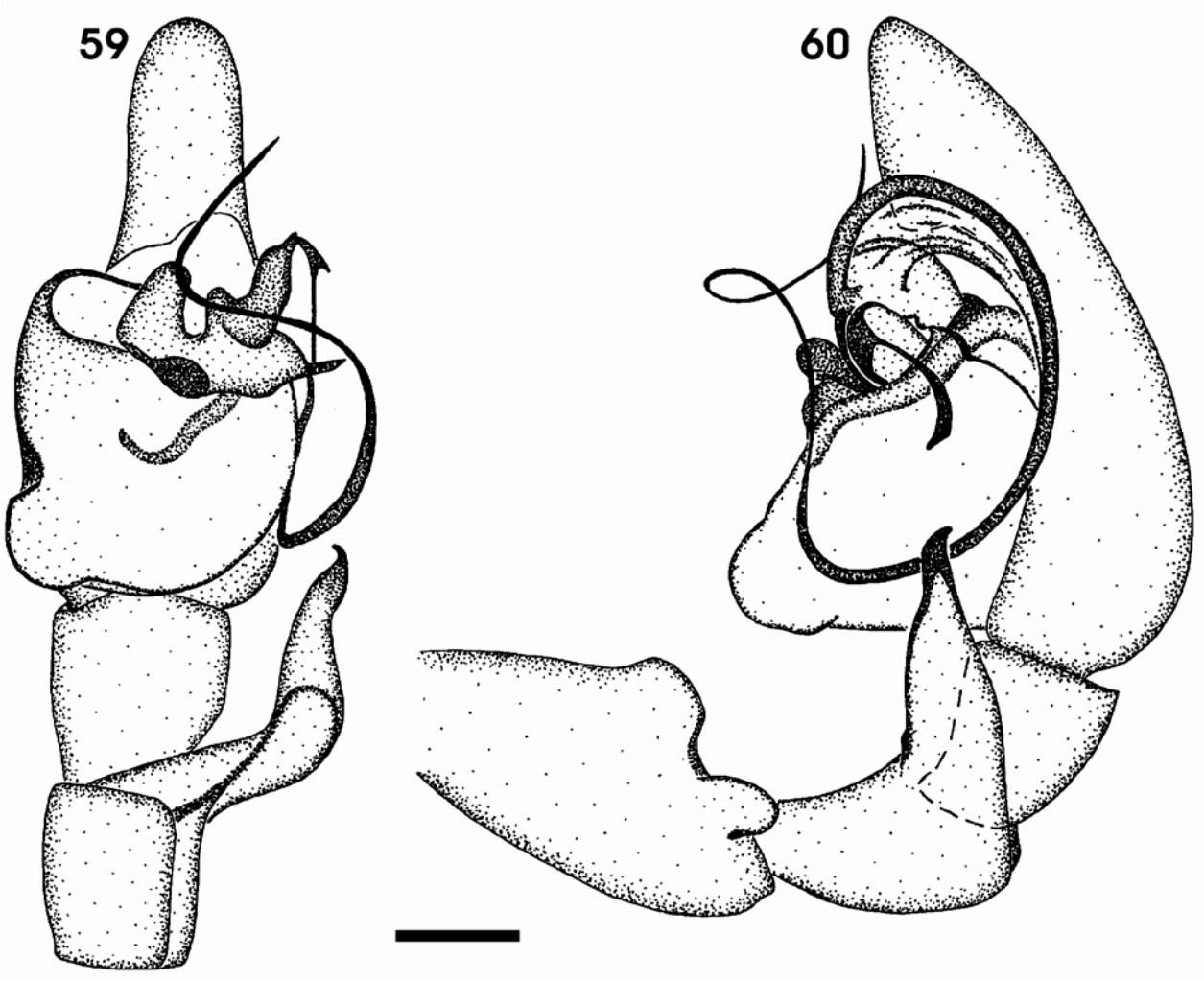
Figs 50-54. *Trachelas domiri* sp. n.: (50, 51) male: (50) left palp, ventral view; (51) left palp, retrolateral view; (52-54) female: (52) undissected epigyne, ventral view; (53) dissected epigyne, ventral view; (54) vulva, dorsal view. Scale bars = 0.1mm.



Figs 55-56. *Trachelas draconis* sp. n.: male: (55) left palp, ventral view; (56) left palp, retrolateral view. Scale bar = 0.1mm.



Figs 57-58. *Trachelas flexuosus* sp. n.: female: (57) epigyne, ventral view; (58) vulva, dorsal view. Scale bar = 0.1mm.



Figs 59-60. *Trachelas porrectus* sp. n.: male: (59) left palp, ventral view; (60) left palp retrolateral view. Scale bar = 0.1mm.

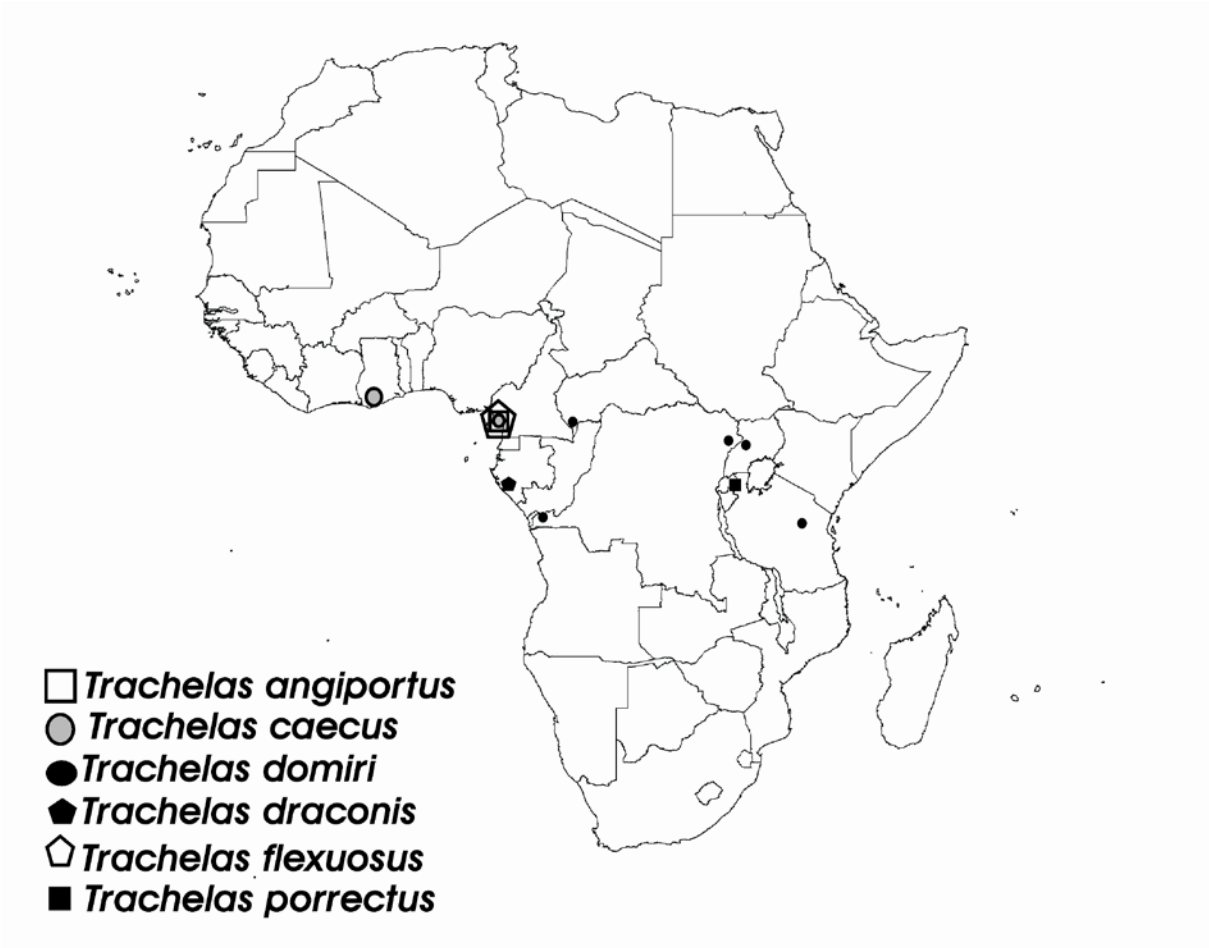
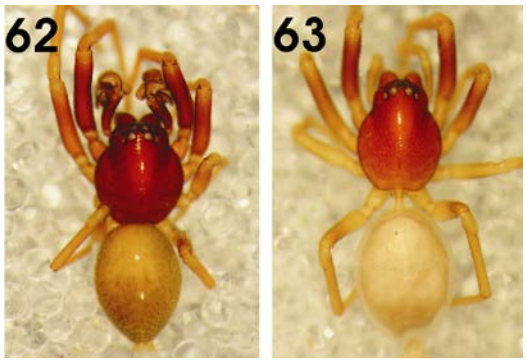
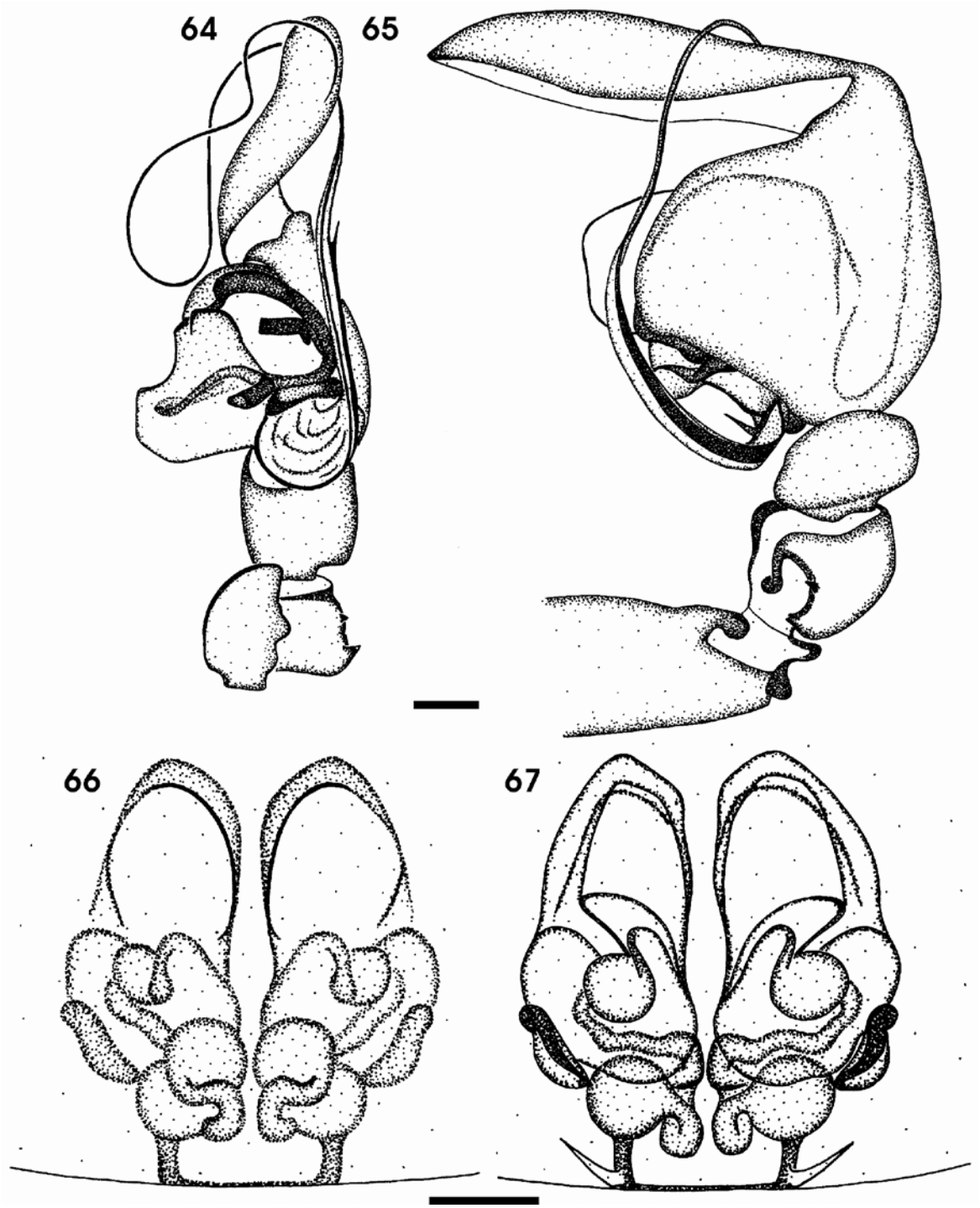


Fig. 61. Distribution of the *domiri* species group of *Trachelas* in the Afrotropical Region.



Figs 62-63. General appearance of *Trachelas funiculus* sp. n. (62) male, (63) female.



Figs 64-67. *Trachelas funiculus* sp. n.: (64, 65) male: (64) left palp, ventral view; (65) left palp, retrolateral view; (66, 67) female: (66) epigyne, ventral view; (67) vulva, dorsal view. Scale bars = 0.1mm.

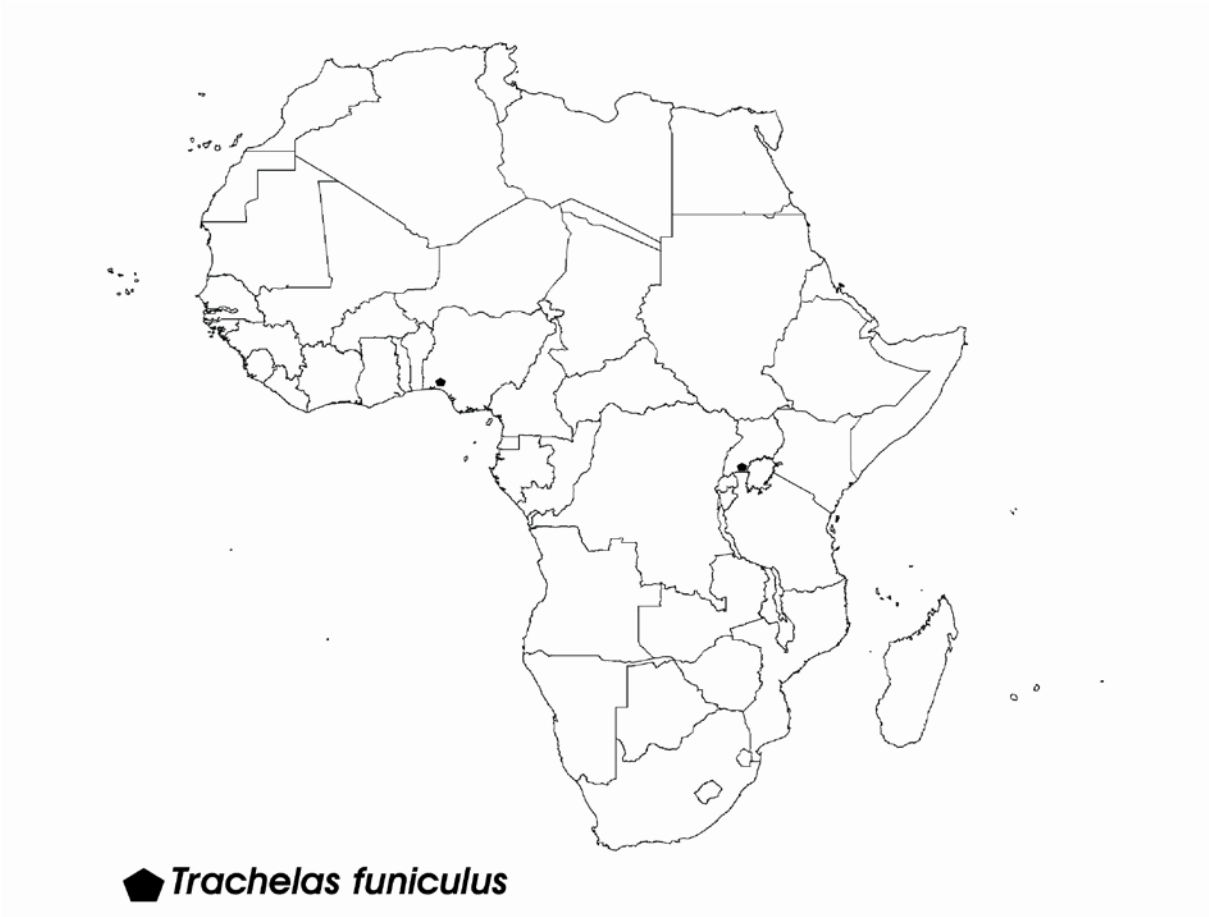
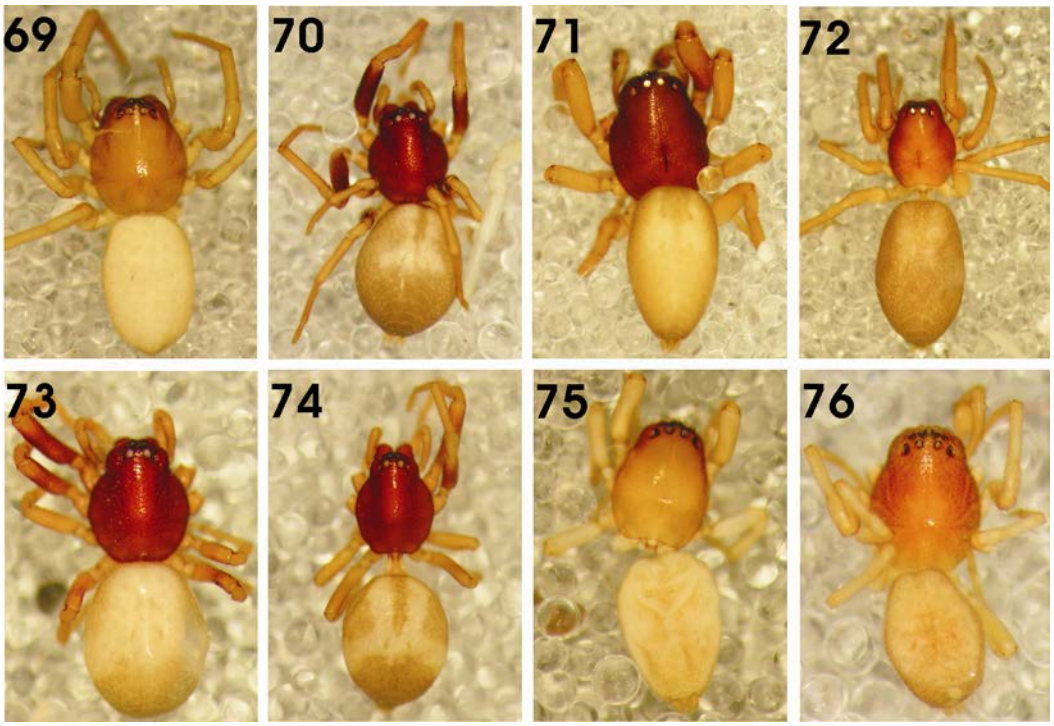


Fig. 68. Distribution of *Trachelas funiculus* sp. n. in the Afrotropical Region.



Figs 69-76. General appearance of *Trachelas* species in the *gladius* species group: *T. amatola* sp. n. (69) female; *T. fisheri* sp. n. (70) female; *T. gladius* sp. n. (71) male, (72) female; *T. kakumensis* sp. n. (73) female; *T. malkini* sp. n. (74) female; *T. maputensis* sp. n. (75) female; *T. minutus* sp. n. (76) male.

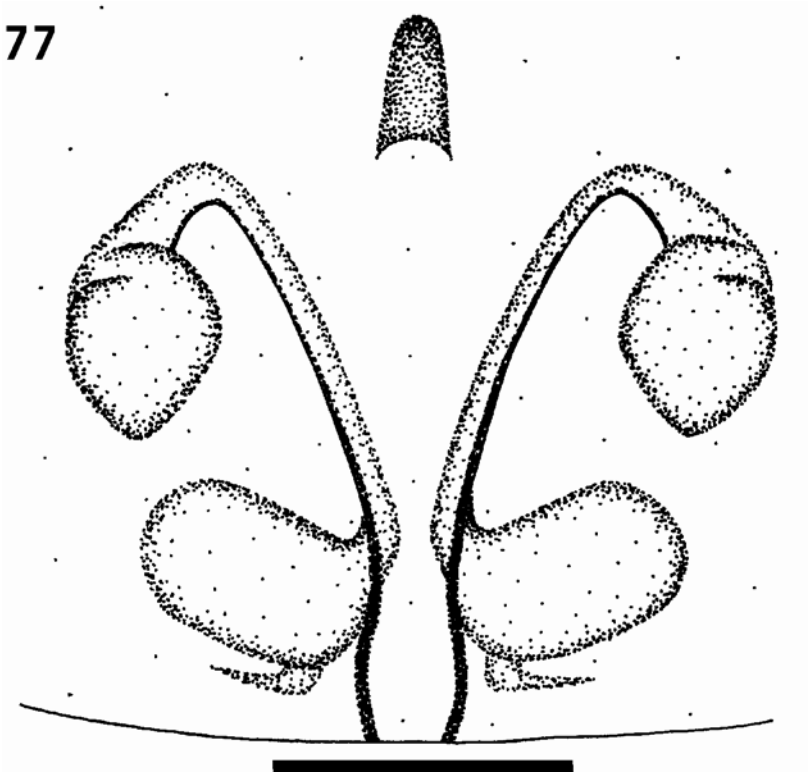


Fig. 77. *Trachelas amatola* sp. n.: female: epigyne, ventral view. Scale bar = 0.1mm.

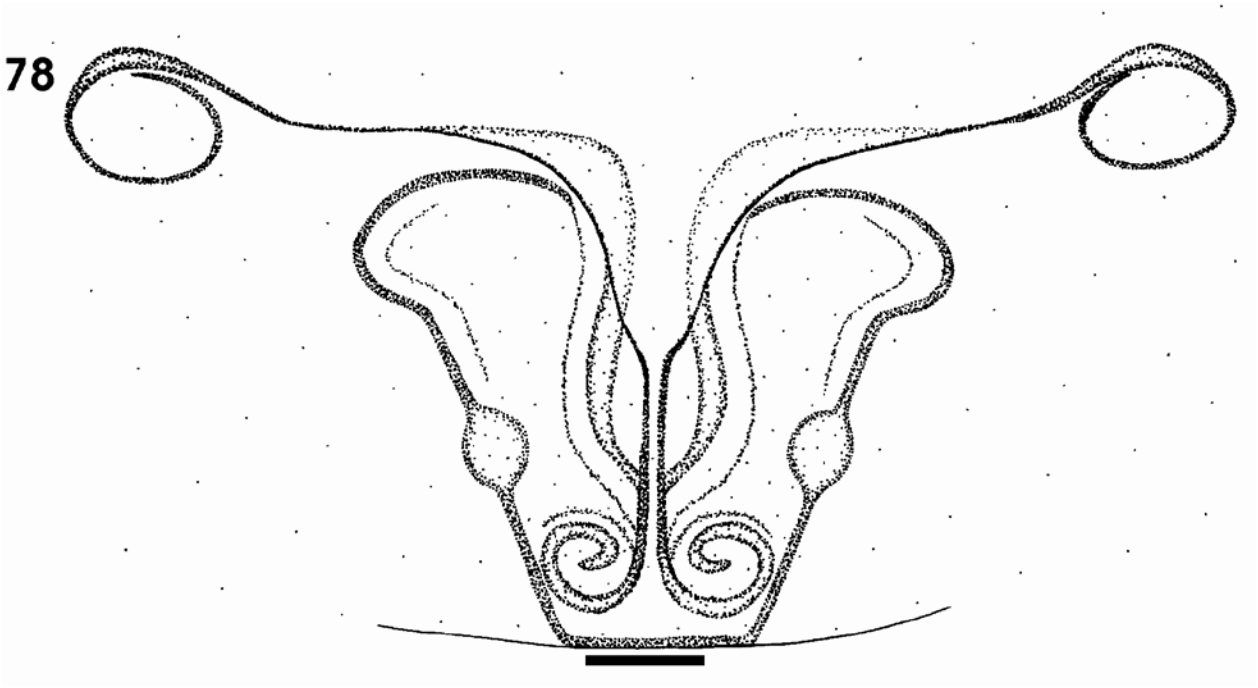
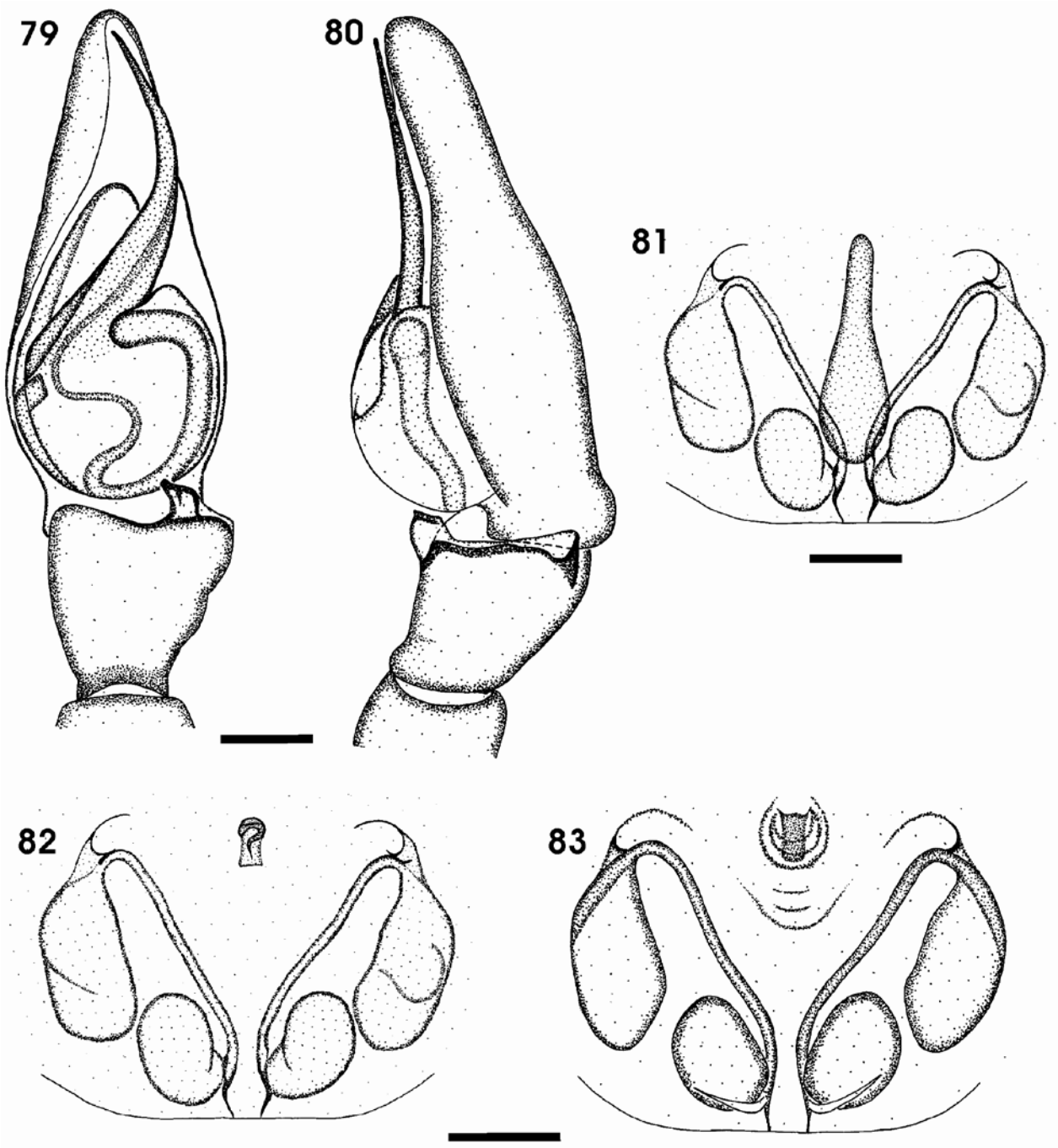
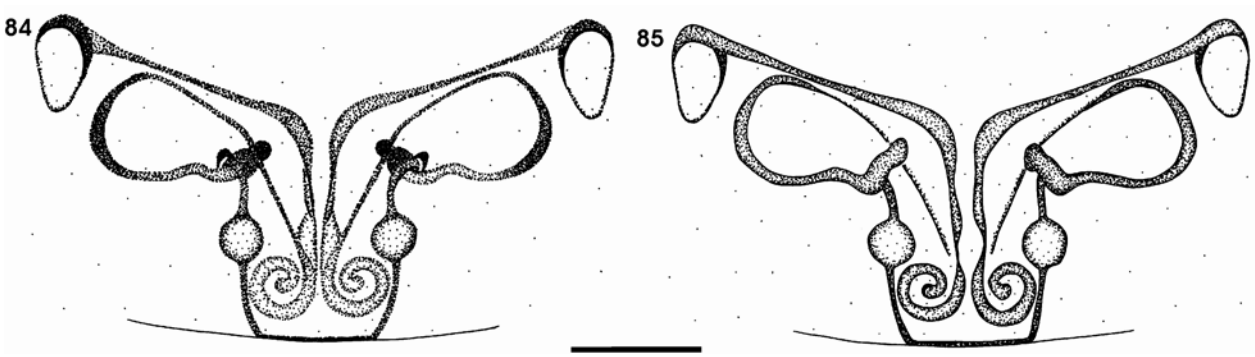


Fig. 78. *Trachelas fisheri* sp. n.: female: epigyne, ventral view. Scale bar = 0.1mm.



Figs 79-83. *Trachelas gladius* sp. n.: (79, 80) male: (79) left palp, ventral view; (80) left palp, retrolateral view; (81-83) female: (81) epigyne with tongue-like hood, ventral view; (82) epigyne with small rectangular hood, ventral view; (83) vulva, dorsal view. Scale bars = 0.1mm.



Figs 84-85. *Trachelas kakumensis* sp. n.: female: (84) epigyne, ventral view; (85) vulva, dorsal view. Scale bar = 0.1mm.

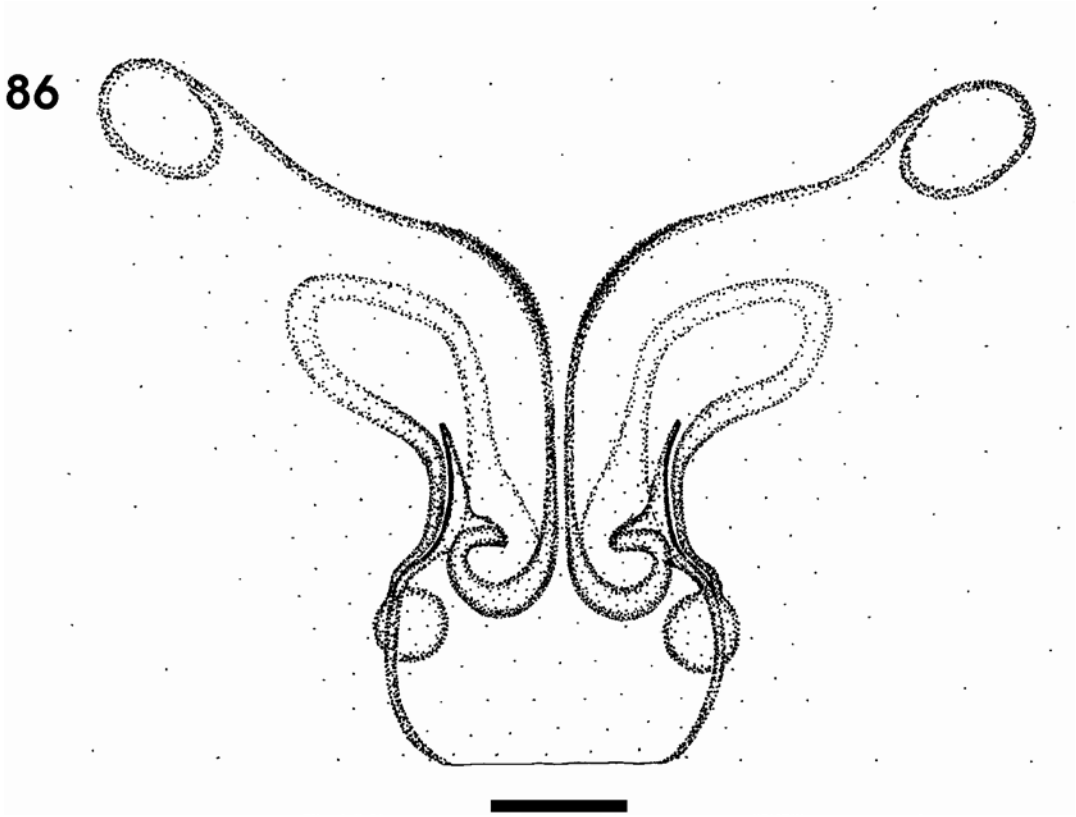


Fig. 86. *Trachelas malkini* sp. n.: female: epigyne, ventral view. Scale bar = 0.1mm.

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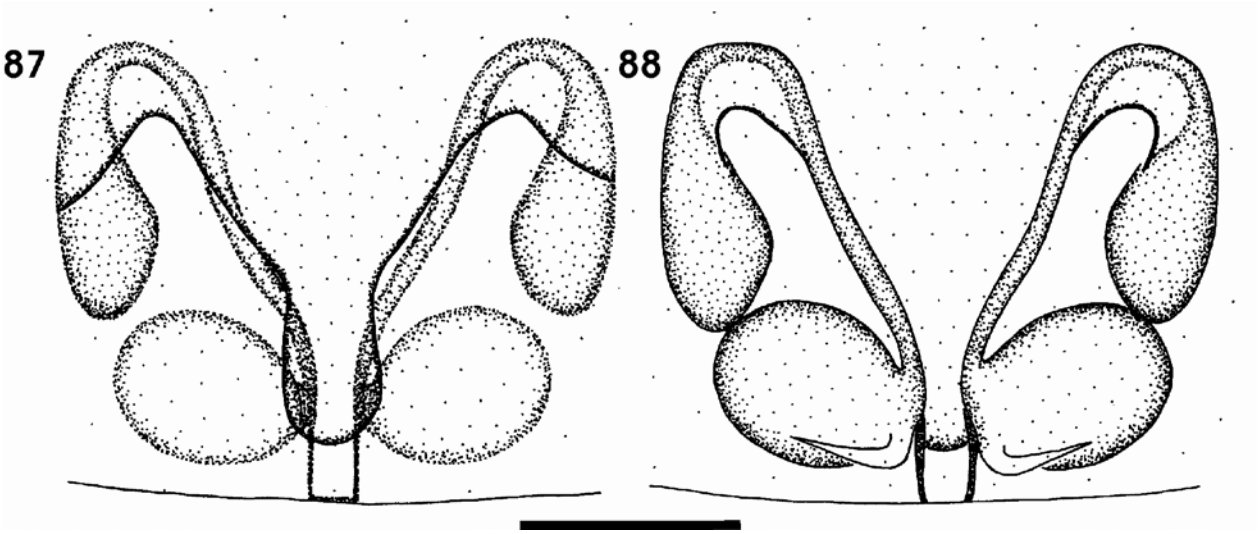
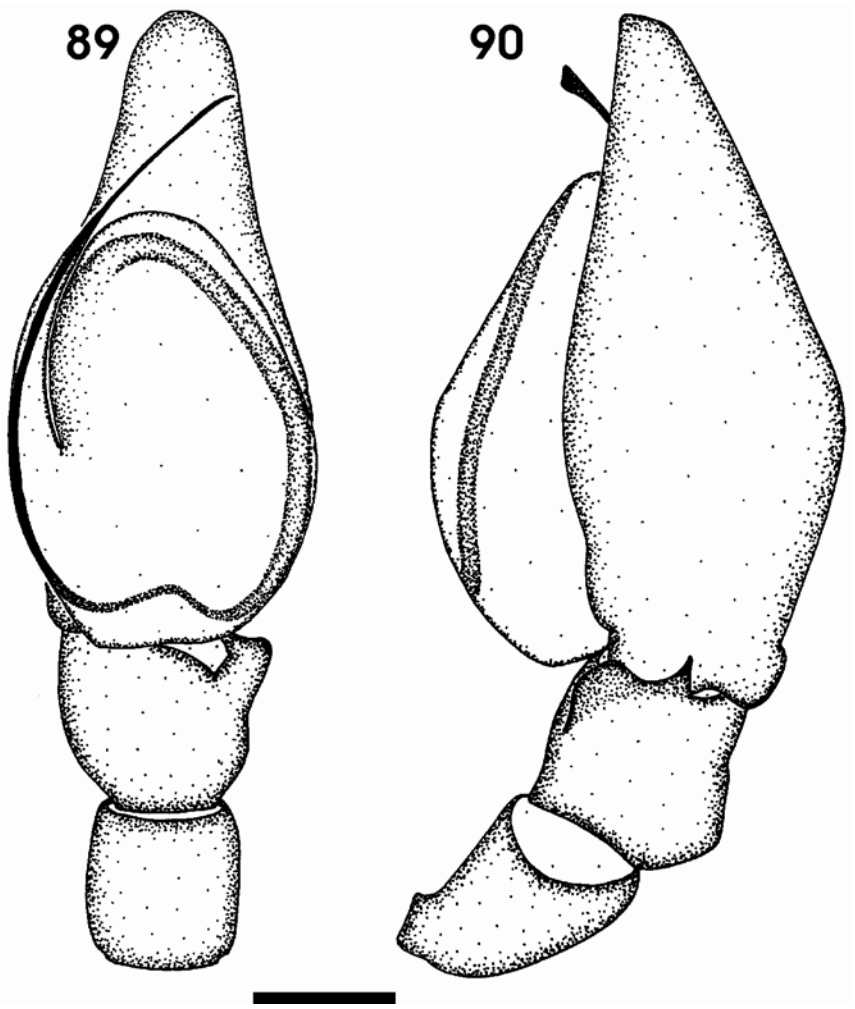


Figs 87-88. *Trachelas maputensis* sp. n.: female: (87) epigyne, ventral view; (88) vulva, dorsal view. Scale bar = 0.1mm.



Figs 89-90. *Trachelas minutus* sp. n.: (89, 90) male: (89) left palp, ventral view; (90); left palp, retrolateral view. Scale bar = 0.1mm.

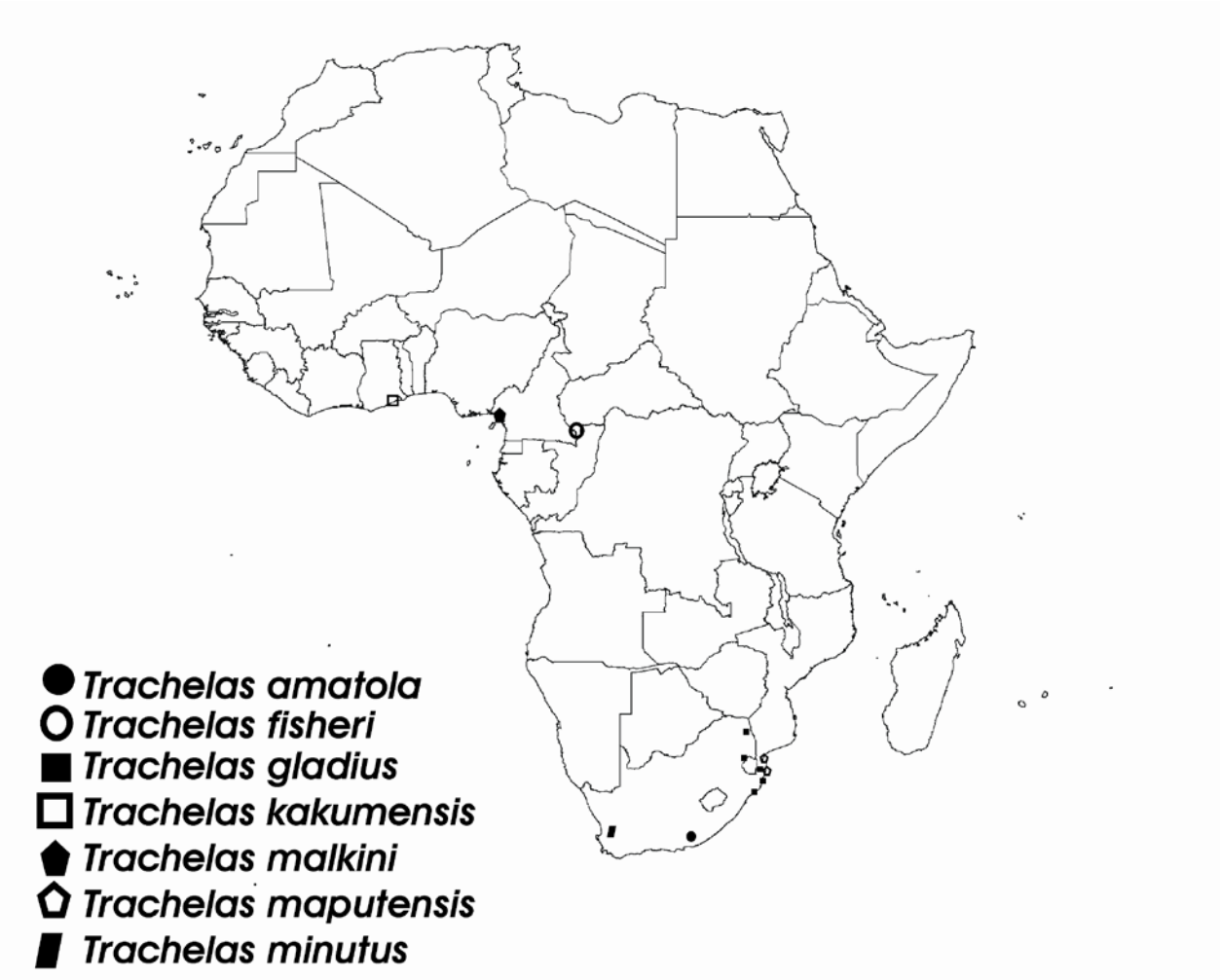
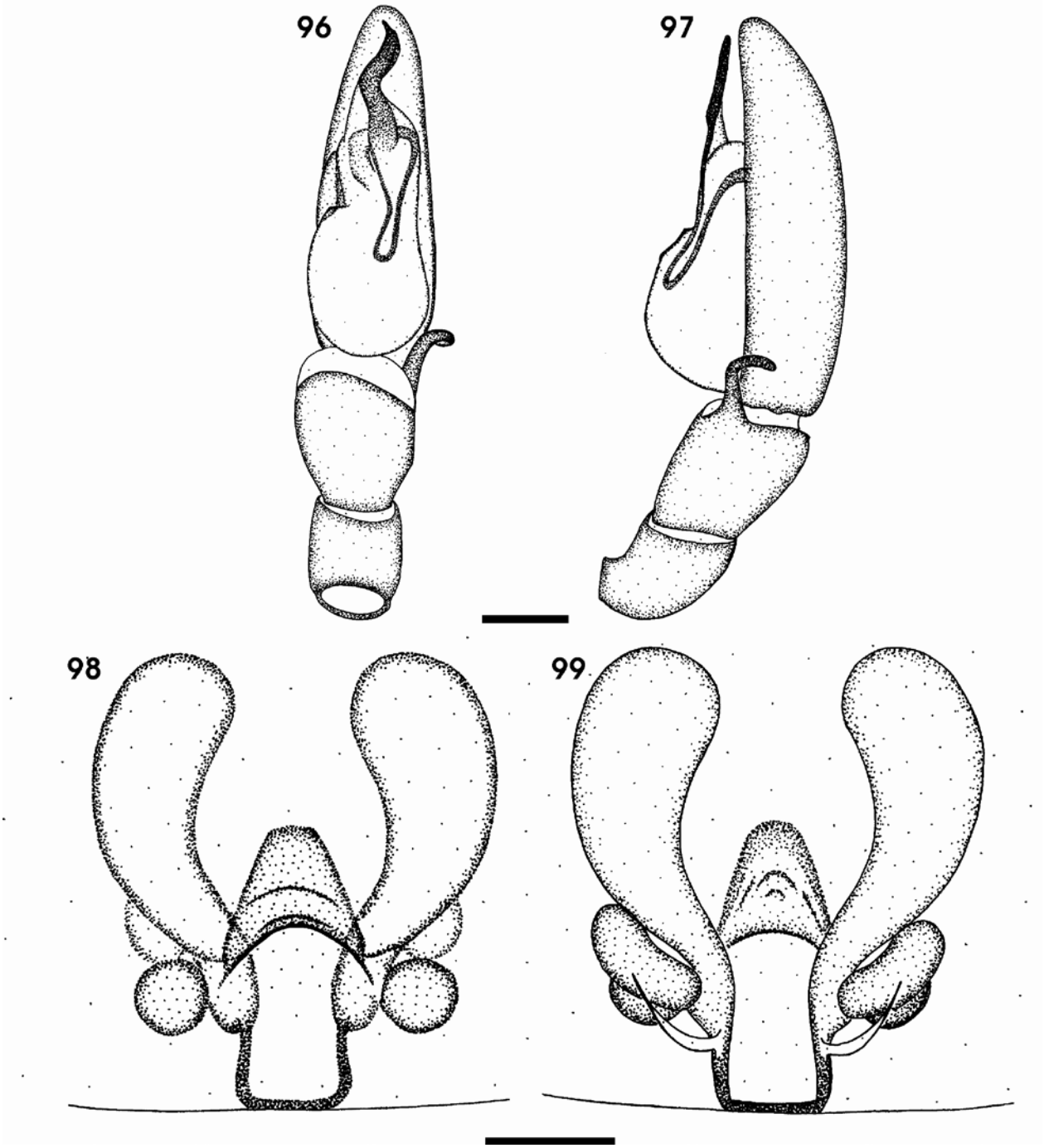
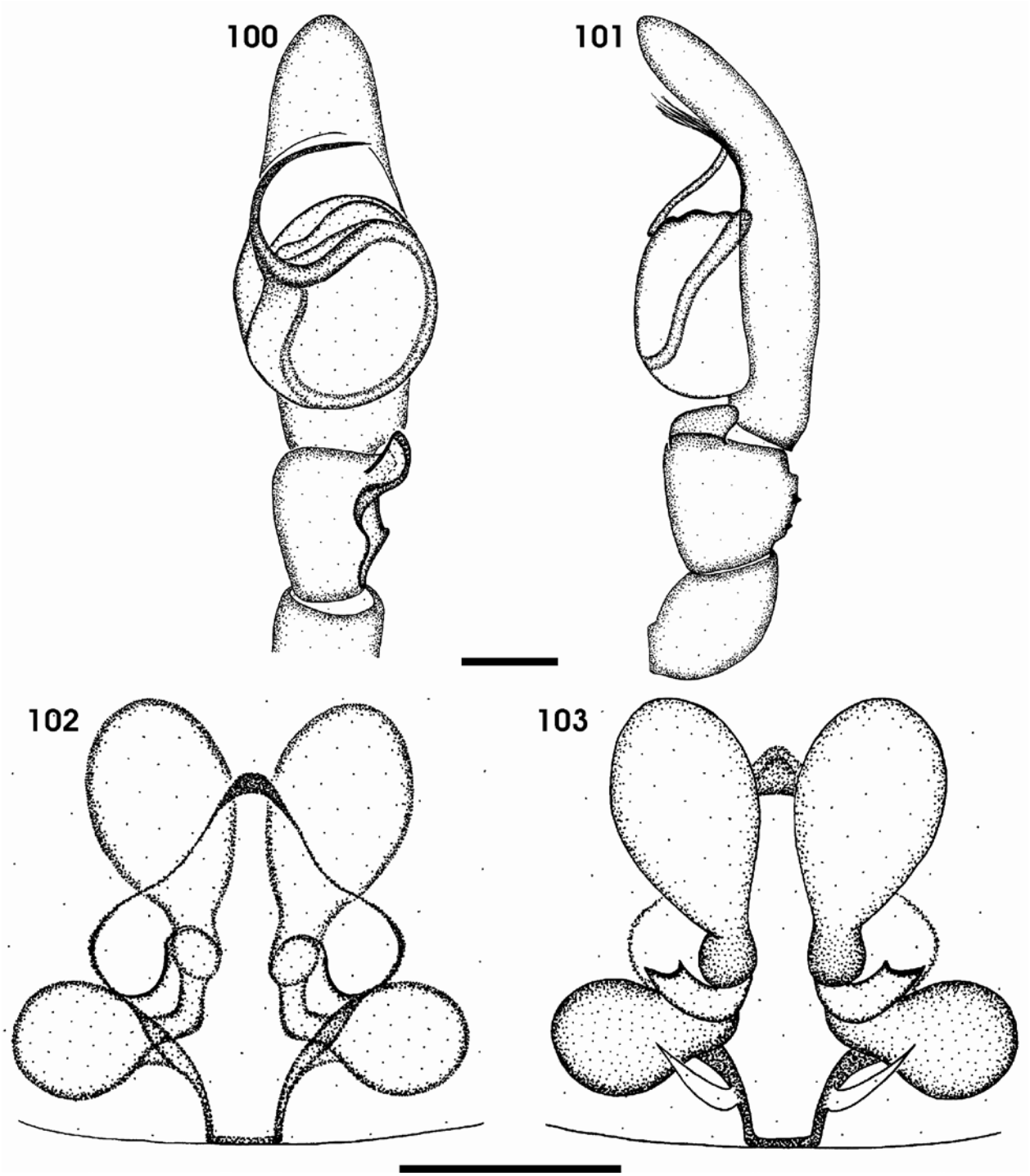


Fig. 91. Distribution of the *gladius* species group of *Trachelas* in the Afrotropical Region.

Figs 92-95. The general appearance of *Trachelas* species in the *hamus* species group: *T. hamus* sp. n. (92) male, (93) female; *T. penicillus* sp. n. (94) male, (95) female.



Figs 96-99. *Trachelas hamus* sp. n.: (96, 97) male: (96) left palp, ventral view; (97) left palp, retrolateral view; (98, 99) female: (98) epigyne, ventral view; (99) vulva, dorsal view. Scale bars = 0.1mm.



Figs 100-103. *Trachelas penicillus* sp. n.: (100, 101) male: (100) left palp, ventral view; (101) left palp, retrolateral view; (102, 103) female: (102) epigyne, ventral view; (103) vulva, dorsal view. Scale bars = 0.1mm.

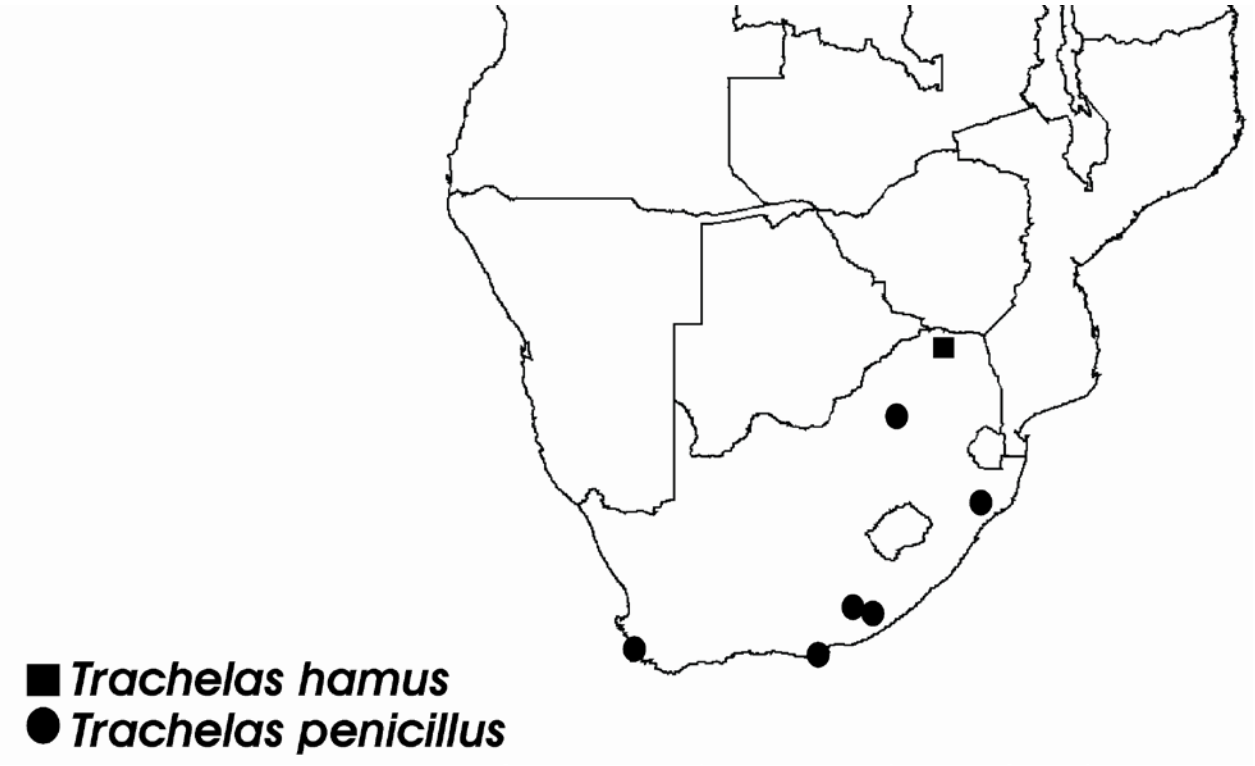
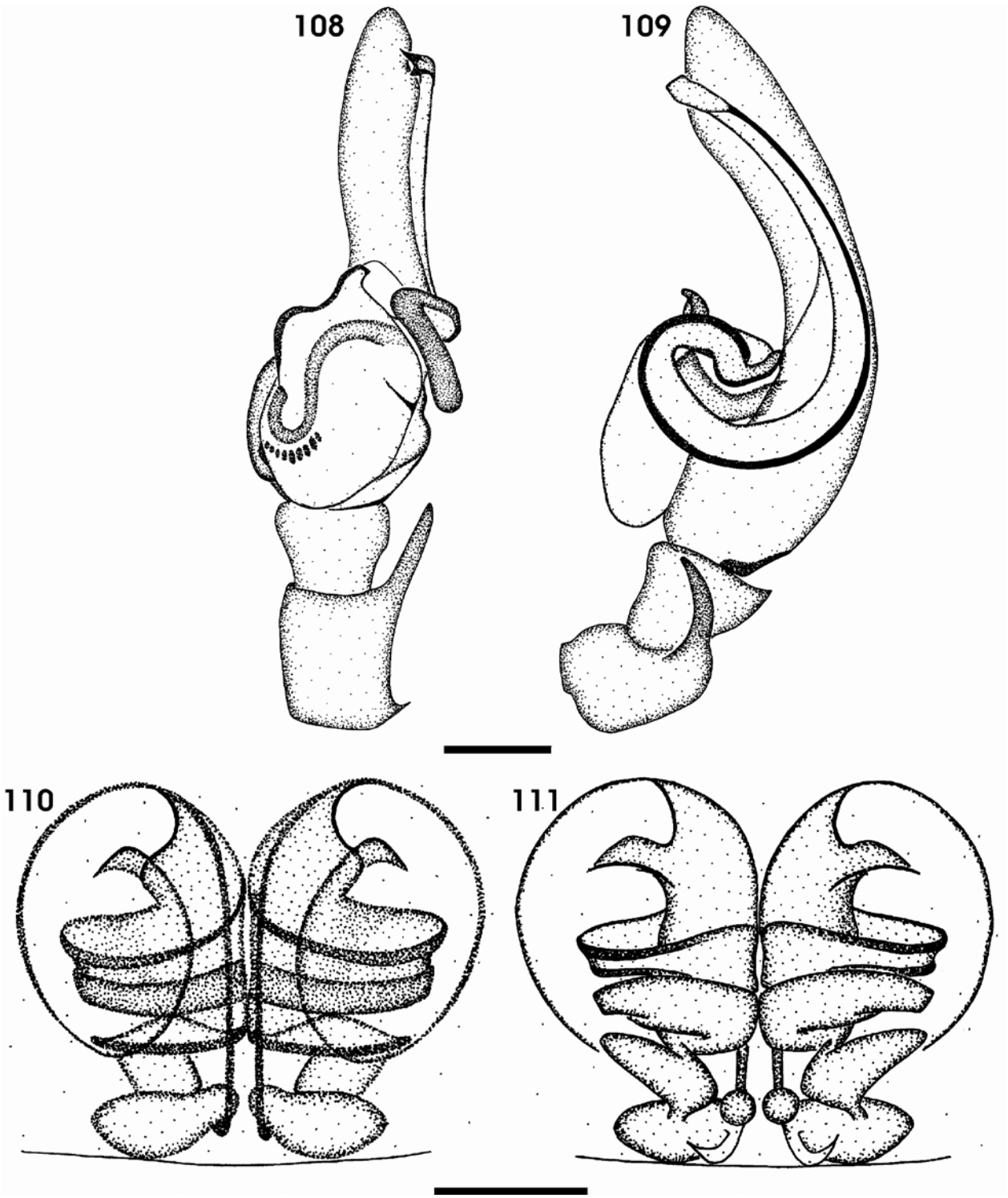
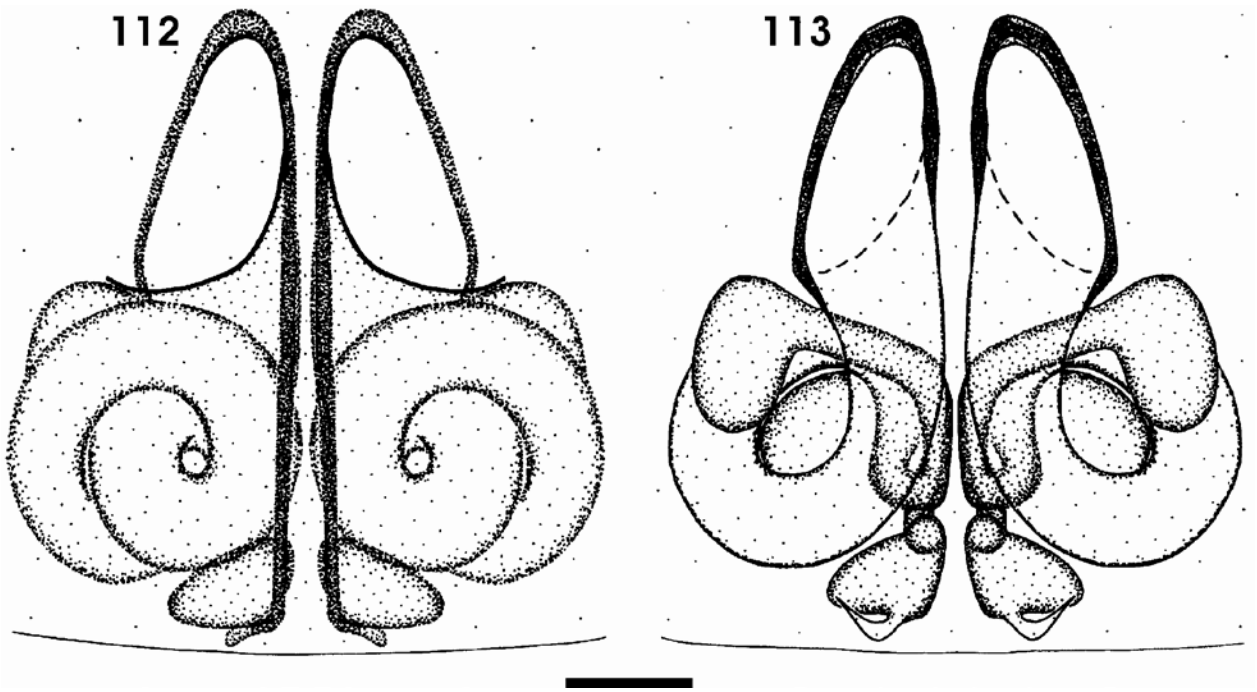


Fig. 104. Distribution of the *hamus* species group of *Trachelas*, restricted to South Africa.

Figs 105-107. The general appearance of *Trachelas* species in the *latus* species group: *T. latus* sp. n. (105) male, (106) female; *T. pressus* sp. n. (107) female.

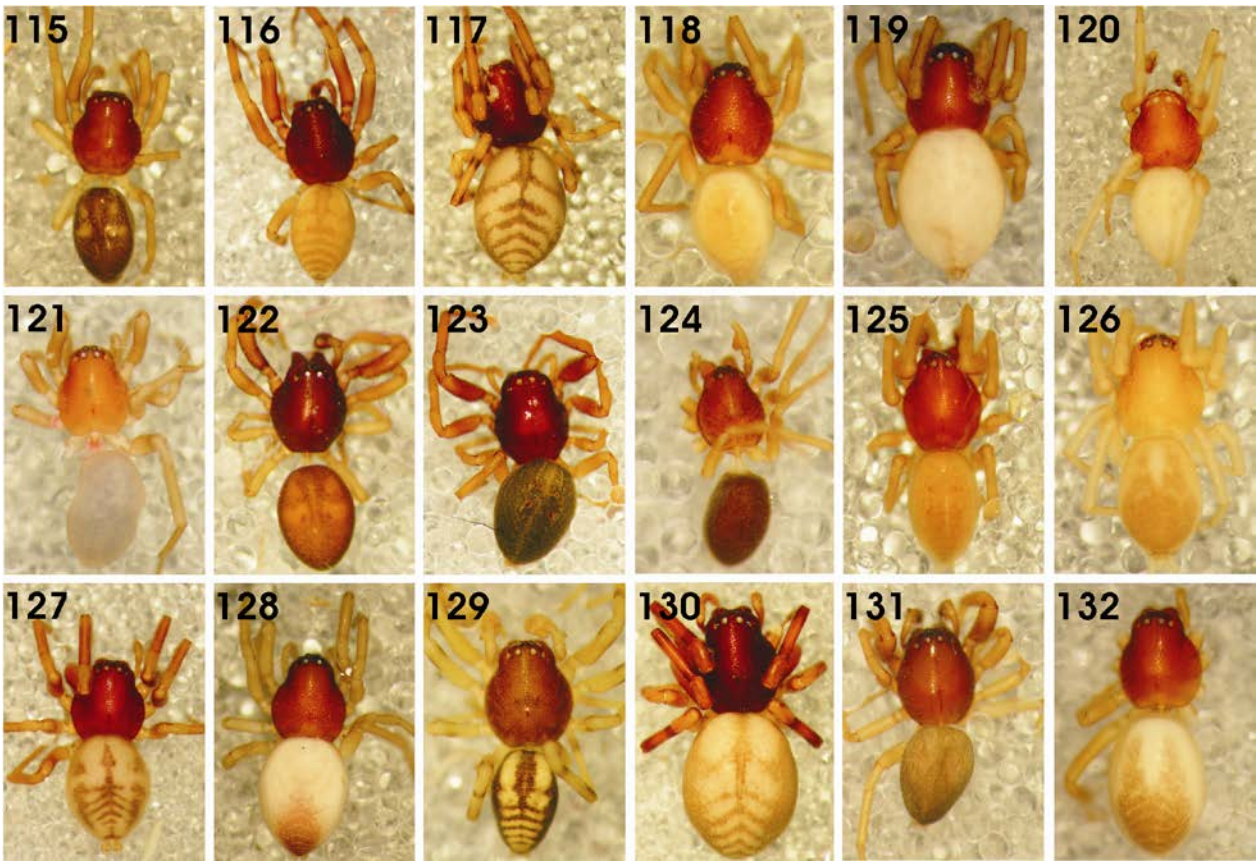


Figs 108-111. *Trachelas latus* sp. n.: (108, 109) male: (108) left palp, ventral view; (109) left palp, retrolateral view; (110, 111) female: (110) epigyne, ventral view; (111) vulva, dorsal view. Scale bars = 0.1mm.

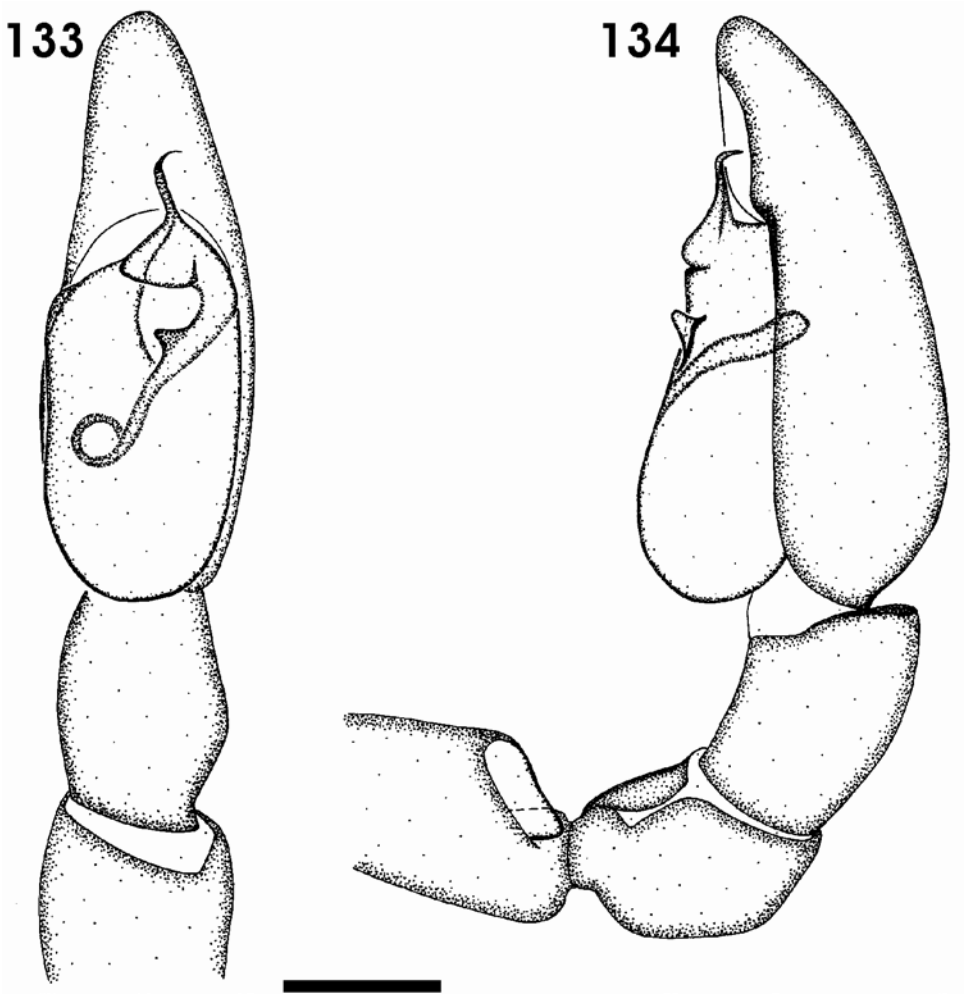


Figs 112-113. *Trachelas pressus* sp. n.: female: (112) epigyne, ventral view; (113) vulva, dorsal view. Scale bar = 0.1mm.

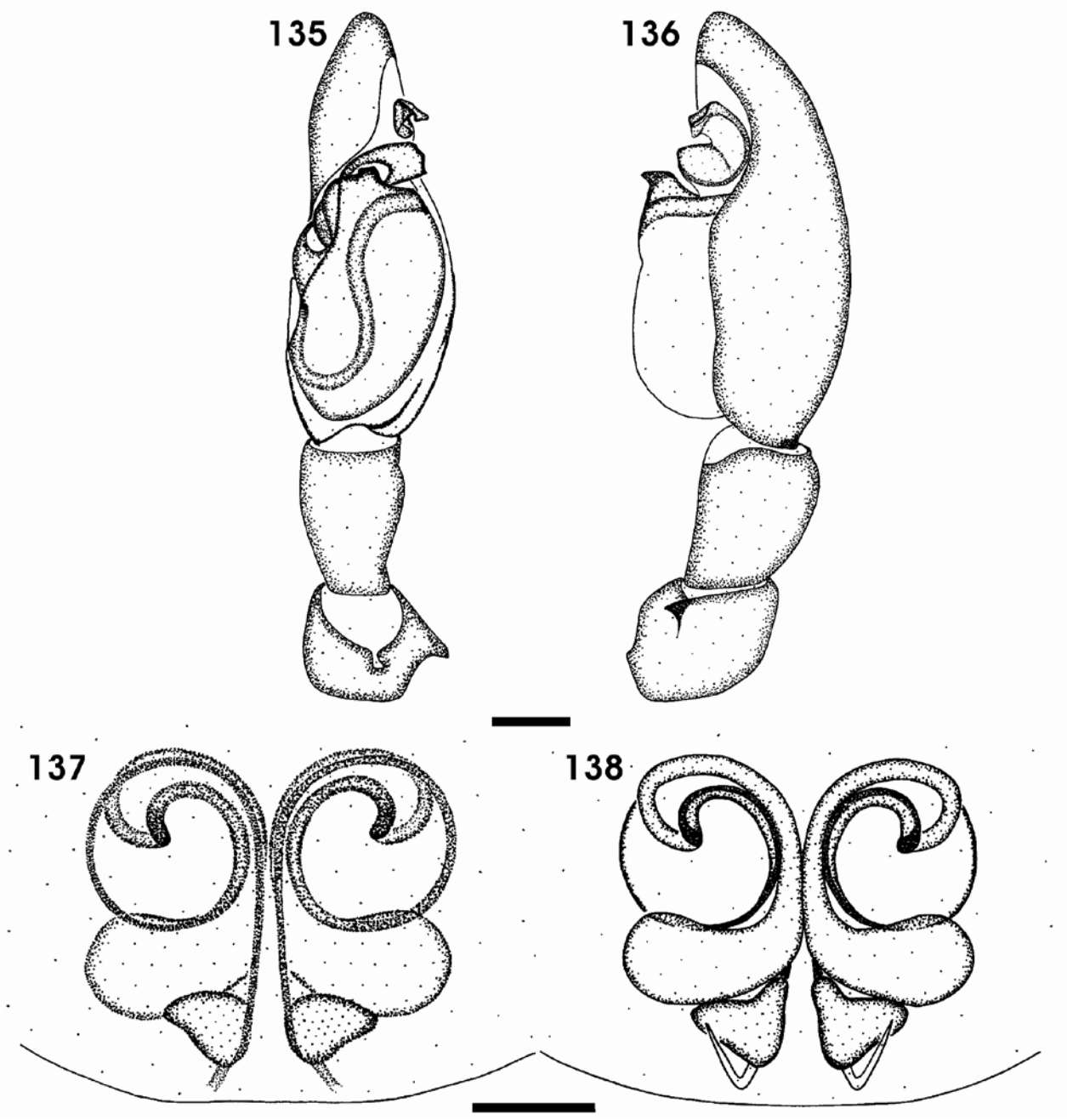
Fig. 114. Distribution of the *latus* species group of *Trachelas* in the Afrotropical Region.



Figs 115-132. General appearance of *Trachelas* species in the *minor* species group: *T. addis* sp. n. (115) male; *T. chubbi* Lessert, 1921 (116) male, (117) female; *T. falsus* sp. n. (118) male, (119) female; *T. humus* sp. n. (120) male, (121) female; *T. lateralus* sp. n. (122) male, (123) female; *T. leggi* sp. n. (124) male; *T. pusillus* Lessert 1923 (125) male, (126) female; *T. smithi* sp. n. (127) female; *T. sparsus* sp. n. (128) female; *T.* cf. *sylvae* Caporiacco, 1949 (129) male, (130) female; *T. taita* sp. n. (131) male; (132) female.



Figs 133-134. *Trachelas addis* sp. n.: male: (133) left palp, ventral view; (134) left palp, retrolateral view. Scale bar = 0.1mm.



Figs 135-138. *Trachelas chubbi* Lessert, 1921: (135, 136) male: (135) left palp, ventral view; (136) left palp, retrolateral view; (137, 138) female: (137) epigyne, ventral view; (138) vulva, dorsal view. Scale bars = 0.1mm.

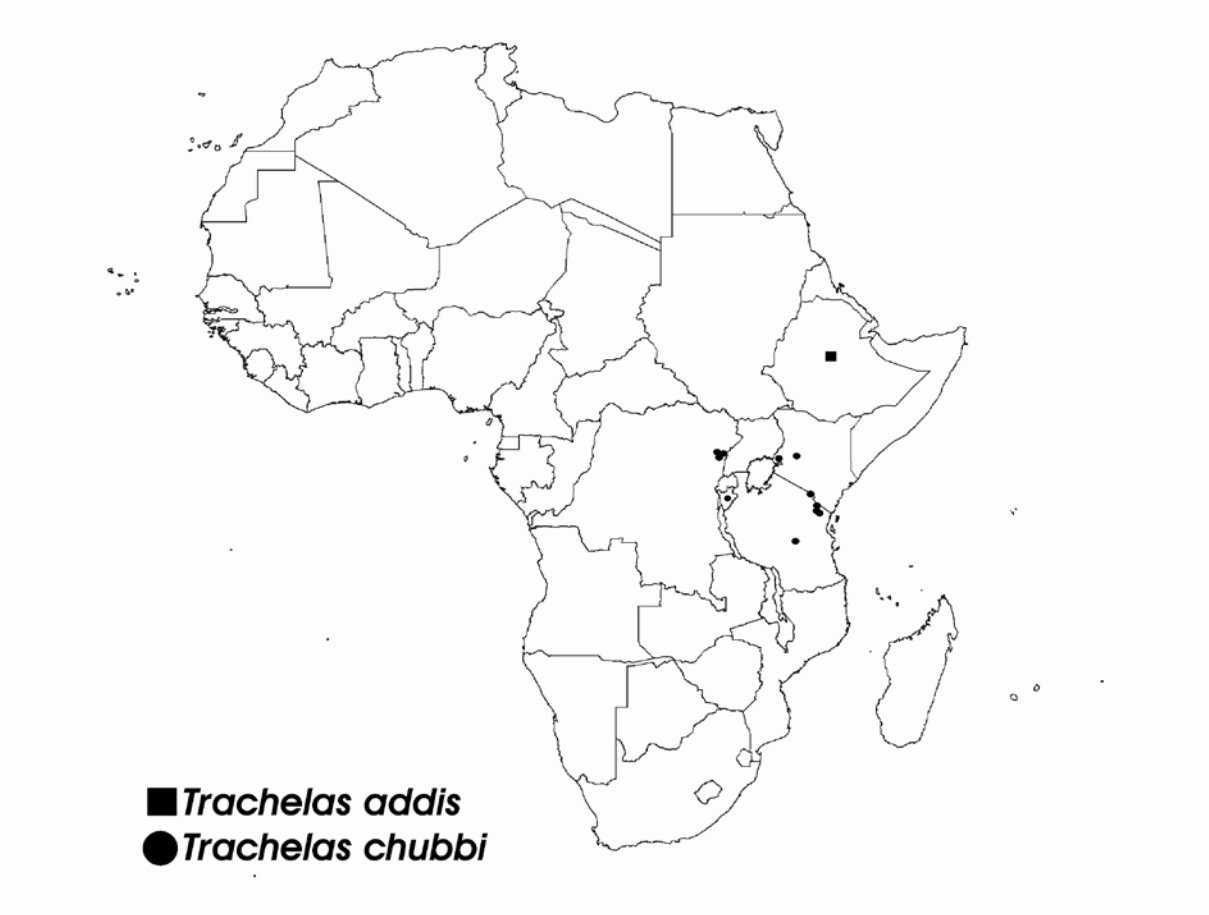
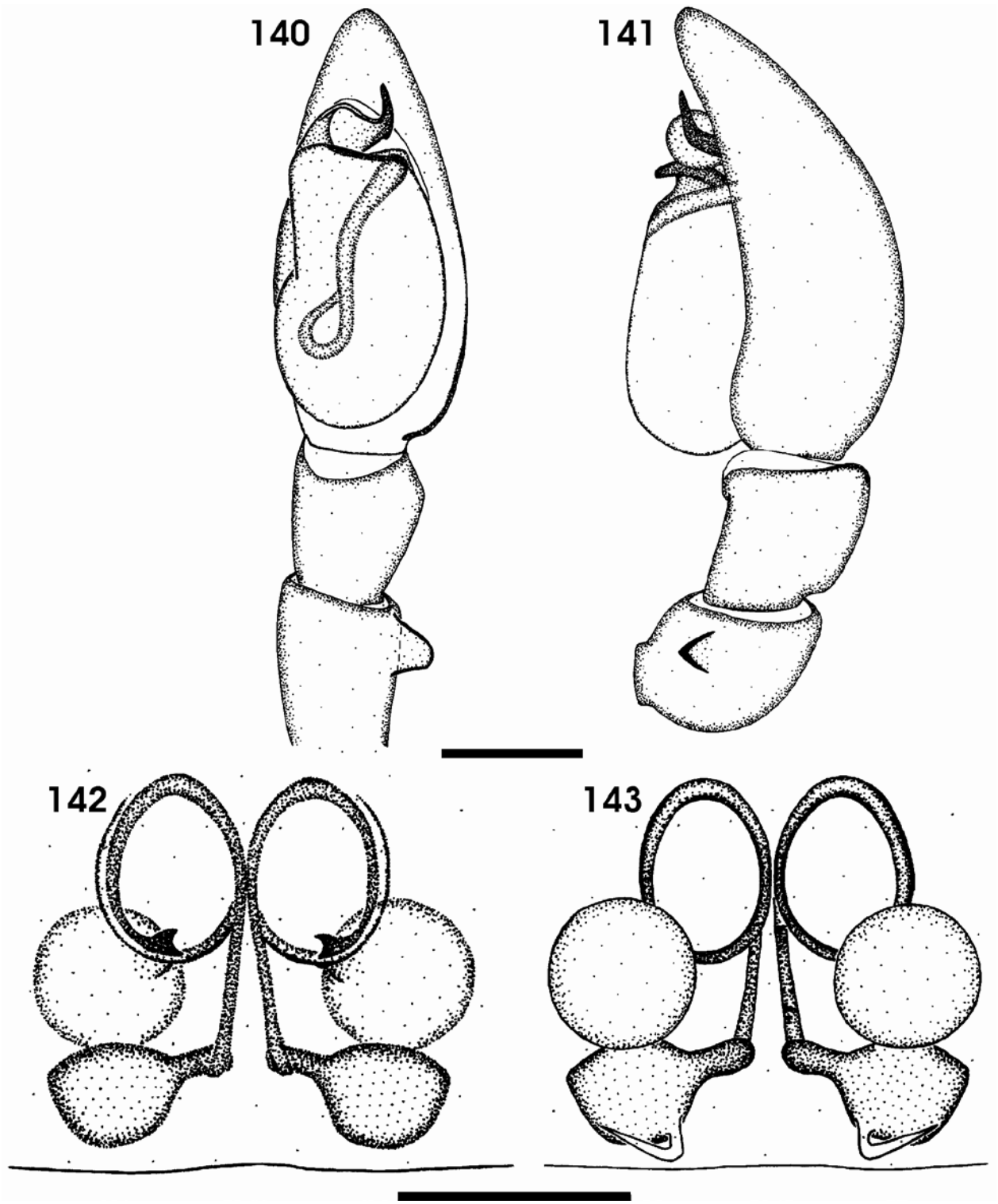
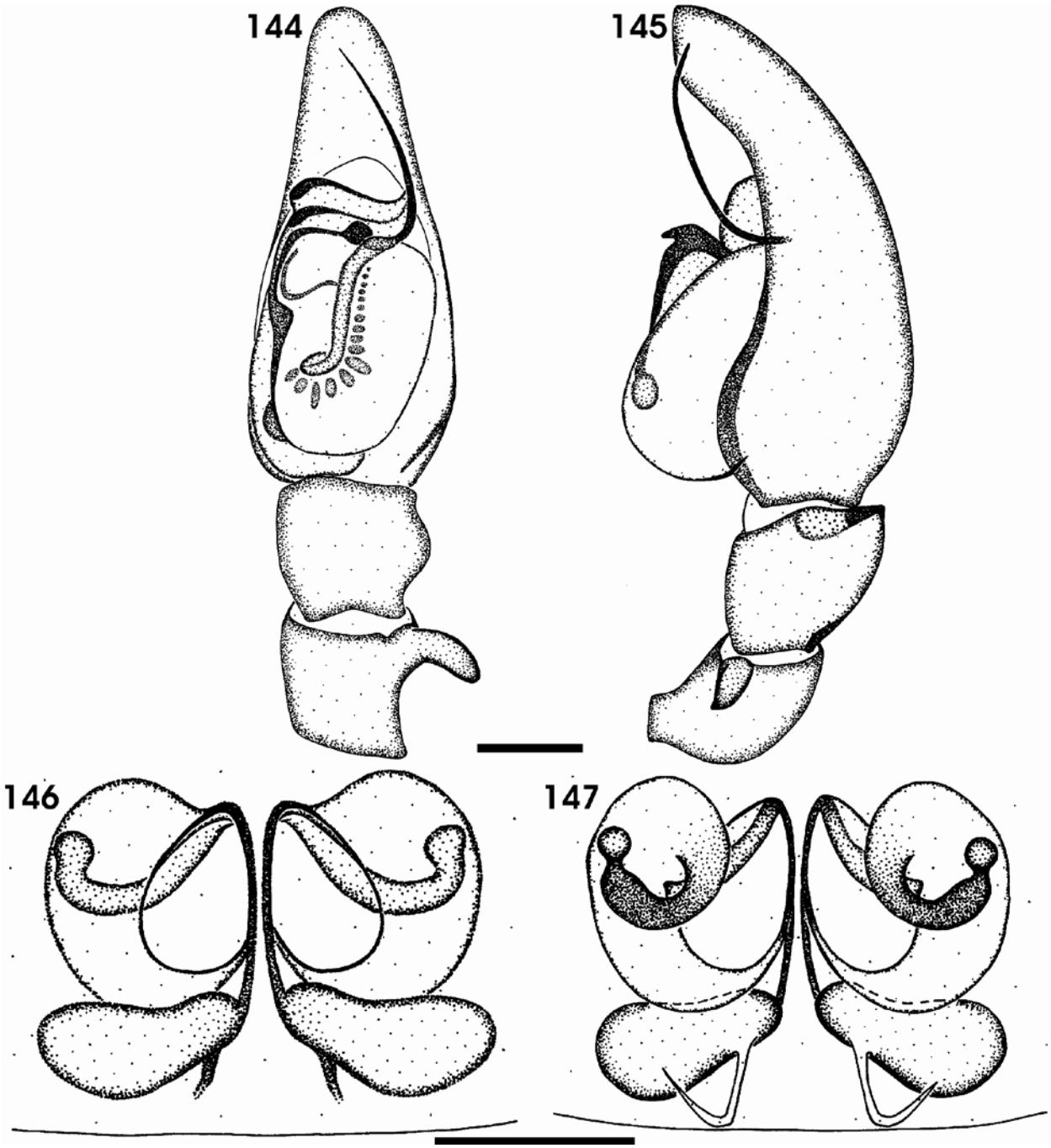


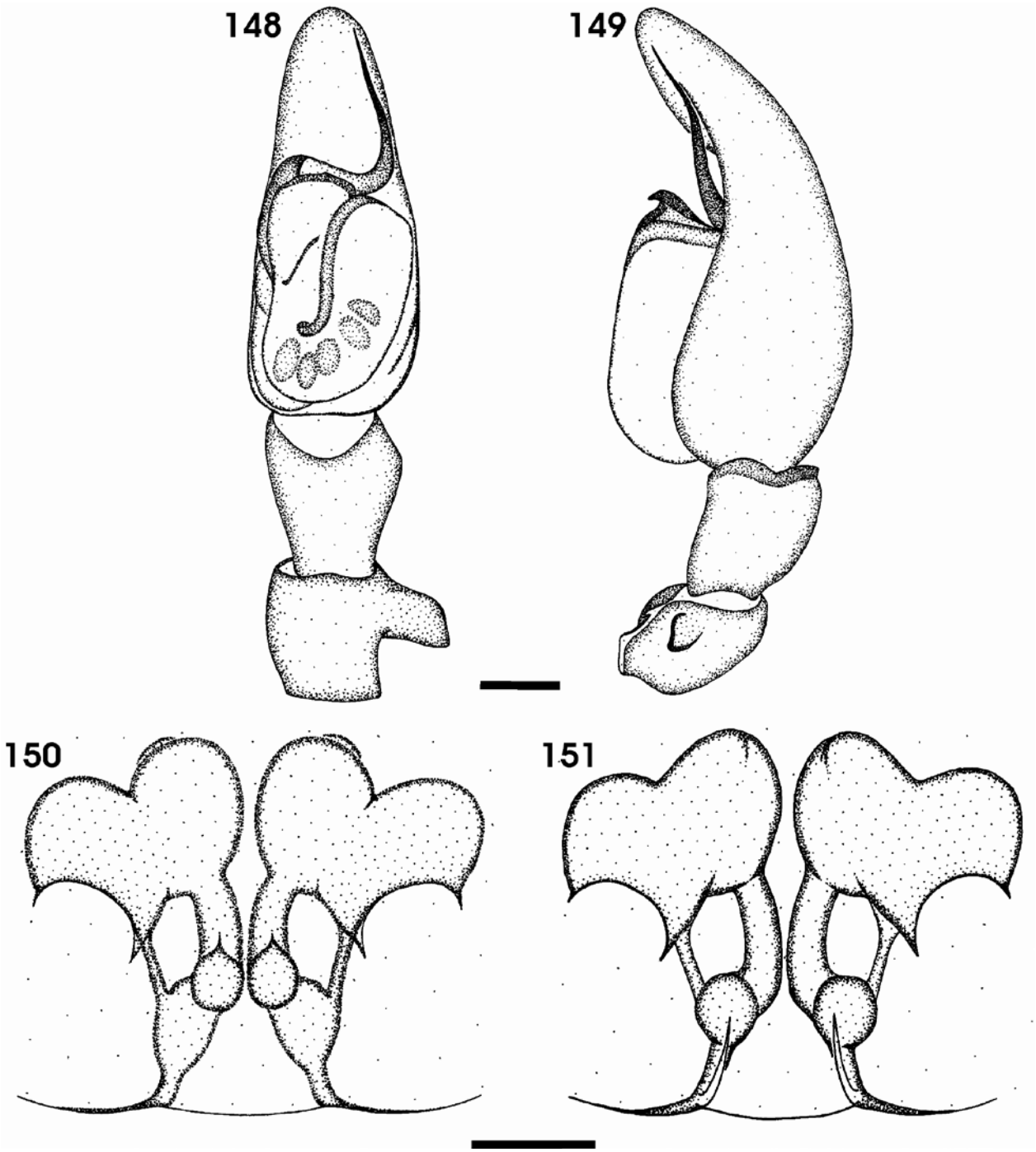
Fig. 139. Distribution of *Trachelas addis* sp. n. and *T. chubbi* Lessert, 1921, representatives of the *minor* species group, in the Afrotropical Region.



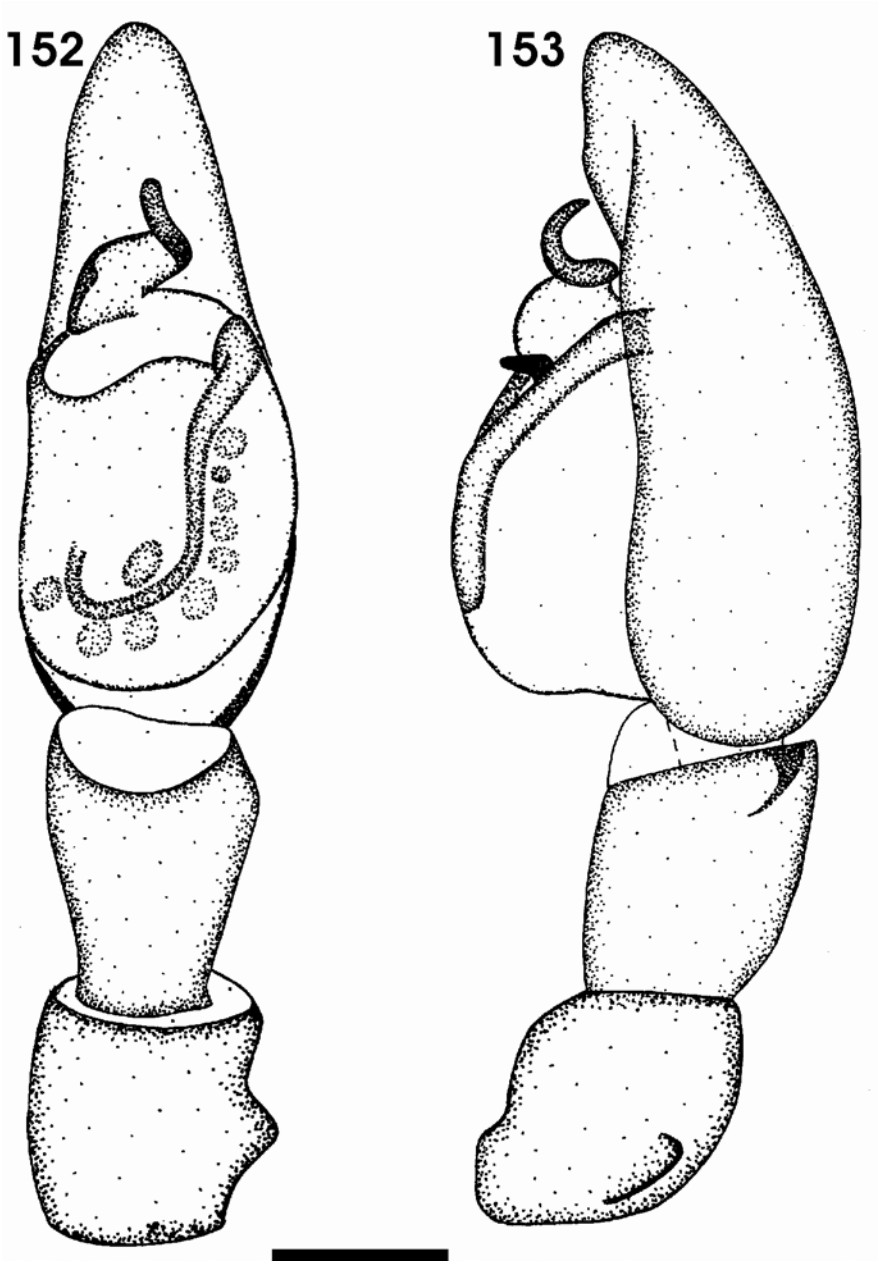
Figs 140-143. *Trachelas falsus* sp. n.: (140, 141) male: (140) left palp, ventral view; (141) left palp, retrolateral view; (142, 143) female: (142) epigyne, ventral view; (143) vulva, dorsal view. Scale bars = 0.1mm.



Figs 144-147. *Trachelas humus* sp. n.: (144, 145) male: (144) left palp, ventral view; (145) left palp, retrolateral view; (146, 147) female: (146) epigyne, ventral view; (147) vulva, dorsal view. Scale bars = 0.1mm.



Figs 148-151. *Trachelas lateralus* sp. n.: (148, 149) male: (148) left palp, ventral view; (149) left palp, retrolateral view; (150, 151) female: (150) epigyne, ventral view; (151) vulva, dorsal view. Scale bars = 0.1mm.



Figs 152-153. *Trachelas leggi* sp. n.: male: (152) left palp, ventral view; (153) left palp, retrolateral view. Scale bar = 0.1mm.

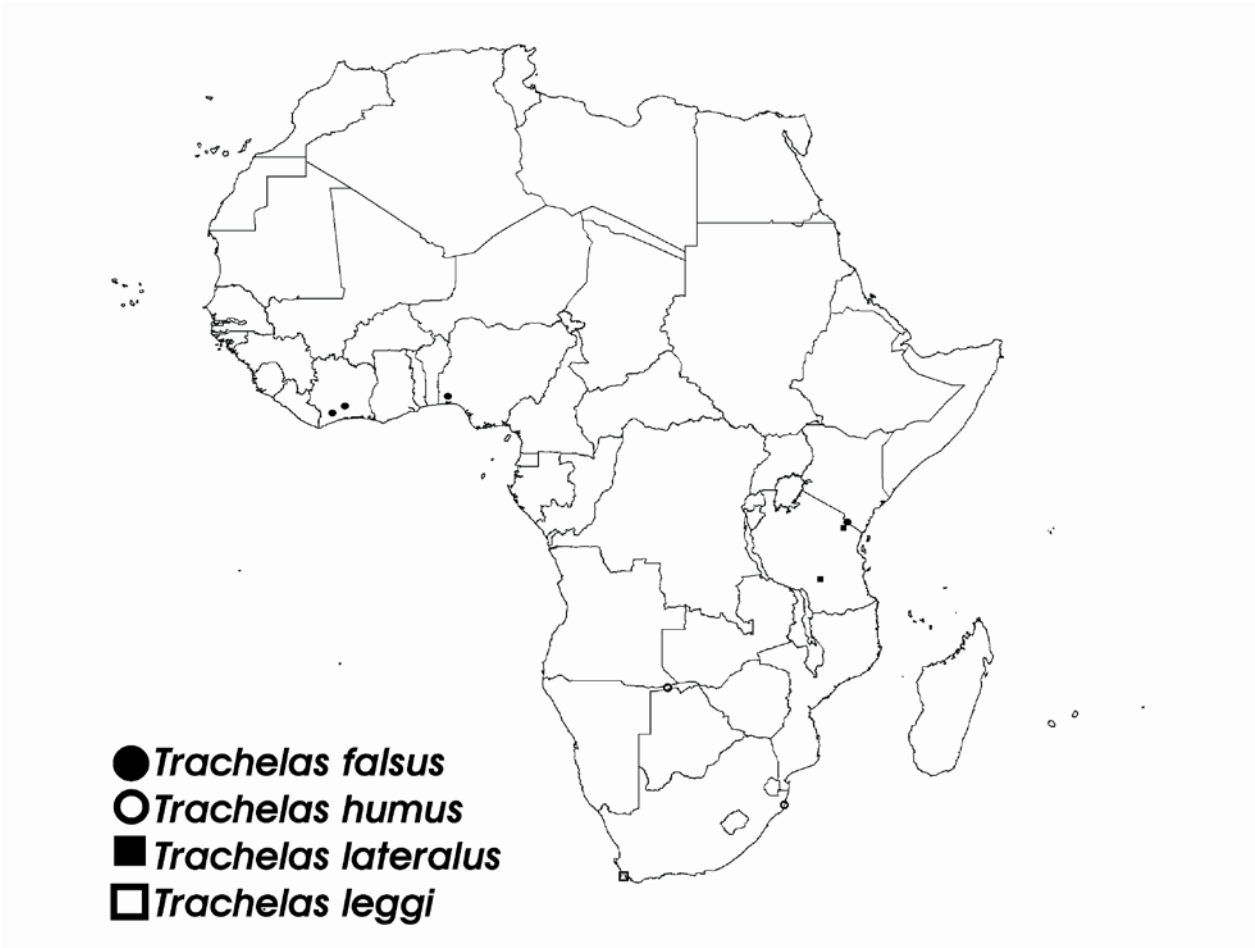
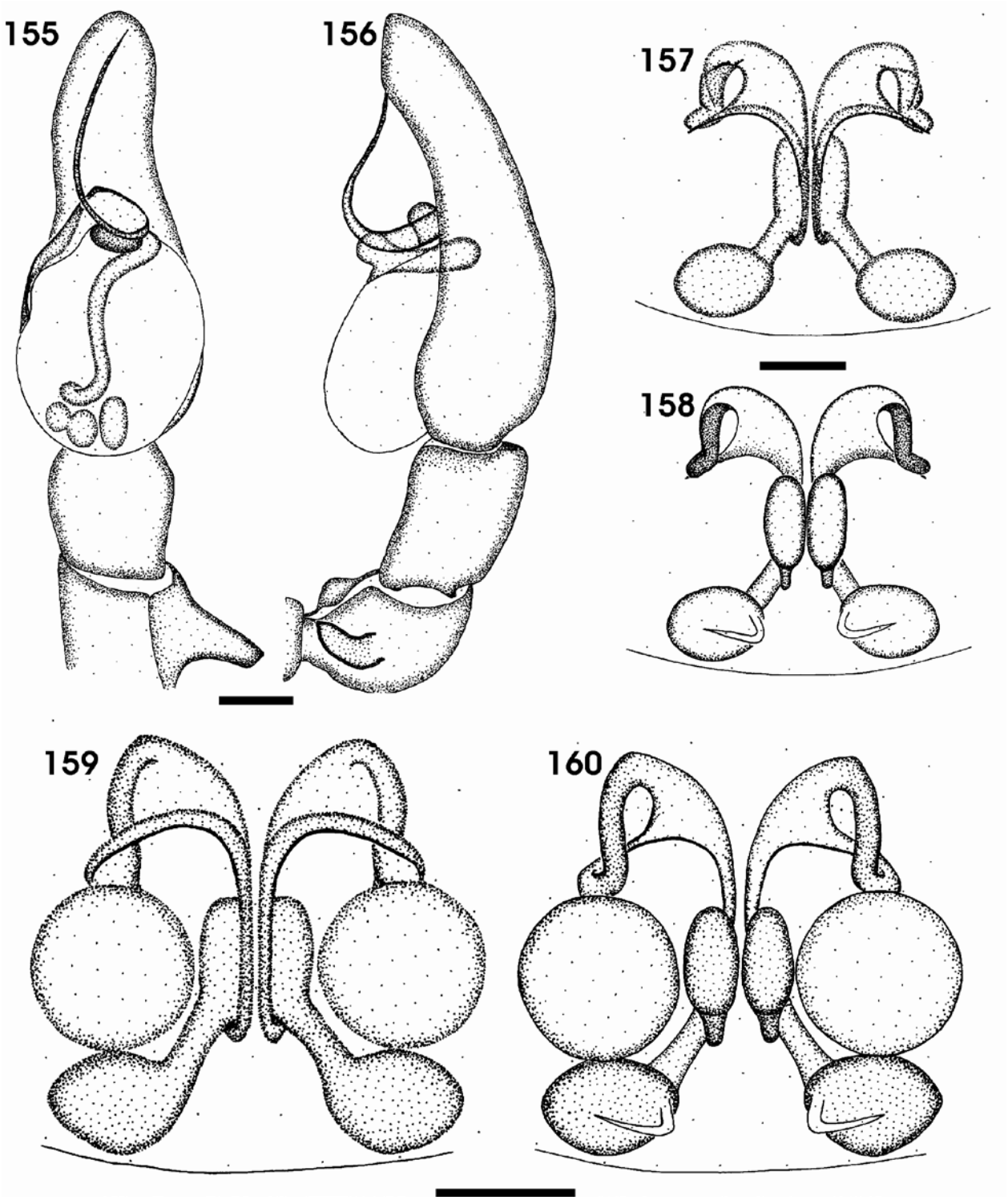
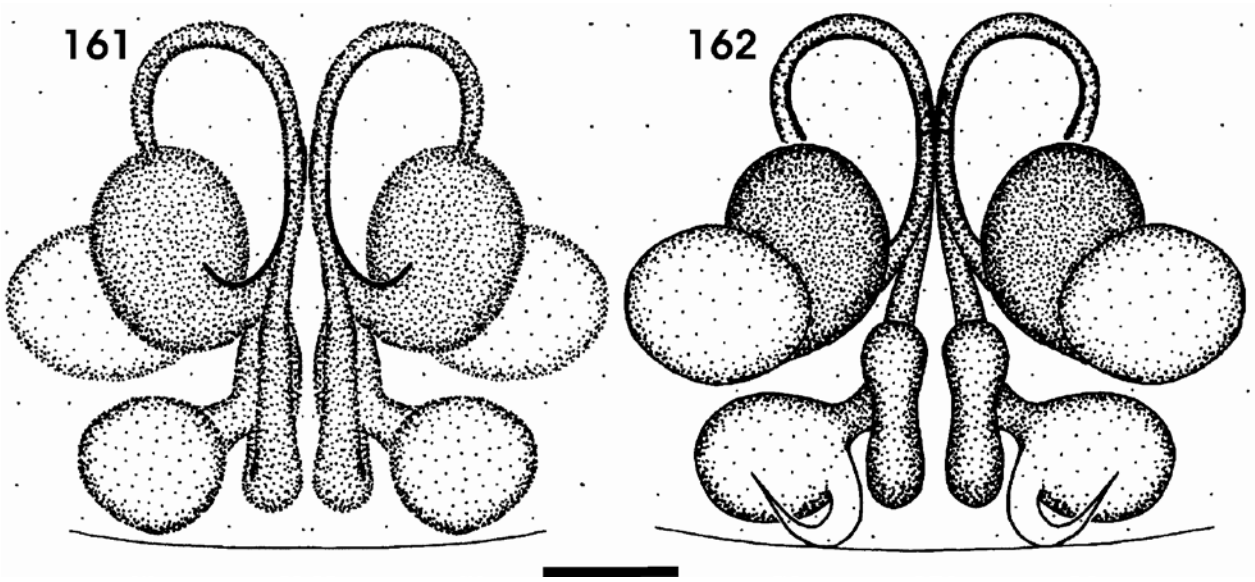


Fig. 154. Distribution of *Trachelas falsus* sp. n., *T. humus* sp. n., *T. lateralus* sp. n. and *T. leggi* sp. n., representatives of the *minor* species group, in the Afrotropical Region.



Figs 155-160. *Trachelas pusillus* Lessert, 1923: (155, 156) male: (155) left palp, ventral view; (156) left palp, retrolateral view; (157-160) female: (157) excessively cleared dissected epigyne, ventral view; (158) excessively cleared dissected vulva, dorsal view; (159) epigyne, ventral view; (160) vulva, dorsal view. Scale bars = 0.1mm.



Figs 161-162. *Trachelas smithi* sp. n.: female: (161) epigyne, ventral view; (162) vulva, dorsal view. Scale bar = 0.1mm.

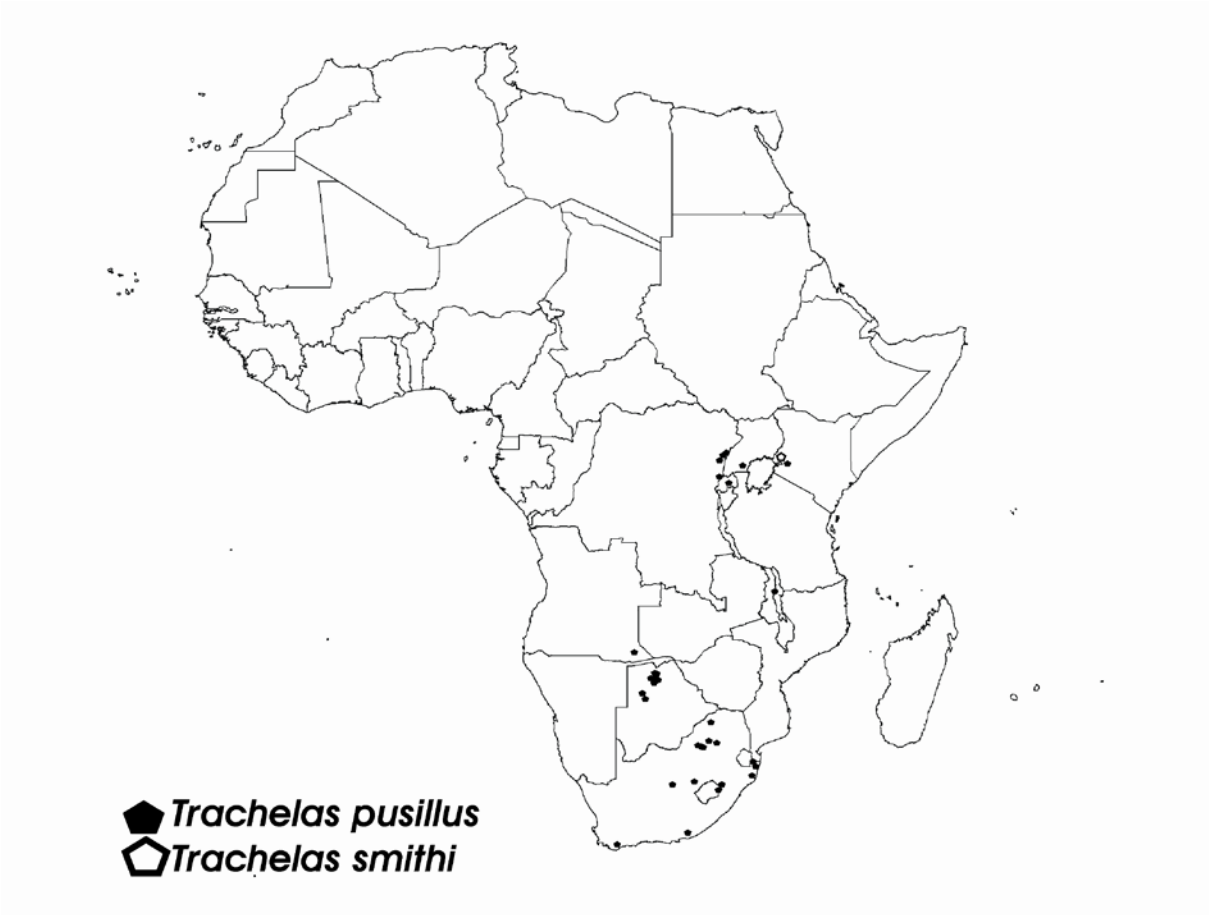
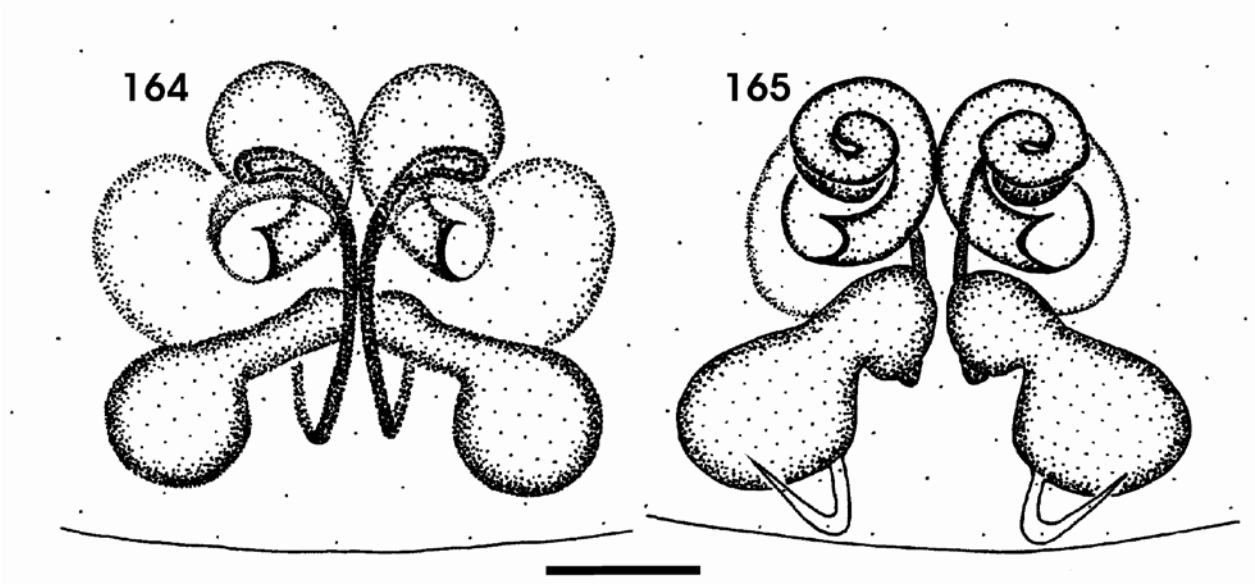
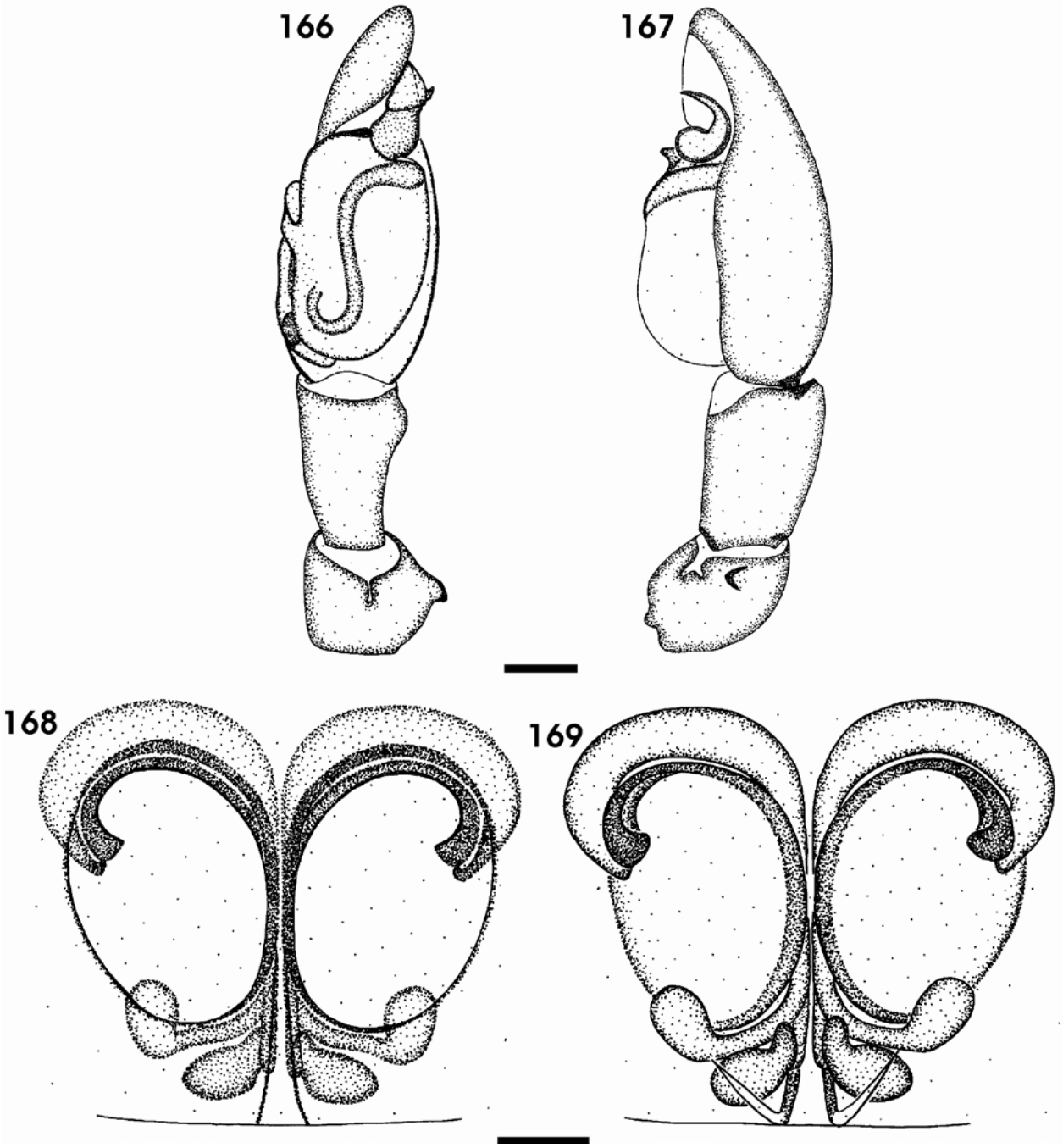


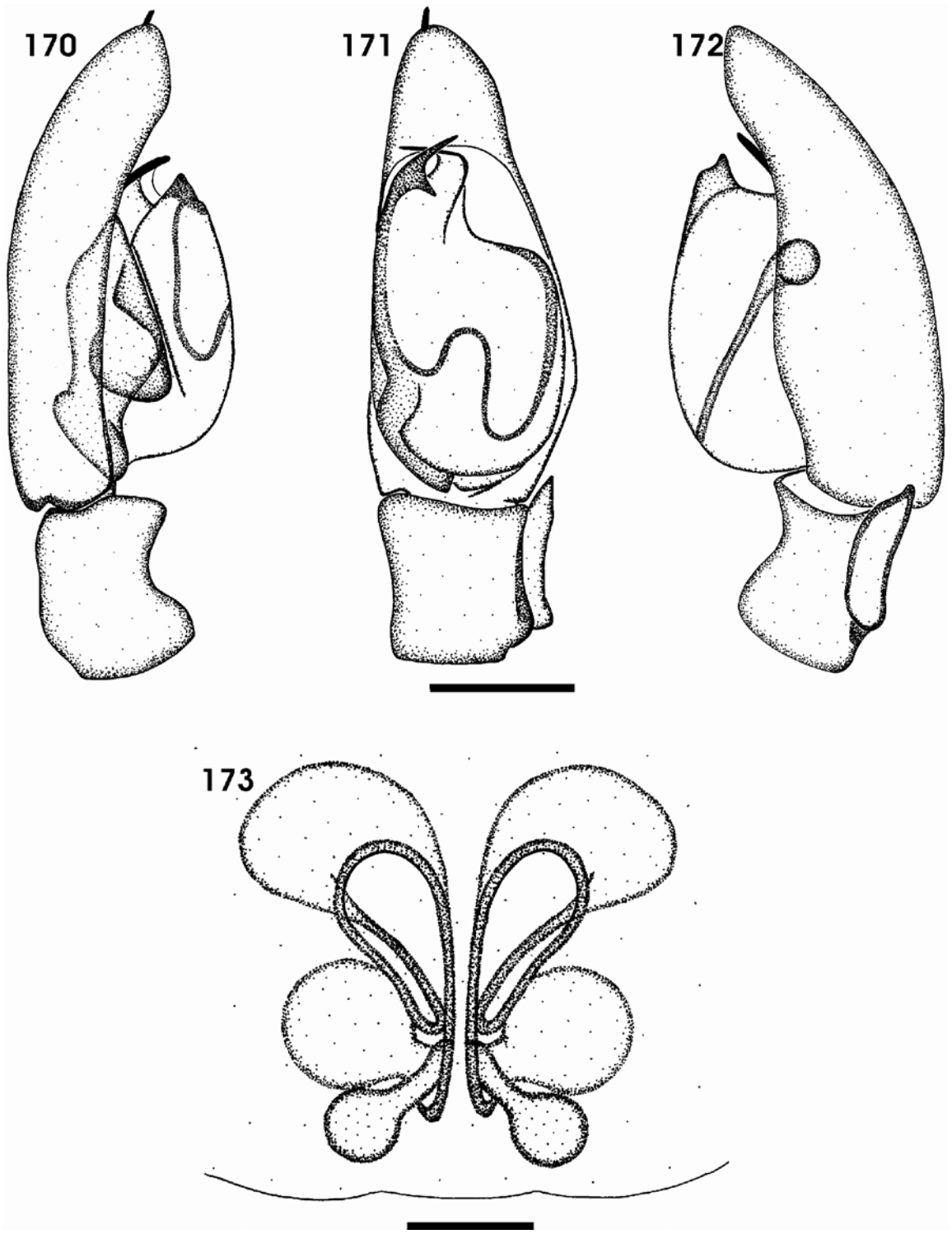
Fig. 163. Distribution of *Trachelas pusillus* Lessert, 1923 and *T. smithi* sp. n., representatives of the *minor* species group, in the Afrotropical Region.



Figs 164-165. *Trachelas sparsus* sp. n.: female: (164) epigyne, ventral view; (165) vulva, dorsal view. Scale bar = 0.1mm.



Figs 166-169. *Trachelas* cf. *sylvae* Caporiacco, 1949: (166, 167) male: (166) left palp, ventral view; (167) left palp, retrolateral view; (168, 169) female: (168) epigyne, ventral view; (169) vulva, dorsal view. Scale bars = 0.1mm.



Figs 170-173. *Trachelas taita* sp. n.: (170, 171) male: (170) left palp, prolateral view; (171) left palp, ventral view; (172) left palp, retrolateral view; (173) female: epigyne, ventral view. Scale bars = 0.1mm.

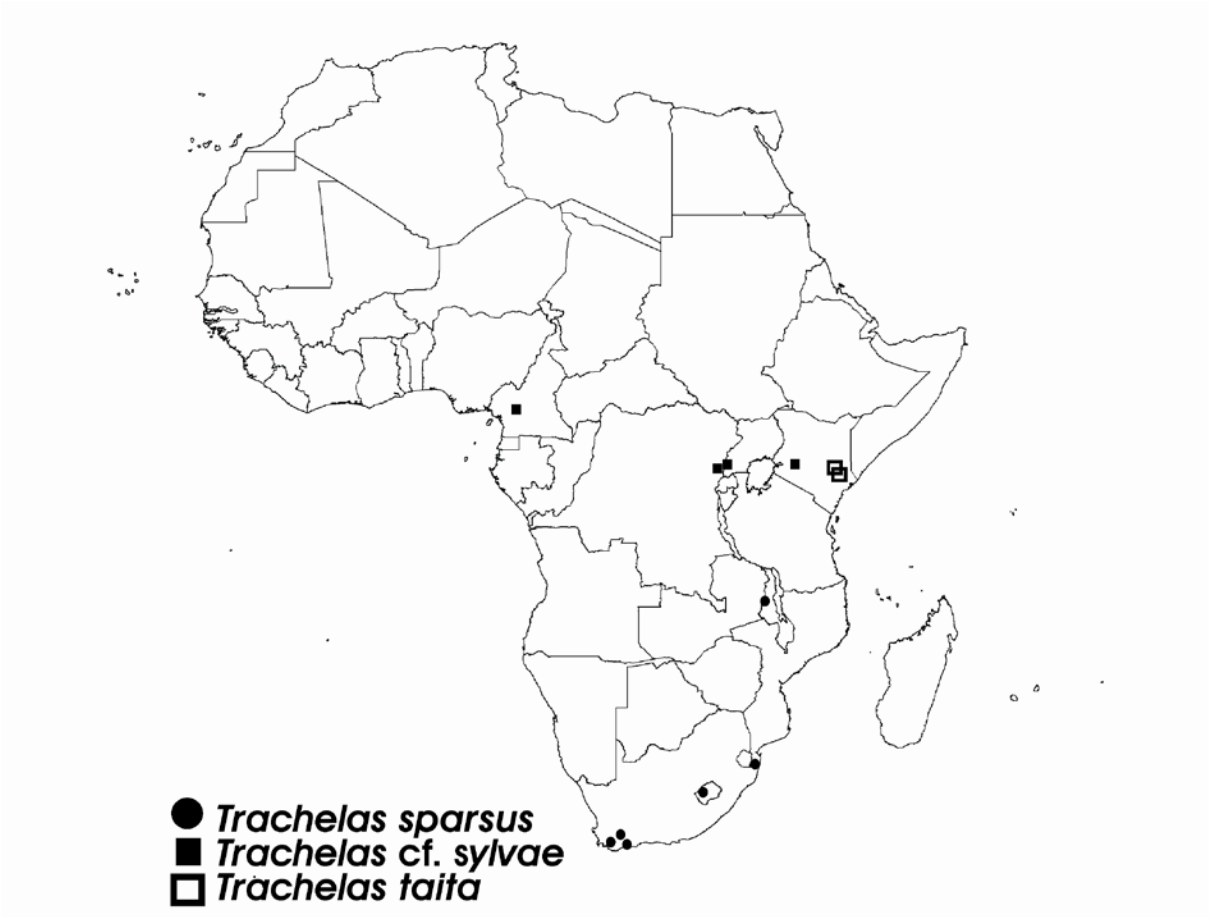
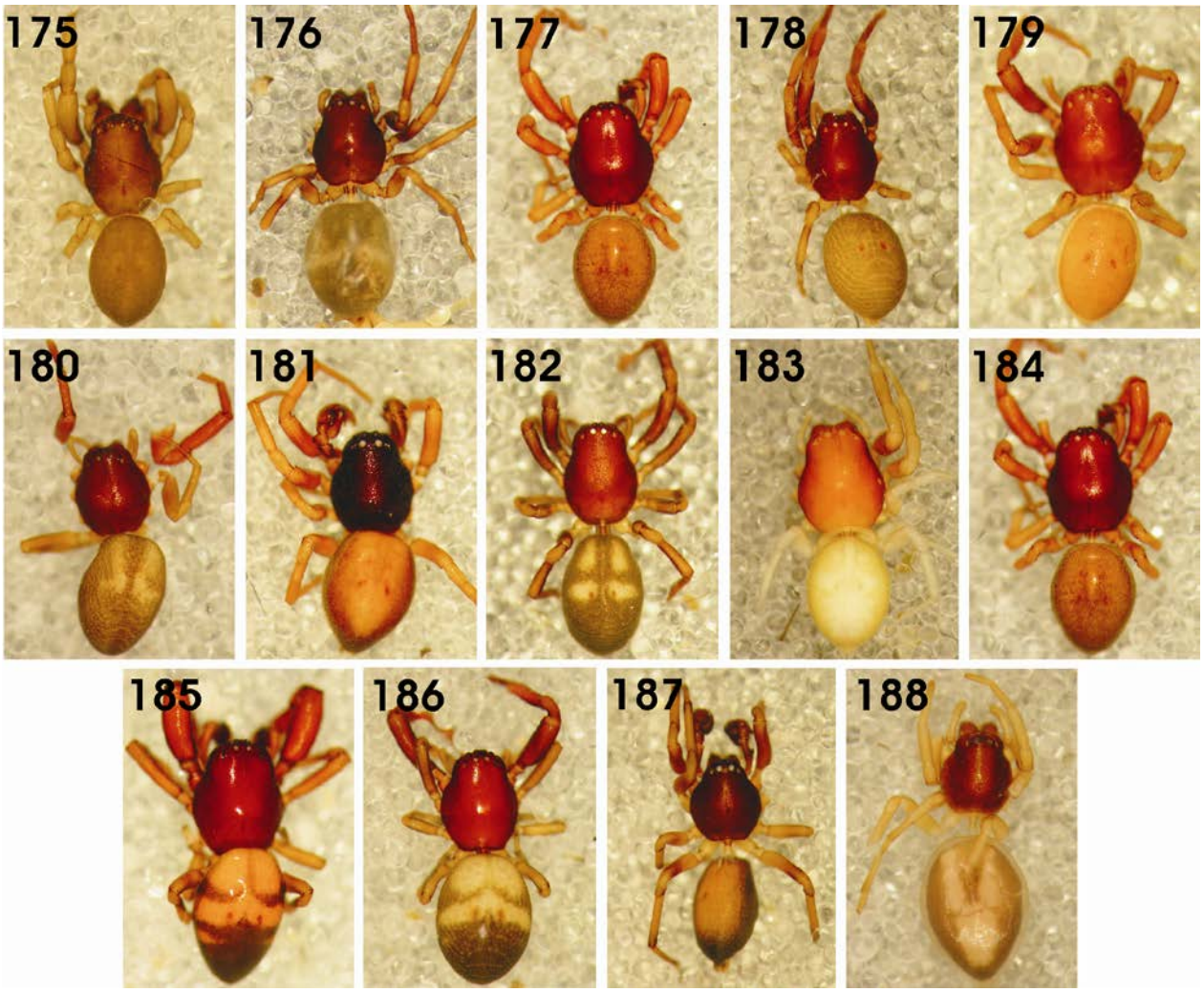
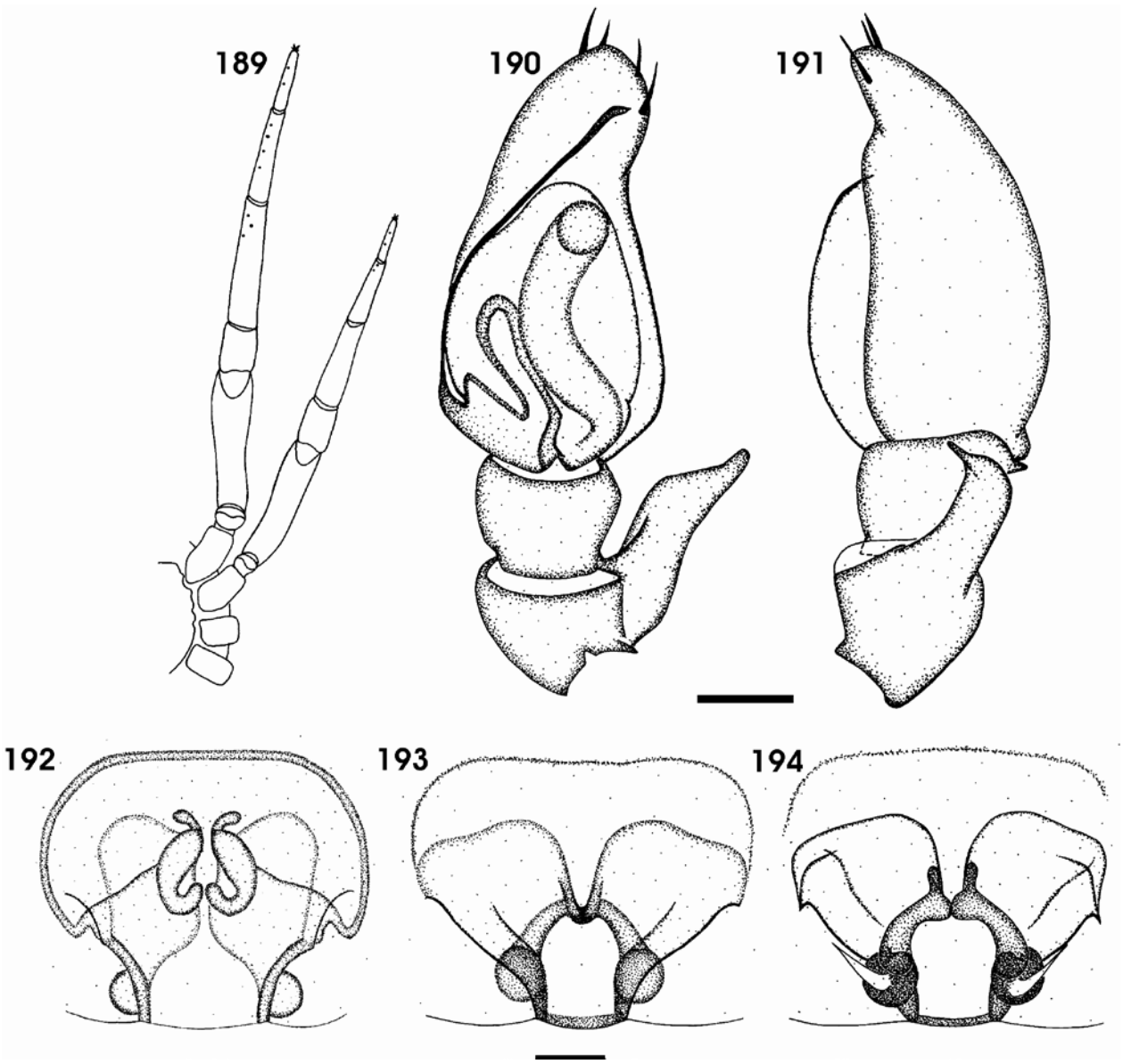


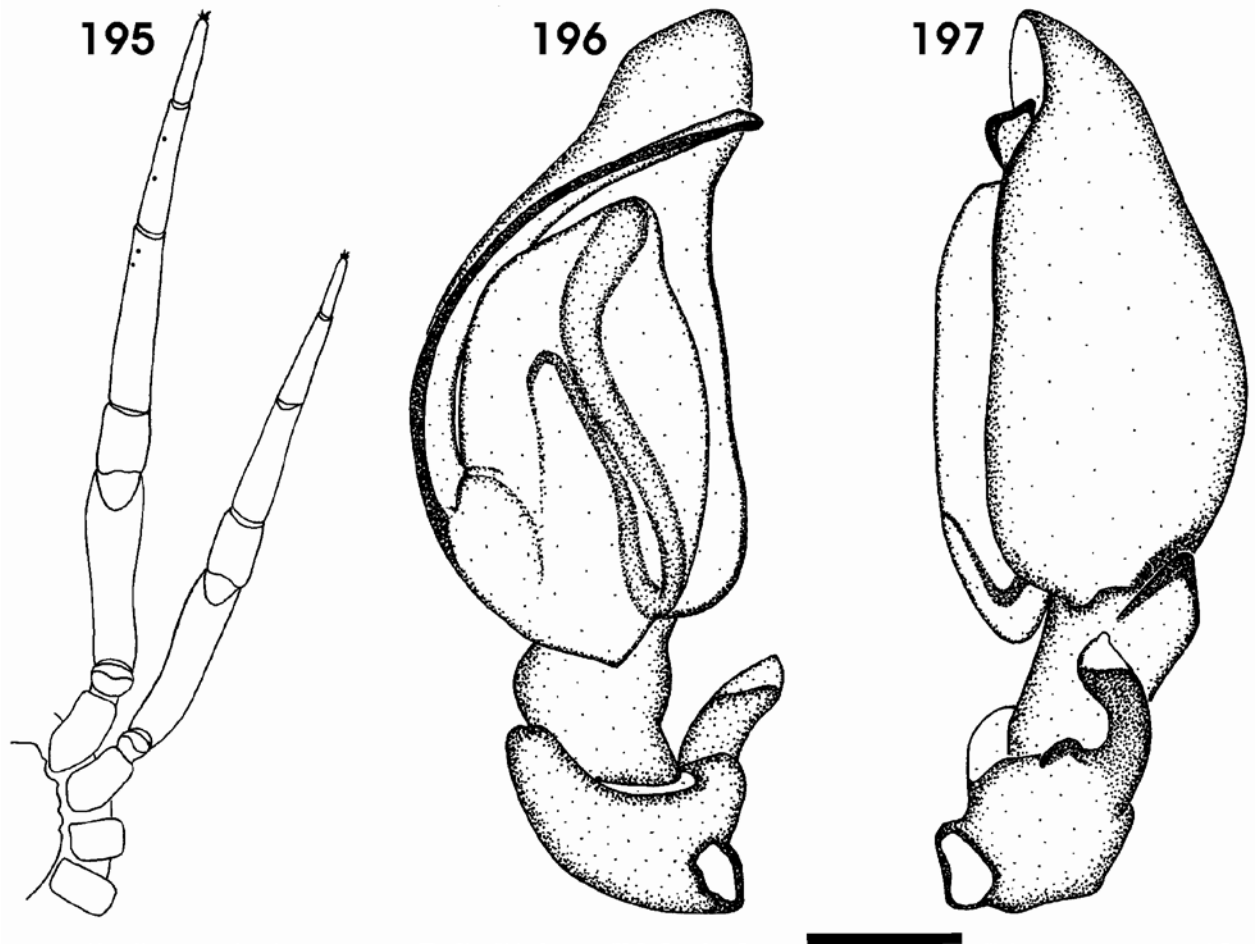
Fig. 174. Distribution of *Trachelas sparsus* sp. n., *T.* cf. *sylvae* Caporiacco, 1949 and *T. taita* sp. n., representatives of the *minor* species group, in the Afrotropical Region.



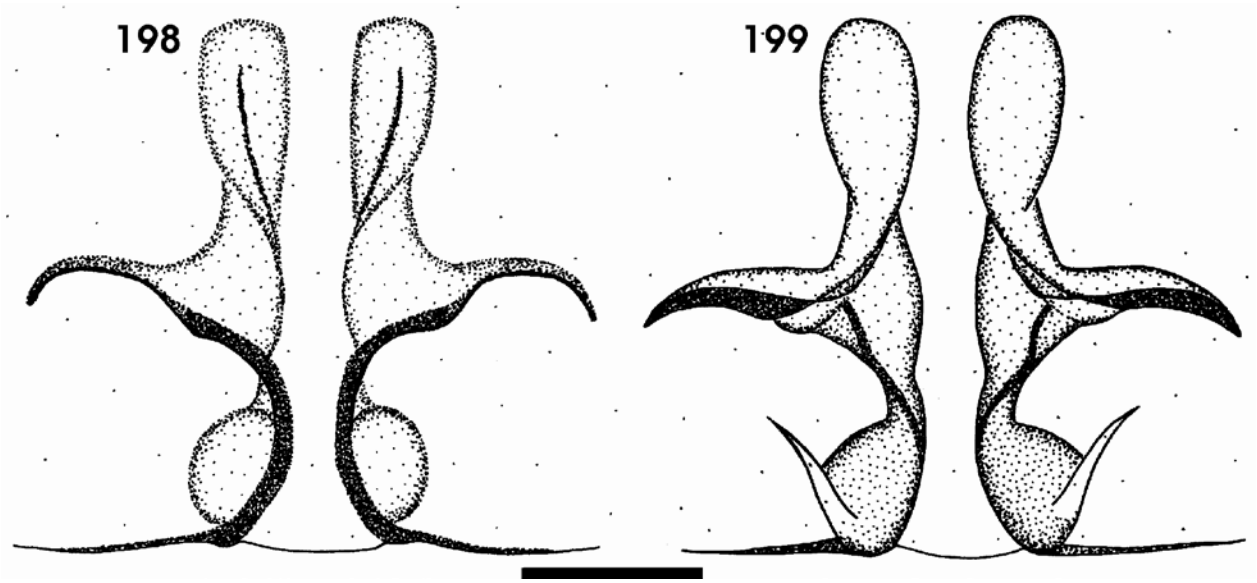
Figs 175-188. General appearance of *Trachelas* species in the *schenkeli* species group: *T. capensis* sp. n. (175) male, (176) female; *T. griswoldi* sp. n. (177) male; *T. harrisi* sp. n. (178) female; *T. incurvus* sp. n. (179) male, (180) female; *T. longinquus* sp. n. (181) male; *T. obliquus* sp. n. (182) female; *T. roeweri* Lawrence, 1938 (183) female, (184) male; *T. schenkeli* Lessert, 1923 (185) male, (186) female; *T. ungulus* sp. n. (187) male, (188) female.



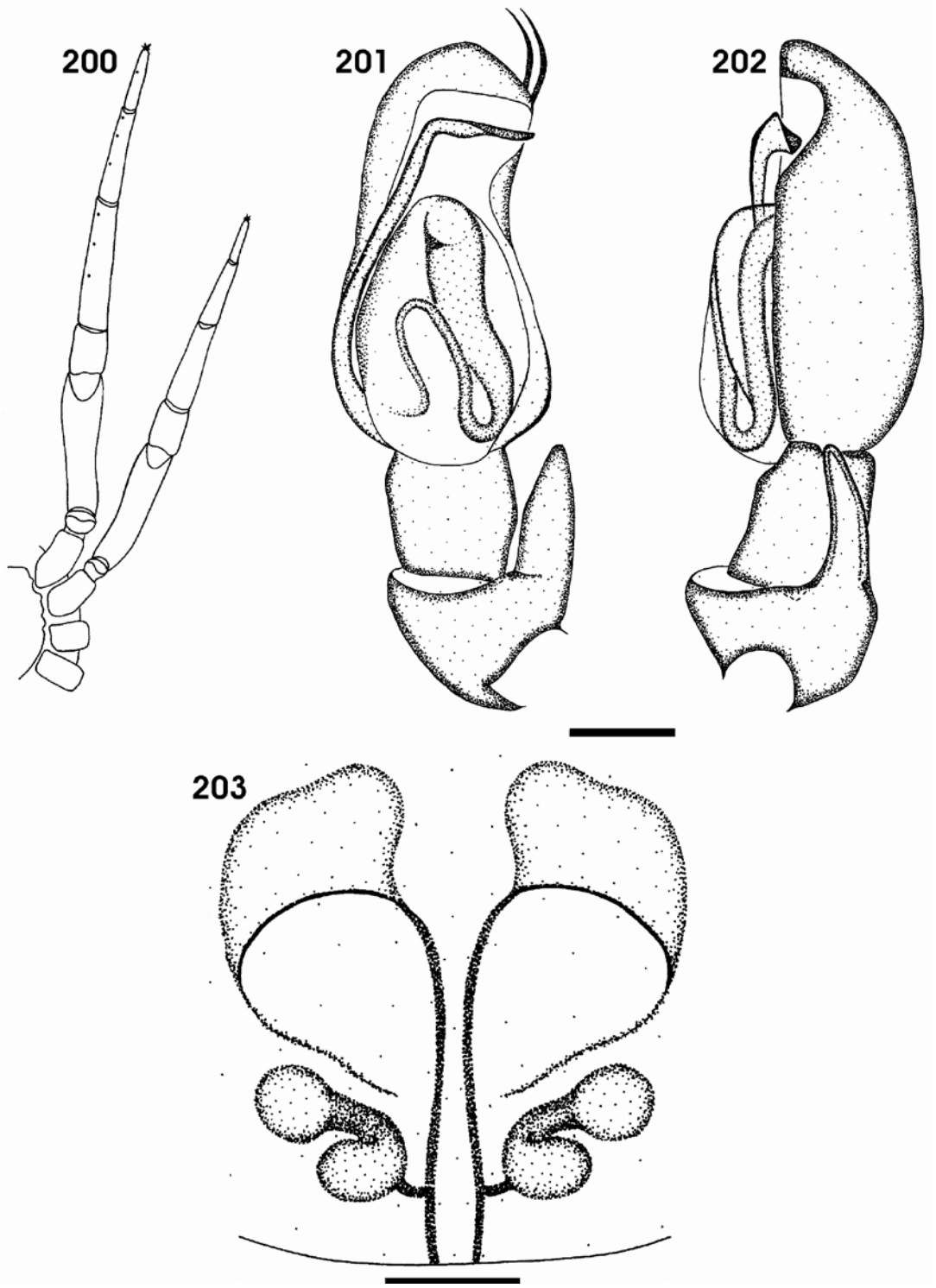
Figs 189-194. *Trachelas capensis* sp. n.: (189-191) male: (189) schematic representation of cusp arrangement on legs I and II; (190) left palp, ventral view; (191); left palp retrolateral view; (192-194) female: (192) epigyne, ventral view; (193) variation of epigyne, ventral view; (194) vulva, dorsal view. Scale bars (190-194) = 0.1mm.



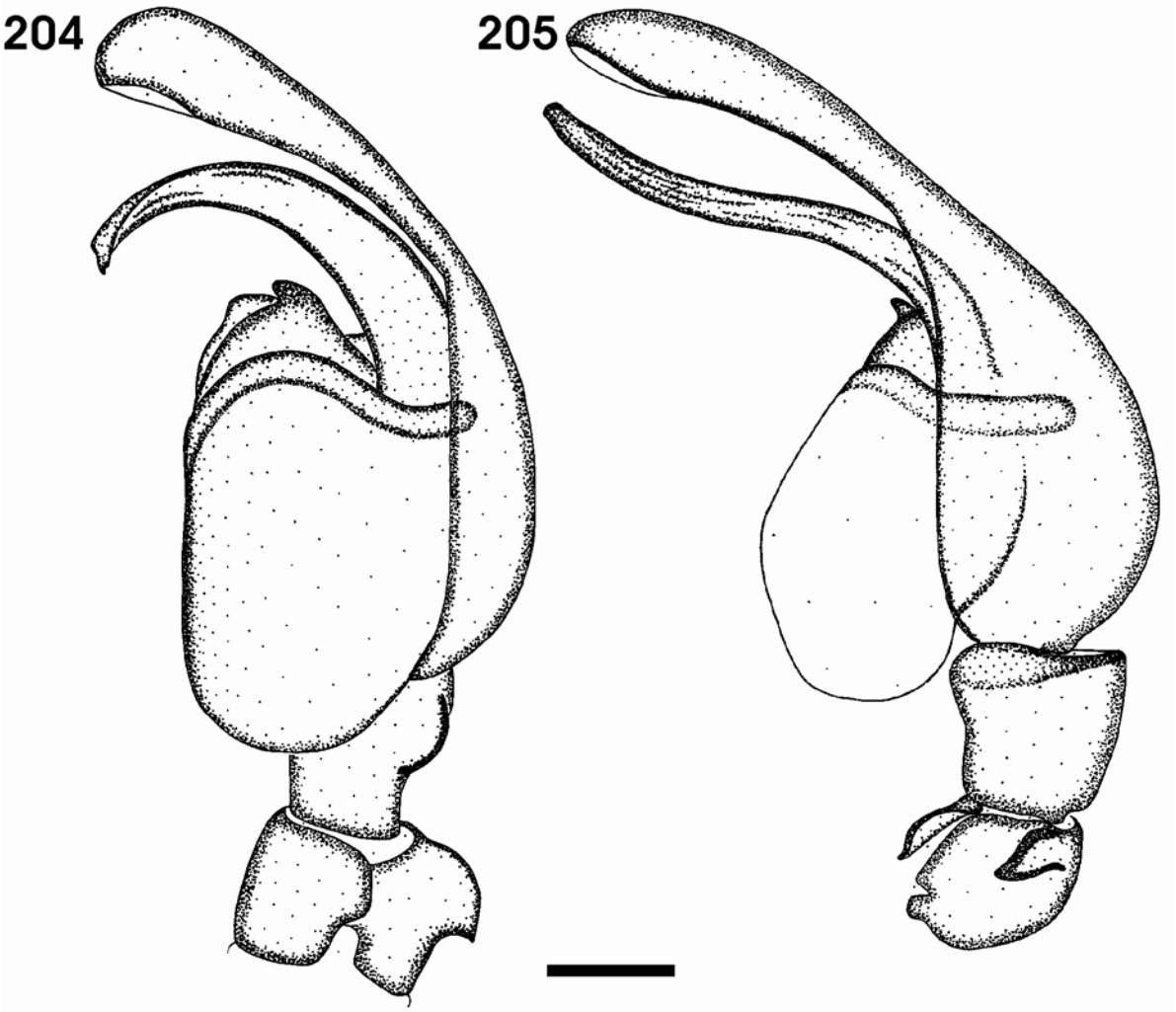
Figs 195-197. *Trachelas griswoldi* sp. n.: male: (195) schematic representation of cusp arrangement on legs I and II; (196) left palp, ventral view; (197); left palp, retrolateral view. Scale bar (196, 197) = 0.1mm.



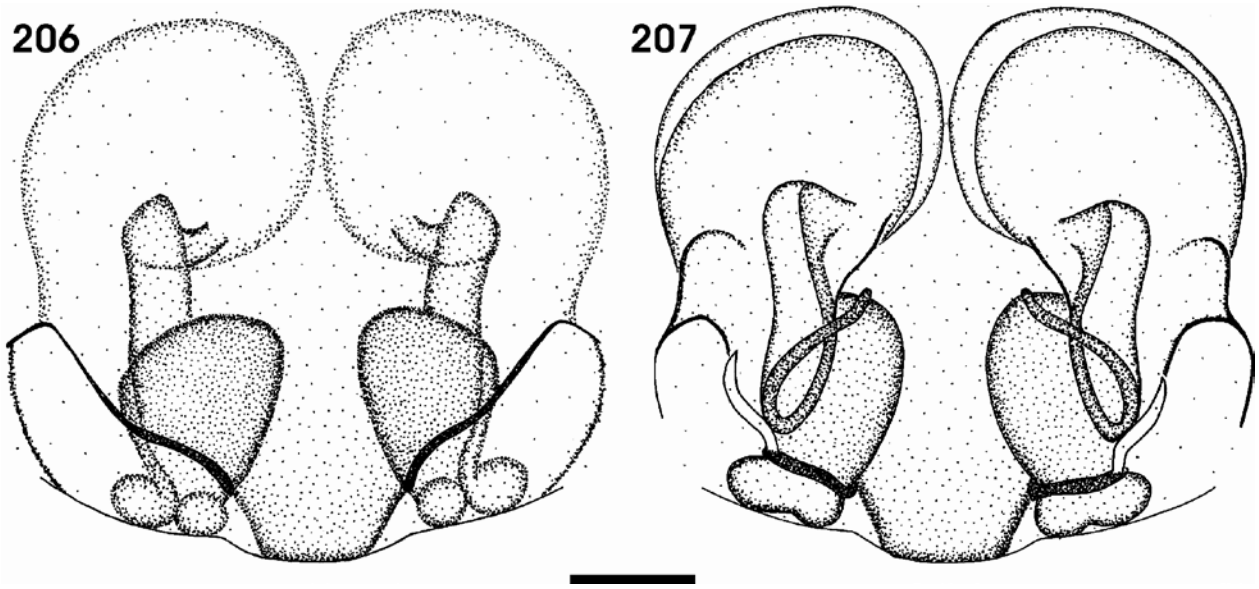
Figs 198-199. *Trachelas harrisi* sp. n.: female: (198) epigyne, ventral view; (199) vulva, dorsal view. Scale bar = 0.1mm.



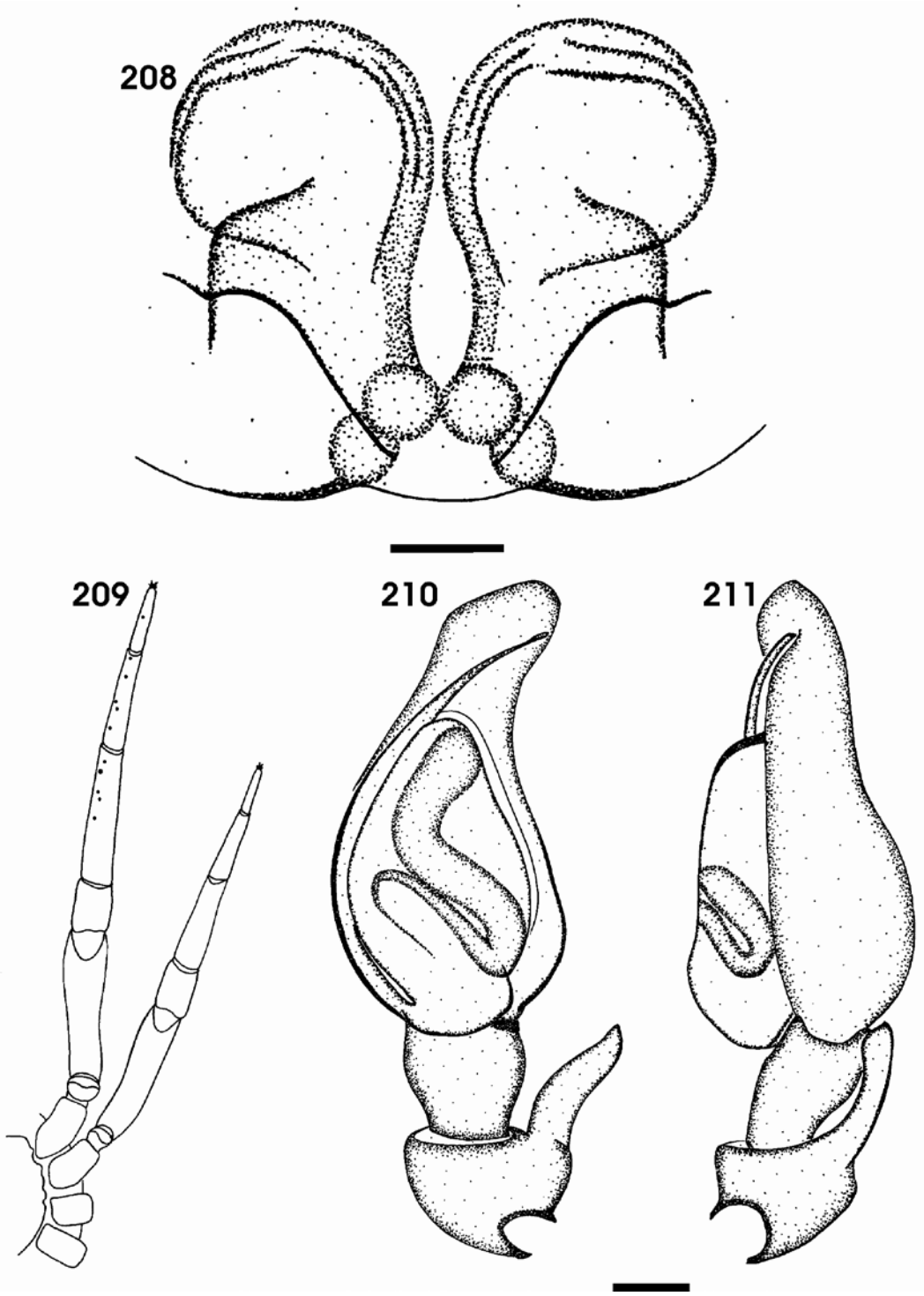
Figs 200-203. *Trachelas incurvus* sp. n.: (200-202) male: (202) schematic representation of cusp arrangement on legs I and II; (201) left palp, ventral view; (202); left palp, retrolateral view; (203) female: epigyne, ventral view. Scale bars (201-203) = 0.1mm.



Figs 204-205. *Trachelas longinquus* sp. n.: male: (204) left palp, ventral view; (205); left palp, retrolateral view. Scale bar = 0.1mm.



Figs 206-207. *Trachelas obliquus* sp. n.: female: (206) epigyne, ventral view; (207); vulva, dorsal view. Scale bar = 0.1mm.



Figs 208-211. *Trachelas roeweri* Lawrence, 1938: (208) female: epigyne, ventral view; (209-211) male: (209) schematic representation of cusp arrangement on legs I and II; (210) left palp, ventral view; (211); left palp, retrolateral view. Scale bars (208, 210, 211) = 0.1mm.

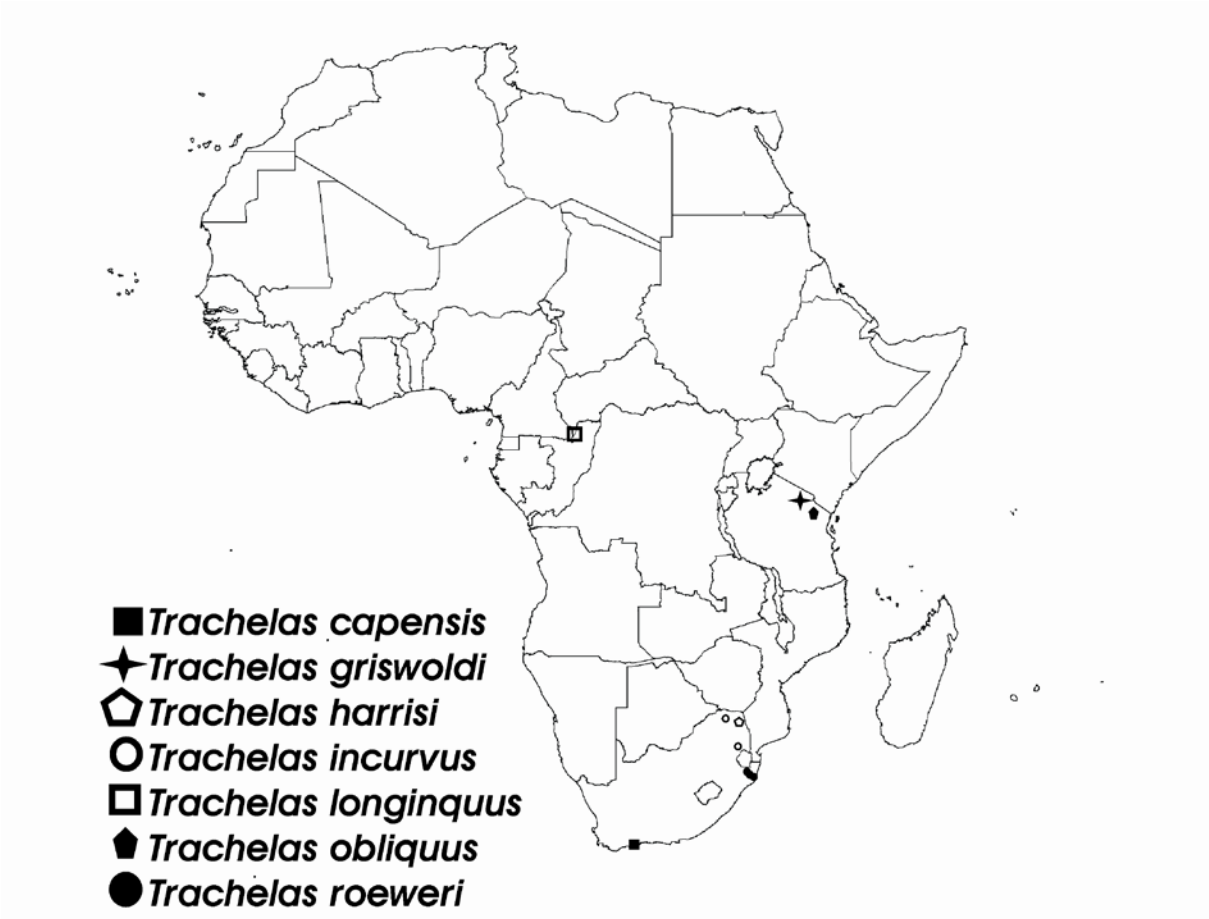
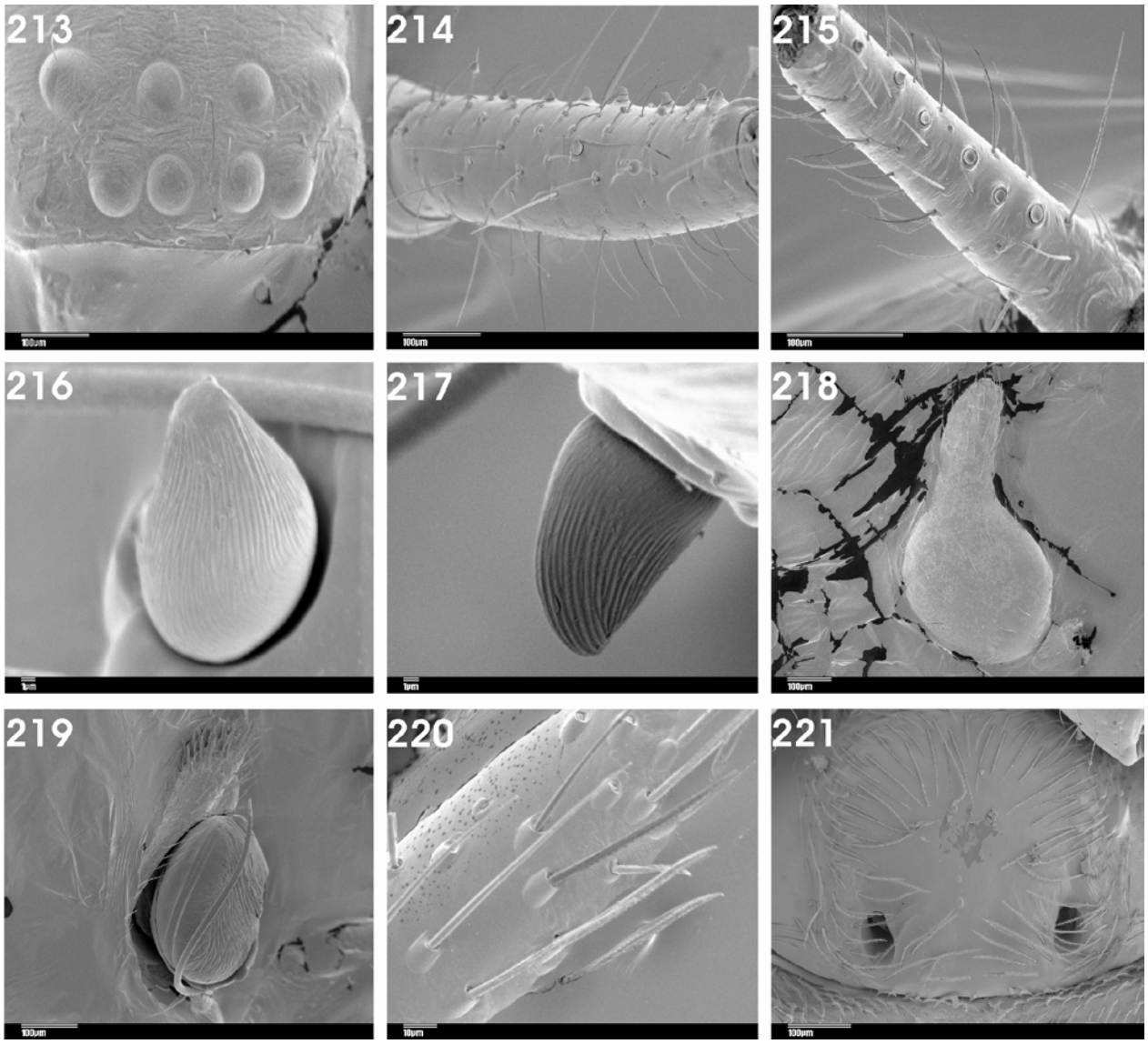
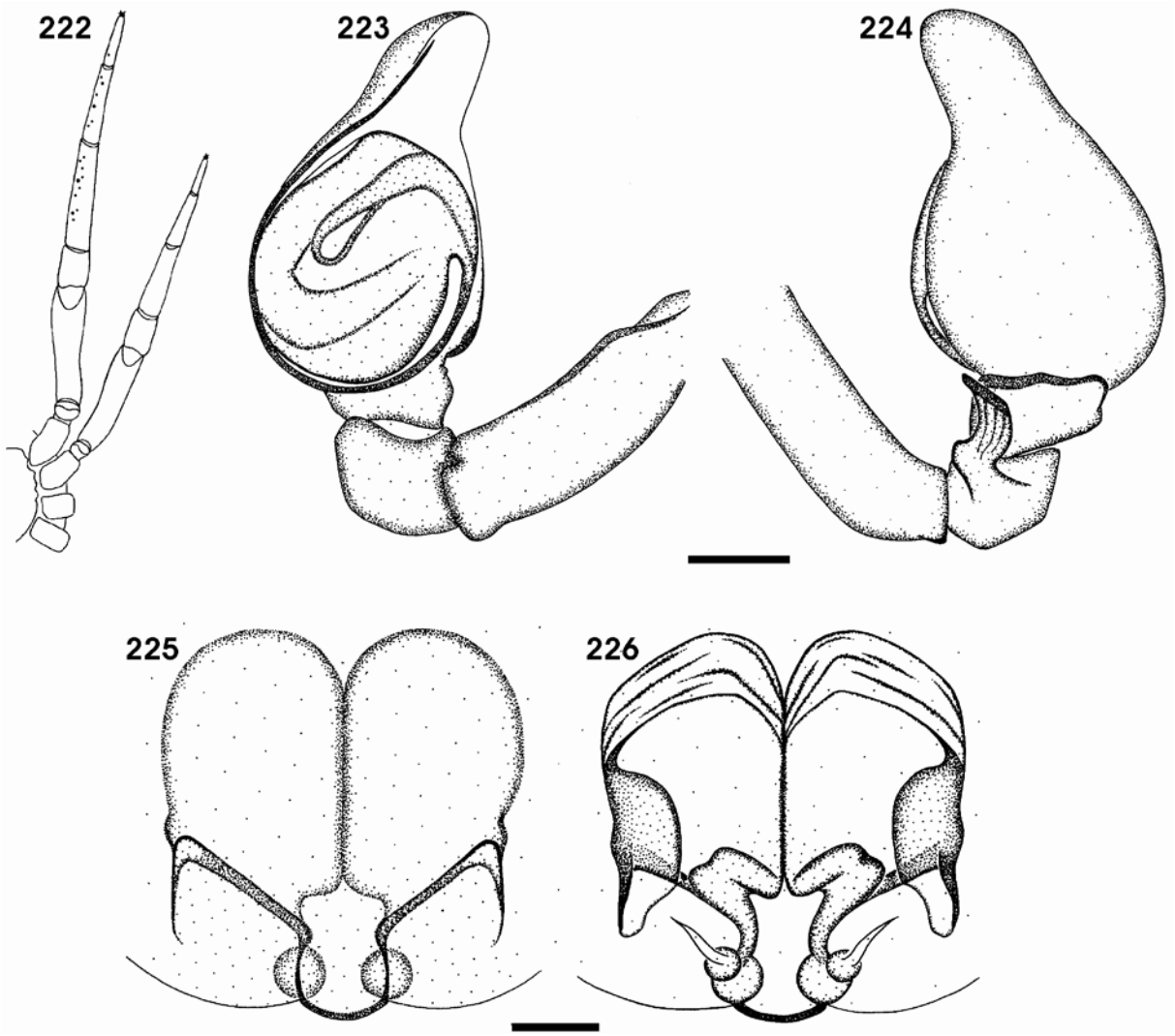


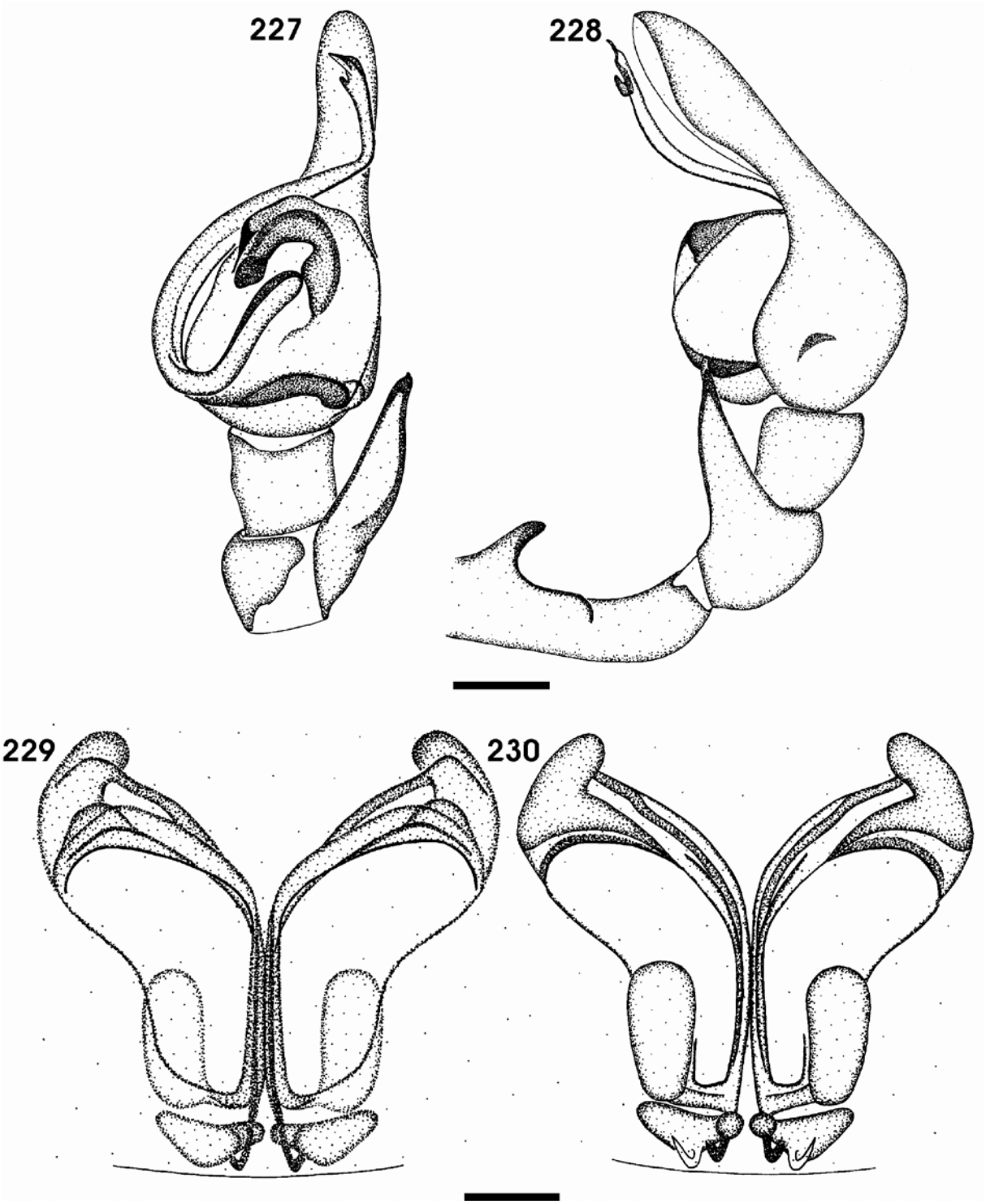
Fig. 212. Distribution of *Trachelas capensis* sp. n., *T. griswoldi* sp. n., *T. harrisi* sp. n., *T. incurvus* sp. n., *T. longinquus* sp. n., *T. obliquus* sp. n. and *T. roeweri* Lawrence, 1938, representatives of the *schenkeli* species group, in the Afrotropical Region.



Figs 213-221. Scanning electron micrographs of *Trachelas schenkeli* Lessert, 1923: (213-219) male: (213) eye arrangement, dorsal view; (214) tibia I, cusp arrangement; (215) metatarsus I, cusp arrangement; (216) individual cusp of tibia I; (217) individual cusp of metatarsus I; (218) right palp, dorsal view; (219) left palp, prolateral view; (220, 221) female: (220) moderately dense setae on metatarsus I; (221) epigyne, ventral view.



Figs 222-226. *Trachelas schenkeli* Lessert, 1923: (222-224) male: (222) schematic representation of cusp arrangement on legs I and II; (223) left palp, ventral view; (224) left palp, retrolateral view; (225, 226) female: (225) epigyne, ventral view; (226) vulva, dorsal view. Scale bars (223-226) = 0.1mm.



Figs 227-230. *Trachelas ungulus* sp. n.: (227, 228) male: (227) left palp, ventral view; (228) left palp, retrolateral view; (229, 230) female: (229) epigyne, ventral view; (230) vulva, dorsal view. Scale bars = 0.1mm.

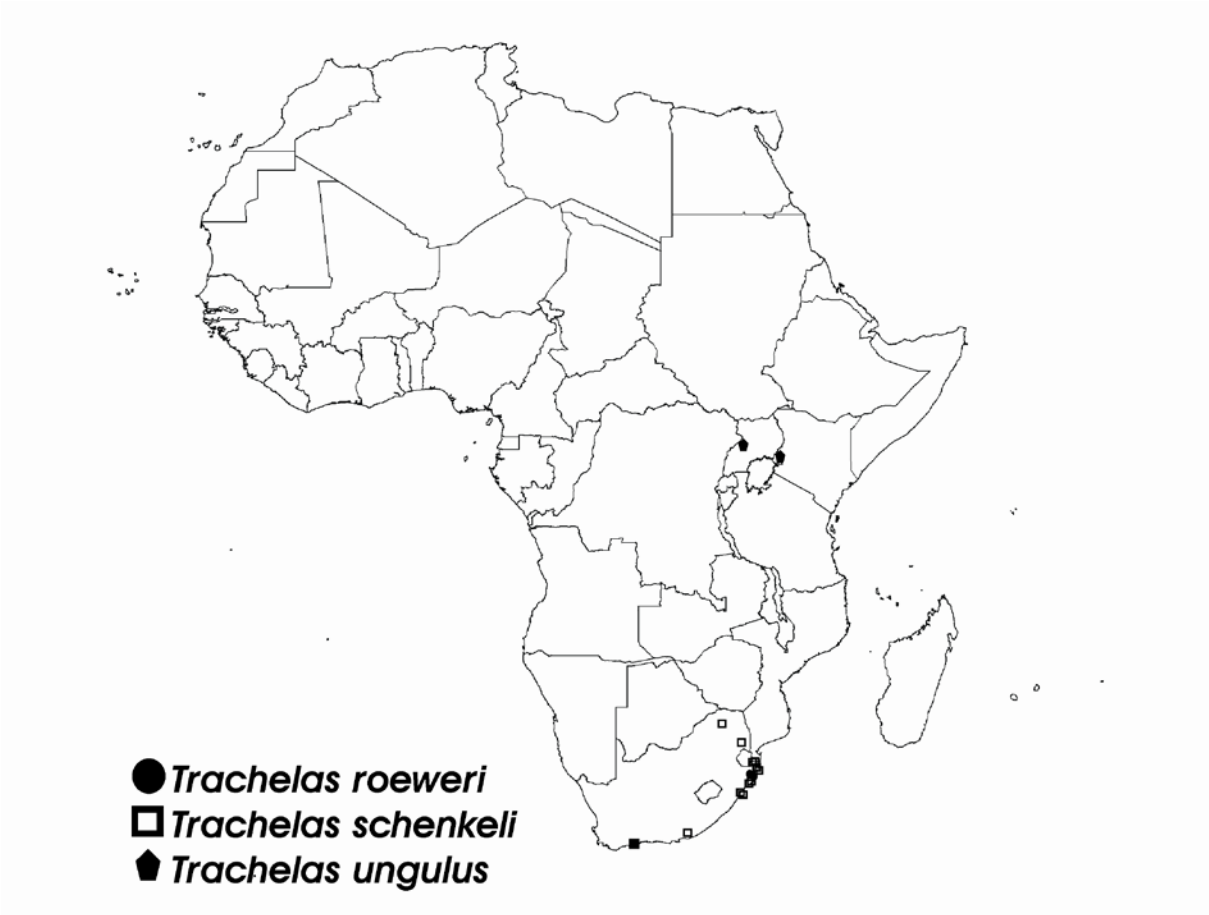
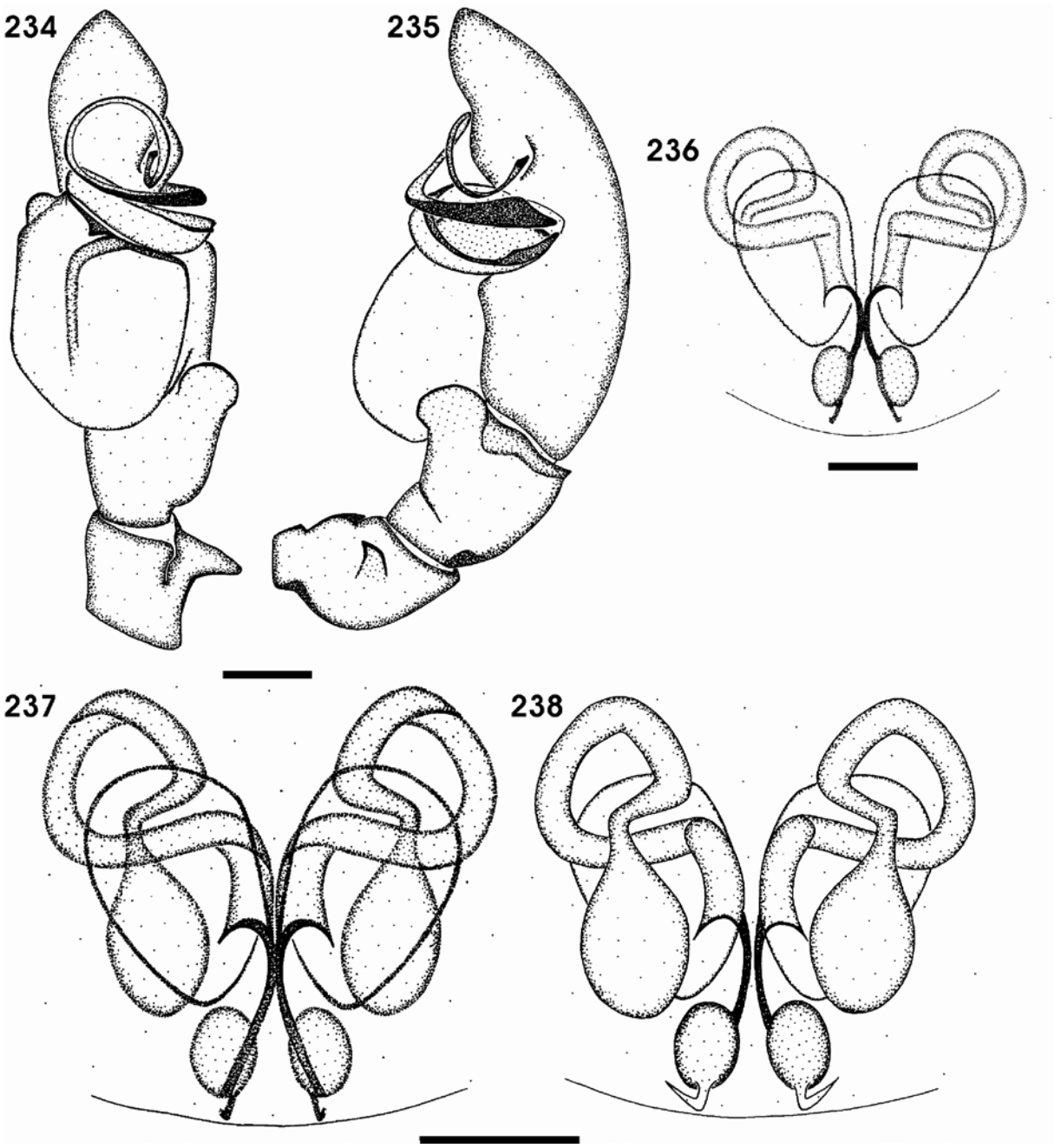


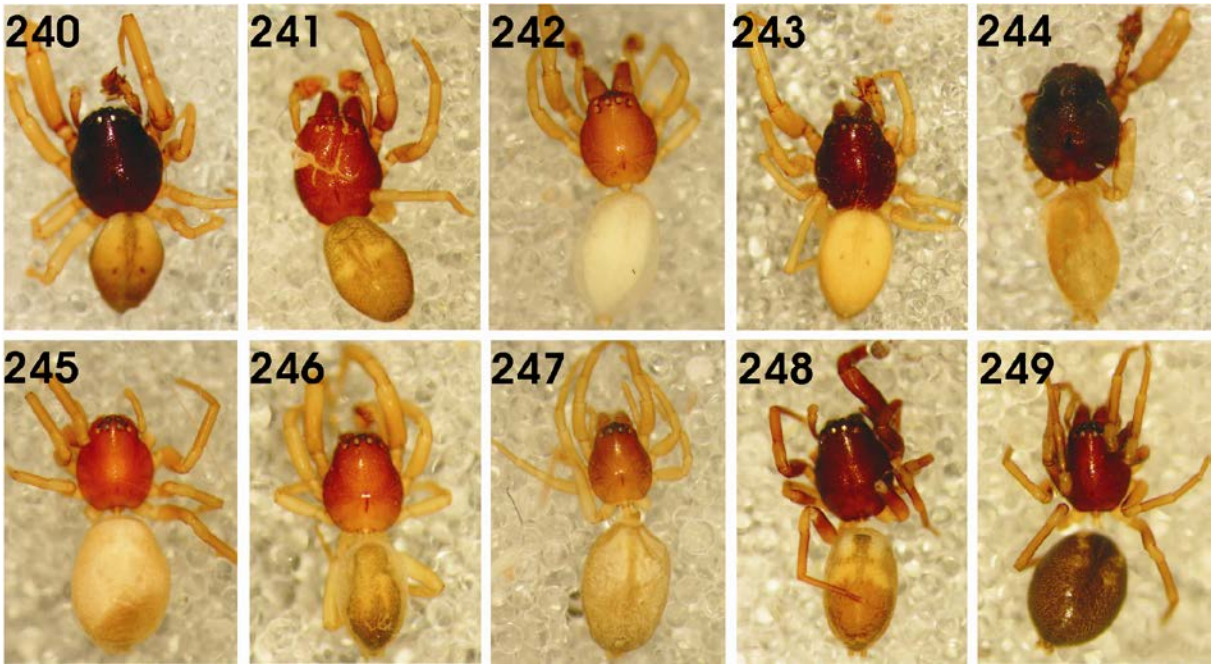
Fig. 231. Distribution of *Trachelas schenkeli* Lessert, 1923 and *T. ungulus* sp. n., representatives of the *schenkeli* species group, in the Afrotropical Region.

Figs 232-233. General appearance of *Trachelas scutatus* sp. n. (233) male, (234) female.

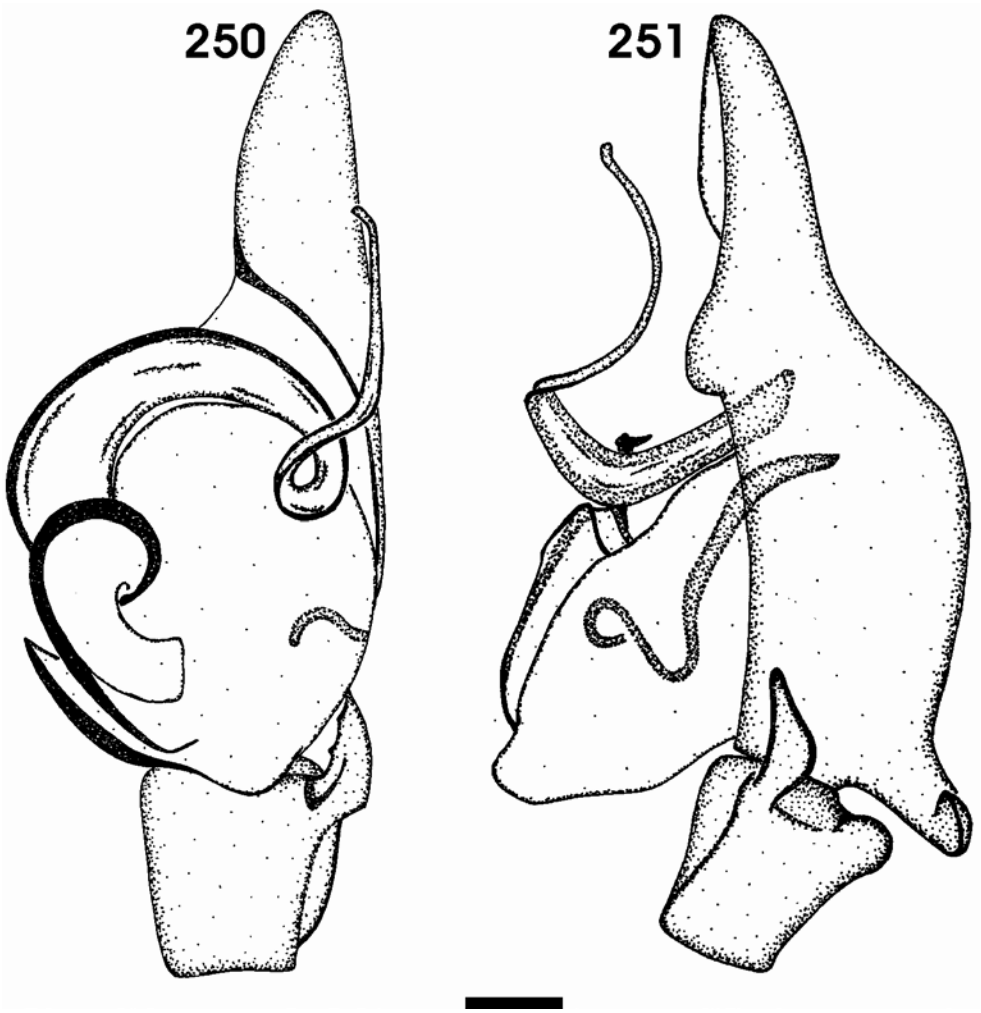


Figs 234-238. *Trachelas scutatus* sp. n.: (234, 235) male: (234) left palp, ventral view; (235); left palp retrolateral view; (236-238) female: (236) undissected epigyne, ventral view; (237) dissected epigyne, ventral view; (238) vulva, dorsal view. Scale bars = 0.1mm.

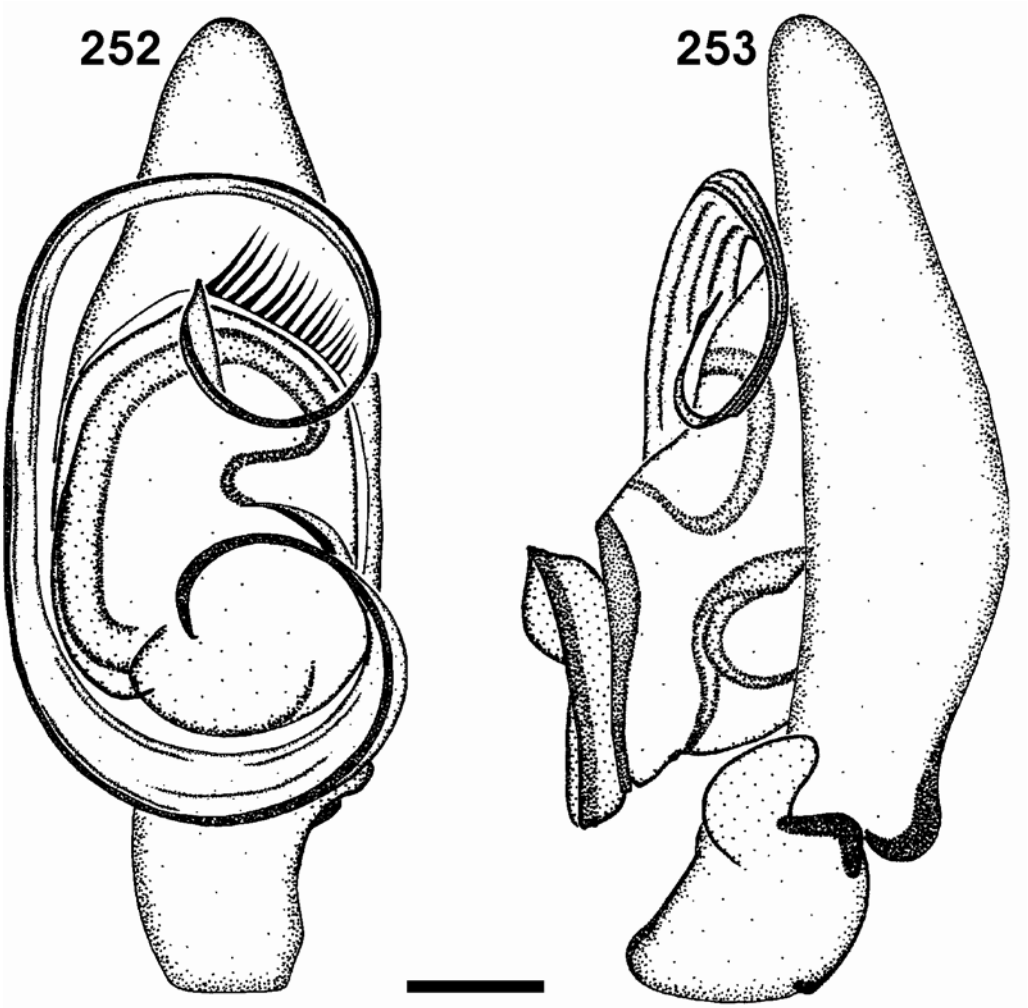
Fig. 239. Distribution of *Trachelas scutatus* sp. n. in the Afrotropical Region.



Figs 240-249. General appearance of *Trachelas* species in the *uncus* species group: *T. contortionis* sp. n. (240) male; *T. cristatus* sp. n. (241) male; *T. jocquei* sp. n. (242) male; *T. lejeunei* sp. n. (243) male; *T. retortum* sp. n. (244) male, (245) female; *T. tortilis* sp. n. (246) male, (247) female; *T. uncus* sp. n. (248) male, (249) female.



Figs 250-251. *Trachelas contortionis* sp. n.: male: (250) left palp, ventral view; (251) left palp, retrolateral view. Scale bar = 0.1mm.



Figs 252-253. *Trachelas cristatus* sp. n.: male: (252) left palp, ventral view; (253); left palp, retrolateral view. Scale bars = 0.1mm.

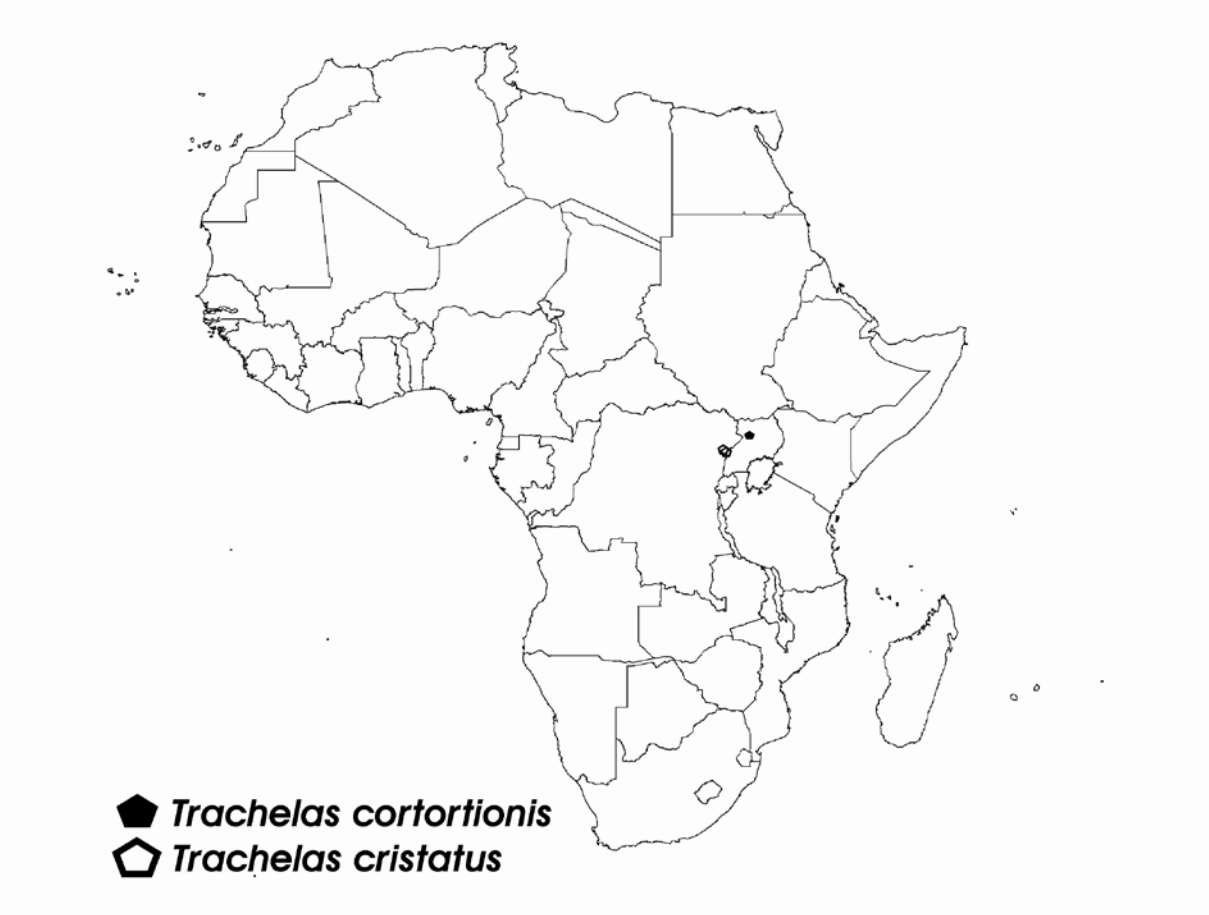
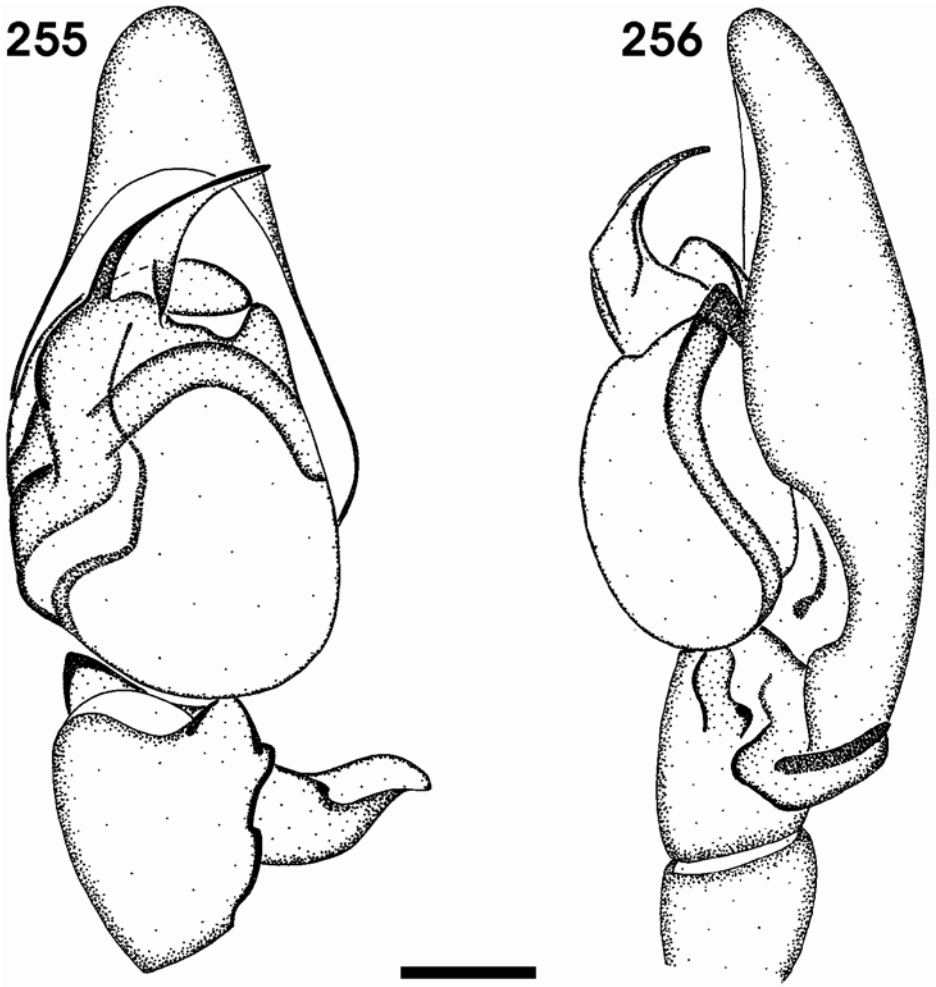
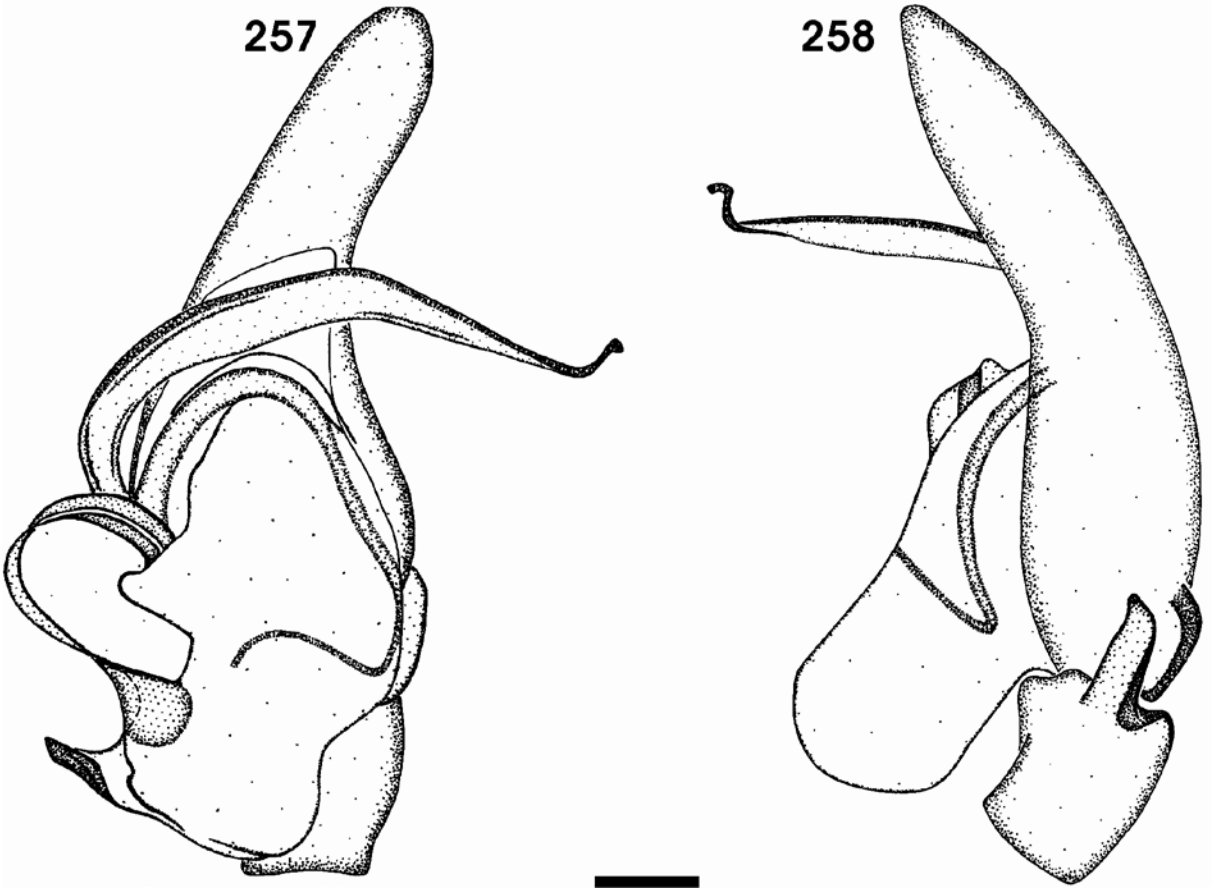


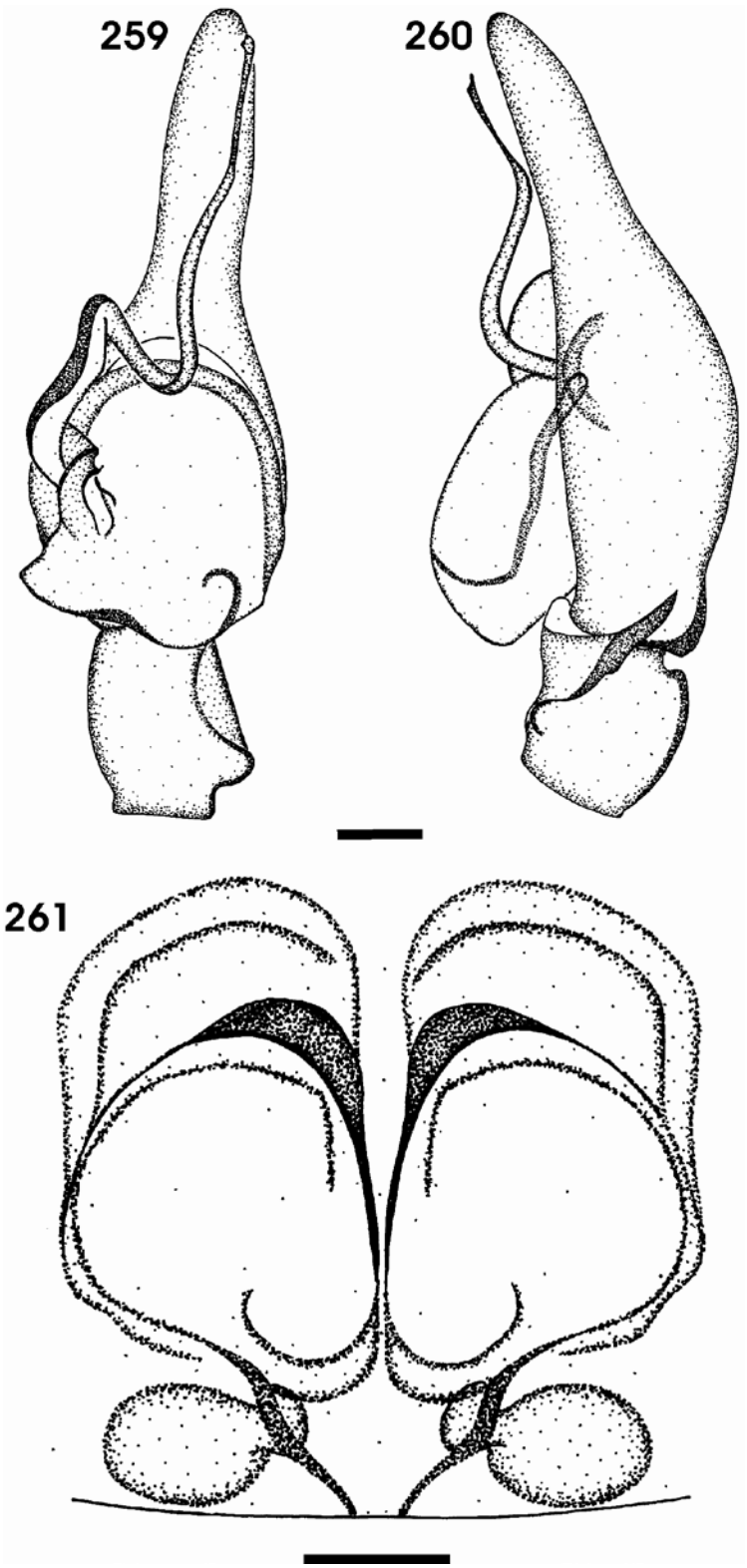
Fig. 254. Distribution of *Trachelas cortortionis* sp. n. and *T. cristatus* sp. n., representatives of the *uncus* species group, in the Afrotropical Region.



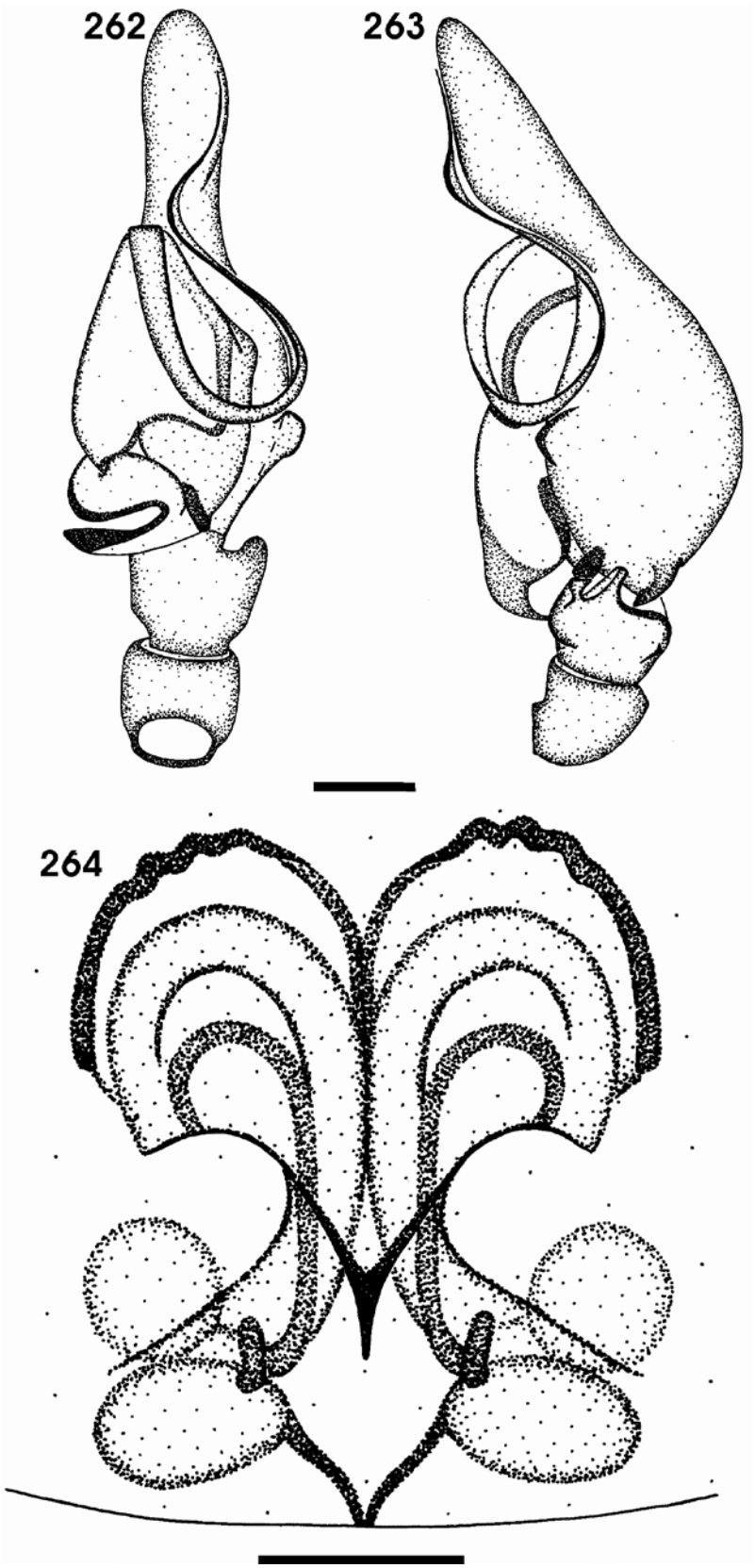
Figs 255-256. *Trachelas jocquei* sp. n.: male: (255) left palp, ventral view; (256) left palp, retrolateral view. Scale bar = 0.1mm.



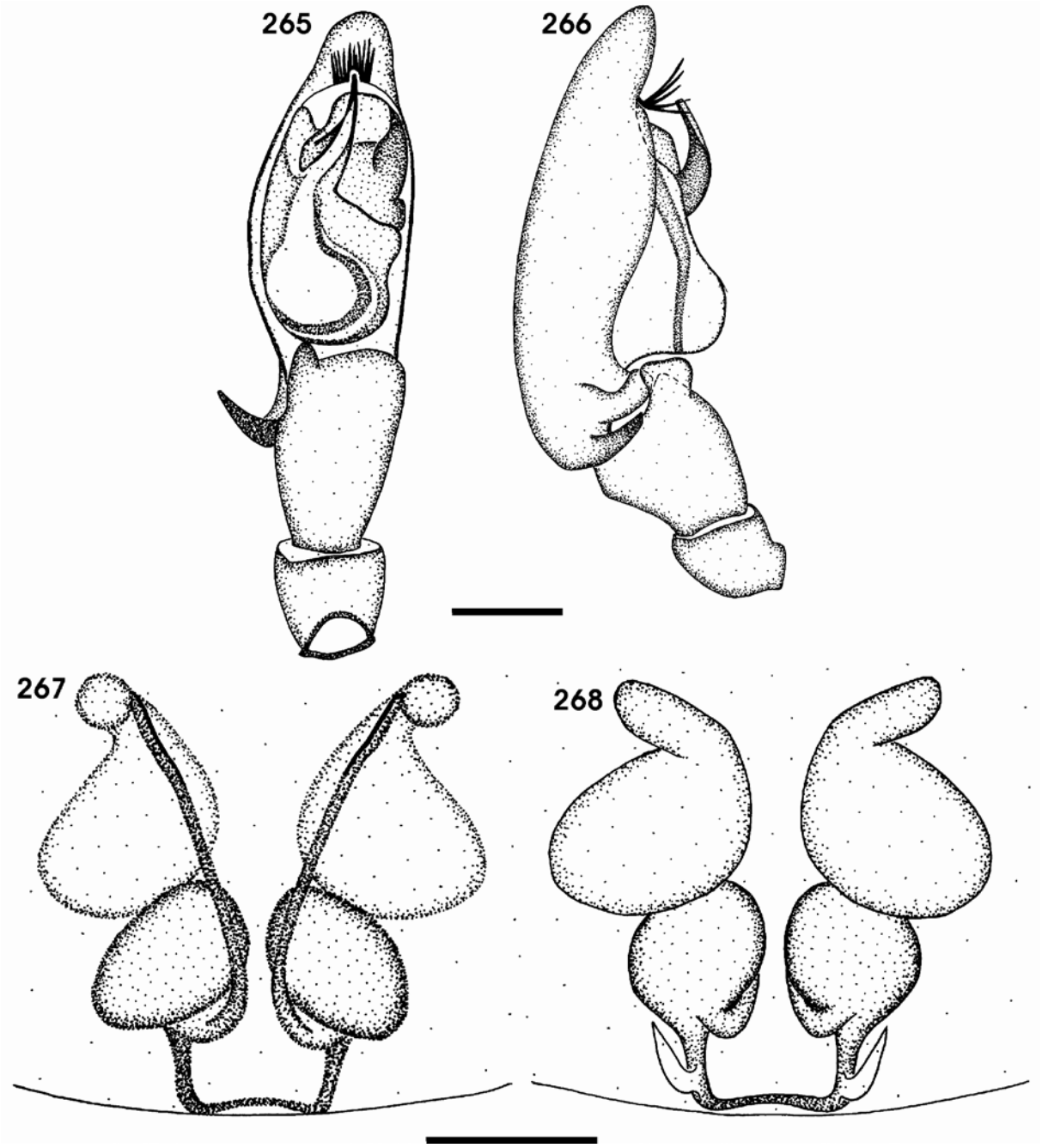
Figs 257-258. *Trachelas lejeunei* sp. n.: male: (257) left palp, ventral view; (258) left palp, retrolateral view. Scale bar = 0.1mm.



Figs 259-261. *Trachelas retortum* sp. n.: (259, 260) male: (259) left palp, ventral view; (260); left palp retrolateral view; female: (261) epigyne, ventral view. Scale bars = 0.1mm.



Figs 262-264. *Trachelas tortilis* sp. n.: (262, 263) male: (262) left palp, ventral view; (263); left palp, retrolateral view; female: (264) epigyne, ventral view. Scale bars = 0.1mm.



Figs 265-268. *Trachelas uncus* sp. n.: (265, 266) male: (265) right palp, ventral view; (266); right palp, retrolateral view; (267, 268) female: (267) epigyne, ventral view; (268) vulva, dorsal view. Scale bars = 0.1mm.

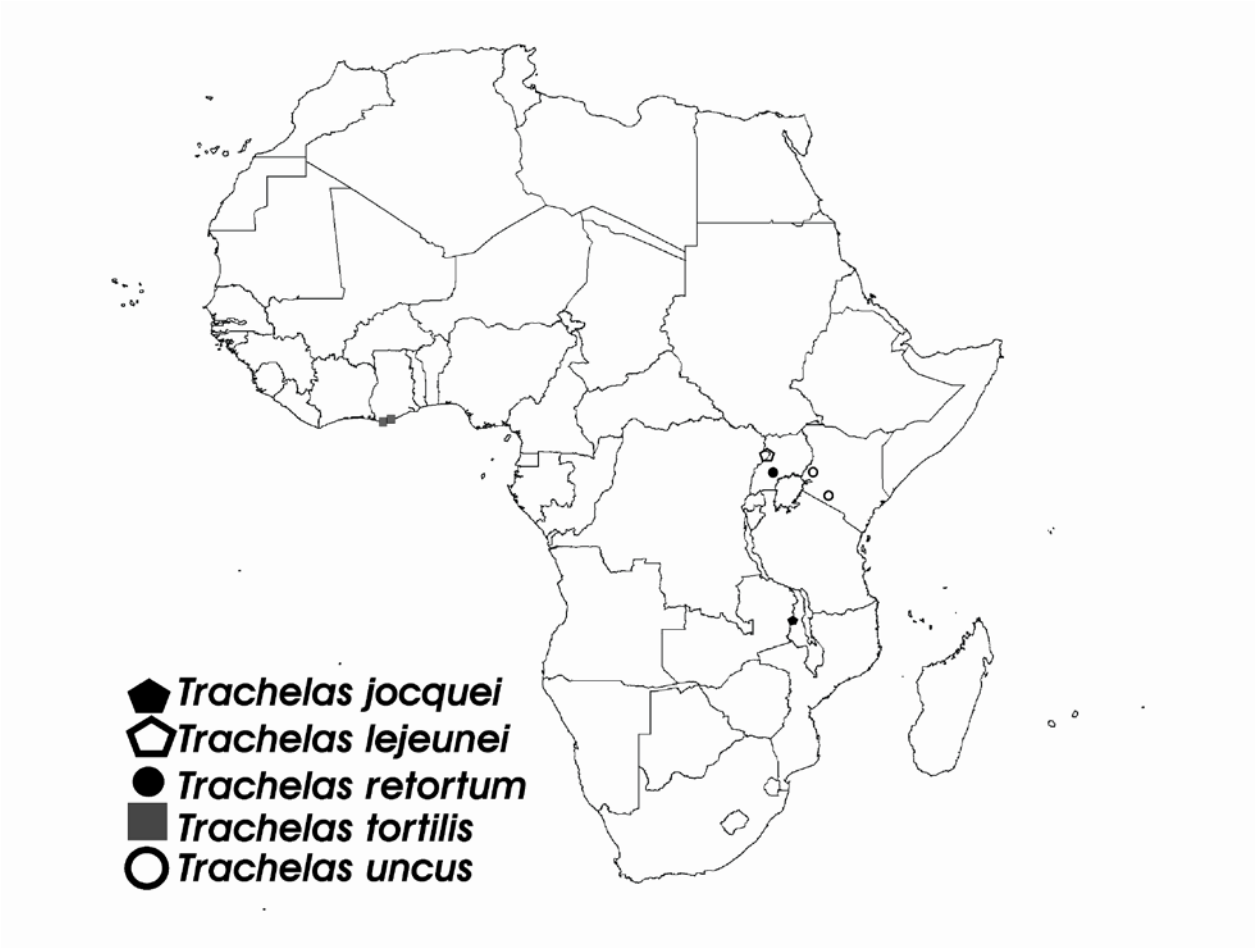
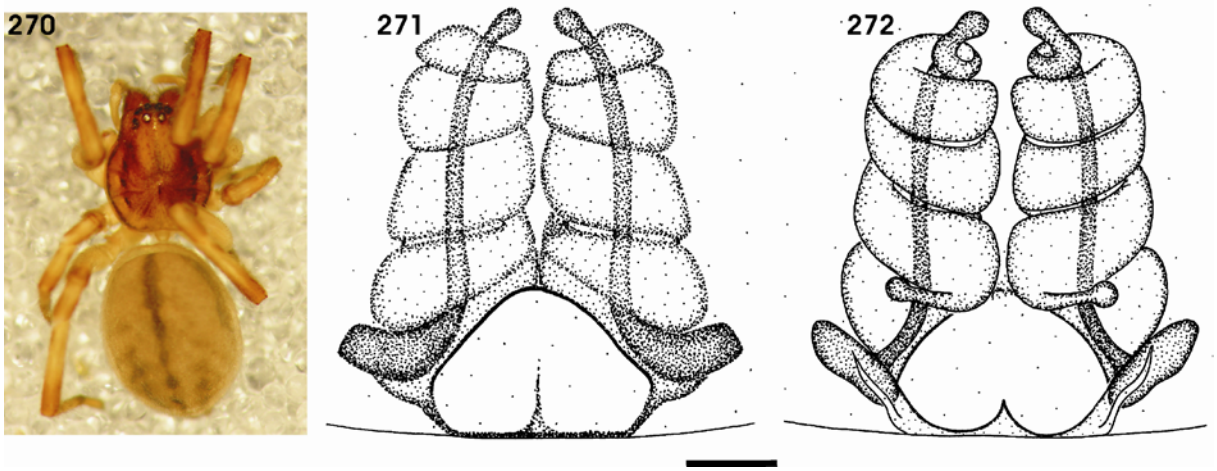


Fig. 269. Distribution of *Trachelas jocquei* sp. n., *T. lejeunei* sp. n., *T. retortum* sp. n., *T. tortilis* sp. n. and *T. uncus* sp. n., representatives of the *uncus* species group, in the Afrotropical Region.



Figs 270-272. *Thysanina scopulifer* (Simon, 1896): female: (270) general appearance; (271) epigyne, ventral view; (272) vulva, dorsal view. Scale bar = 0.1mm.

Fig. 273. Distribution of *Thysanina scopulifer* (Simon, 1896), endemic to the Western Cape Province, South Africa.

CHAPTER 5

♀ ***Trachelas humus*** **sp. n.** **(Photo by C.R. Haddad)**

Discussion of the Trachelinae (Araneae: Corinnidae) of the Afrotropical Region

Characteristics that Simon (1897) used to define the tracheline group are still being used today. These traits included a strongly sclerotised carapace, strongly built anterior legs and the presence of ventral leg cusps on the anterior legs, predominantly in males (Haddad 2006). Trachelines were also considered to be characterised by the complete absence of leg spines (Platnick & Shadab 1974), although subsequent studies on the genera *Meriola* Banks, 1895, *Cetonana* Strand, 1929, *Spinotrachelas* Haddad, 2006 and *Thysanina* Simon, 1910 indicate that this synapomorphy is not valid, as at least some species in these genera have regular leg spines present (Platnick & Ewing 1995; Haddad 2006; Lyle & Haddad 2006a; Chapter 3). The revised genera share the first three traits, although exceptions may occur.

Ventral cusps are absent, for example, from most Afrotropical *Trachelas* L. Koch 1872, while the presence of cusps appears to be more consistent in other genera. The presence of broad based, rounded tipped cusps associated with *Trachelas* (Lyle & Haddad 2006b; Platnick & Shabad 1974) occurs irregularly in the Afrotropical Region. In the few Afrotropical *Trachelas* species where ventral cusps are present, cusps are predominantly found on the metatarsi and tarsi of leg I. In contrast, many of the New World *Trachelas* species have cusps on the tibiae, metatarsi and tarsi of legs I and II. Afrotropical *Trachelas* differ further from the New World species by the presence of cusps in males only and not in both sexes, as in the case of most New World species.

Genera such as *Cetonana*, *Thysanina* and *Spinotrachelas* have a regular appearance of cusps in males and irregular appearance in females. However, variations in the shape of an individual cusp may also be seen between the different genera. In *Spinotrachelas*, where cusps are present in both sexes (although only on tarsi of females), the cusps are elongate with a rounded tip (Haddad 2006: Figs 5-7,) while in *Thysanina*, where cusps are only present in males, the cusps are short and peg-like (Lyle & Haddad 2005: Fig. 1; Lyle & Haddad 2006a: Fig. 9). The cusps of *Cetonana* vary in shape and size, being elongate with a rounded point and tapered at the base, or peg-like with a rounded point and tapered at the base (see Chapter 3). These variations in cusp shape can be found on the same leg segments (pers. obs.).

The dominance of this trait in most of the Afrotropical tracheline genera has lead to investigation of the use of cusp morphology as a taxonomic aid. An initial study by Lyle & Haddad (2005) into the cusp morphology and cusp arrangement between species of *Thysanina* revealed that cusp morphology and cusp arrangement is relatively stable within the genus. However, the revised genera differed somewhat. For *Trachelas* species with cusps present, cusp arrangement was relatively stable for each species, with limited variation in the number of cusps found on a segment (see Chapter 4), while *Cetonana* has a large degree of variation

in the number of cusps on a segment per species (see Chapter 3). These results indicate that cusp structure and arrangement shows some potential as a taxonomic aid to identify the tracheline genera.

Another exception was found to the general diagnosis of trachelines, i.e. the complete absence of leg spines (Platnick & Shadab 1974). Both *Spinotrachelas* and *Cetonana* have strong leg spines situated prolaterally on the femur of leg I, along with regular leg spines on other legs. *Cetonana* has between one to four prolateral spines (see Chapter 3), while *Spinotrachelas* has paired prolateral spines. *Trachelas* and *Paccius* Simon, 1897 both have a complete absence of regular leg spines (Platnick 2000; Chapter 4), unlike *Thysanina* (Lyle & Haddad 2006a), in which leg spines are found in two of the six species. Lyle & Haddad (2006a) suggested that the irregular appearance of general leg spines in *Thysanina* indicates that leg spines may also persist in other tracheline genera. This sentiment is strengthened by the presence of strong prolateral femoral leg spines in *Cetonana* and *Spinotrachelas*.

Therefore, inter- and intrageneric morphological variation can be used to obtain clarity within the Afrotropical trachelines, and thus will aid in providing clear generic characteristics and define the generic limitations. The revisions carried out in this study will furthermore provide a basis from which the assessment of generic limits and species diversity can be done. Ultimately the data generated may help with a worldwide cladistic analysis of Trachelinae, which is necessary to assess the monophyly of each genus.

CONCLUSION

Tracheline corinnids are distributed throughout the world (Chami-Kranon, Likhitrakarn & Wongsawad 2007; Platnick 2008). The taxonomic revisions of three tracheline genera in the Afrotropical Region, *Cetonana*, *Trachelas* and *Thysanina*, has shed light on the high diversity of the group in the region, as well as highlighting how poorly the Afrotropical Region has been studied compared to other parts of the world.

These revisions have also revealed the importance of examining previously collected material. International and national collections were either visited or relevant material lent for examination for this dissertation. The loaning of specimens has enabled me to create a more comprehensive and accurate reflection of the current tracheline diversity within the Afrotropical Region, although the data is still rather fragmented and large areas have yet to be sampled.

Lyle & Haddad (2006a) stated that large areas within the Afrotropical Region have not been sampled or have been poorly sampled. Initiatives, such the South African National Survey of Arachnida (SANSA) and the African Arachnid Database (AFRAD) endeavour to address this problem. The aims of these national and international initiatives include to discover, describe and make an inventory of all arachnids, thus making the knowledge easily accessible to both the scientific and non-scientific world alike. Projects as this dissertation have highlighted how poor the knowledge of arachnids in South Africa and Africa is.

The revisions of these genera are the first steps towards providing updated information on the subfamily Trachelinae, thus contributing to the long-term goal of resolving the phylogenetic and biogeographical relationships of the family Corinnidae.

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APPENDIX A

LYLE, R. & HADDAD, C. R. 2005. Cusp morphology as a tool in systematics of Afrotropical tracheline sac spiders (Araneae: Corinnidae). *Proceedings* of the *Microscopy Society of Southern Africa* **35**: 68.

CUSP MORPHOLOGY AS A TOOL IN SYSTEMATICS OF AFROTROPICAL TRACHELINE SAC SPIDERS (ARANEAE: CORINNIDAE)

Robin Lyle and C.R. Haddad

Department of Zoology & Entomology, University of the Free State, Bloemfontein, South Africa

The family Corinnidae is a moderately large group of sac spiders that comprises four subfamilies, namely Castianeirinae, Corinninae, Phrurolithinae and Trachelinae[1]. These dark sac spiders or ant-like sac spiders are found throughout the Afrotropical region. Habitat preference of each species varies greatly, ranging from dry arid to moist forested areas.

The dark sac spider subfamily Trachelinae is represented in the Afrotropical region by six genera, *Austrachelas* Lawrence, 1938, *Cetonana* Simon, 1874, *Paccius* Simon, 1898, *Pronophaea* Simon, 1897, *Thysanina* Simon, 1910 and *Trachelas* L. Koch, 1866. The Trachelinae is predominantly characterized by the presence of ventral cusps on the front two legs of males, which are often absent in females. Other characteristics include the median anterior eye region that does not bulge, recurved posterior eye row and the unsclerotized epigyne and booklung coverings. The general colouring of species within the subfamily is fairly stable: the cephalothorax is red to brown while the abdomen is cream to grey in colour, sometime with chevron markings.

In this study, the use of male cusp morphology and cusp arrangement as a taxonomic tool in the genus *Thysanina* was investigated. Although the genus is presently only represented by the type species *T. serica* Simon, 1910[2], four new species are being described as part of a generic revision (Lyle & Haddad, in prep.). Males are known from four of the five species. Specimens were preserved in 70 % ethanol in preparation of light and scanning electron microscopy. Light microscopy was used to draw the arrangements of the cusps on the segments of the front two legs. Specimens were prepared for Scanning Electron Microscopy (SEM) by dehydration through an ethanol series of increasing concentrations, dried in an argon chamber, and coated with gold. SEM was used to investigate cusp arrangement more closely, where applicable.

For each species the leg cusp arrangements were closely examined since these are significant diagnostic characteristics of the genus. Variation in cusp numbers between species was also investigated. SEM micrographs were taken of the cusps present on the front two pair of legs of one species, *T. transversa* Lyle and Haddad, *in litt*.

Cusps of *Thysanina* are short and peg-like (Fig. 1), have a deep base (Fig. 2), and are present on the tibia, metatarsi and tarsi (Figs 3-4). Studies of the cusp arrangement indicates that the number of cusps of each leg segment is diagnostic for each of the four *Thysanina* species for which males are known (Table 1). Although variation was occasionally observed in each species, the number of cusps was generally stable for each leg segment.

The results obtained here indicate that the cusp arrangement is diagnostic for each *Thysanina* species (Table 1). Further studies are necessary to determine whether similar differences in cusp arrangement occur in other genera, e.g. *Trachelas*. If so, then cusp arrangement will prove a useful tool in taxonomic revisions in this subfamily.

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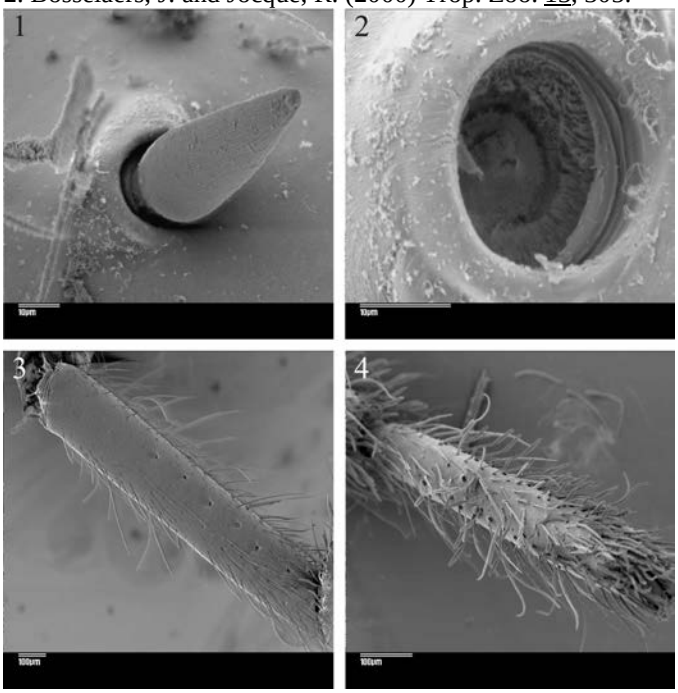

Figures 1-4: *Thysanina transversa* Lyle & Haddad, *in litt.* 1. Structure of leg cusp; 2. Cusp base with cusp removed; 3. Tibial cusp arrangement, leg I; 4. Tarsal cusp arrangement, leg I.

Table 1: The number of cusps on the anterior pair of legs of species in the genus *Thysanina*. Abbreviations: Ti –Tibia; Mt – Metatarsus; Ta – Tarsus;

	Leg	Ti	Mt	Ta
T. serica Simon, 1910	I	7	5	2
	II	6	7	1
T. gracilis Lyle & Haddad, *in litt*.	I	4	9	1
	II	3	7	0
T. transversa Lyle & Haddad, *in litt*.	I	6	5	2
	II	6	7	1
T. absolvo Lyle & Haddad, *in litt*.	I	5	11	8
	II	0	8	5

Corresponding author: lyler.sci@mail.uovs.ac.za

APPENDIX B

LYLE, R. & HADDAD, C.R. 2006a. A revision of the Afrotropical tracheline sac spider genus *Thysanina* Simon, 1910 (Araneae: Corinnidae). *African Invertebrates* **47**: 95–116.

SOMATIC MORPHOLOGY SUPPORTS THE TRANSFER OF *AUSTRACHELAS* LAWRENCE TO GALLIENIELLIDAE (ARACHNIDA: ARANEAE)

R. Lyle and C.R. Haddad

Department of Zoology and Entomology, University of the Free State, Bloemfontein, South Africa

A morphological and genitalic comparison between representatives of three genera of Afrotropical spiders (*Austrachelas natalensis* Lawrence, 1938 and *Trachelas schenkeli* Lessert, 1923 of the family Corinnidae, and *Drassodella salisburyi* Hewitt, 1916 of the family Gallieniellidae) was performed. This study was carried out in order to provide support for the transfer of *Austrachelas* to the family Gallieniellidae.

The family Corinnidae is relatively large group of sac-spiders, which is represented by four subfamilies, 28 genera and approximately 200 species in the Afrotropical region[1]. The genera *Trachelas* L. Koch, 1866 and *Austrachelas* Lawrence, 1938 belong to the subfamily Trachelinae, representatives of which are often characterised by having cusps present on the first three segments of the anterior legs of males, which are often absent in females[2]. Other characteristics included the reddish to dark brown cephalothorax, the absence of leg spines and a strongly sclerotized carapace. However, *Austrachelas* lacks leg cusps and have well developed leg spines, hence the need to clarify its placement within Trachelinae.

In contrast, the family Gallieniellidae is a small family represented by four genera, namely *Drassodella* Hewitt, 1916, *Gallieniella* Millot, 1947, *Legendrena* Platnick, 1984 and *Toxoniella* Warui & Jocqué, 2002, and 20 species[1] in the Afrotropical region. These spiders are closely associated with ants, which are suspected to be their primary food source[3].

For this investigation, specimens were preserved and observed in 70 % ethanol for preparation of light and scanning electron microscopy. Light microscopy was carried out using with a Nikon SMZ800 microscope to study the genitalia, study leg spination or the presence of cusps, eye arrangements and cheliceral structure of the three species. Photographs were taken with a Nikon Coolpix 8400 camera mounted on a MDC relay lens. Specimens were prepared for Scanning Electron Microscopy (SEM) by dehydration through a graded ethanol series, dried in an argon chamber, and coated with gold. SEM was used to compare the structure of cusps and leg spines, eye arrangement, genitalia and spinnerets of the three species. Digital micrographs were taken of the different morphological and genitalic structures studied.

Regarding somatic morphology, the chelicerae of *Trachelas* are not projecting and have short, stout fangs, while those of *Austrachelas* and *Drassodella* project considerably and have long, narrow fangs (Figs 1–3). The posterior median eyes of *Trachelas* are large and distinctly round (Fig. 4), while those of the other two genera are smaller and oval (Figs 5–6). The anterior legs of *T. schenkeli* males have very well developed ventral cusps (Fig. 7), while *A. natalensis* and *D. salisburyi* males lack cusps, and have well developed legs spines and densely scopulate metatarsi and tarsi (Figs 8–9).

Regarding genitalic morphology, the female epigyne of *T. schenkeli* is well sclerotised and lacks a median cavity and anterior hood, while *A. natalensis* and *D. salisburyi* possess these characters. Male *T. schenkeli* lack a conductor on the palpal tegulum, a structure that is present in *A. natalensis* and *D. salisburyi*. The latter two species have an oval palpal cymbium, while that of *T. schenkeli* is broad proximally and tapering distally.

The study showed that *Austrachelas* has similar somatic and genitalic morphology to *Drassodella* when compared to *Trachelas*, which would support the transfer of *Austrachelas* to the family Gallieniellidae. However, further study of variation in these genera is needed before a formal transfer is proposed.

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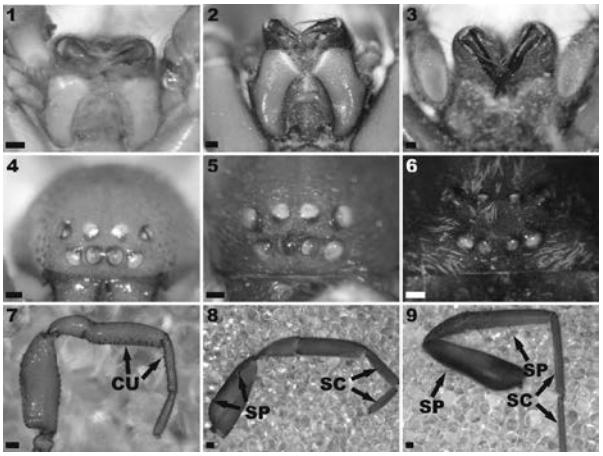

Figures 1–9. Somatic morphology of males of 1,4,7 *Trachelas schenkeli*, 2,5,8 *Austrachelas natalensis*, 3,6,9 *Drassodella salisburyi*. 1–3. Morphology of the chelicerae and fangs; 4–6 Arrangement and structure of the eyes, dorso-anterior view; 7–9. Structure of leg I, lateral view. Abbreviations: CU – leg cusps; SC – scopulae; SP – leg spines. All scale bars = 0.1mm.

Corresponding author: *lyler.sci@mail.uovs.ac.za*

APPENDIX C

LYLE, R. & HADDAD, C.R. 2006b. Somatic morphology supports the transfer of *Austrachelas* Lawrence to Gallieniellidae (Arachnida: Araneae). *Proceedings of the Microscopy Society of southern Africa* **36**: 57.

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A revision of the Afrotropical tracheline sac spider genus *Thysanina* Simon, 1910 (Araneae: Corinnidae)

Robin Lyle and **Charles R. Haddad***

Department of Zoology and Entomology, University of the Free State, P.O. Box 339, Bloemfontein, 9300 South Africa; lyler.sci@mail.uovs.ac.za, haddadcr.sci@mail.uovs.ac.za
*Author for correspondence

ABSTRACT

The dark sac spider subfamily Trachelinae (Araneae: Corinnidae) is currently represented in the Afrotropical region by eight genera: *Austrachelas* Lawrence, 1938, *Brachyphaea* Simon, 1895, *Cetonana* Strand, 1929, *Paccius* Simon, 1898, *Pronophaea* Simon, 1897, *Spinotrachelas* Haddad, 2006, *Thysanina* Simon, 1910 and *Trachelas* L. Koch, 1866. In the first revisionary paper on the group, of the monotypic genus *Thysanina*, the type species, *T. serica* Simon, 1910, is redescribed and five new species are described from Namibia, South Africa and Tanzania. The genus is endemic to the Afrotropical region and occurs to the south of Tanzania, predominantly in southern Africa. The majority of specimens were collected in low vegetation (grasses and short bushes) or on the ground surface, but some species are occasionally found in trees.

KEY WORDS: Araneae, Corinnidae, Trachelinae, *Thysanina*, spiders, new species, systematics.

INTRODUCTION

The family Corinnidae (Arachnida: Araneae) is poorly studied in the Afrotropical region. It consists of four subfamilies, namely Castianeirinae, Corinninae, Phrurolithinae and Trachelinae. Corinnids are wandering spiders that are often found in leaf litter and debris, with many species imitating ants and mutillid wasps (Dippenaar-Schoeman & Jocqué 1997; Bosselaers & Jocqué 2002).

Simon (1910) described the monotypic genus *Thysanina,* with *T. serica* Simon, 1910 as the type species, and placed it in the Clubionidae: Liocraninae. *Thysanina* remained in Clubionidae despite the subfamily Liocraninae being elevated to family status by Lehtinen (1967). Subsequently, Brignoli (1983) and Platnick (1989) placed the genus in the Liocranidae *incertae sedis*. *Thysanina* was recently transferred to Corinnidae: Trachelinae by Bosselaers and Jocqué (2000), due to the presence of distinctive ventral cusps on the anterior pairs of legs of males.

Trachelines can generally be characterised by the complete absence of leg spines and the presence, at least in males, of ventral cusps on the last three segments of the anterior legs (Platnick & Shadab 1974). Within the Afrotropical fauna, cusps are found in the genera *Thysanina*, *Trachelas* L. Koch, 1866, *Paccius* Simon, 1898, *Cetonana* Strand, 1929 and *Spinotrachelas* Haddad, 2006, but are lacking in *Austrachelas* Lawrence, 1938 and are replaced by leg spines in *Brachyphaea* Simon, 1895 and *Pronophaea* Simon, 1897. The latter two genera are misplaced and belong in the Corinninae, while *Austrachelas* should be transferred to the Gallieniellidae (Haddad & Lyle, in prep.). The cusp arrangement in *Cetonana* is similar to that of *Thysanina* (Bosselaers & Jocqué 2000), but the two genera differ, amongst others, in the length and shape of the cusps. *Cetonana* have long elongate cusps, while *Thysanina* have shorter and more compact cusps. *Thysanina* also have a greater number and larger cusps than Afrotropical

Trachelas, some species of which lack cusps in both sexes, while others have a few cusps usually on the tibiae and metatarsi of males only.

In the current paper, the second in a series on the Afrotropical tracheline fauna (Haddad 2006), the genus *Thysanina* is revised, the type species, *T. serica,* is redescribed, and five new species are described from Namibia, South Africa and Tanzania. *Thysanina* species appear to prefer low-growing foliage (grass, bushes and short shrubs) or are active on the ground surface, but are occasionally collected from trees.

MATERIAL AND METHODS

All specimens were observed for descriptions in 70% ethanol using a light microscope. Epigynes and palps were dissected from the respective specimens using 0-size insect pins. All dissected epigynes were cleared for eight minutes in a Branson 3200 ultrasonic bath in 70% ethanol, and drawn in 70% ethanol.

All measurements are given in millimetres. Body measurements (excluding legs) were determined for the smallest and largest specimens of both sexes found in the examined material, and a range of extremes was given for each sex. The leg measurements and eye distances are given for the largest specimen of each sex. Leg spination follows the format of Bosselaers & Jocqué (2000). The locality coordinates of specimens are provided, when available.

Measurements and leg spination are abbreviated as follows:

AER – anterior eye row
AL – abdomen length
ALE – anterior lateral eye
AME – anterior median eye
AW – abdomen width
CL – carapace length
CW – carapace width
do – dorsal
FL – fovea length
PER – posterior eye row
pl – prolateral
PLE – posterior lateral eye
plv – prolateral ventral
PME – posterior median eye
rl – retrolateral
rlv – retrolateral ventral
SL – sternum length
SW – sternum width
TL – total length
vt – ventral terminal.

Material for scanning electron microscopy was dehydrated in a graded ethanol series and then critical-point dried in an argon chamber. Specimens were mounted on stubs, sputter-coated three times with gold, and then studied in a JEOL WinSEM at 10 kV. Digitised micrographs were taken.

The material used in the revision was obtained from the following collections (curators are named in parenthesis):

CAS – California Academy of Sciences, San Francisco, U.S.A. (C. Griswold).
MNHN – Museum National d'Histoire Naturelle, Paris, France (C. Rollard).
NCA – National Collection of Arachnida, ARC–PPRI, Pretoria, South Africa (A. Dippenaar-Schoeman).
NMBA – National Museum, Bloemfontein, South Africa (L. Lotz).
NMSA – Natal Museum, Pietermaritzburg, South Africa (J. Baijoo).
SMN – State Museum of Namibia, Windhoek, Namibia (T. Bird).

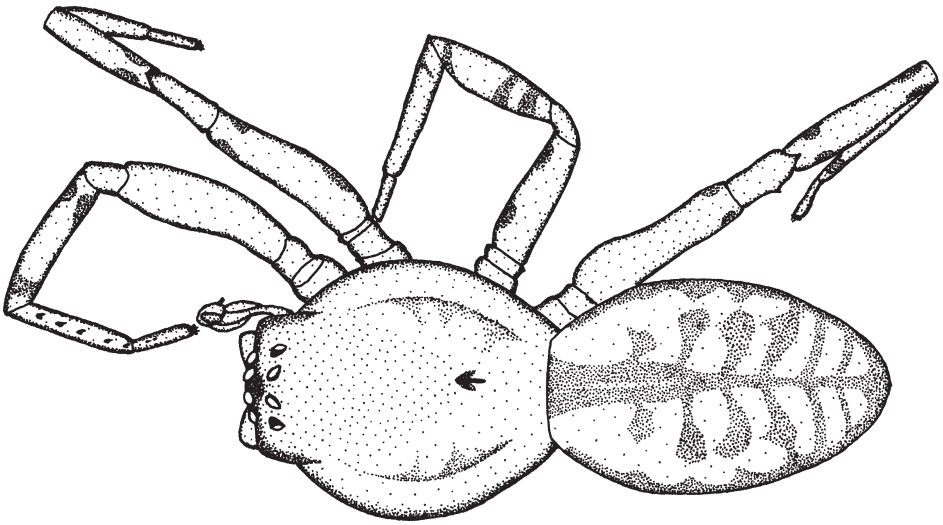


Fig. 1. General appearance of *Thysanina serica* Simon, 1910.

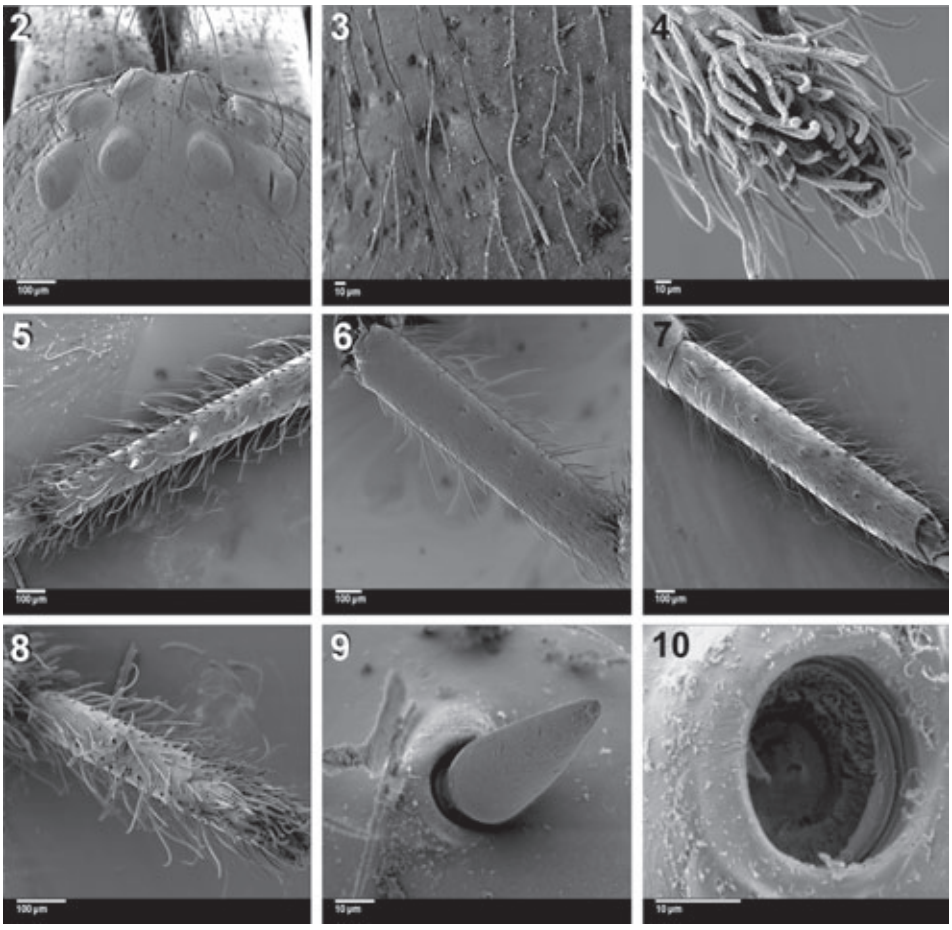
TAXONOMY

Thysanina Simon, 1910

Type species: *Thysanina serica* Simon, 1910.

Diagnosis: The genus *Thysanina* differs from the closely related *Trachelas* in several respects. *Thysanina* has a darkened eye region and slightly flattened yellow-brown carapace with a finely wrinkled surface, which appears smooth. The abdomen is creamy white to pale yellow, usually with a distinctive chevron marking (Fig. 1). *Trachelas* often have a raised red-brown carapace with a number of small tubercles covering it, making the surface texture appear granular and rough (Platnick & Shadab 1974; pers. observ.). The most obvious difference between the two genera is the variation in cusp presence, and the abdomen, which is grey in colour usually without a chevron marking in *Trachelas*. *Thysanina* males have ventral peg-like cups with pointed tips present on the tibiae, metatarsi and tarsi of the anterior legs, but cusps are absent in females. The occurrence of cusps is irregular in Afrotropical *Trachelas*; some species have cusps in both sexes, others in males only, while some species have a total absence of cusps. When present, the cusps are usually smaller and more robust than those found in *Thysanina*, and have rounded tips (e.g. Platnick & Shadab 1974, figs 42, 43). The copulatory openings of the female epigyne are situated in the anterior half of the epigyne, and the embolus of the male palp typically originates distally or prolaterally on the tegulum, and may be coiled or straight.

Description: Small to medium sized spiders, 3.0–5.5 mm in length; male more robustly built than female, with legs and abdomen thicker and more compact than female. Carapace slightly dorso-ventrally flattened, narrowest at ocular region, broader medially and rounded posteriorly (Fig. 1); ocular region darkened with dark rings around eyes; anterior eye row slightly procurved, posterior eye row slightly recurved (Figs 1, 2);



Figs 2–10. Scanning electron micrographs of male *Thysanina transversa* sp. n.: (2) eye region; (3) fine setae on smooth carapace surface; (4) paired tarsal claws covered by dense claw tuft; (5) metatarsus I with ventral cusps; (6) tibia I with ventral cusps; (7) metatarsus II with larger ventral cusps; (8) tarsus II with ventral cusps, located between dense setae; (9) structure of peg-like cusps found on the anterior legs; (10) cusp socket in integument.

colouration yellow brown to bright orange; covered with fine setae (Fig. 3). Chelicerae usually with three teeth on promargin, and two or three teeth on retromargin; endites 1.5 times longer than wide, sometimes with shallow longitudinal ridge along prolateral margin; straight on anterior and retrolateral margins, rounded on posterior margin; serrula indistinct; labium trapezoidal, slightly longer than wide. Sternum longer than broad, with smooth surface; long and short setae scattered across surface; colouration bright orange to brown, darker towards border. Legs with paired tarsal claws situated in between a dense claw tuft (Fig. 4); cusps present in males and absent in females, found on tibia, metatarsus and tarsus (Figs 5–8); cusps with a peg-like structure and pointed tips (Fig. 9), situated within deep sockets (Fig. 10); leg spines generally absent, but present in *T. similis* and *T. transversa*; legs I to IV typically with grey bands; metatarsi III and IV of both sexes with distal ventral preening comb.

Abdomen broader anteriorly and truncated posteriorly; integument with pale yellow to creamy white undertones, with a grey chevron marking usually present, except in *T. similis* females; chevron more distinct in males; dorsal scutum and inframamillary sclerite absent in both sexes. Female with paired copulatory openings in weakly sclerotised epigyne; epigyne structure varies greatly between species. Male palps vary greatly between species, with considerable variations in size and structure of tibial apophyses.

Key to the genus *Thysanina*

1 Males 2
– Females 7

2 Embolus long, wire-like, originating proximally on tegulum; palpal tibia with large, spoon-like dorsolateral apophysis ..... **gracilis** sp. n.
– Embolus curved, coiled or peg-like, originating distally on tegulum; palpal tibial apophyses small, situated retrolaterally 3

3 Palpal tegulum truncated distally; embolus short, peg-like; leg II lacking cusps ..... **capensis** sp. n.
– Palpal tegulum broad distally; embolus long, either curved or coiled; leg II with well developed cusps on metatarsi and tarsi 4

4 Palpal cymbium with distinctive tuft of setae retrolaterally (Fig. 20); embolus tip tear-shaped ..... **absolvo** sp. n.
– Palpal cymbium without retrolateral setal tuft; embolus tip sharp and pointed ... 5

5 Cymbium broad at distal end (Fig. 12); embolus originating retrolaterally at distal end of tegulum, forming one complete coil ..... *serica* Simon
– Cymbium tapering distally (Figs 32, 39); embolus originating medially or prolaterally at distal end of tegulum, curved, but not forming a complete coil 6

6 Palpal patella with broad, flattened retrolateral apophysis; embolus originating prolaterally on tegulum, short, only extending to midpoint of cymbium (Fig. 32) ..... **similis** sp. n.
– Palpal patella with pointed triangular retrolateral apophysis; embolus originating medially on tegulum, longer, extending to retrolateral margin of cymbium (Fig. 39) ..... **transversa** sp. n.

7 Copulatory openings looped, situated anteriorly in epigyne; spermathecae very large and bean-shaped, occupying the posterior 0.75 of the epigyne ..... **absolvo** sp. n.
– Copulatory openings variable; spermathecae smaller, not occupying more than half of the epigyne length 8

8 Epigyne with large anteromedian hood; copulatory openings small, situated medially near posterior end of hood (Fig. 29) ..... **gracilis** sp. n.
– Epigyne without anteromedian hood; copulatory openings larger, situated within oblique hoods or comma-shaped or oblique ridges 9

9 Copulatory openings situated within comma-shaped ridges that touch medially; spermathecae situated anteriorly, touching along median margin, occupying approximately half epigyne length ..... *serica* Simon

– Copulatory openings situated within oblique hoods or ridges; structure and size of spermathecae variable 10

10 Copulatory openings situated in oblique ridges, at approximately half epigyne length (Fig. 21); spermathecae and terminal receptacles situated anteriorly in epigyne; spermathecae touching along median margins ..... **capensis** sp. n.

– Copulatory openings situated within weakly sclerotised hoods, laterally and anterior in epigyne; spermathecae small, roughly kidney-shaped 11

11 Epigynal hoods extending approximately half of epigyne length; spermathecae with a distinctive median constriction (Fig. 36); abdomen with distinctive chevron marking; distributed in South Africa ..... **transversa** sp. n.

– Epigynal hoods extending to a third of epigyne length; spermathecae lacking a distinctive median constriction; abdomen without chevron marking, replaced by a grey median stripe; distributed in Tanzania ..... **similis** sp. n.

Thysanina serica Simon, 1910

Figs 1, 11–15

Thysanina serica: Simon 1910: 201–202.
T. serica: Bosselaers & Jocqué 2000: 311, figs 2a–e.

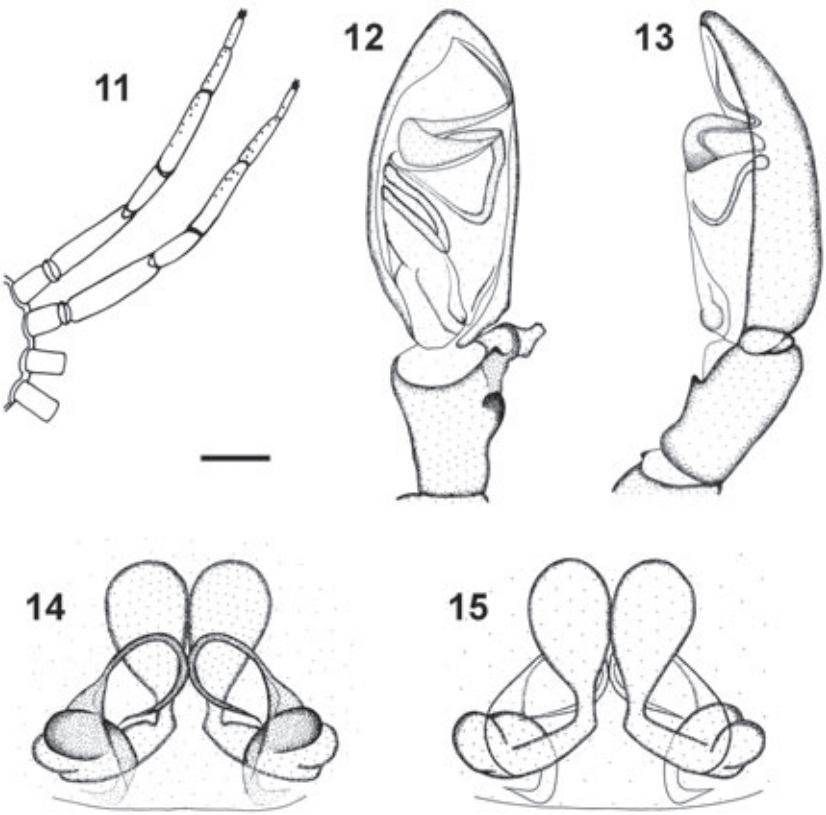
Diagnosis: This species is recognised from others by the coiled embolus, the elongated cymbium and the subtriangular retrolateral tibial apophysis of the male palp. The female can be recognised by the large globular spermathecae that have posterolateral bilobed terminal receptacles, and the comma-shaped ridges in which the copulatory openings are found.

Redescription:

Male.

Measurements: CL 1.68–2.5, CW 1.45–2.0, AL 1.88–3.0, AW 1.23–1.8, TL 3.5–5.2, FL 0.9–1.15, SL 0.98–1.48, SW 0.73–1.1, AME–AME 0.10, AME–ALE 0.03, ALE–ALE 0.36, PME–PME 0.13, PME–PLE 0.14, PLE–PLE 0.59. Length of leg segments (sequence from femur to tarsus, and total): I 2.5+1.18+2.0+1.65+1.0=8.33; II 2.08+1.05+1.68+1.25+0.75=6.81; III 1.75+0.88+1.18+1.58+0.55=5.94; IV 2.4+1.0+2.05+1.73+0.55=7.73.

Carapace declining gradually towards midpoint; declining sharply posterior to midpoint; surface smooth; covered in short, fine setae throughout; fovea large, distinct; carapace bright orange to brown; ocular region dark orange to light brown. All eyes with black rings; AER slightly procurved, median eyes slightly larger than laterals; clypeus height equal to ALE diameter; AME separated by distance slightly smaller than their diameter; AME separated from ALE by 0.25 AME diameter; PER slightly recurved, median eyes slightly larger than laterals; PME separated by distance equal to distance from PME to PLE. Chelicerae dark orange, with black setae scattered on anterior surface; three promarginal teeth, median largest; three retromarginal teeth, smallest near to fang base. Sternum orange, dark orange at border; fine, long setae scattered throughout sternum. Abdomen oval-elongate, broader anteriorly, truncated posteriorly; dorsum white to grey with fine, short setae throughout; partial grey chevron marking on dorsum. Legs I to IV uniform yellow to pale orange; dense short, black setae ventrally



Figs 11–15. *Thysanina serica* Simon, 1910: (11–13) male: (11) schematic representation of cusp arrangement on legs I and II, (12) left palp, ventral view, (13) left palp, retrolateral view; (14, 15) female: (14) epigyne, ventral view, (15) vulva, dorsal view. Scale bar (Figs 12–15) = 0.1 mm.

on tibiae, metatarsi and tarsi; fine pale setae on all segments of legs I to IV; legs I to IV with uniform incomplete bands ventrally, grey in colour; femora with two close distal bands, patellae covered almost entirely by band, tibiae, metatarsi each with single distal and proximal bands. Leg spination: tibiae: I *plv* 7 cusps, II *plv* 5, *rlv* 1 cusps; metatarsi: I *plv* 5 cusps, II *plv* 6, *rlv* 1 cusps; tarsi: I *plv* 2 cusps, II *plv* 1 cusp (Fig. 11); regular leg spines absent; palpal spination: femora: *pl* 1 *do* 1, tarsus *do* 1. Palp pale yellow throughout; tegulum elongate, with coiled distal embolus; small, subtriangular retrolateral tibial apophysis present (Figs 12, 13).

Description:

Female.

Measurements: CL 1.72–2.05, CW 1.68–2.0, AL 3.2–3.4, AW 2.25–2.35, TL 5.1–5.4, FL 0.28–0.35, SL 1.23–1.3, SW 0.88–0.95, AME–AME 0.14, AME–ALE 0.05, ALE–ALE 0.45, PME–PME 0.17, PME–PLE 0.16, PLE–PLE 0.64. Length of leg segments (sequence from femur to tarsus, and total): I 2.0+0.9+1.53+1.33+0.9=6.66; II 1.55+0.8+1.35+1.23+0.88=5.81; III 1.1+0.88+1.73+1.23+0.53=5.47; IV 2.15+0.9+1.6+1.88+0.68=7.21.

General appearance similar to male; female larger than male; body paler, with lighter grey chevron comprising thin median line with pale transverse branches. Eye region yellow-orange, eyes surrounded by dark brown rings; AER very slightly recurved, median eyes larger than laterals; clypeus height equal to distance 0.75 AME diameter; AME separated by 0.75 their diameter, AME separated from ALE by distance equal to 0.5 AME diameter; PER recurved, eyes subequal in size; PME separated by 1.75 their diameter, PME separated from PLE by 1.75 PME diameter. Chelicerae with three well separated promarginal teeth, median largest, distal smallest; retromargin with two closely situated teeth, subequal in size. Legs I to IV similar in colouration to male, with incomplete bands; legs less robust than those of male. Regular leg spines, cusps absent; palpal spination: femora *plv* 1 *rlv* 1, tibiae *plv* 3 *rlv* 3. Genital area sclerotised; dark brown; copulatory openings situated laterally in epigyne, within sclerotised comma-shaped ridges; entrance ducts curving anteriorly to median spermathecae; spermathecae large, oval structures, with posterolateral bilobed terminal receptacles (Figs 14, 15).

Syntype: ♂ deposited in MNHN (examined). Accompanying label stating 'Museum Paris AR 14437 / Thysanina serica Simon / Namibia Lüderitz-Buch / Schultze leg. Simon det. & coll.' The female syntype specimen, deposited in the Zoological Museum, Berlin, could not be traced and is probably lost.*

Other material examined: NAMIBIA: 2♂ between Chameis Head & South Rock, 27º51'S:15º39'E, 4.viii.1997, ground at night, E. Griffin (SMN 43802); 1♀ same locality, 6.viii.1997, E. Griffin (SMN 43799); 1♀ dunes behind Agate Beach, 6km N of Luderitz, 26º35'S:15º10'E, 9.x.1984, C.E. Griswold & T. Meikle-Griswold (NMSA); 1♂ 1♀ Omaruru River Mouth, 22º05'S:14º14'E, 17.ii.1969, B.H. Lamoral (NMSA); 2♂ sand dunes E of Swakopmund, 22º40'S:14º31'E, 10.ii.1969, B. Lamoral & R. Day (NMSA). SOUTH AFRICA: *Gauteng*: 1♂ Roodeplaat Dam Nature Reserve, 13.xi.1980, sweep net, M. Stiller (NCA 81/901).

Distribution: Distributed in western Namibia and Gauteng Province of South Africa (Fig. 41).

Natural history: The natural history of this species is poorly known. It occurs in arid habitats in western Namibia and savannah in Gauteng Province, South Africa. Specimens were collected from the ground surface and grass. No distinctive activity pattern could be distinguished, as specimens were collected by day and by night.

Thysanina absolvo sp. n.

Figs 16–20

Etymology: This species name is Latin for 'free', taken from the *terra typica*, Free State Province in South Africa, where the entire type series was collected.

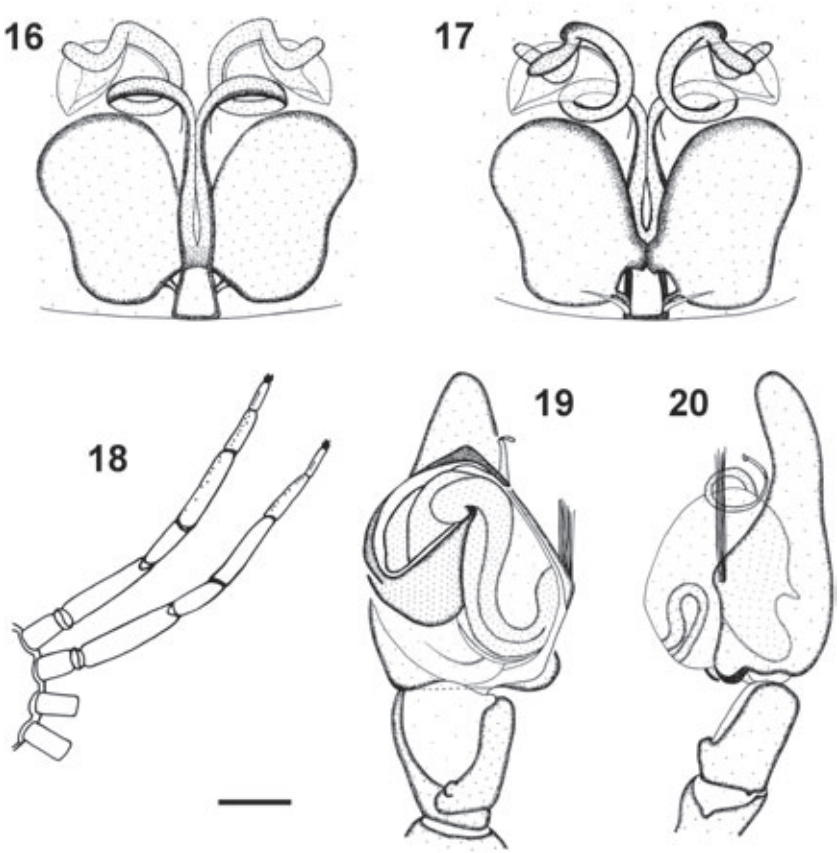
Diagnosis: This species can be recognised from others by the retrolateral hair tuft and the uniquely curved embolus of the male palp. The female can be recognised by the very large bean-shaped spermathecae and looped entrance ducts.

Description:

Female.

Measurements: CL 1.23–1.53, CW 1.15–1.48, AL 1.95–1.48, AW 1.45–1.8, TL 3.3–3.8, FL 0.11–0.12, SL 0.78–0.88, SW 0.73–0.83, AME–AME 0.08, AME–ALE 0.05, ALE–ALE 0.32, PME–PME 0.12, PME–PLE 0.09, PLE–PLE 0.45. Length of leg segments

* The female syntype was examined by Dr Martin Ramírez (Museo Argentino de Ciencias Naturales, Buenos Aires, Argentina) during 2001, and his sketches of the female epigyne correspond adequately with those provided for this species here.



Figs 16–20. *Thysanina absolvo* sp. n.: (16, 17) female: (16) epigyne, ventral view, (17) vulva, dorsal view; (18–20) male: (18) schematic representation of cusp arrangement on legs I and II, (19) left palp, ventral view, (20) left palp, retrolateral view. Scale bar (Figs 16, 17, 19, 20) = 0.1 mm.

(sequence from femur to tarsus, and total): I 1.4+0.7+1.25+0.9+0.53=4.78; II 1.2+0.63+0.9+0.78+0.3=3.81; III 0.9+0.45+0.58+0.78+0.23=2.94; IV 1.45+0.63+1.2+1.23+0.3=4.81.

First three quarters of carapace evenly high, with relatively steep decline in last quarter; surface smooth, covered in short setae; fovea small, distinct, at two-thirds carapace length; carapace orange to brown in colour. Ocular region dark orange to brown with dark brown to black rings around eyes; AER slightly procurved, lateral eyes very slightly larger than medians; clypeus height equal to AME diameter; AME separated by distance equal to their diameter; AME separated from ALE by 0.25 AME diameter; PER slightly recurved, median eyes larger than laterals; PME separated by distance equal to their diameter, PME separated from PLE by slightly less than PLE diameter. Chelicerae dark orange to brown, slightly paler near fang base; scattered black setae on anterior surface; longer setae towards fang base; three promarginal teeth, two large, subequal in size, near fang base; third tooth small, far from fang base on promargin; three retromarginal teeth, equal in size, on single base. Sternum orange, brown towards border; long brown setae scattered on sternum. Abdomen broader anteriorly, truncated posteriorly; dorsum creamy white; grey chevron with darkened median line, light grey transverse branches

dorsally, dark grey lines laterally; surface smooth with short fine setae throughout. Legs I to IV yellow to orange; tibiae, metatarsi and tarsi with dense long, dark setae ventrally; remaining leg segments covered in fine, less dense setae. Regular leg spines, cusps absent; palpal spination: patellae *pl* 2, tibiae *pl* 1. Genital area sclerotised, dark brown; copulatory openings in curved depression, situated anteromedially in epigyne near looped entrance ducts; spermathecae very large, bean-shaped, with darkened terminal receptacles situated anteriorly (Figs 16, 17).

Male.

Measurements: CL 1.7–1.73, CW 1.5–1.55, AL 1.9–2.2, AW 1.3–1.55, TL 3.63–3.9, FL 0.1–0.11, SL 0.98–1.05, SW 0.8–0.9, AME–AME 0.01, AME–ALE 0.03, ALE–ALE 0.3, PME–PME 0.1, PME–PLE 0.05, PLE–PLE 0.4. Length of leg segments (sequence from femur to tarsus, and total): I 1.75+0.8+1.5+1.15+0.55=5.75; II 1.4+0.7+1.23+0.88+0.47=4.68; III 0.98+0.53+0.69+0.9+0.36=3.46; IV 1.45+0.65+1.23+1.38+0.42=5.13.

General appearance similar to female; male smaller and colouration darker; abdomen creamy white; dark grey chevron with more prominent transverse branches than female. AER slightly procurved, eyes subequal in size; clypeus height equal to AME diameter; medians separated by their diameter; AME separated from ALE by slightly less than 0.5 AME diameter; PER recurved, median eyes larger than laterals; PME separated by 1.5 times their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae granular with a few scattered long, dark setae over surface; three well separated promarginal teeth, distal tooth smallest, far from fang base on promargin; three retromarginal teeth, close together, not on single base, proximal tooth smallest, median largest. Legs I to IV similar in colouration to females, more compact and stout. Leg spination: tibiae: I *plv* 8 cusps; metatarsi: I *plv* 8, *rlv* 1 cusps, II *plv* 8 cusps; tarsi: I *plv* 8 cusps, II *plv* 5 cusps (Fig. 18); regular leg spines, palpal spines absent. Palp orange brown throughout; small median ventral tibial apophysis; embolus beginning medially in cymbium, curving prolaterally then retrolaterally, with distal terminal, tear-shaped embolus tip; retrolateral hair tuft ventrally on cymbium (Figs 19, 20).

Holotype: ♀ 'NMBA 9087 / S. Africa F.S. Brandfort Florisbad 1250m / 2846S/2605E 20-4 7-8 1988/ L.N. Lotz Pres. traps (9A) // new nr. NMBA08727 // Corinnidae / Trachelinae / *Thysanina absolvo* / HOLOTYPE //' (NMBA # 8727).

Allotype: ♂ 'Ficksburg / 7.iii.1989 / M. Filmer / Bush beating / rocky mountainside // Araneae / Corinnidae / Trachelinae / Thysanina / absolvo ALLOTYPE ♂ / 89/865 det. R. Lyle //' (NCA # 89/865).

Paratypes: 1♀ 'NMBA 6564 / — 7 1990 L.N. Lotz / S. Africa O.F.S. Bloemfontein / Bloemfontein, Grant's Hill / 1490m 2906S/2613E / Pres. traps // new nr. NMBA06227 //' (NMBA # 6227). 1 ♀ 'NMBA 6564 / — 8 1990 L.N. Lotz / S. Africa O.F.S. Bloemfontein / Bloemfontein, Grant's Hill / 1490m 2906S/2613E / Pres. traps // new nr. NMBA06229 //' (NMBA # 6229). 1♀ 'R.S.A., Free State / Deelhoek farm / Bloemfontein district / 28º54'S, 26º07'E / 19.I.2001 / (under rocks in grassland) //' (NCA # 2005/989). 1♀ 'S. Africa; O.F.S.; Florisbad / SE 2826Cc; Mus. Staff / June '85; Pres. traps // new nr. NMBA00739 //' (NMBA # 739). 1♂ 'R.S.A., Free State Province / Erfenis Dam Nature Reserve / 28º30.431'S, 26º48.457'E / 24.II.2006, C. Haddad / At base of *Themeda* grass //' (NCA # 2006/460). 1♂ 'R.S.A., Free State Province / Erfenis Dam Nature Reserve / 28º30.431'S, 26º48.457'E /, 24.II.2006, R. Lyle / Beats, short shrubs //' (NCA # 2006/461). 1♂ 'R.S.A., Free State Province / Erfenis Dam Nature Reserve / 28º30.431'S, 26º48.457'E / 28.II.2006, R. Lyle / Beats, short shrubs //' (NCA # 2006/462). 2♂ 1♀ 'NMBA 10004 / South Africa, FS / Fauresmith, Boschrand 208 / 2956S/2448E, / L Lotz, 21 Mar 2005 / sweeping, beating //' (NMBA # 10004).

Distribution: Distributed in the eastern and central parts of Free State Province, South Africa (Fig. 41).

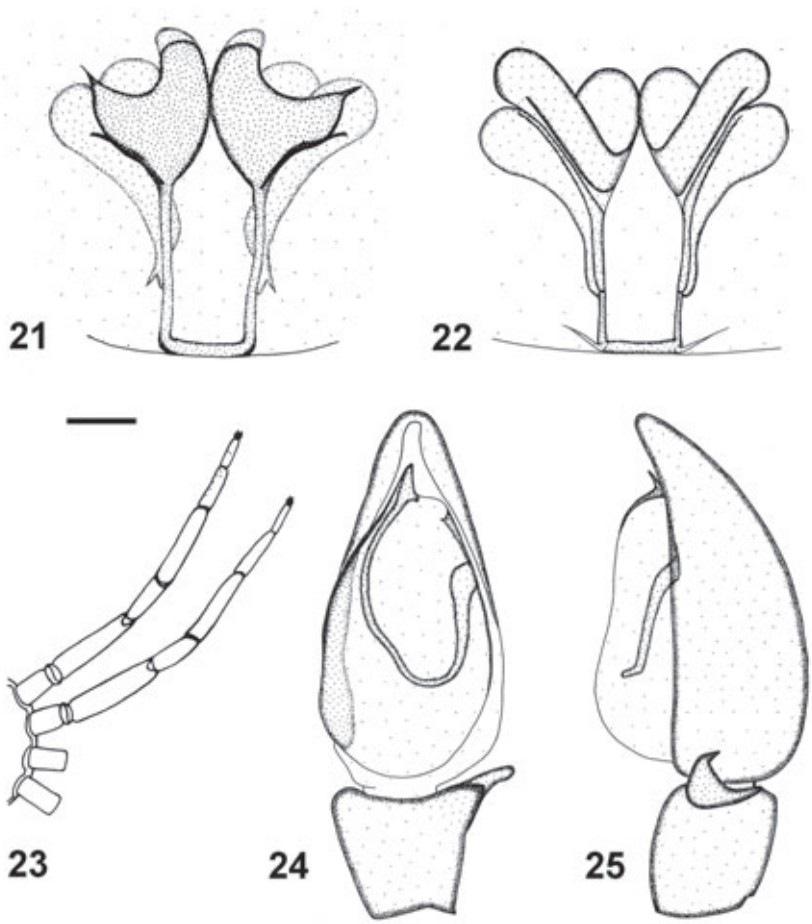
Natural history: This species appears to be associated primarily with the lower strata of grassland ecosystems, and was collected from the ground surface, grass and short shrubs.

Thysanina capensis sp. n.

Figs 21–25

Etymology: This species name is taken from Western Cape Province, South Africa, where the type series was collected.

Diagnosis: This female can be recognised by the V-shaped spermathecae and well sclerotised copulatory openings, at 45 degrees medially in the epigyne. The male can be recognised easily by the short, peg-like embolus distally on the tegulum.



Figs 21–25. *Thysanina capensis* sp. n.: (21, 22) female: (21) epigyne, ventral view, (22) vulva, dorsal view; (23–25) male: (23) schematic representation of cusp arrangement on legs I and II, (24) left palp, ventral view, (25) left palp, retrolateral view. Scale bar (Figs 21, 22, 24, 25) = 0.1 mm.

Description:

Female.

Measurements: CL 1.6–1.65, CW 1.4–1.43, AL 2.6–2.65, AW 1.8–1.93, TL 4.2–4.3, FL 0.08, SL 0.95–0.97, SW 0.78–0.83, AME–AME 0.09, AME–ALE 0.05, ALE–ALE 0.34, PME–PME 0.14, PME–PLE 0.10, PLE–PLE 0.53. Length of leg segments (sequence from femur to tarsus, and total): I 1.73+0.73+1.3+1.08+0.73=5.57; II 1.38+0.65+1.08+0.9+0.73=4.74; III 0.98+0.5+0.68+0.85+0.38=3.39; IV 0.5+0.73+1.35+1.4+0.53=4.51.

Carapace raised slightly to midpoint; relatively steep decline at two-thirds its length; surface smooth, covered in short setae; fovea small, distinct, at two-thirds carapace length; carapace bright orange, paler in colour posterior to midpoint. Ocular region dark orange with black rings around eyes; AER slightly procurved, lateral eyes slightly larger than medians; clypeus height equal to 0.75 PME diameter; AME separated by distance equal to their diameter; AME separated from ALE by 0.5 AME diameter; PER slightly recurved, median eyes slightly larger than laterals; PME separated by distance 1.5 times their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae bright orange, pale near fang bases; scattered setae on anterior surface; three promarginal teeth; two near fang base, distal tooth largest; third tooth small, far from fang base on promargin; three retromarginal teeth on single base, median tooth largest. Sternum pale orange to light brown, short fine, dark setae scattered throughout. Abdomen broader anteriorly, truncated posteriorly, with branched grey chevron; dorsum mottled, with grey to creamy white undertones; fine setae scattered throughout dorsum. Legs I to IV uniform pale yellow; incomplete grey bands distinct on femora to metatarsi; relatively dense dark setae on metatarsi and tarsi; remaining leg segments with scattered fine, light coloured setae; legs I to IV with uniform incomplete grey bands; femora with two close distal bands, patellae covered almost entirely by band, tibiae and metatarsi with single distal and proximal bands. Regular leg spines, cusps absent; palpal spination: patellae *pl* 1 *do* 1, tibiae *pl* 3 *do* 1, tarsi *plv* 2. Genital area sclerotised, light to dark brown; copulatory opening's ridges at 45º to epigastric fold; spermathecae large, V-shaped (Figs 21, 22).

Male.

Measurements: CL 1.8, CW 1.5, AL 2.08, AW 1.27, TL 3.55, FL 0.13, SL 1.02, SW 0.82, AME–AME 0.08, AME–ALE 0.03, ALE–ALE 0.35, PME–PME 0.13, PME–PLE 0.15, PLE–PLE 0.6. Length of leg segments (sequence from femur to tarsus, and total): I 1.58+0.82+1.29+1.05+0.6=5.34; II 1.28+0.69+1.0+0.85+0.52=4.34; III 0.84+0.48+0.6+0.8+0.52=3.24; IV 1.5+0.7+1.43+1.4+0.41=5.44.

General appearance similar to female; male more robustly built, colouration darker; indistinctive grey chevron on dorsum. AER slightly procurved, lateral eyes larger than medians; clypeus height equal to AME diameter; AME separated by slightly less than their diameters; AME separated from ALE by 0.5 AME diameter; PER slightly recurved, eyes similar in size; PME separated by 1.25 their diameter; PME separated from PLE by 1.5 times PME diameter. Chelicerae granular with a few scattered long, dark setae over surface; three well separated promarginal teeth, subequal in size, distal tooth smallest, median tooth largest; three retromarginal teeth, close together but not on single

base, large and subequal in size, distal tooth slightly smaller than others. Legs I to IV uniform yellow, without distinctive bands; more compact and stout than those of female. Leg spination: metatarsi: I *plv* 6, *rlv* 2 cusps; tarsi: I *plv* 1 *rlv* 1cusps (Fig. 23); regular leg spines absent; palpal spination: femora *pl* 1 *do* 3, patellae *pl* 2 *rl* 1, tibiae *pl* 2 *rl* 1 *plv* 1. Palp pale orange throughout; small subtriangular retrolateral tibial apophysis present; tegulum tapering distally, with small, peg-like embolus originating prolaterally at distal end (Figs 24, 25).

Holotype: ♀ 'Lebanon Pine Plantation / Grabouw, W. Cape / Jun.1986 / J.K. Winstanley / Pine / AcCA 1466 // Araneae / Corinnidae / Trachelinae / Thysanina / capensis HOLOTYPE ♀ / 86/468 det. R. Lyle //' (NCA # 86/468).

Allotype: ♂ 'S. Africa: C.P., Ladismith, Gans Kop 136 / 3339S/2101E, Ent. Staff / Various methods, 28 Oct. 1987 // new nr. NMBA 02338 // Araneae / Corinnidae / Trachelinae / *Thysanina capensis* / ALLOTYPE //' (NMBA # 02338).

Paratype: 1♀ 'Lebanon, Western Cape / viii.1985 / J.K. Winstanley / Small pine trees //' (NCA # 86/155).

Distribution: Endemic to Western Cape Province, South Africa (Fig. 41).

Natural history: Specimens were collected from pine plantations and Karoo habitats. This species is likely to occur also in fynbos habitats in Western Cape.

Thysanina gracilis sp. n.

Figs 26–30

Etymology: This species name is Latin for 'slender', which refers to the fine, thin slender embolus of the male.

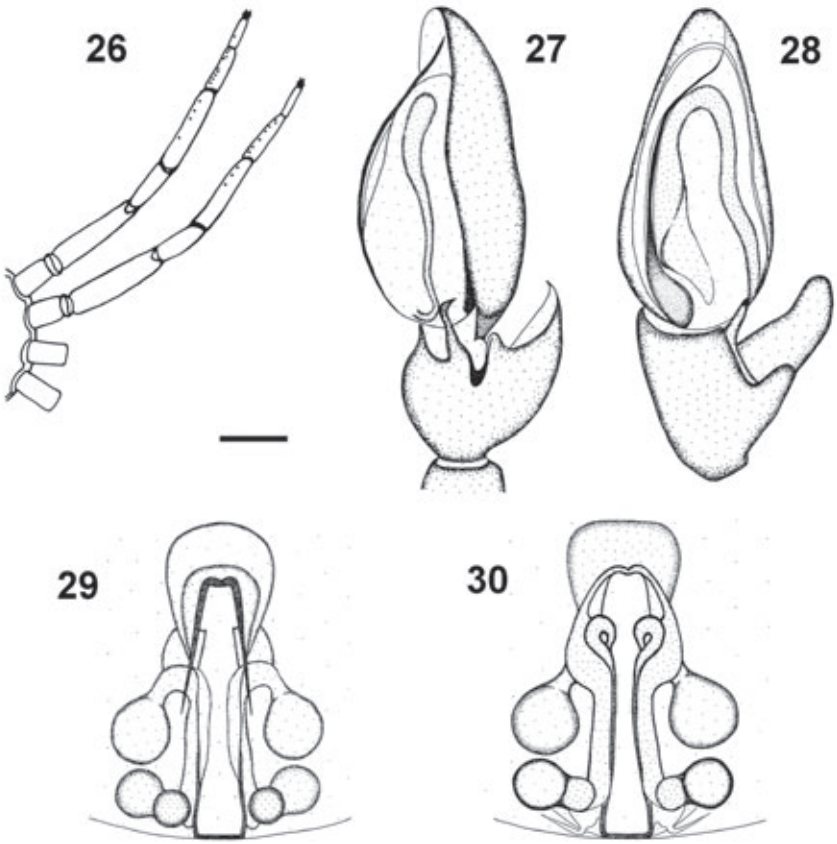
Diagnosis: This species is recognised by the elongated embolus running along the prolateral side of the bulbus. A prominent retrolateral apophysis is found on the tibia, with two smaller apophyses.

Description:

Male.

Measurements: CL 1.1–1.43, CW 0.98–1.28, AL 1.15–1.7, AW 0.8–1.15, TL 2.45–3.0, FL 0.13–0.15, SL 0.69–0.9, SW 0.6-0.78, AME–AME 0.08, AME–ALE 0.03, ALE–ALE 0.32, PME–PME 0.13, PME–PLE 0.11, PLE–PLE 0.52. Length of leg segments (sequence from femur to tarsus, and total): I 1.3+0.63+1.1+0.93+0.6=4.56; II 1.18+0.48+1.05+0.83+0.55=4.09; III 0.88+0.48+0.65+0.8+0.38=3.19; IV 1.4+0.58+1.05+1.2+0.48=4.71.

Carapace evenly high for anterior two-thirds, declining posterior to fovea; surface smooth; fovea small and distinct, situated at two-thirds carapace length; carapace dark orange, paler posteriorly. Ocular region orange to dark brown; AER slightly procurved, lateral eyes slightly larger than medians; clypeus height equal to AME diameter; AME separated by distance equal to their diameter; AME separated from ALE by 0.5 AME diameter; PER slightly recurved, median eyes larger than laterals; PME separated by distance equal to 1.5 times their diameter, PME separated from PLE by 0.5 PME diameter. Chelicerae dark orange, with pale setae scattered on anterior surface; three promarginal teeth, proximal and median teeth largest and subequal in size, distal tooth smallest; two retromarginal teeth on same base, distal tooth largest. Sternum bright orange and smooth, darker near border; short, pale orange setae covering surface, long pale setae near border. Abdomen broader anteriorly, truncated posteriorly; dorsum pale yellow to creamy white;



Figs 26–30. *Thysanina gracilis* sp. n.: (26–28) male: (26) schematic representation of cusp arrangement on legs I and II, (27) left palp, ventral view, (28) left palp, retrolateral view; (29, 30) female: (29) epigyne, ventral view, (30) vulva, dorsal view. Scale bar (Figs 27–30) = 0.1mm.

dark grey chevron with well pronounced transverse branches. Legs I to IV compact and thickened; pale orange to creamy yellow, with dark brown complete bands on femora to metatarsi; short dark setae ventrally situated on tibiae, metatarsi and tarsi; uniform grey band arrangement on femora, with two close distal bands, patellae covered almost entirely by single band, tibiae and metatarsi with single distal and proximal bands. Leg spination: tibiae: I *plv* 4 cusps, II *plv* 3 cusps; metatarsi: I *plv* 9 cusps, II *plv* 7 cusps; tarsi: I *plv* 1 cusps (Fig. 26); regular leg spines absent; palpal spination: femora *pl* 2, patellae *pl* 1 *do* 1, tibiae *pl* 4 *rl* 1. Palp orange-brown throughout; prominent spoon-shaped dorsal retrolateral tibial apophysis with two smaller retrolateral apophyses; embolus wire-like, originating proximally, running along prolateral side of bulbus, curving distally (Figs 27, 28).

Female.

Measurements: CL 1.23, CW 1.2, AL 2.55, AW 1.8, TL 3.8, FL 0.11, SL 0.88, SW 0.75, AME–AME 0.14, AME–ALE 0.04, ALE–ALE 0.38, PME–PME 0.15, PME–PLE 0.12, PLE–PLE 0.455. Length of leg segments (sequence from femur to tarsus and total):

I 1.35+0.68+1.08+0.88+0.5=4.49; II 1.1+0.6+0.85+0.78+0.43=3.76; III 0.98+0.5+0.58+0.63+0.33=3.02; IV 1.33+0.55+1.05+1.2+0.4=4.53.

General appearance similar to male, female larger; dark grey dorsal chevron with short branches pointing sharply towards spinnerets; branches of chevron close to main vein of chevron. AER straight, median eyes larger than laterals; clypeus height equal to 0.5 AME diameter; AME separated by distance equal to their diameter; AME separated from ALE by distance equal to 0.5 ALE diameter; PER slightly recurved, median eyes larger than laterals; PME separated by distance equal to 1.5 times their diameter; PME separated from PLE by distance equal to PME diameter. Chelicerae dark orange, with black setae scattered on anterior surface; three promarginal teeth, proximal and median teeth largest, subequal in size, distal tooth smallest; two retromarginal teeth on same base, distal tooth largest. Legs I to IV less compact, more slender than those of male; band arrangement similar. Regular leg spines, cusps absent; palpal spination: femora *pl* 3 *do* 3, patellae *pl* 1 *do* 1, tibiae *pl* 1, tarsi *plv* 1. Genital area sclerotised, dark brown; copulatory openings laterally off-centre of epigyne; spermathecae globular, terminal receptacles bilobed (Figs 29, 30).

Holotype: ♂ 'R.S.A., Northern Cape Province / Geelkoppies farm / Schmidtsdrift district / 24.I.2002, C.R. Haddad / (light trap) // Araneae / Corinnidae / Trachelinae / Thysanina / gracilis HOLOTYPE ♂ / 2005/990 det. C. Haddad //' (NCA # 2005/990).

Allotype: ♀ 'S. Africa, C.P., Kimberley, Langeberg 138. / Entomol. Staff 2855S, 2436E / Pitfall traps. Apr.–Aug. 1987 // new nr. NMBA01875 // Corinnidae / Trachelinae / *Thysanina gracilis* / ALLOTYPE //' (NMBA # 01875).

Paratype: 1♂ 'NAMIBIA / Scorpion Mine Site / 27º49'S, 16º36'E / 23–29.VII.1997, E. Griffin / Preservation pitfall traps //' (SMN # 43763).

Distribution: Distributed in Northern Cape Province, South Africa, and in southern Namibia (Fig. 41).

Natural history: This species occurs in arid and semi-arid habitats, and was primarily collected from the soil surface.

Thysanina similis sp. n.

Figs 31–35

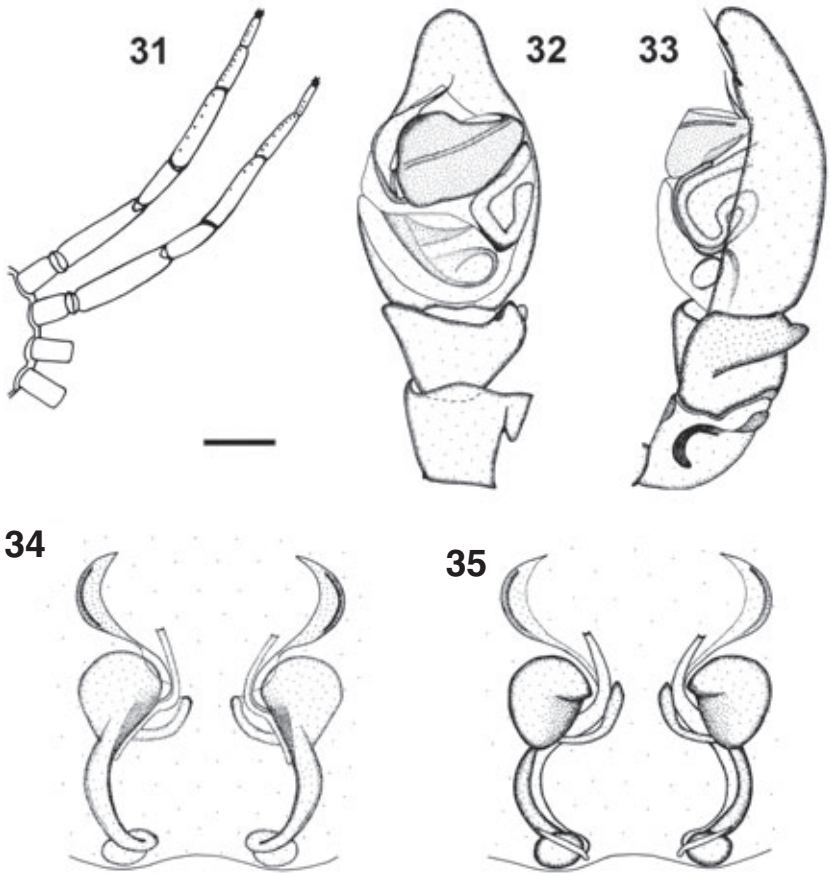
Etymology: This species name is Latin for 'similar', and refers to the similarities found in the genitalia of this species and *T. transversa*.

Diagnosis: This species can be recognised by its narrow semi-circular hoods of the epigyne. It is unique compared to *T. transversa*, which has S-shaped spermathecae compared to the globular spermathecae of *T. similis*. The palp of *T. similis* has a short embolus and rounded tibial apophysis and a more prominent patellar apophysis than *T. transversa*. In comparison to the other species, *T. similis* females have very faded or no chevron markings on the abdomen. This is one of two species in the genus that has regular leg spines, in males and females, in addition to cusps in males.

Description:

Male.

Measurements. CL 1.28–1.55, CW 1.23–1.48, AL 1.8–1.88, AW 1.23–1.35, TL 3.0–3.5, FL 0.08–0.1, SL 0.85–0.88, SW 0.75–0.83, AME–AME 0.08, AME–ALE 0.05, ALE–ALE 0.30, PME–PME 0.12, PME–PLE 0.10, PLE–PLE 0.49. Length of leg



Figs 31–35. *Thysanina similis* sp. n.: (31–33) male: (31) schematic representation of cusp arrangement on legs I and II, (32) left palp, ventral view, (33) left palp, retrolateral view; (34, 35) female: (34) epigyne, ventral view, (35) vulva, dorsal view. Scale bar (Figs 32–35) = 0.1 mm.

segments (sequence from femur to tarsus, and total): I 1.55+0.7+1.25+0.88+0.63=5.01; II 1.33+0.6+1.08+0.95+0.53=4.49; III 0.93+0.38+0.65+0.78+0.25=2.99; IV 1.63+0.55+1.15+1.35+0.53=5.21.

Carapace evenly high, declining sharply at three quarters carapace length; surface smooth, short setae scattered throughout; fovea short, narrow, at two-thirds carapace length; carapace bright orange, dark brown near border. All eyes with dark brown rings; AER strongly procurved, laterals 1.5 times the diameter of medians; clypeus height equal to AME diameter at ALE, equal to slightly more than ALE diameter at AME; AME separated by distance equal to their diameter, AME separated from ALE by 0.5 ALE diameter; PER slightly recurved, lateral eyes slightly larger than medians; PME separated by 1.25 times their diameter, PME separated from PLE by distance equal to PLE diameter. Chelicerae dark brown, lighter at base; scattered long black setae over surface; three well separated promarginal teeth, median tooth largest, distal smallest; two closely situated retromarginal teeth, distal tooth largest. Sternum orange, dark brown at border; surface smooth with scattered short setae. Abdomen broader anteriorly,

truncated posteriorly; chevron present, with thin lateral line ending at midpoint of abdomen, unattached transverse branches spread across abdomen; similar to male of *T. transversa*. Legs I to IV compact, robust; uniform in colour, pale yellow to orange; dense setae ventrally on metatarsi and tarsi of legs I to IV; legs I to IV with uniform grey band arrangement; femora with two close distal bands, patellae covered almost entirely by band, tibiae and metatarsi with single distal and proximal bands. Leg spination: femora: I and II *pl* 1 *do* 1, III *pl* 1 *do* 1 *rl* 1, IV *do* 1 *rl* 1; patellae spine-less; tibiae: I *plv* 6 cusps, II *plv* 3 cusps, IV *vt* 2; metatarsi: I *plv* 7 cusps, II *plv* 8 cusps, III *plv* 1, IV *pl* 1 rl 1; tarsi: I *plv* 5 cusps, II *plv* 3 cusps (Fig. 31); palpal spination: femora *pl* 1 *do* 3, patellae *rl* 1, tibiae *pl* 2 *do* 1, tarsi *pl* 1. Palp orange-brown throughout; retro-lateral tibial apophysis with a smaller apophysis; prominent retrolateral patellar apophysis; embolus twisted behind a hardened sclerite, similar to *T. transversa* (Figs 32, 33).

Female.

Measurements: CL 1.43–1.5, CW 1.23–1.33, AL 2.1–2.25, AW 1.0–1.5, TL 3.5–3.7, FL 0.08–0.1, SL 0.88–0.93, SW 0.75–0.8, AME–AME 0.04, AME–ALE 0.03, ALE–ALE 0.28, PME–PME 0.11, PME–PLE 0.08, PLE–PLE 0.46. Length of leg segments (sequence from femur to tarsus, and total): I 1.28+0.65+1.03+0.85+0.53=4.34; II 1.05+0.58+0.88+0.8+0.45=3.76; III 0.78+0.33+0.55+0.8+0.45=2.91; IV 1.4+0.55+1+1.28+0.3=4.53.

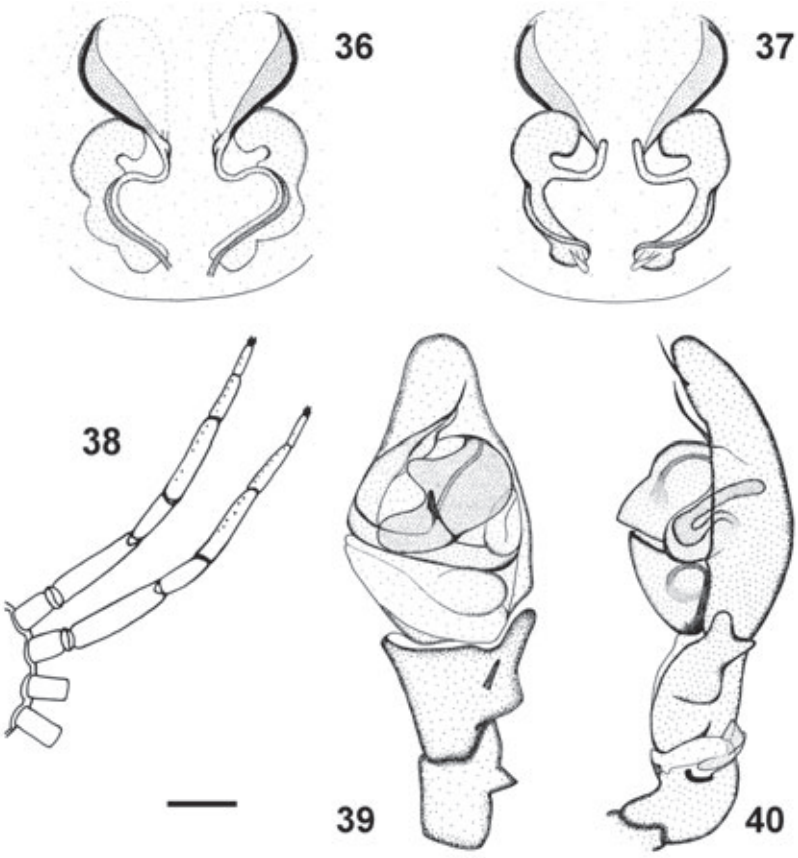
Similar in appearance to male, female larger, colouration lighter; chevron absent; three grey spots dorsally, two situated at pedicel to third abdomen length, third marking medially from two thirds abdomen length to spinnerets. All eyes surrounded by dark rings; AER slightly procurved, clypeus height equal to 0.75 AME diameter; anterior eyes subequal in size; AME separated by 0.5 their diameter, AME separated from ALE by 0.25 AME diameter; PER slightly recurved, eyes subequal in size; PME separated by distance equal to their diameter, PME separated from PLE by distance equal to 0.75 PME diameter. Chelicerae dark orange, with black setae scattered on anterior surface; three promarginal teeth, proximal and median teeth largest, subequal in size, distal tooth smallest; two closely situated retromarginal teeth, subequal in size. Legs I to IV similar in colouration to male, with similar band arrangement; legs less compact, thinner than male. Leg spination: femora: I *pl* 1, IV *rl* 1; palpal spination: patellae *pl* 1 *do* 1, tibiae *pl* 2 *do* 2, tarsi *pl* 2 *plv* 1 *rlv* 1 *vt* 2. Genital area well sclerotised, dark brown to orange; copulatory openings anterior to midpoint of epigyne, located within narrow semi-circular hoods; spermathecae globular, with terminal receptaculae situated in posterior half of epigyne extending to epigastric fold (Figs 34, 35).

Holotype: ♂ 'California Academy of Sciences / TANZANIA: Tanga: W Usambara / Mtns.: Mazumbai, station / 4º48.5'S; 38º30'E 1500m / 10—20.xi.1995 around buildings / C.E. Griswold, N. Scharff, D. Ubick //' (CAS).

Paratypes: 2♀ 'California Academy of Sciences / TANZANIA: Tanga: E Usambara / Mtns.: Amani. Forest / 5º5.7'S; 38º38'E 950m el. / 27.x—9.xi.1995 / C.E. Griswold, N. Scharff, D. Ubick //' (CAS). 1♂ 'California Academy of Sciences / TANZANIA: Tanga: E Usambara / Mtns.: Amani, Mbomole Hill / 5º5.7'S; 38º37'E 1000m el. / 5—8 .xi.1995 / C.E. Griswold, N. Scharff, D. Ubick //' (CAS).

Distribution: Currently known only from the Usambara Mountain range, situated in the north-eastern part of Tanzania (Fig. 41).

Natural history: This is the only species that has a distinctive preference for forest habitats. Little is known of its microhabitat preferences.



Figs 36–40. *Thysanina transversa* sp. n.: (36, 37) female: (36) epigyne, ventral view, (37) vulva, dorsal view; (38–40) male: (38) schematic representation of cusp arrangement on legs I and II, (39) left palp, ventral view, (40) left palp, retrolateral view. Scale bar (Figs 36, 37, 39, 40) = 0.1 mm.

Thysanina transversa sp. n.

Figs 2–10, 36–40

Etymology: This species name is Latin for 'oblique', and refers to the oblique alignment of the male embolus.

Diagnosis: This species is recognised by the oblique alignment of the male embolus and the semi-circular hoods covering the copulatory openings. A prominent retrolateral apophysis is found on the tibia, with two smaller apophyses. The patella has a subtriangular retrolateral apophysis. The epigyne has well sclerotised, curved copulatory openings that extend into the S-shaped spermathecae. For differences to *T. similis*, see description of the latter.

Description:

Female.

Measurements: CL 1.63–1.75, CW 1.23–1.6, AL 2.0–3.0, AW 1.23–2.9, TL 3.6–4.8, FL 0.75–1.0, SL 1.03–1.1, SW 0.85–0.9, AME–AME 0.08, AME–ALE 0.03, ALE–

ALE 0.32, PME–PME 0.13, PME–PLE 0.10, PLE–PLE 0.58. Length of leg segments (sequence from femur to tarsus, and total): I 1.65+0.78+1.3+1.13+0.7=5.56; II 2.7+0.7+1.08+0.8+0.58=5.86; III 1.05+0.53+1.25+0.78+0.45=4.06; IV 1.88+0.5+0.55+1.38+0.55=4.86.

Carapace rising gradually to midpoint, declining sharply posterior to midpoint; surface smooth, short, fine setae scattered throughout (Fig. 3); fovea short, indistinct, just posterior to midpoint; carapace bright orange to brown, border dark brown. Ocular region dark orange; all eyes surrounded by dark brown rings; AER procurved, lateral eyes larger than medians; clypeus height equal to 0.75 AME diameter at AME, 0.5 ALE diameter at ALE; AME separated by a distance equal to 0.75 their diameter, AME separated from ALE by distance equal to 0.25 AME diameter; PER slightly recurved, median eyes slightly larger than laterals; PME separated by distance slightly larger than their diameter, PME separated from PLE by distance equal to PLE diameter. Chelicerae dark orange to brown, slightly paler at fang base; promargin with three widely spaced teeth, distal tooth smallest, proximal tooth largest; retromargin with two closely placed teeth, subequal in size. Sternum pale orange to brown, darker around border; short, fine setae and long dark setae scattered throughout. Abdomen broader anteriorly, truncated posteriorly; dorsum pale yellow to white; chevron grey with prominent branches; no lateral line on dorsum; scattered long setae throughout. Legs I to IV uniform orange to brown; dense setae ventrally on metatarsi and tarsi; fine pale setae present on all segments; all four legs with scattered short, dark setae. Leg spination: femora: I *pl* 1 *do* 1, II *pl* 1 *do* 1, III *do* 1, IV *do* 1 *rl* 1; tibiae: IV *vt* 1; metatarsi: IV *pl* 1 *rl* 1; palpal spination: patellae *pl* 1; tibiae *pl* 2 *do* 2; tarsi *pl* 3 *do* 1 *plv* 1 *rlv* 1. Genital area strongly sclerotised, dark brown to orange in colour; copulatory openings situated in anterior half of epigyne, covered by semi-circular hoods; S-shaped spermathecae relatively small, with terminal receptaculae situated in posterior half of epigyne, not extending to epigastric fold (Figs 36, 37).

Male.

Measurements: CL 1.23–1.98, CW 1.55–1.73, AL 1.8–2.35, AW 1.23–1.48, TL 3.55–3.8, FL 0.08–0.13, SL 0.93–1.05, SW 0.93–1.0, AME–AME 0.11, AME–ALE 0.05, ALE–ALE 0.39, PME–PME 0.13, PME–PLE 0.15, PLE–PLE 0.67. Length of leg segments (sequence from femur to tarsus, and total): I 2.03+0.95+1.73+0.58+0.78=6.07; II 1.55+0.8+1.78+1.15+0.63=5.91; III 1.2+0.6+0.83+1.05+0.48=4.16; IV 1.75+0.73+1.55+1.78+0.5=6.31.

General appearance similar to female; male smaller with more compact abdomen than female; chevron darker with lateral line that ends at midpoint of abdomen. Eye region dark orange; all eyes surrounded by black rings; AER very slightly recurved, lateral eyes larger than medians; clypeus height 1.5 times AME diameter; AME separated by distance equal to their diameter, AME separated from ALE by distance equal to 0.75 AME diameter; PER recurved, eyes subequal in size; PME separated by distance equal to 1.75 their diameter, PME separated from PLE by distance equal to 1.5 times PME diameter. Chelicerae with scattered black setae on anterior surface; promargin with three teeth, distal tooth smallest, median and proximal teeth subequal in size; retromargin with two closely placed teeth, distal tooth slightly larger than proximal. Legs I to IV more robust and compact than those of female. Leg spination: femora: I *pl* 1 *do* 1,

II *pl* 1 *do* 1, III *pl* 1 *do* 1 *rl* 1–2, IV *do* 1 *rl* 2–4; tibiae: I *plv* 6 cusps, II *plv* 7 cusps, IV *vt* 1–2; metatarsi: I *plv* 5 cusps, II *plv* 7 cusps, III *pl* 1 *plv* 1, IV *pl* 1 *rl* 1; tarsi: I *plv* 2 cusps, II *plv* 1 cusps (Figs 5–8, 38); palpal spination: patellae *do* 2 *rl* 2 *rlv* 1, tibiae *do* 3 *pl* 1 *rl* 1, tarsi *pl* 2 *rl* 1. Palp orange throughout; prominent retrolateral tibial apophysis with two smaller median apophyses; triangular retrolateral patellar apophysis present; embolus twisted behind a sclerotised cover (Figs 39, 40).

Holotype: ♀ 'SOUTH AFRICA. / KWAZULU/NATAL. / Pongola Bush Reserve. / 27º19'S 30º29'E. / Paulpietersburg. / L Lotz. 3-XII-1994. // new nr. NMBA06737 // Corinnidae / Trachelinae / *Thysanina transversa* / HOLOTYPE //' (NMBA # 6737).

Allotype: ♂ 'Lajuma / 23º02.255'S, 29º26.669'E / 25.xi.2004 / tree beating, *Eugeria natalitia* / M. Mafadza // Araneae / Corinnidae / Thysanina / transversa ♂ / 2005/1894 det. C. Haddad//' (NCA # 2005/1894).

Paratypes: 1♂ 1♀ '1 Whitnall street, Grahamstown / 22.x.1978 / P. Croeser / in sac web on leaf in lemon / tree //' (NCA # 82/376). 2♂ 1♀ 'Schagen / 15 km N.W / of Nelspruit / 19.viii.1997 / M. van den Berg / on macadamia tree //' (NCA # 98/179). 4♂ 2♀ 'Schagen, 15km / N.W. of / Nelspruit / 7.x.1997 / M. van den Berg / on macadamia tree //' (NCA # 98/178). 1♂ 'South Africa, KwaZulu-Natal / Greater St. Lucia Wetlands Park / False Bay Park / 14.X.2004, J. Esterhuizen / Tsetse fly traps //' (NCA # 2005/184).

Other material examined: SOUTH AFRICA: *KwaZulu-Natal*: 2♂ Ndumo Game Reserve, Pongola River floodplain, near pump, riverine forest, 26º54.323'S:32º19.435'E, 27.vi.2006, beats, short shrubs, A. Honiball & E. Leuwin (NCA 2006/1229). *Limpopo*: 1♀ Lajuma, 23º02.257'S:29º26.661'E, 5.xi.2004, tree beating, *Falcatus*, M. Mafadza (NCA 2005/2032); 1♂ Sovenga Hill, near Polokwane, 23º53'S:29º44'E, 15.xi.2004, short forest, tree beating, M.A. Modiba (NCA 2005/1865); 1♂ same data (NCA 2005/1866); 1♂ same data (NCA 2005/1867); 1♂ same data (NCA 2005/1868); 1♂ same locality, 2.xii.2004, short forest, tree beating, M.A. Modiba (NCA 2005/1876); 1♂ same locality, 4.xii.2004, short forest, tree beating, M.A. Modiba (NCA 2005/1877); 1♂ same data (NCA 2005/1878); 1♀ same locality, 27.xi.2004, short forest, active search, M.A. Modiba (NCA 2005/1874); 1♂ same data (NCA 2005/1875); 1♂ 1♀ same locality, 25.xi.2004, tall forest, tree beating, M.A. Modiba (NCA 2005/1869); 1♂ 1♀ same data (NCA 2005/1870); 1♀ same data (NCA 2005/1871); 1♀ same data (NCA 2005/1872); 1♂ 2 juv. same data (NCA 2005/1873). *Western Cape*: 1♀ Diepwalle Forest Station, 22km NE Knysna, 33º57'S:23º10'E, 10–13.i.1985, indigenous forest, C. Griswold & T. Meikle-Griswold (NMSA).

Distribution: Widely distributed in Western Cape, Eastern Cape, KwaZulu-Natal, Limpopo and Mpumalanga provinces of South Africa (Fig. 41).

Natural history: This species was collected primarily from the foliage of shrubs and trees in a variety of woodland and forest habitats, at altitudes varying from 10 m a.s.l. (St Lucia) to 1700 m a.s.l. (Soutpansberg mountains).

DISCUSSION

The continuous changes in the taxonomy of spiders has lead to an urgent need to examine previously collected material for reclassification and, in many cases, the description of new species. The revision of the genus *Thysanina* emphasises this, as most previously collected specimens were identified to family level only, and were misplaced in the Clubionidae. Due to the examination of the limited material available, five new species were described in this previously monotypic genus.

Species in the Trachelinae share a number of characteristics (e.g. strongly sclerotised bodies, presence of leg cusps, in males at least, and the general absence of leg spines), but variations are found. The genus *Thysanina* has a number of shared characteristics with *Trachelas* in terms of general somatic morphology. Colouration and markings are relatively stable in *Thysanina*, described above, but are considerably more variable in *Trachelas*, which usually have a red-brown carapace with a grey to black abdomen compared to the yellow-brown carapace with grey chevron marking of *Thysanina*. The American genus *Meriola* Banks, 1895 is similar in appearance to *Thysanina* with a

Fig. 41. Distribution of *Thysanina* in the Afrotropical region.

slight variation in the texture of the abdomen, which is pitted in *Meriola* (Platnick & Ewing 1995) and smooth in *Thysanina*. The eye arrangement and chevron markings are similar. The cusps of male *Meriola* are elongated with a narrower, rounded point and indented base (Platnick & Ewing 1995, figs 2, 3), compared to the male *Thysanina,* which have a broad base with a relatively sharp point (Fig. 9).

While the presence of ventral leg cusps in males and absence of cusps in females is consistent amongst all species in the genus, an absence of leg spines is not. Two species, *T. similis* and *T. transversa*, have a limited number of regular leg spines in both sexes, but these are still very few compared to those found in the Corinninae and Castianeirinae. This indicates that leg spines may persist in some species of certain tracheline genera. Platnick and Ewing (1995) also reported that several species of the American genus *Meriola* Banks, 1895 have leg spines on the anterior femora, while most species in the genus lack spines. This variation in the presence of leg spines may yet display itself in other Afrotropical genera too, and requires further investigation. For one, Afrotropical *Cetonana* Strand, 1942 species all appear to have distinctive leg spines in both sexes, in addition to cusps in males, a character that may support the monophyly of this particular genus.

Regarding genitalic morphology, suggesting that a distinctive pattern of genitalic evolution is evident in *Thysanina* would be premature. For example, regarding male palpal morphology, four of the species (*absolvo*, *serica*, *similis* and *transversa*) have a

broadly coiled embolus originating prolaterally and distally on the tegulum. This contrasts from a proximal prolaterally originating wire-like embolus in *gracilis*, and a short, distal peg-like embolus in *capensis*. Based on the current data presented in this paper, several species are known from very few specimens and localities. This has been compounded by the fact that large areas within the Afrotropical region have not been sampled or have only been poorly sampled, as well as the large number of unidentified tracheline specimens in museum collections. It is, therefore, likely that additional species remain undescribed, which could fill the gaps in determining the pattern of genitalic evolution and biogeography of the genus.

An earlier paper by Platnick (2001) on the genus *Paccius*, in which five new species were described from a single Madagascan reserve, as well as the current paper, exemplify the currently poor knowledge of the systematics of Afrotropical tracheline sac spiders, and highlights the urgent need for further studies to determine more accurately the diversity of the group in the region. This revision is the first step in providing updated information on the group, with a long-term aim of resolving the phylogenetic and biogeographical relationships of the region's fauna.

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