Revision of the African genera *Pterinochilus* and *Eucratoscelus* (Araneae, Theraphosidae, Harpactirinae) with description of two new genera

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Summary

The African theraphosid genera *Pterinochilus* Pocock, 1897 and *Eucratoscelus* Pocock, 1898 are revised, keyed, and their species distributions mapped. The subfamily Harpactirinae is redefined and its genera keyed. The following new synonyms and transfers are proposed: *Brachionopus* Pocock, 1897 is transferred to the Barychelidae; *Pterinochilus chordatus* (Gerstäcker, 1873) is removed from the synonymy of *P. constrictus* (Gerstäcker, 1873); *Pterinochilus widenmanni* Strand, 1906, *P. raptor* Strand, 1906, *P. affinis* Tullgren, 1910, *P. sjostedti* Tullgren, 1910, *P. carnivorus* Strand, 1917, *P. brunellii* Caporiacco, 1940 and *Coelogenium raveni* Smith, 1990=*P. chordatus*; *Idiothele pluridentata* Hewitt, 1919 and *Eucratoscelus tenuitibialis* Schmidt & Gelling, 2000=*P. lugardi* Pocock, 1900; *P. elevatus* (Karsch, 1878) is removed from the synonymy of *P. constrictus*; *P. elevatus nomen oblitum*, *P. mamillatus* Strand, 1906 and *P. hindei* Hirst, 1907=*P. murinus* Pocock, 1897 *nomen protectum*; *P. mutus* Strand, 1920=*P. simoni* Berland, 1917; *P. constrictus* is transferred to *Eucratoscelus*, n. comb.; *E. longiceps* Pocock, 1898 and *P. spinifer* Pocock, 1898=*E. constrictus* (Gerstäcker, 1873); *Augacephalus*, gen. n. is established for *P. breyeri* Hewitt, 1919 and *P. junodi* Simon, 1904; *Idiothele* Hewitt, 1919 is removed from the synonymy of *Pterinochilus*; *P. crassispinus* Purcell, 1902= *I. nigrofulva* (Pocock, 1898); *Trichognatha*, gen. n. is established for *P. schonlandi* Pocock, 1900. The males of *Augacephalus breyeri* (Hewitt, 1919), *A. junodi* (Simon, 1904) and *Eucratoscelus pachypus* Schmidt & von Wirth, 1990 are described for the first time, as is the female of *Trichognatha schonlandi*.

Introduction

In 1873 Gerstäcker described *Harpactira constricta* Gerstäcker, 1873 and *H. chordata* Gerstäcker, 1873 from Dafeta (=Taveta?), in the Kilimanjaro region of East Africa. A few years later Karsch described *H. elevata* Karsch, 1878 from Mozambique and synonymised *H. constricta* with *H. chordata*, citing *H. constricta* as an immature (NB: Strand, 1907a cited *H. chordata* as the junior synonym by virtue of page priority). Pavesi (1881) later synonymised *H. elevata* with *H. chordata*. It was not until the work of Pocock (1897) that the newly created genus *Pterinochilus* Pocock, 1897 was distinguished from *Harpactira* Ausserer, 1871. Pocock expressed the opinion that *H. constricta*, *H. chordata* and *H. elevata* belonged within *Pterinochilus*. Pocock's type species was *P. vorax* Pocock, 1897, based on a specimen from Lake Tanganyika. In the same work he described *P. murinus* Pocock, 1897 from Tanzania and the new genera *Brachionopus* Pocock, 1897 and *Ceratogyrus* Pocock, 1897. In the following year Pocock added *P. nigrofulvus* Pocock, 1898a from South Africa and also noted the discovery of *P. vorax* in Malawi. With the receipt of a collection of East African arachnids from Mr Betton, Pocock was able to establish a new genus *Eucratoscelus* Pocock, 1898b, based on its type species *E. longiceps* Pocock, 1898b. In the same paper he also described *Pterinochilus spinifer* Pocock, 1898b. A subsequent paper by Pocock saw the description of *P. schonlandi* Pocock, 1900a and *P. lugardi* Pocock, 1900a.

Working from Cape Town, Purcell described a further South African species, *P. crassispinus* Purcell, 1902, which possessed a conical distal segment on the posterior spinneret. He acknowledged the similarity of his new species with *P. nigrofulvus*, but based its distinction on the false assumption that *P. nigrofulvus* possessed a digitiform distal segment on the posterior spinneret. In the same paper Purcell proposed *Coelogenium* Purcell, 1902, a new genus, to accommodate a Zimbabwean specimen with a strongly procurved fovea (*C. pillansi* Purcell, 1902), which did not conform to any genera known at the time (i.e. *Harpactira*, *Pterinochilus*, *Eucratoscelus* and *Ceratogyrus*). He also established the genus *Harpactirella* Purcell, 1902. Two years later *Pterinochilus junodi* Simon, 1904 was added to the South African fauna. Hirst was also working on the genus and proposed two new species, *P. hindei* Hirst, 1907 and *P. meridionalis* Hirst, 1907. *Pterinochilus hindei* was acknowledged as being similar to Pocock's *P. murinus*, but differed in the ratio between the palpal femur and carapace lengths. Tullgren, examining Tanzanian material collected by Prof. Sjöstedt, described two additional species based on single females from Kibonoto (=Kibongoto?), namely *P. affinis* Tullgren, 1910 and *P. sjostedti* Tullgren, 1910. Hewitt, curator at the Transvaal Museum, also contributed further species to the genus. He described *P. breyeri* Hewitt, 1919 from Malelane, but also established a new genus *Idiothele* Hewitt, 1919 to accommodate both *P. nigrofulvus* and a new species *I. pluridentata* Hewitt, 1919. Berland described *P. alluaudi* Berland, 1914 from Kenya based on a single male specimen. Three years later he also described *P. simoni* Berland, 1917 from Landana (=Cacongo), Democratic Republic of Congo (Zaire). A single, dark specimen collected in Fossa Galla (=Rift Valley), Ethiopia was considered by Caporiacco to warrant specific status and was described as *P. brunellii* Caporiacco, 1940.

One of the most prolific workers on *Pterinochilus* was Strand, who described several species. *Pterinochilus widenmanni* Strand, 1906a and *P. mamillatus* Strand, 1906a were the first species he proposed, closely followed by *P. raptor* Strand, 1906b, *P. carnivorus* Strand, 1917, *P. mutus* Strand, 1920, *P. occidentalis* Strand, 1920, *P. occidentalis* (var.?) Strand, 1920 and *Pterinochilides obenbergeri* Strand, 1920. He also proposed that *P. vorax* was a synonym of *P. constrictus* (Strand, 1907a). Unfortunately many of Strand's types/specimens were housed in the Staatliches Museum für Naturkunde, Stuttgart and were destroyed during World War II (W. Schawaller, pers. comm.). Fortunately the species he described in 1920 were housed in Brussels and survived. Likewise a specimen identified as *P. constrictus* by Strand (1907a) also survived in Berlin. Laurent (1946) re-examined Strand's types of *P. occidentalis*, *P. mutus*

and *Pterinochilides obenbergeri* and concluded that *Pterinochilides* was a junior synonym of *Pterinochilus* and that both *P. occidentalis* and *P. obenbergeri* were synonyms of Berland's *P. simoni*. Laurent (1946) also synonymised *P. occidentalis* (var.?) with *P. mutus*.

In his revision of the mygalomorph genera, Raven (1985) synonymised *Idiothele* with *Pterinochilus*, but he did not examine the type of *Idiothele*. In his opinion the possession of a conical distal segment on the posterior spinneret was autapomorphic within *Pterinochilus*, a view not held here. Raven also agreed with Laurent's synonymy of *Pterinochilides* with *Pterinochilus*. Smith (1990) worked on the African theraphosids housed in the British Museum and provided useful illustrations of the *Pterinochilus* and *Eucratoscelus* types in that collection. In the same work he described *Coelogenium hillyardi* Smith, 1990 and *C. raveni* Smith, 1990. Smith (1990) also rejected Strand's synonymy of *Pterinochilus vorax* with *P. constrictus*. In the same year Schmidt & von Wirth (1990) described *Eucratoscelus pachypus* Schmidt & von Wirth, 1990 from Tanzania. Schmidt also described *Coelogenium nigrifemur* Schmidt, 1995 from the exuviae of a female.

Charpentier (1993) suggested that *Coelogenium* was a junior synonym of *Pterinochilus*. He incorrectly stated that *C. pillansi* and *C. hillyardi* possess straight foveae, citing this as the sole reason for the synonymy. Smith (1996) and Platnick (1998) both rejected Charpentier's synonymy, highlighting the fact that Charpentier failed to examine type material or consult the original literature. Peters (1998a, b, c, d, e, f, 1999) produced a series of articles on *Eucratoscelus* and *Pterinochilus* aimed at the arachnocultural community. These articles provide little new taxonomic data and are mainly translations of original descriptions, supplemented by photographs of living specimens, purportedly conspecific (no voucher material was cited). With the exception of the *Eucratoscelus* piece (Peters, 1998a), where misidentification is unlikely, these articles are not treated in this revision. Schmidt *et al*. (2000) redescribed *Pterinochilus mamillatus* and described the female for the first time. This paper was rapidly followed by the description of *Eucratoscelus tenuitibialis* Schmidt & Gelling, 2000, a species acknowledged by the authors as phenotypically similar to *Pterinochilus*. In the same work they suggested that the diagnostic generic character of *Eucratoscelus* was not the possession of an incrassate tibia IV, but instead the possession of lobed spermathecae (Schmidt & Gelling, 2000). Gallon (2001) synonymised *Coelogenium* with *Ceratogyrus*, redefined the genus and revised the species formerly included in *Coelogenium*. In the same work *Pterinochilus meridionalis* was transferred to *Ceratogyrus* and *Coelogenium raveni* to *Pterinochilus*. *Coelogenium nigrifemur* was also synonymised with *Pterinochilus junodi*.

Hitherto the genera *Pterinochilus* and *Eucratoscelus* comprised 23 and 3 species respectively. The present work revises the two genera, subdividing *Pterinochilus sensu lato* into four distinct genera: *Pterinochilus sensu stricto*, *Augacephalus* gen. n., *Idiothele* and *Trichognatha* gen. n. Sixteen new species synonymies are proposed and two existing species synonymies are rejected, leaving *Pterinochilus sensu stricto* with six species, both *Augacephalus* gen. n. and *Eucratoscelus* with two species, and *Idiothele* and *Trichognatha* gen. n. with one species each.

Raven (2000) pointed out that present day theraphosid research is mainly concerned with descriptions of new taxa, often with little attention given to characterising pre-existing species. This factor, coupled with a paucity of genus revisions, has made it impossible to identify many theraphosid species with certainty. This work attempts to address this problem by presenting a thorough revision of the genera *Pterinochilus* and *Eucratoscelus*. The keys, figures and maps presented will allow unambiguous identification of this group for the first time.

Material and methods

This revision is based on the examination of approximately 400 specimens from several museum collections (see below). Type material was consulted where necessary to confirm identifications, but the species were redescribed from a range of specimens to account for intraspecific variation. Geographical co-ordinates, where not specified on data labels, were obtained from the *Road Atlas and Touring Guide of Southern Africa* (1974) and *The Times Atlas of the World* (1997). Altitudinal data were derived from Turner (1958) and the *Road Atlas and Touring Guide of Southern Africa* (1974) and are given $\pm$ 50 m. Maps were generated using the computer program DMAP written by Dr Alan Morton.

All appendage and body measurements (sclerotised dorsal aspect) were made using a dial calliper ($\pm$ 0.1 mm). Total length was taken to be the sum of chelicera, carapace and abdomen lengths, excluding spinnerets. Eye measurements were determined microscopically from photographs (after Edwards, 1996) and represent the maximum length/diameter measured dorsally ($\pm$ 0.01 mm). Clypeus length was taken as the distance between the anterior margins of the carapace and ocular tubercle. Palpal bulbs were removed from the cymbia, where permitted by museums, and examined from three different positions. The first position was a retrolateral view with the bulb lying on a flat surface. The second, ventral position was such that the bulb rested on a flat surface, balanced on its embolic tip and basal sclerite. The third, dorsal view was obtained by fixing the embolus onto blu-tack. Spermathecae were dissected as outlined by Smith (1990). Palpal bulb keel nomenclature follows Bertani (2000). All measurements are in mm and are presented in the form ''range (mean $\pm$ SD; *n*)''. Coloration was determined, where possible, from living material. Where live material was unavailable, coloration was described from the most recently preserved alcohol material. ''Divided tarsal scopulae'' was taken to mean scopulae divided by a thick band of stiffened setae, as described by Pérez-Miles (1994). Leg spination is presented as modal data and follows De Wet & Dippenaar-Schoeman (1991) with

additions. Male maturity periods are given for mature, wild-caught material.

Abbreviations: Eyes: AME=anterior median, ALE=anterior lateral, PME=posterior median, PLE=posterior lateral. Leg spines: DMV=distal midventral, DPD=distal prodorsal, DPL=distal prolateral, DPV=distal proventral, DRD=distal retrodorsal, DRV=distal retroventral, MPL=medial prolateral, MPV=medial proventral, MRD=medial retrodorsal, MRV=medial retroventral, PRD=proximal retrodorsal, PPV=proximal proventral. Spinnerets: DS=distal segment. Immature=imm. Collections: BMNH=Natural History Museum, London, United Kingdom; HLMD=Hessisches Landesmuseum, Darmstadt, Germany; ISNB=Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium; MHNG=Muséum d'Histoire Naturelle, Geneva, Switzerland; MMUE=Manchester Museum, Manchester, United Kingdom; MNHN=Muséum National d'Histoire Naturelle, Paris, France; MRAC=Musée Royal de l'Afrique Centrale, Tervuren, Belgium; MWNH=Museum Wiesbaden, Wiesbaden, Germany; NHRS=Naturhistoriska Riksmuseet, Stockholm, Sweden; NM=Natal Museum, Pietermaritzburg, South Africa; NMBA=National Museum, Bloemfontein, South Africa; NMZA=Natural History Museum of Zimbabwe, Bulawayo, Zimbabwe; PPRI=Plant Protection Research Institute, Pretoria, South Africa; RGPC=private collection of Richard Gallon; SAM=South African Museum, Cape Town, South Africa; SMFD=Forschungsinstitut und Naturmuseum Senckenberg, Frankfurt-am-Main, Germany; SMNS=Staatliches Museum für Naturkunde, Stuttgart, Germany; TM=Transvaal Museum, Pretoria, South Africa; ZMB=Museum für Naturkunde der Humboldt-Universität, Berlin, Germany.

Subfamily Harpactirinae Pocock, 1897

Harpactirinae Pocock, 1897: 744; Raven, 1985: 117 (not *Brachionopus*); Smith, 1990: 62 (not *Brachionopus*); Schmidt, 1993: 114.
Selenocosmieae Simon, 1889: 204 (in part).
Harpactireae: Simon, 1903: 946.

Genera included: *Augacephalus* gen. n., *Ceratogyrus* Pocock, 1897, *Eucratoscelus* Pocock, 1898, *Harpactira* Ausserer, 1871, *Harpactirella* Purcell, 1902, *Idiothele* Hewitt, 1919, *Pterinochilus* Pocock, 1897, *Trichognatha* gen. n.

Diagnosis: All harpactirine genera, except *Harpactirella*, are distinguished from other African, New World and most Asian subfamilies by the possession of a retrolateral cheliceral scopula. Harpactirinae are distinguished from the Asiatic Ornithoctoninae Pocock, 1895 by the absence of spike setae on the prolateral surface of the palpal maxilla and by the absence of paddle setae on the lower, retrolateral surface of the chelicerae. *Harpactirella* is distinguished from the Eumenophorinae Pocock, 1897 by the absence of stridulatory setae between the coxae of legs I and II and the palp. It is separated from the Selenogyrinae Smith, 1990 by the absence of clavate or spike setae on the prolateral cheliceral surface and differs from the Ischnocolinae Simon, 1892 by the absence of proximal tibial leg spines and by the possession of a single DPV tibial spur in the male. *Harpactirella* is distinguished from the Stromatopelminae Schmidt, 1993 by the possession of a single DPV tibial spur in the male and by the unmodified (not laterally developed) tarsal and metatarsal scopulae.

Description: Medium to small theraphosids with dorsal abdominal pattern consisting of bars, spots and reticulations (obscure in *Eucratoscelus* and some *Harpactira*). Carapace often with pale, radial striae. Most genera with retrolateral cheliceral scopula composed of plumose setae acting as stridulatory organ against similar scopula on palpal trochanter (*Augacephalus* gen. n., *Ceratogyrus*, *Eucratoscelus*, *Harpactira*, *Pterinochilus*). In some genera these scopulae composed of weakly plumose or non-plumose setae (*Idiothele* and *Trichognatha* gen. n. respectively). In *Harpactirella* such scopulae absent. Additional prolateral scopula present between chelicerae of *Harpactira* (plumose) and *Trichognatha* gen. n. (non-plumose). *Harpactira* also with large, plumose maxillary strikers acting as stridulatory organ against row of stiffened setae below retrolateral cheliceral scopula. Distal segment of posterior spinneret digitiform in all genera except *Idiothele*, where sub-conical. All tarsi with integral scopulae, except some *Harpactirella* species. Metatarsal scopulae of legs I–III integral; metatarsal scopula of leg IV bisected longitudinally by band of stiffened setae. Spines present on metatarsi III, IV (occasionally on I, II) and distal portion of all tibiae, absent from all other segments. Fovea transverse or slightly procurved except in *Ceratogyrus*, where strongly procurved, often with foveal protuberance. Sternum with three pairs of sub-circular/oval, typically submarginal sigilla, decreasing in size anteriorly. Spermathecae paired, sometimes with single, terminal lobes (*Eucratoscelus* and some *Pterinochilus*, *Harpactira* and *Harpactirella* species). Palpal bulb pyriform, typically with elongated, acuminate embolus. Conductor absent. Embolic keels present or absent. Male tibial spur usually present on leg I, composed of single DPV apophysis surmounted by single megaspine (absent only in *Augacephalus junodi*).

Remarks: Raven (1985), followed by Smith (1990), suggested that a key feature of the Harpactirinae was the possession of a wide clypeus. Whilst this is a distinct feature in *Ceratogyrus*, *Harpactira*, *Idiothele*, *Augacephalus* gen. n. and some *Pterinochilus* spp. (*P. chordatus* and *P. vorax*), it is not a universal feature of the subfamily (for example, the clypeus is narrow in both *P. murinus* and *P. simoni*).

The taxonomic positions of *Harpactirella* and *Brachionopus* have remained in a state of flux since their establishment. *Brachionopus* was originally placed in the Barychelidae on account of the conical distal segment on its posterior spinneret and by the presence of a "scarcely perceptible" rastellum (Pocock, 1897). Purcell (1902) described *Harpactirella* and placed it within the Theraphosidae on account of the digitiform distal segment on its posterior spinneret and its small rastellum.

Purcell (1903) later suggested that *Harpactirella* was similar to *Brachionopus* and transferred *Harpactirella* to the Barychelidae. Raven (1985) moved both genera to the Theraphosidae and tentatively suggested that they belonged within the Harpactirinae on account of their wide clypeus. Smith (1990) followed Raven, but Schmidt (1993) considered that both *Harpactirella* and *Brachionopus* were barychelids. Charpentier (1993) suggested that both *Brachionopus* and *Harpactirella* were barychelids because *Harpactirella* possesses a primitive rastellum and male *Brachionopus* lack tibial spurs. Charpentier's proposal was rejected by both Smith (1996) and Platnick (1998).

Examination of the type species of *Harpactirella* revealed that it shares several features with other harpactirine genera (Gallon, in prep.). These include the possession of a single DPV tibial spur in the male, the form of the palpal bulb, the absence of spines on the proximal region of the tibiae, and the digitiform distal segment on the posterior spinneret. For these reasons it is suggested here that *Harpactirella* be retained in the Harpactirinae.

Examination of the type species of *Brachionopus* and congeners from PPRI, TM and ZMB showed that this genus belongs within the barychelids. Raven (1985) suggested three characters which supported the monophyly of the barychelids: absence of third tarsal claw, biserially dentate paired claws in males, and well-developed scopulae on tarsi I and II. All three character states are also present amongst the Theraphosidae (Raven, 1985). Raven (1994) stated that clavate trichobothria if present on the tarsi are always about 4–6 in number and occur more basally in barychelids. He cited this as a distinguishing feature from the theraphosids. Raven also noted that such trichobothria are positioned along the length of theraphosid tarsi. Examination of adult females of several African theraphosid genera showed that clavate trichobothrial position varied. In *Phoneyusa* Karsch, 1884, *Hysterocrates* Simon, 1892 and *Citharischius* Pocock, 1900b clavate trichobothria exist in a V-shaped region extending along the length of the tarsi. In *Harpactira*, *Pterinochilus*, *Augacephalus* gen. n., *Eucratoscelus*, *Ceratogyrus*, *Trichognatha* gen. n., *Harpactirella* and *Idiothele* the clavate trichobothrial "V" is confined to the distal region of the tarsus. In both *Stromatopelma* Karsch, 1881 and *Heteroscodra* Pocock, 1899 the clavate trichobothrial field is shield-shaped and confined to the distal region of the tarsus. All these theraphosid genera were found to possess 15–20 clavate trichobothria on the dorsum of tarsus I. By contrast *Brachionopus* material possessed 6–10 clavate trichobothria confined to the distal region of the tarsus.

Most theraphosids have reduced leg spination (Raven, 1985), a densely hirsute carapace, digitiform distal segment of the posterior spinneret and dense labial cuspules (Dippenaar-Schoeman & Jocqué, 1997). All examined *Brachionopus* material was found to have a weakly hirsute carapace, short distal segment of the posterior spinneret and reduced labial cuspules (<10). *Brachionopus* specimens were also found to possess retrodorsal tibial spines on leg IV (1PRD, 1MRD, 1DRD). Some specimens also possessed retrodorsal tibial spines on leg III. Proximal and medial proventral tibial spines were present on some specimens on legs III and IV. This spination is not present in Harpactirinae. Raven (1994) noted that barychelids often have a squared-off tarsal profile as found in *Brachionopus*. This feature is not present in theraphosids (pers. obs.), where the dorsum of the tarsus slopes gently towards the tarsal claws. Raven (1985) noted that the presence of a distinct maxillary anterior lobe in *Brachionopus* precluded its inclusion in the Barychelidae. Although the anterior lobe is distinct in *Brachionopus*, as in theraphosids, it is not dissimilar in size to some barychelid forms illustrated in Raven (1994). Male *Brachionopus* lack a DPV tibial spur on leg I (Raven, 1985), although it was found that the DPV tibial leg spine is somewhat enlarged. The palpal bulb was also found to differ from the typical harpactirine form, the embolus emerging ventrally from the tegulum and bending 90° in its proximal region (viewed retrolaterally). The cymbium was found to possess a retrodorsal spinose field, which is unknown amongst the Harpactirinae.

The following *Brachionopus* characteristics are cited as evidence for its inclusion in the Barychelidae: few clavate trichobothria confined to the distal tarsal surface, heavily spined legs III and IV (including proximal and medial regions of tibiae), reduced carapace pilosity, short distal segment of posterior spinneret, sparse labial cuspules and squared-off tarsal profile. The lobed spermathecae are also the most widespread barychelid form (Raven, 1994). Because of the distribution of labial and maxillary cuspules and the possession of a wide clypeus, *Brachionopus* does not fit in any current barychelid subfamily (Raven, 1985) and so is considered Barychelidae *incertae sedis*.

Key to the genera of Harpactirinae

1. Retrolateral surface of chelicera with distinct scopula.....2
— Scopula absent on retrolateral cheliceral surface..... *Harpactirella*
2. Upper prolateral surface of chelicera with distinct scopula.....3
— Scopula absent on upper prolateral cheliceral surface.....4
3. Prolateral surface of maxilla with several large, plumose stridulatory strikers; discrete row of bristles below retrolateral cheliceral scopula present..... *Harpactira*
— Stridulatory strikers absent on prolateral surface of maxilla; discrete row of bristles below retrolateral cheliceral scopula absent..... *Trichognatha* gen. n.
4. Distal segment of posterior spinneret sub-conical (Fig. 76)..... ..... *Idiothele*
— Distal segment of posterior spinneret digitiform (Fig. 8).....5
5. Fovea strongly procurved and/or with distinct protuberance..... .....*Ceratogyrus*
— Fovea transverse or very slightly procurved..... 6
6. Females.....7
— Males..... 9
7. Tibia IV incrassate (viewed dorsally) (Figs. 102, 108); DPD spine on metatarsi III and IV absent..... *Eucratoscelus*
— Tibia IV not incrassate; DPD spine on metatarsi III and IV present..... 8
8. Chelicerae clothed in grey velvety setae without long emergent setae; legs I–II and palpi robust (Fig. 70).....*Augacephalus* gen. n.
— Chelicerae with numerous long emergent setae; legs I–II and palpi not robust.....*Pterinochilus*

9. Metatarsus I with DPV tumid protuberance (Figs. 106, 112); DPD spine on metatarsi III and IV absent..... *Eucratoscelus*
— Metatarsus I without DPV tumid protuberance; DPD spine on metatarsi III and IV present.....10
10. Tibia I without DPV tibial apophysis or, if present, apophysis megaspine reduced (Figs. 71, 61)..... *Augacephalus* gen. n.
— Tibia I with well-developed DPV tibial apophysis surmounted by well-developed megaspine (Fig. 9)..... *Pterinochilus*

Genus *Pterinochilus* Pocock, 1897

Pterinochilus Pocock, 1897: 752; Laurent, 1946: 316 (syn.); Smith, 1990: 92 (in part).
Pterinochilides Strand, 1920: 99; Raven, 1985: 158.

Type species: *Pterinochilus vorax* Pocock, 1897.

Species included: *P. alluaudi* Berland, 1914, *P. chordatus* (Gerstäcker, 1873), *P. lugardi* Pocock, 1900, *P. murinus* Pocock, 1897, *P. simoni* Berland, 1917, *P. vorax* Pocock, 1897.

Diagnosis: Distinguished from *Harpactirella* by the presence of a retrolateral cheliceral scopula composed of plumose setae. Separated from *Harpactira* and *Trichognatha* gen. n. by the absence of a dense scopula on the upper prolateral cheliceral surface. Further separated from *Harpactira* by the absence of plumose, stridulatory strikers on the prolateral maxillary surface, and by the absence of a discrete row of bristles below the retrolateral cheliceral scopula. Distinguished from *Idiothele* by the possession of a digitiform DS on the posterior spinneret. Differs from *Ceratogyrus* by the lack of a foveal tubercle/procurved fovea. Female *Pterinochilus* are separated from those of *Eucratoscelus* by the unmodified (not incrassate) tibiae of leg IV. Male *Pterinochilus* are separated from those of *Eucratoscelus* by the absence of a DPV tumid protuberance on metatarsus I. The presence of a DPD spine on metatarsi III and IV further separates both sexes of *Pterinochilus* from those of *Eucratoscelus*. Female *Pterinochilus* are separated from those of *Augacephalus* gen. n. by the possession of long emergent setae on the chelicerae, less robust palpi and legs I–II, and by circular submarginal posterior sternal sigilla. Male *Pterinochilus* are distinguished from those of *Augacephalus* gen. n. by the presence on tibia I of a well-developed DPV apophysis surmounted by a well-developed megaspine.

Key to the species of *Pterinochilus*

1. Females (♀ of *P. alluaudi* unknown)..... 2
— Males..... 6
2. Spermathecae with single terminal lobes.....3
— Spermathecae without terminal lobes.....5
3. Scopula on prolateral face of palpal trochanter bisected by longitudinal line of stiffened setae (Fig. 35)..... *P. simoni*
— Scopula on prolateral face of palpal trochanter not bisected by longitudinal line of stiffened setae (Fig. 26).....4
4. Retrolateral cheliceral scopula large, composed of well-developed plumose setae (Fig. 50); overall coloration brown..... *P. vorax*
— Retrolateral cheliceral scopula small, composed of more weakly-developed plumose setae (Fig. 18); overall coloration pale grey..... *P. lugardi*
5. DPL margin of maxilla with line of stiffened spike setae (Fig. 26); spermathecae curved inwards (Figs. 27–29)..... *P. murinus*
— DPL margin of maxilla without line of stiffened spike setae, if setae present in this position not stiffened; spermathecae rounded distally, usually splayed outwards (Figs. 4–6)..... *P. chordatus*
6. Scopula on prolateral face of palpal trochanter bisected by longitudinal line of stiffened setae (Fig. 35); carapace covered with pale, woolly setae; palpal bulb as in Figs. 42–46..... *P. simoni*
— Scopula on prolateral face of palpal trochanter not bisected by longitudinal line of stiffened setae (Fig. 26).....7
7. DPL margin of maxilla with line of stiffened spike setae (Fig. 26); embolus filiform, mid-inflected and acuminate (Fig. 32)..... *P. murinus*
— DPL margin of maxilla without line of stiffened spike setae, if setae present in this position not stiffened; embolus shorter, not distinctly mid-inflected.....8
8. Palpal bulb squat, cross section of embolus triangular in shape (Figs. 2–3)..... *P. alluaudi*
— Palpal bulb not squat, embolus not triangular in cross section...9
9. Metatarsus of leg I straight (Fig. 20)..... *P. lugardi*
— Metatarsus of leg I laterally flexed* (Fig. 51)..... 10
10. Embolus with inflected tip (Figs. 10–11)..... *P. chordatus*
— Embolus without inflected tip (Figs. 53–54)..... *P. vorax*

*Small male specimens of both *P. chordatus* and *P. vorax* can possess a straight metatarsus I. In such cases *P. vorax* is distinguished by its flexed embolus and *P. chordatus* by its inflected embolic tip. Both *P. chordatus* and *P. vorax* are darker in coloration than *P. lugardi*.

Pterinochilus alluaudi Berland, 1914 (Figs. 1–3)

Pterinochilus Alluaudi Berland, 1914: 46, figs. 5–6 (D♂).
Pterinochilus alluaudi: Smith, 1990: 94, figs. 489–490 (♂).

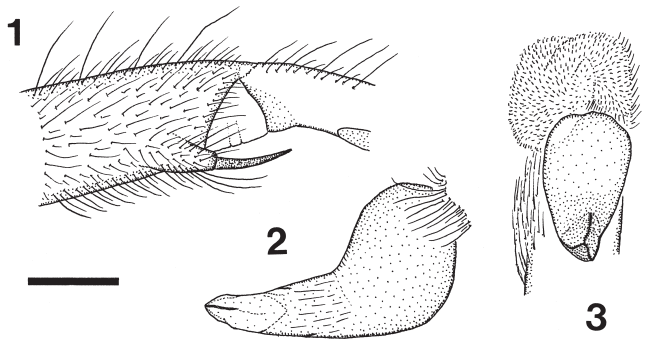
Type material: Holotype ♂ (MNHN AR4751) from Kenya, Maji Chumvi (=Maji ya Chumvi), 03°49′S, 39°22′E, 15 July 1903 (Ch. Alluaud); examined.

Diagnosis: Distinguished from all other *Pterinochilus* species by its squat embolus with three keels and triangular cross section (Figs. 2–3).

Male holotype: Total length 27.9. Carapace profile low, length 12.0, width 9.7. Abdomen length 12.1, width 7.7. Fovea transverse slit. Ocular tubercle length 1.49, width 1.75. Clypeus 0.35. Eye sizes: AME 0.54, ALE 0.54, PME 0.29, PLE 0.48. Sternum with three pairs of oval submarginal sigilla. Labium with *c*. 40 cuspules. Maxilla with *c*. 100 cuspules. DS of posterior spinneret digitiform. Cheliceral teeth not examined. Large stridulatory scopula of well-developed plumose setae on retrolateral cheliceral face, corresponding with scopula of similar plumose setae on prolateral trochanteral face of palp. Leg and palp segment lengths in Table 1. Femur of leg III not incrassate. Metatarsus of leg I straight. All tarsi with integral scopulae. Metatarsal scopulae of legs I–III integral; metatarsal scopula of leg IV bisected longitudinally by band of stiffened setae. Spination: palp tibia 1DPV; leg I tibia 1DRV; leg II tibia 1DRV, 1DPV; leg III tibia 2DRV, 1DPV, metatarsus 1MPV,

	Fe	Pa	Ti	Mt	Ta
I	10.2	6.3	7.6	8.3	6.1
II	9.5	5.9	6.6	7.2	5.6
III	7.8	4.8	5.5	7.2	5.2
IV	10.8	4.9	7.3	10.6	6.3
Palp	6.2	3.9	4.9	—	2.3

Table 1: *Pterinochilus alluaudi* Berland, 1914. Lengths of leg and palp segments of holotype male.



Figs. 1–3: *Pterinochilus alluaudi* Berland, holotype ♂. **1** Tibial spur of left leg I, prolateral view; **2** Left palpal bulb, retrolateral view; **3** Left palpal bulb, anterior view. Scale line = 1.4 mm (1, 3), 1.0 mm (2).

1 additional MPV (in scopula) right leg only, 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD; leg IV tibia 2DRV, 1DPV, metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MRD, 1DPD, 1DRD. Remaining leg segments aspinose. Tibial spur (Fig. 1): DPV apophysis cylindrical, relatively short; long surmounted megaspine fine, curved, acuminate, protruding laterally. Coloration: uniformly pale brown with lighter bands at leg and palp joints. Carapace worn, but with evidence of radial, golden striae. Dorsum of abdomen with indistinct pattern of dark bars and spots. Venter of abdomen pale brown, but with lighter band over anterior booklung covers and epigastric scutum (probably less pale in live specimens). Posterior booklung covers similarly coloured. Palpal bulb (Figs. 2–3): pyriform with thick squat embolus. Embolus with distinct triangular cross section with three keels (prolateral superior, prolateral inferior and apical), one at each angle (Fig. 3).

Female: Unknown.

Other material examined: Known only from the holotype.

Distribution: Known only from Maji ya Chumvi, Kenya (Map 1). Altitude 200 m.

Ecology: Unknown. The male is mature in July.

Pterinochilus chordatus (Gerstäcker, 1873) (Figs. 4–13)

Harpactira chordata Gerstäcker, 1873: 487 (D♂); Ausserer, 1875: 187 (♂); Pavesi, 1881: 548 (in part, not synonymy list); Bösenberg & Lenz, 1895: 27 (part of synonymy list only). **Removed from synonymy of *Pterinochilus constrictus*.**

Pterinochilus Widenmanni Strand, 1906a: 17 (D♂). **New synonymy.**

Pterinochilus raptor Strand, 1906b: 606 (D♀); 1908a: 13 (D♂); 1908b: 26 (♀). **New synonymy.**

Pterinochilus constrictus: Strand, 1907a: 236 (not described ♀, part of synonymy list only); Smith, 1990: 94 (not described ♀, part of synonymy list only).

Pterinochilus affinis Tullgren, 1910: 89 (D♀); Smith, 1990: 93 (♀). **New synonymy.**

Pterinochilus Sjöstedti Tullgren, 1910: 90 (D♀). **New synonymy.**

Pterinochilus vorax: Berland, 1914: 45 (♂♀, misidentifications).

Pterinochilus carnivorus Strand, 1917: 166 (D♀). **New synonymy.**

Pterinochilus brunellii Caporiacco, 1940: 777 (D♀). **New synonymy.**

Pterinochilus widenmanni: Smith, 1988a: 137 (♂); 1990: 104 (♂).

Coelogenium raveni Smith, 1990: 77, figs. 377–385 (D♂). **New synonymy.**

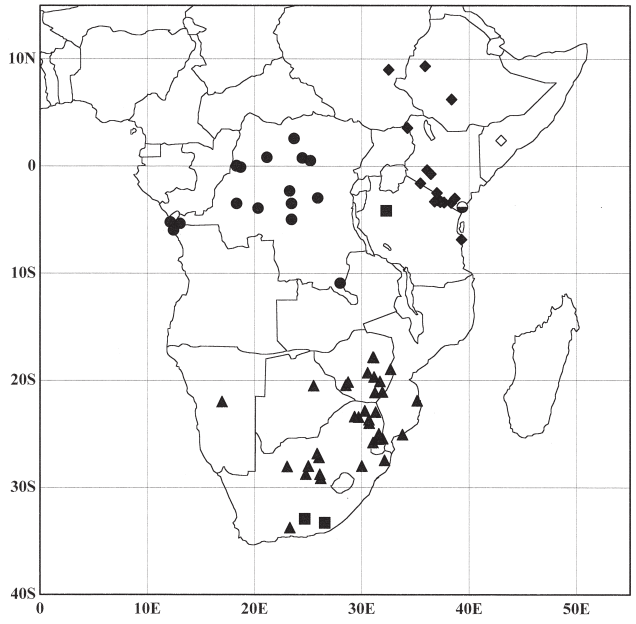
Pterinochilus brunelli: Smith, 1990: 94 (♀).

Pterinochilus sjostedti: Smith, 1990: 102 (♀).

Pterinochilus raveni: Gallon, 2001: 19 (♂ transferred from *Coelogenium*).

Type material: Holotype ♂ (ZMB 2350) of *H. chordata* from Kenya, Dschagga, Dafeta (=Taveta?) (Von der Decken), 03°23′S, 37°40′E; examined. Holotype ♂ (SMNS) of *P. widenmanni* from Tanzania, Moschi (=Moshi) (Dr Widenmann), 03°21′S, 37°19′E; not examined (destroyed in WWII). Holotype ♀ (SMNS) of *P. raptor* from Somalia; not examined (destroyed in WWII). Holotype ♀ (NHRS) of *P. affinis* from Tanzania, Kilimandjaro, Kibonoto (=Kibongoto?), 03°11′S, 37°06′E, 1300 m, March 1906 (Prof. Yngve Sjöstedt); examined. Holotype ♀ (NHRS) of *P. sjostedti* from Tanzania, Kilimandjaro, Kibonoto (=Kibongoto?), Kulturzone, 03°11′S, 37°06′E, March 1906 (Prof. Yngve Sjöstedt); examined. Holotype ♀ of *P. carnivorus* (MWNH) from Tanzania, Nkoaranga, 03°18′S, 36°48′E; not examined (probably destroyed in WWII). Holotype ♀ (depository unknown) of *P. brunellii* from Ethiopia, mountain near Lake Margherita (=Abaya Hayt'), 06°14′N, 38°22′E, 12 February 1938 (Prof. Brunelli); not examined. Holotype ♂ (BMNH 18.7.13) of *Coelogenium raveni* from Sudan, Sobat, 09°N, 32°30′E, 18 July 1913 (H. H. King); examined.

Remarks: The *Pterinochilus constrictus* female described by Strand (1907a) and later Smith (1990) is a misidentified specimen of *P. murinus*. Strand (1906a) noted that the holotype male of *P. widenmanni* possessed an incrassate femur III, a laterally flexed metatarsus I, black/brown carapace with pale striae, and a strong, curved embolus. This combination of features is found only in males of *P. chordatus* and *P. vorax*. Unlike *P. chordatus*, *P. vorax* is unknown from the Kilimanjaro region. For these reasons *P. widenmanni* is synonymised with *P. chordatus*. Strand (1908a) noted that the male of *P. raptor* possessed a slightly flexed metatarsus I and an inflected embolic tip (a species-specific feature of *P. chordatus*). Strand's male was a small specimen (total length 22 mm) which would explain the slightly flexed

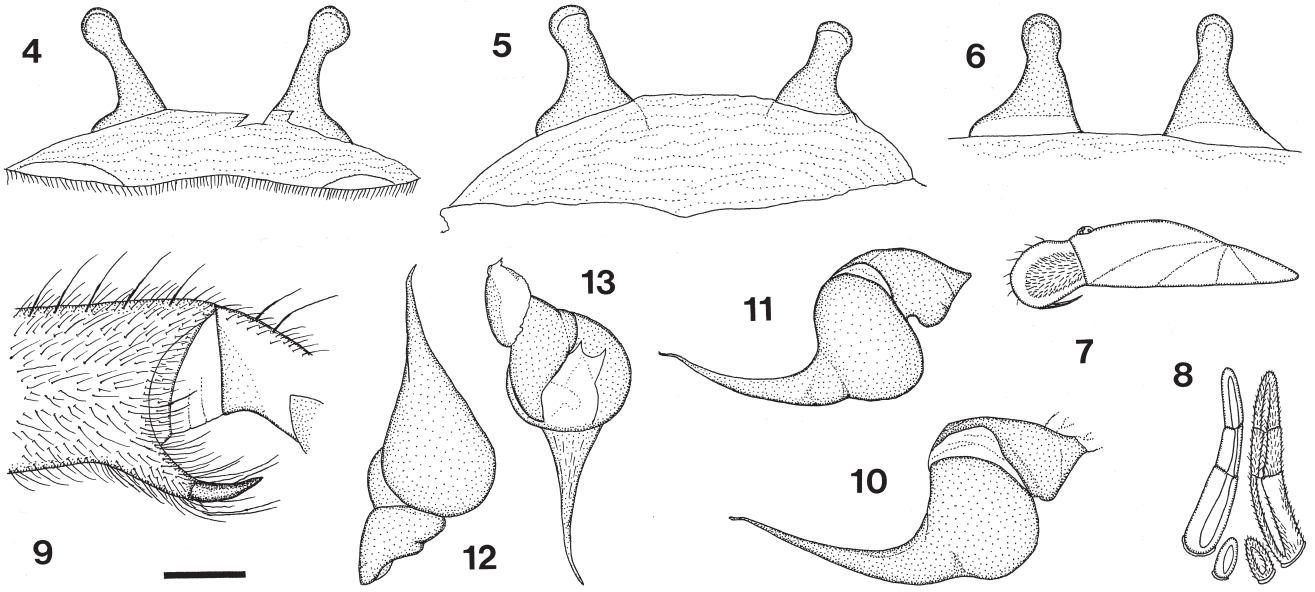


Map 1: Distribution of *Pterinochilus alluaudi* Berland ◒; *P. chordatus* (Gerstäcker) ◆ (◇ exact location unknown); *P. simoni* Berland ●; *Idiothele nigrofulva* (Pocock) ▲; *Trichognatha schonlandi* (Pocock) ■.

metatarsus I. All of Strand's *P. raptor* material was collected from Somalia, which is more consistent with the distribution of *P. chordatus* than of *P. vorax*. For these reasons *P. raptor* is synonymised with *P. chordatus*. The spermathecae of *P. sjostedti*, like those of *P. affinis*, are flattened, splayed outwards and rounded distally. The extent and composition of the retrolateral cheliceral scopula and associated prolateral palpal trochanter scopula are also similar in both types. Although the holotype of *P. sjostedti* is lighter in colour than that of *P. affinis*, this is easily explained by the fact that the holotype of *P. sjostedti* was preserved soon after ecdysis, its pale fangs being indicative of this. *Pterinochilus sjostedti* and *P. affinis* are synonymised with *P. chordatus* on the grounds of the features outlined above and because of the close proximity of their type localities. The holotype female of *P. carnivorus* was reportedly housed at Wiesbaden, but all specimens from that museum are temporarily housed at Darmstadt (F. Geller-Grimm, pers. comm.). The holotype could not be located at Darmstadt (W. Schneider, pers. comm.) and is likely to have been destroyed in WWII. Strand (1917) noted that the holotype female possessed a black carapace with pale striae and dark chelicerae. He also noted that the abdomen was matt black, but lacked the typical barred pattern found in other *Pterinochilus*, which he attributed to the fact that the specimen had been dried in the past. The dark coloration and indistinct dorsal abdominal pattern is consistent only with dark specimens of *P. chordatus*. The type locality of *P. carnivorus* lies within the distribution of *P. chordatus* and for these reasons the species is considered a junior synonym of *P. chordatus*. *Pterinochilus brunellii* is synonymised with *P. chordatus* on account of its overall dark coloration and its type locality, which is consistent with other records of *P. chordatus*. *Coelogenium raveni* is synonymised with *P. chordatus* because it possesses an embolus with an inflected tip. As with *P. brunellii*, the type locality of *C. raveni* is consistent with the distribution of *P. chordatus*.

Diagnosis: The female differs from *P. lugardi*, *P. simoni* and *P. vorax* by the absence of terminal lobes on the spermathecae (Figs. 4–6). Very rarely specimens of *P. vorax* may have terminal spermathecal lobes which fuse with the main body of the spermathecae; the fusion between the two sections is usually visible (Fig. 49) and permits identification (the fusion mark is absent in *P. chordatus*). The absence of a row of stiffened, scopula-bisecting setae on the prolateral face of the palpal trochanter further distinguishes both sexes from those of *P. simoni*. The absence of a row of spike setae on the DPL margin of the maxilla separates both sexes from those of *P. murinus*. The fact that the spermathecae do not curve inwards provides further distinction from *P. murinus*. Males differ from *P. vorax* by the possession of an inflected embolic tip (Figs. 10–11). Males are separated from those of *P. lugardi* by the possession of a laterally flexed metatarsus I; in small males metatarsus I is not flexed, but the inflected embolic tip permits identification. The elongated, acuminate, un-keeled embolus distinguishes the male from that of *P. alluaudi*. The male is readily separated from *P. murinus* by its shorter, more evenly curved embolus.

Female: Total length 38.9–54.4 (48.3 ± 4.6; 14). Carapace profile domed, raised at caput (Fig. 7), length 18.4–22.4 (19.9 ± 1.3; 14), width 14.2–19.1 (16.2 ± 1.3; 14). Abdomen length 14.7–27.3 (22.1 ± 3.2; 14), width 9.5–19.6 (14.9 ± 2.5; 14). Fovea transverse slit. Ocular tubercle length 1.74–2.13 (1.95 ± 0.09; 14), width 2.32–2.80 (2.57 ± 0.15; 14). Clypeus 0.44–0.99 (0.61 ± 0.17; 14). Eye sizes: AME 0.58–0.67 (0.61 ± 0.03; 14), ALE 0.49–0.73 (0.62 ± 0.07; 14), PME 0.44–0.67 (0.53 ± 0.05; 14), PLE 0.47–0.71 (0.55 ± 0.07; 14). Sternum with three



Figs. 4–13: *Pterinochilus chordatus* (Gerstäcker). **4** Spermathecae (holotype of *P. affinis*), dorsal view; **5** Spermathecae (holotype of *P. sjostedti*), dorsal view; **6** Spermathecae (BMNH, Sokodu, 2 August 1995), dorsal view; **7** Female carapace profile (MRAC 200.501); **8** Female spinnerets (holotype of *P. affinis*), posterior view; **9** Male tibial spur of left leg I (BMNH, Didessa Valley), prolateral view; **10** Male left palpal bulb (holotype), retrolateral view; **11** Male left palpal bulb (BMNH, Sokodu), retrolateral view; **12** Ditto, ventral view; **13** Ditto, dorsal view. Scale line = 1.4 mm (8, 9), 1.0 mm (4–6, 10–13), 7.0 mm (7).

	Femur	Patella	Tibia	Metatarsus	Tarsus
I	13.0–16.3 (14.2 ± 0.9)	8.5–10.6 (9.2 ± 0.6)	9.1–11.7 (10.0 ± 0.7)	7.7–10.4 (8.7 ± 0.8)	5.5–7.1 (6.4 ± 0.5)
II	11.1–14.2 (12.5 ± 0.8)	7.5–9.5 (8.1 ± 0.6)	7.2–9.7 (8.1 ± 0.7)	7.0–9.3 (7.7 ± 0.6)	5.4–6.8 (6.0 ± 0.4)
III	9.7–12.2 (10.6 ± 0.8)	6.3–8.4 (7.0 ± 0.5)	5.7–7.6 (6.2 ± 0.5)	7.2–9.4 (7.8 ± 0.6)	5.0–6.4 (5.8 ± 0.4)
IV	11.8–15.4 (13.2 ± 0.9)	6.9–9.0 (7.8 ± 0.6)	8.0–10.9 (9.3 ± 0.8)	9.6–13.2 (11.1 ± 1.0)	5.4–7.4 (6.6 ± 0.6)
Palp	9.1–11.2 (10.0 ± 0.6)	6.1–7.5 (6.6 ± 0.4)	5.7–11.5 (6.8 ± 1.4)	—	6.4–9·1 (7.4 ± 0.7)

Table 2: *Pterinochilus chordatus* (Gerstäcker, 1873). Lengths of leg and palp segments. Females ($n=14$) including holotypes of *P. affinis* and *P. sjostedti*. Range (mean ± SD).

pairs of oval submarginal sigilla. Labium with *c.* 60 cuspules. Maxilla with *c.* 100 cuspules. DS of posterior spinneret digitiform (Fig. 8). Chelicerae with 11–24 (14 ± 3: 14) teeth on promargin. Large stridulatory scopula of well-developed plumose setae on retrolateral cheliceral face (Fig. 7), corresponding with scopula of similar plumose setae on prolateral trochanteral face of palp; in large specimens plumose setae may extend onto proximal, prolateral region of palpal femur. Leg and palp segment lengths in Table 2. All tarsi with integral scopulae. Metatarsal scopulae of legs I–III integral; metatarsal scopula of leg IV bisected longitudinally by band of stiffened setae. Spination: palp tibia 2DRV, 2DPV; legs I, II tibiae 1DRV, 1DPV; legs III, IV tibiae 2DRV, 1DPV; leg II metatarsus 1DMV; leg III metatarsus 1MRV, 1MPV, 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD; leg IV metatarsus 1MRV, 1MPV, 1DRV, 1DMV, 1DPV, 1MRD, 1MPL, 1DPD, 1DRD. Remaining leg segments aspinose. Coloration: legs, palpi and chelicerae grey or black depending on colour form or duration since last moult. Leg and palp joints pale yellow. Carapace grey or black with golden, radial striae (striae sometimes fine or absent); dark ''mask'' around ocular tubercle. Dorsum of abdomen grey or black with dark pattern of bars, spots and reticulations (in black colour form pattern ill-defined). Venter of abdomen grey or black with slightly paler booklung covers. In live specimens, epigastric scutum coloured as posterior region of abdomen, but pales slightly in alcohol. Sternum and coxae uniformly dark grey or black. Spermathecae (Figs. 4–6): paired, unlobed, with wide base terminating in flattened circular end; usually splayed outwards. Setal fringe on posterior margin of epigastric scutum composed of uniformly sized, short, straight setae.

Male: Total length 21.9–36.0 (31.3 ± 5.0; 7). Carapace profile low, length 9.8–17.4 (14.2 ± 2.4; 7), width 7.7–13.9 (11.6 ± 2.0; 7). Abdomen length 9.0–15.4 (13.2 ± 2.3; 7), width 6.1–11.0 (8.5 ± 1.8; 7). Fovea transverse slit. Ocular tubercle length 1.11–1.81 (1.53 ± 0.19; 9), width 1.51–2.28 (1.99 ± 0.22; 9). Clypeus 0.18–0.53 (0.33 ± 0.13; 9). Eye sizes: AME 0.40–0.60 (0.48 ± 0.06; 9), ALE 0.36–0.69 (0.54 ± 0.09; 9), PME 0.29–0.47 (0.39 ± 0.06; 9), PLE 0.37–0.56 (0.44 ± 0.07; 9). Sternum with three pairs of oval submarginal sigilla. Labium with *c.* 50 cuspules. Maxilla with *c.* 100 cuspules. DS of posterior spinneret digitiform. Chelicerae with 9–12 (11 ± 1; 9) teeth on promargin. Stridulatory scopulae as in female. Leg and palp segment lengths in Table 3. Femur of leg III incrassate. Metatarsus of leg I laterally flexed (not distinct in small specimens, e.g. BMNH Mara Sopa Lodge). Tarsal and metatarsal scopulae as in female. Spination: palp tibia 1DPV; leg I tibia 1DRV; leg II tibia 1DRV, 1DPV, metatarsus 1DMV; leg III tibia 1DRV, 1DPV, metatarsus 1MRV, 1MPV, 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD; leg IV tibia 2DRV, 1DPV, metatarsus 1MRV, 1MPV, 1DRV, 1DMV, 1DPV, 1MRD, 1MPL, 1DPD, 1DRD. Remaining leg segments aspinose. Tibial spur (Fig. 9): DPV apophysis robust, prominent; surmounted megaspine strong, curved, protruding ventrolaterally. Coloration: as in female, but carapace striae metallic golden (if present). Carapace margin and dorsum of trochanters coloured as carapace striae. Dark dorsal abdominal pattern ill-defined, without reticulations. Palpal bulb (Figs. 10–13): pyriform with thick, curved, acuminate embolus with inflected tip. Keels absent along embolus.

Material examined: ETHIOPIA: BMNH, 1♂, Didessa Valley below Bikilal near Gimbi, dug from burrow, 09°20′N, 35°54′E, July 1996 (Dr A. C. Gallon). KENYA: BMNH, 1♀, reared from egg sac produced by ♀ from Nairobi; BMNH, 1♂, stock probably from Nairobi, captive bred, 24 July 1997 (S. West); BMNH, 1 imm. ♀, 1 imm. ♂, Lake Nakuru, under rocks, 00°22′S, 36°05′E, 27 April 1995 (D. Penney); BMNH, 1♂, Mara Sopa Lodge, Maasai Mara Game Reserve, 01°36′S, 35°27′E, 7 July 2000, 2104 m (R. West); MRAC 174.055, 1♂, Tsavo National Park, 03°00′S, 38°40′E (Rechsteiner); MRAC 200.486, 1♀, Amboseli, 02°30′S, 37°00′E, June 1991; MRAC 200.501, 1♀, North Tsavo National Park, 03°00′S, 38°40′E, March 1990; MNHN AR 4749, 1♀, Naivasha, dans des terriers ouverts, 00°44′S, 36°26′E, December 1904 (Ch. Alluaud); RGPC, 1♂, Mara Sopa Lodge, Maasai Mara Game Reserve, 01°36′S, 35°27′E, 7 July 2000, 2104 m (R. West); ZMB 2350, 1♂ (holotype of *P. chordatus*), Dschagga, Dafeta (=Taveta?), 03°23′S, 37°40′E (Von der Decken); ZMB 32168, 1♂, Taita, 03°25′S, 38°20′E (Dr Hildebandt). SUDAN: BMNH 18.7.13, 1♂ (holotype of *Coelogenium raveni*), 18 July 1913, Sobat, 09°N, 32°30′E

	Femur	Patella	Tibia	Metatarsus	Tarsus
I	7.7–16.1 (12.8 ± 2.6)	4.4–8.3 (6.9 ± 1.2)	5.8–11.8 (9.1 ± 1.9)	6.2–12.5 (9.3 ± 1.9)	4.4–8.2 (6.3 ± 1.1)
II	7.1–14.3 (11.1 ± 2.2)	3.7–7.5 (6.2 ± 1.2)	5.2–9.2 (7.7 ± 1.3)	5.1–9.8 (7.6 ± 1.4)	4.3–7.2 (5.7 ± 0.9)
III	6.1–12.0 (9.5 ± 1.8)	3.3–6.2 (5.1 ± 0.9)	4.2–7.4 (6.0 ± 1.0)	5.6–10.2 (8.1 ± 1.4)	3.8–7.2 (5.5 ± 1.0)
IV	7.6–14.6 (11.9 ± 2.2)	3.8–7.1 (5.8 ± 1.0)	5.9–10.8 (8.7 ± 1.5)	7.1–14.1 (11.3 ± 2.1)	4.6–8.4 (6.3 ± 1.1)
Palp	4.6–8.7 (7.2 ± 1.4)	3.3–5.6 (4.7 ± 0.8)	4.1–6.6 (5.8 ± 0.9)	—	2.0–3.8 (3.3 ± 0.6)

Table 3: *Pterinochilus chordatus* (Gerstäcker, 1873). Lengths of leg and palp segments. Males ($n=7$) including holotype. Range (mean ± SD).

(H. H. King). TANZANIA: BMNH, 1♀, 1999 (R. Gabriel via Tanzanian dealer); MRAC 209.656, 1♂ 1♀, 1999 (R. Gabriel via Tanzanian dealer); NHRS, 1♀ (holotype of *P. affinis*), March 1906, Kilimandjaro, Kibonoto (=Kibongoto?), 03°11′S, 37°06′E, 1300 m (Prof. Yngve Sjöstedt); NHRS, 1♀ (holotype of *P. sjostedti*), March 1906, Kilimandjaro, Kibonoto (=Kibongoto?), Kulturzone, 03°11′S, 37°06′E (Prof. Yngve Sjöstedt); MNHN AR 4748, 1♀, Neu-Moschi (=Moshi), 03°21′S, 37°19′E, 12 April 1912 (Alluaud & Jeannel); ZMB 32165, 1♂, 1 imm. ♀, Dar es Salaam, 06°51′S, 39°18′E, 11 March 1894 (Dr Salvin); ZMB 32207, 1♀, 1999 (R. Gabriel via Tanzanian dealer). UGANDA: BMNH, 1♂, Sokodu near Kaabong, found as imm. in ploughed field and reared to maturity, 03°34′N, 34°15′E, 1 August 1995, specimen 3 in Gallon (1996) (R. C. Gallon); BMNH, 1♀, Sokodu near Kaabong, burrow in sorghum field, 03°34′N, 34°15′E, 2 August 1995, specimen 4 in Gallon (1996) (R. C. Gallon); BMNH, 1♀, Sokodu near Kaabong, burrow in field, 03°34′N, 34°15′E, 8 August 1995, specimen 6 in Gallon (1996) (R. C. Gallon); BMNH, 1♀, Lopedo near Kaabong, burrow in graded road, 03°34′N, 34°15′E, August 1995, specimen 8 in Gallon (1996) (R. C. Gallon); RGPC, 1♀, Sokodu near Kaabong, burrow in field, 03°34′N, 34°15′E, 30 July 1995, specimen 1 in Gallon (1996) (R. C. Gallon); RGPC, 1♀, Sokodu near Kaabong, burrow next to field side path, 03°34′N, 34°15′E, 2 August 1995, specimen 2 in Gallon (1996) (R. C. Gallon); ZMB 32208, 1♀, Sokodu near Kaabong, burrow in grassland, 03°34′N, 34°15′E, 8 August 1995, specimen 7 in Gallon (1996) (R. C. Gallon).

Distribution: East Africa, occurring in Ethiopia, Kenya, Somalia, Sudan, Tanzania and Uganda (Map 1). Altitudinal range between sea level and 2100 m.

Ecology: A fossorial species occurring in grassland habitats. Gallon (1996) provided information on burrow dimensions, prey species and behaviour within its natural habitat. Males are mature in July.

Pterinochilus lugardi Pocock, 1900 (Figs. 14–25)

Pterinochilus Lugardi Pocock, 1900a: 318 (D♂).
Idiothele pluridentatum Hewitt, 1919: 101, fig. 12b (D♀). **New synonymy.**
Pterinochilus lugardi: Smith, 1988a: 134 (♂); 1990: 96, figs. 513–524 (♂).
Eucratoscelus tenuitibialis Schmidt & Gelling, 2000: 371, figs. 1–2 (D♀). **New synonymy.**

Type material: Holotype ♂ (BMNH 1899.3.10.1) of *P. lugardi* from Botswana, Kwebe Hills, near Lake Ngami, 20°28′S, 22°43′E (E. J. Lugard); examined. Holotype ♀ (TM 2864) of *Idiothele pluridentatum* from South Africa, Nuanetsi river (=Nwanedzi river), Zoutpansberg district, 22°21′S, 30°29′E, 15 July 1916 (G. Van Dam); examined. Holotype ♀ (SMFD) of *Eucratoscelus tenuitibialis* from East Africa, probably Zimbabwe (H.-J. Peters); not examined. Paratype 1♀ (SMFD) of *E. tenuitibialis* from East Africa, probably Zimbabwe (H.-J. Peters); not examined. Paratype 1♀ (SMFD) of *E. tenuitibialis* from East Africa, probably Tanzania (Wolf); not examined.

Remarks: *Idiothele pluridentata* is synonymised with *P. lugardi* because they share terminally lobed spermathecae, a small retrolateral cheliceral scopula composed of weakly-developed plumose setae, a prolateral scopula of similarly sized setae on the palpal trochanter, pale coloration and a close geographical distribution. *Eucratoscelus tenuitibialis* possesses an unmodified (not incrassate) tibia IV and a distinct dorsal abdominal pattern. It also lacks the long stiffened setae on leg IV found in female *Eucratoscelus sensu stricto*. These characters preclude its inclusion in *Eucratoscelus*. Its lobed spermathecae, pale grey coloration and prominent pair of anterior abdominal spots are common only to *P. lugardi*. For these reasons and their shared geographical distribution *E. tenuitibialis* is treated as a junior synonym of *P. lugardi*.

Diagnosis: The female differs from all other *Pterinochilus* species except *P. vorax* and *P. simoni* by the presence of single terminal lobes on the spermathecae (Figs. 14–17). Both sexes of *P. lugardi* are separated from *P. simoni* by the absence of a longitudinal line of stiffened setae on the prolateral face of the palpal trochanter. Females are separated from *P. vorax* by their paler coloration and smaller retrolateral cheliceral scopula composed of more weakly-developed plumose setae. Males differ from those of typically sized *P. chordatus* and *P. vorax* by the possession of a straight metatarsus on leg I (Fig. 20). Small males of *P. chordatus* and *P. vorax* differ from *P. lugardi* by their inflected embolic tip and flexed embolus respectively. Both *P. chordatus* and *P. vorax* are darker in colour. Males of *P. lugardi* are separated from *P. murinus* and *P. alluaudi* by their long, evenly curved, acuminate embolus.

Female: Total length 29.7–53.2 (42.5 ± 7.8; 10). Carapace profile domed, raised at caput (Fig. 18), length 11.2–20.2 (16.8 ± 3.3; 10), width 9.1–17.0 (13.5 ± 2.6; 10). Abdomen length 13.1–27.6 (20.4 ± 4.8; 10), width 8.1–19.1 (13.1 ± 3.6; 10). Fovea transverse slit. Ocular tubercle length 1.41–2.15 (1.82 ± 0.25; 10), width 1.80–2.64 (2.28 ± 0.28; 10). Clypeus 0.28–1.10 (0.64 ± 0.27; 10). Eye sizes: AME 0.42–0.64 (0.58 ± 0.07; 10), ALE 0.49–0.78 (0.62 ± 0.09; 10), PME 0.27–0.55 (0.44 ± 0.08; 10), PLE 0.43–0.78 (0.51 ± 0.11; 10). Sternum with three pairs of oval submarginal sigilla. Labium with *c*. 70 cuspules. Maxilla with *c*. 100 cuspules. DS of posterior spinneret digitiform. Chelicerae with 10–15 (12 ± 1; 10) teeth on promargin. Small stridulatory scopula of weakly-developed plumose setae on retrolateral cheliceral face (Fig. 18), corresponding with scopula of similar plumose setae on prolateral trochanteral face of palp; in large specimens plumose setae may extend onto proximal, prolateral region of palpal femur. Leg and palp segment lengths in Table 4. All tarsi with integral

	Femur	Patella	Tibia	Metatarsus	Tarsus
I	7.8–14.3 (11.9 ± 2.4)	5.3–9.5 (7.7 ± 1.4)	5.5–9.5 (8.1 ± 1.5)	4.8–9.4 (7.6 ± 1.6)	3.7–6.4 (5.5 ± 0.9)
II	6.9–13.0 (10.7 ± 2.2)	4.7–8.1 (6.8 ± 1.2)	4.4–8.3 (6.9 ± 1.4)	4.7–9.0 (7.2 ± 1.5)	3.7–6.2 (5.2 ± 0.8)
III	6.0–11.0 (9.1 ± 1.9)	4.0–6.9 (5.8 ± 1.0)	3.6–6.6 (5.5 ± 1.0)	4.7–9.5 (7.7 ± 1.7)	3.9–5.9 (5.1 ± 0.7)
IV	7.7–14.2 (11.9 ± 2.3)	4.6–8.0 (6.7 ± 1.1)	5.4–10.0 (8.2 ± 1.7)	7.5–13.4 (10.8 ± 2.1)	4.5–7.0 (6.0 ± 0.9)
Palp	5.5–10.6 (8.4 ± 1.7)	3.9–6.7 (5.6 ± 0.9)	3.7–6.5 (5.4 ± 1.1)	—	4.2–7.2 (6.0 ± 1.0)

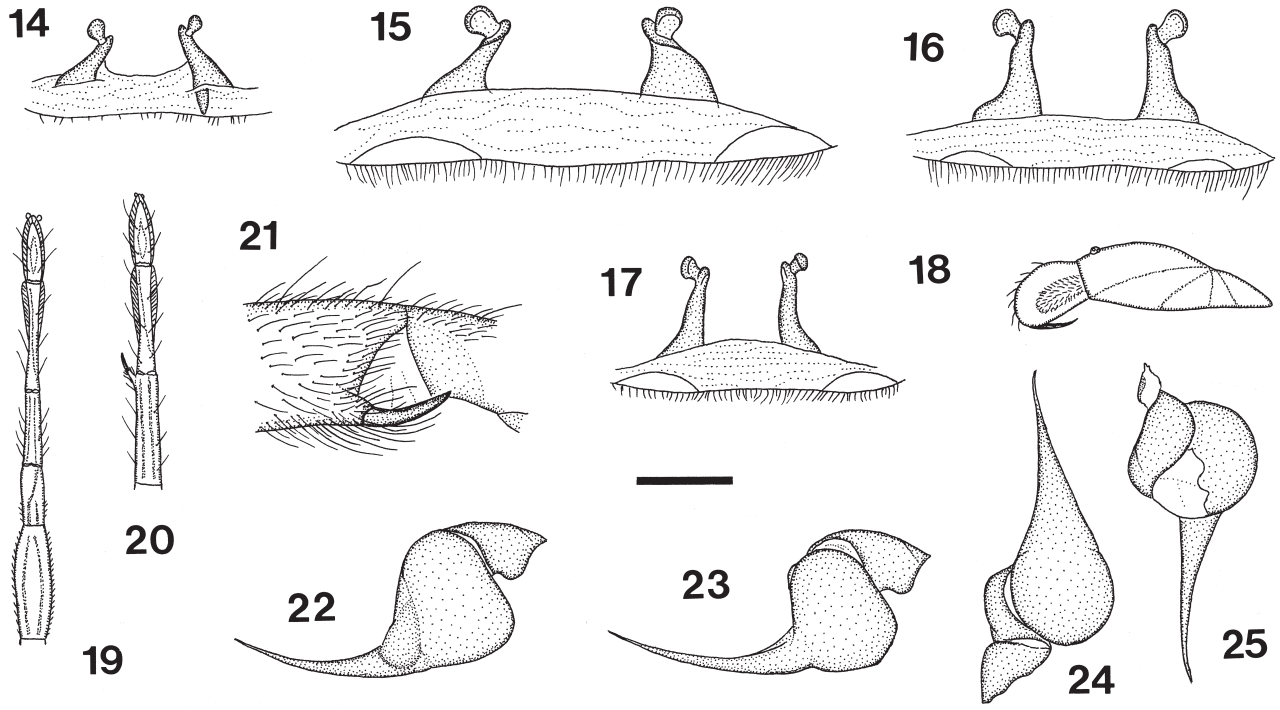
Table 4: *Pterinochilus lugardi* Pocock, 1900. Lengths of leg and palp segments. Females (n=10) including holotype of *Idiothele pluridentatum*. Range (mean ± SD).

	Femur	Patella	Tibia	Metatarsus	Tarsus
I	7.6–13.0 (11.4 ± 1.9)	4.2–7.5 (6.2 ± 1.1)	5.2–10.0 (8.2 ± 1.6)	6.3–10.9 (9.1 ± 1.5)	4.7–6.7 (5.8 ± 0.6)
II	7.6–11.5 (10.2 ± 1.4)	3.9–6.9 (5.6 ± 1.0)	4.7–7.8 (6.8 ± 1.1)	5.5–8.7 (7.7 ± 1.2)	4.4–6.0 (5.5 ± 0.6)
III	5.8–10.3 (9.0 ± 1.5)	3.9–5.8 (4.9 ± 0.6)	4.0–6.2 (5.5 ± 0.8)	5.9–9.9 (8.4 ± 1.4)	4.3–6.2 (5.4 ± 0.6)
IV	9.4–12.6 (11.4 ± 1.2)	4.3–6.3 (5.5 ± 0.7)	7.0–9.6 (8.6 ± 1.0)	10.2–13.3 (12.1 ± 1.3)	5.2–7.1 (6.4 ± 0.7)
Palp	4.7–7.9 (6.5 ± 1.1)	3.0–5.1 (4.3 ± 0.7)	4.2–6.2 (5.2 ± 0.7)	—	2.0–3.0 (2.5 ± 0.3)

Table 5: *Pterinochilus lugardi* Pocock, 1900. Lengths of leg and palp segments. Males ($n=8$) except femur IV where $n=7$). Range (mean ± SD).

scopulae. Metatarsal scopulae of legs I–III integral; metatarsal scopula of leg IV bisected longitudinally by band of stiffened setae. Spination: palp tibia 2DRV, 2DPV; legs I, II tibiae 1DRV, 1DPV; leg III tibia 1DRV, 1DPV; leg IV tibia 2DRV, 1DPV, leg III metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD; leg IV metatarsus 1MRV, 1MPV, 1DRV, 1DMV, 1DPV, 1MRD, 1MPL, 1DPD, 1DRD. Remaining leg segments aspinose. Coloration: legs, palpi and chelicerae pale grey. Leg and palp joints pale yellow. Carapace pale grey with golden, radial striae (striae often absent or very fine). Dark "mask" around ocular tubercle. Dorsum of abdomen pale grey with dark pattern of bars, spots and reticulations; anterior pair of spots prominent. Venter of abdomen pale grey, with booklung covers slightly paler. In live specimens, epigastric scutum coloured as posterior region of abdomen, but pales slightly in alcohol. Sternum and proximal portion of coxae dark grey or black. Spermathecae (Figs. 14–17): paired, with single rounded terminal lobes. Setal fringe on posterior margin of epigastric scutum composed of uniformly sized, straight setae.

Male: Total length 19.2–35.8 (29.1 ± 5.1; 8). Carapace profile low, length 8.7–14.3 (12.4 ± 1.8; 8), width 7.0–12.2 (10.0 ± 1.8; 8). Abdomen length 8.0–17.8 (13.0 ± 3.1; 8), width 4.6–10.6 (7.8 ± 2.0; 8). Fovea transverse slit. Ocular tubercle length 1.08–1.80 (1.46 ± 0.24; 8), width 1.43–2.12 (1.88 ± 0.25; 8). Clypeus 0.12–0.33 (0.24 ± 0.06; 8). Eye sizes: AME 0.38–0.55 (0.48 ± 0.07; 8), ALE 0.39–0.70 (0.53 ± 0.10; 8), PME 0.29–0.44 (0.36 ± 0.06; 8), PLE 0.30–0.55 (0.45 ± 0.08; 8). Sternum with three pairs of oval submarginal sigilla. Labium with *c.* 65 cuspules. Maxilla with *c.* 100 cuspules. DS of posterior spinneret digitiform. Chelicerae with 9–12 (10 ± 1; 8) teeth on promargin. Stridulatory scopulae as in female. One specimen (TM 8954) was found with several plumose setae sparsely arranged on upper prolateral surface of chelicerae. Leg and palp segment lengths in Table 5. Femur of leg III incrassate (Fig. 19). Metatarsus of leg I straight (Fig. 20). Tarsal and metatarsal scopulae as in female. Spination: palp tibia 1DPV; leg I tibia 1DRV; legs II, III tibiae 1DRV, 1DPV; leg III metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD; leg IV tibia 2DRV, 1DPV, metatarsus



Figs. 14–25: *Pterinochilus lugardi* Pocock. **14** Spermathecae with single sperm plug (holotype of *Idiothele pluridentatum*), dorsal view; **15** Spermathecae (BMNH, T. Ezendam), dorsal view; **16** Spermathecae (TM 15752), dorsal view; **17** Spermathecae (NMZA 7843), dorsal view; **18** Female carapace profile (TM 15752); **19** Male leg III (BMNH, A. Fisher), dorsal view; **20** Male distal portion of right leg I (ditto), dorsal view; **21** Male tibial spur of left leg I (ditto), prolateral view; **22** Male left palpal bulb (ditto), retrolateral view; **23** Male left palpal bulb (NMZA 6661), retrolateral view; **24** Ditto, ventral view; **25** Ditto, dorsal view. Scale line=1.4 mm (21), 1.0 mm (14–17, 22–25), 7.0 mm (18), 8.4 mm (19, 20).

1MRV, 1MPV, 1DRV, 1DMV, 1DPV, 1MRD, 1MPL, 1DPD, 1DRD. Remaining leg segments aspinose. Tibial spur (Fig. 21): DPV apophysis long and prominent; surmounted megaspine robust, curved, protruding laterally. Coloration: as in female, but carapace black with metallic golden striae. Carapace margin and dorsum of trochanters coloured as carapace striae. Dark dorsal abdominal pattern well-defined, but reticulations absent. Darkening of coxae not as extensive as in female. Palpal bulb (Figs. 22–25): pyriform with fine, evenly curved, acuminate embolus. Some specimens with pyriform bulge between embolus and tegulum (Fig. 22). Keels absent along embolus.

Material examined: BOTSWANA: BMNH 1899.3.10.1, 1♂ (holotype of *P. lugardi*), Kwebe Hills, near Lake Ngami, 20°28′S, 22°43′E (E. J. Lugard); TM 8954, 1♂, Mangetti forest, North Kalahari, January/February 1958 (Dr C. Koch). NAMIBIA: TM 15752, 1♀, 1019 Grootfontein district, N. D. Maache, 19°35′S, 18°07′E, 7 April 1970 (F. Wildhagen). SOUTH AFRICA: TM 2864, 1♀ (holotype of *Idiothele pluridentatum*), Nuanetsi river (=Nwanedzi river), Zoutpansberg district, 22°21′S, 30°29′E, 15 July 1916 (G. Van Dam). TANZANIA: BMNH, 1♀ (T. Ezendam via Tanzanian dealer); BMNH, 1♂ (Andrew Fisher via Tanzanian dealer); BMNH, 1♂ 3♀ (R. Gabriel via Tanzanian dealer); BMNH, 1♂ 1♀, Dodoma, 06°10′S, 35°40′E, 10 June 1998 (R. West via Tanzanian dealer); MRAC 169.158, 1♂ 1♀, Dar es Salaam, UDSM campus, 06°48′S, 39°17′E, June 1974 (K. M. Howell); MRAC 209.567, 1♀; RGPC, 1♂ (Andrew Fisher via Tanzanian dealer); RGPC, 1♀; RGPC, 1♂ 1♀, Dodoma, 06°10′S, 35°40′E, 10 June 1998 (R. West via Tanzanian dealer); ZMB 32444, 1♂, Dodoma, 06°10′S, 35°40′E, 10 June 1998 (R. West via Tanzanian dealer); ZMB 32445, 2♀ (R. Gabriel via Tanzanian dealer). ZAMBIA: NMZA 7843, 1♀, Sakeji school, 1124A2, 10°10′S, 24°12′E, 2 October 1990 (D. G. Broadley); NMZA 11859, 1♂, BFA study plot, Choma wildlife game farm, drift fence pitfall, 16°56′S, 26°39′E, 8–14 December 1994 (F. Nyathi). ZIMBABWE: NMZA 2255, 1♂, Chipinda pools, 2131B4, 21°05′S, 31°55′E, 7 May 1984 (P. Kagoro); NMZA 2646, 1♂, Chipinda pools, Gonarezhou, 21°05′S, 31°55′E, 12 June 1984 (P. Kagoro); NMZA 5774, 1♂, Mutare, 1832D3, 18°58′S, 32°40′E, 14 April 1983 (H. Sykes); NMZA 6464, 1♂, Majoda school, 10 km N. of West Nicholson, 21°06′S, 29°25′E, 2 March 1988 (D. Ewbank); NMZA 6661, 3♂, Kazuma forestry camp 1825B3, 18°10′S, 25°36′E, 11–20 April 1988.

Distribution: Distributed across the northern part of southern Africa with additional records from East Africa, occurs in Botswana, Namibia, South Africa, Tanzania, Zambia and Zimbabwe (Map 2). Altitudinal range between sea level and 1450 m.

Ecology: Unknown, but captive specimens construct silk-lined burrows (pers. obs.). Males are mature between December and June.

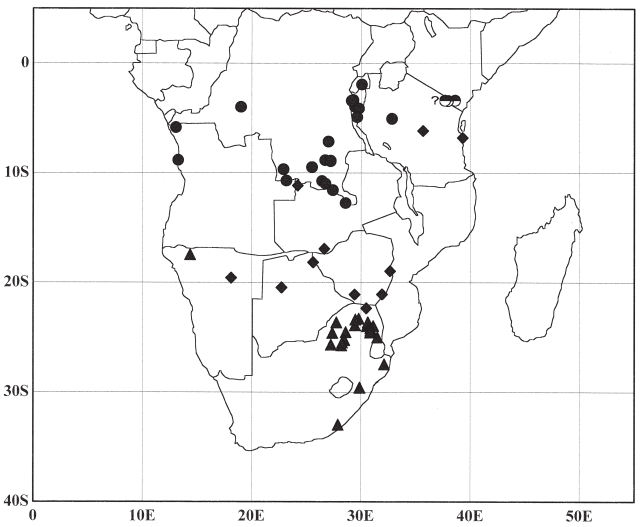
Pterinochilus murinus Pocock, 1897 (Figs. 26–34)

Harpactira elevata Karsch, 1878: 316 (D♂♀). **Removed from synonymy of *Pterinochilus constrictus*. New synonymy.**

Harpactira chordata: Pavesi, 1881: 548 (part of synonymy list only); Bösenberg & Lenz, 1895: 27 (part of synonymy list only).

Pterinochilus murinus Pocock, 1897: 753, pl. 43, fig. 4 (D imm. ♂); 1898b: 501 (D♀); Hirst, 1907: 34 (D♂); Strand, 1907b: 73 (♀); Laurent, 1946: 325 (♂♀); Roewer, 1953: 74, figs. 30–31 (♂); Smith, 1988a: 135, fig. 81b (imm. ♂); 1988b: 4, figs. 1–10 (♂); 1990: 98, figs. 535–551, two unnumbered plates (♂♀); Schmidt, 1993: 120, figs. 375–377 (♂♀); Charpentier, 1993: 13, unnumbered figs. (♂♀).

Pterinochilus mamillatus Strand, 1906a: 20 (D♂); Smith, 1988a: 134 (♂); Schmidt *et al*., 2000: 8, figs. 1–6 (♂, D♀). **New synonymy.**



Map 2: Distribution of *Pterinochilus lugardi* Pocock ◆; *P. vorax* Pocock ●; *Augacephalus junodi* (Simon) ▲; *Eucratoscelus constrictus* (Gerstäcker) ◓; *E. pachypus* Schmidt & von Wirth **?**.

Pterinochilus constrictus: Strand, 1907a: 236 (described ♀, but not all of synonymy list).

Pterinochilus Hindei Hirst, 1907: 33, fig. 1 (D♂); Berland, 1917: 468 (D♀). **New synonymy.**

Pterinochilus hindei: Smith, 1988a: 134, fig. 77h (♂); 1990: 95, figs. 503a–512 (♂♀).

Pterinochilus mammillatus: Smith, 1990: 97.

Type material: Holotype imm. ♂ (BMNH 1890.4.15.5) of *P. murinus* from Tanzania, Ugogo region (=Dodoma region), 06°38′S, 34°30′E (Emin Pasha); examined. Holotype ♂ (BMNH 1904.12.19.51.56) of *P. hindei* from Kenya, Fort Hall (=Murang'a), 00°43′S, 37°10′E, 1904, 4000–4400′ (S. L. Hinde); examined. Holotype ♂ (SMNS) of *P. mamillatus* from Tanzania (Dr Beerwald); not examined (destroyed in WWII). Type series of *P. elevatus* comprises (ZMB 2841) 3♂ 2 imm. ♂ 1♀ from Mozambique (Peters) and (ZMB 2874) 1♀ from Mozambique, Tette (=Tête), 16°10′S, 33°35′E (Peters). Both tubes examined.

Remarks: *Harpactira elevata* is synonymised with *P. murinus* because it shares the presence of spike setae on the DPL margin of the maxilla, an elongated, mid-inflected embolus, and inwardly curved, unlobed spermathecae. *Pterinochilus hindei* is also synonymised with *P. murinus* for the first two reasons. Strand's description of *P. mamillatus* clearly describes the possession of a mid-inflected, acuminate embolus (found only in *P. murinus*). He also states that the palpal bulb is 5 mm in length, a size only attained by males of *P. murinus*. For these reasons *P. mamillatus* is synonymised with *P. murinus*.

Schmidt *et al*. (2000) redescribed *P. mamillatus* from red-coloured specimens from the Usambara region of Tanzania. They did not satisfactorily distinguish *P. mamillatus* from other members of the genus, simply stating that the red coloration is species-specific. The spermathecae were described as inwardly curving and almost touching. The emboli of their specimens were filiform and inflected midway and the apical megaspine was also inflected from the tibial apophysis. These

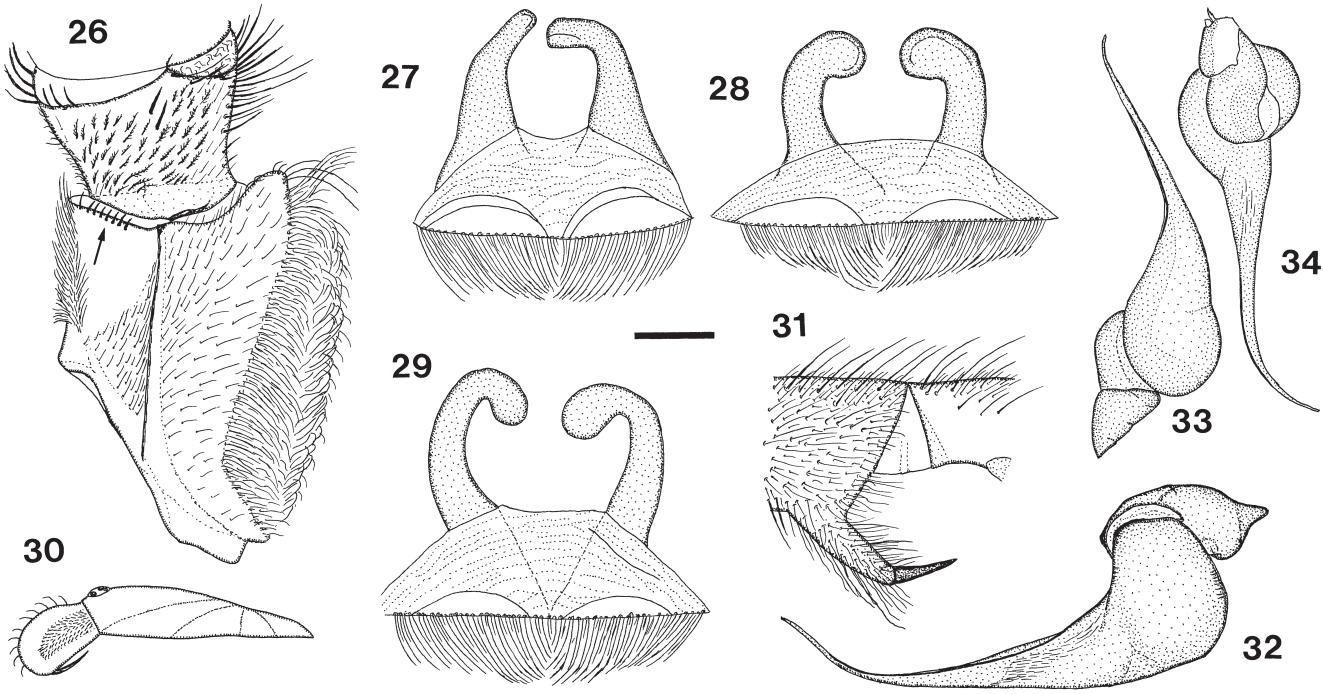
features are all consistent with *P. murinus*. The base colour of *P. murinus* is variable, ranging from bright orange through beige to dark grey. All colour forms are morphologically identical and hence subjective splitting, based solely on coloration, is considered artificial.

Pocock (1897) was incorrect in stating that the holotype of *P. murinus* is female. Strand's (1907a) "*P. constrictus* ♀" from Amani (ZMB 31090) is *P. murinus*. Roewer (1942) erroneously listed Strand's (1907b) *P. murinus* ♀ as *P. murinus* (=? *vosseleri*). The confusion comes from an endnote which Strand attached to his description of *P. murinus*. This stated that his *Hysterocrates scopulatus* (a provisional name) specimens (Strand, 1906a: 31) relate to *Hysterocrates vosseleri* Strand, 1906a.

In the interests of nomenclatural stability *Pterinochilus murinus* Pocock, 1897 *nomen protectum* is given priority over *Pterinochilus elevatus* (Karsch, 1878) *nomen oblitum* (ICZN, 1999: Article 23.9). *Pterinochilus elevatus* has not been treated as a valid species since 1881 (when it was synonymised with *Harpactira chordata* by Pavesi), whereas *P. murinus* is well established in the literature. Samm (1999) notes that *P. murinus* has been mentioned in 45 publications by over 30 authors in the last fifty years.

Diagnosis: Both sexes separated from all other congeners by the presence of spike setae on the DPL margin of the maxilla (Fig. 26). Females readily separated from other *Pterinochilus* species by the inwardly curved spermathecae (Figs. 27–29). The form of the setal fringe on the posterior margin of the epigastric scutum is also species-specific in females. The male differs from all congeners by the filiform, mid-inflected embolus (Fig. 32).

Female: Total length 28.7–61.7 (43.0 ± 10.0; 17). Carapace profile low (Fig. 30), length 11.7–24.2 (16.9 ± 4.0; 17), width 9.4–20.3 (14.1 ± 3.4; 17). Abdomen length 12.1–29.4 (19.9 ± 5.1; 17), width 8.1–22.3 (14.0 ± 4.3; 17). Fovea deep, transverse. Ocular tubercle length 1.36–2.57 (2.04 ± 0.37; 19), width 1.96–3.28 (2.69 ± 0.41; 19). Clypeus 0.12–0.91 (0.40 ± 0.20; 19). Eye sizes: AME 0.50–0.90 (0.70 ± 0.11; 19), ALE 0.47–0.96 (0.76 ± 0.13; 19), PME 0.38–0.70 (0.50 ± 0.09; 19), PLE 0.47–0.94 (0.68 ± 0.13; 19). Sternum with three pairs of oval submarginal sigilla. Labium with *c*. 50 cuspules. Maxilla with *c*. 100 cuspules. DS of posterior spinneret digitiform. Chelicerae with 10–14 (12 ± 2; 15) teeth on promargin. Small stridulatory scopula of plumose setae on retrolateral cheliceral face (Fig. 30), corresponding with scopula of similar plumose setae on prolateral trochanteral face of palp (Fig. 26); in large specimens plumose setae may extend onto proximal, prolateral region of palpal femur. Leg and palp segment lengths in Table 6. All tarsi with integral scopulae. Metatarsal scopulae of legs I–III integral; metatarsal scopula of leg IV bisected longitudinally by band of stiffened setae. Spination: palp and all leg tibiae 1DRV, 1DPV; leg III metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1DPD, 1DRD; leg IV metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1DPD, 1DRD. Remaining leg segments aspinose. Coloration: legs, palpi, chelicerae and abdomen orange, beige or dark grey depending on colour form. Dorsum of abdomen with dark pattern of bars, spots and reticulations. Leg and palp joints pale. Carapace with orange or golden radial striae over black integument (in some specimens carapace covered by setae obscuring radial pattern). Sternum and coxae charcoal/black grading into leg coloration distally. In



Figs. 26–34: *Pterinochilus murinus* Pocock. **26** Male left palp maxilla and trochanter (NMZA 3908), prolateral view (spike setae arrowed); **27** Spermathecae (ZMB 2841, syntype of *H. elevata*), dorsal view; **28** Spermathecae (ZMB 31090), dorsal view; **29** Spermathecae (ZMB 31146), dorsal view; **30** Female carapace profile (BMNH, Usambara region); **31** Male tibial spur of left leg I (TM 5138), prolateral view; **32** Male left palpal bulb (ZMB 2841, syntype of *H. elevata*), retrolateral view; **33** Male left palpal bulb (ISNB, Elisabethville), ventral view; **34** Ditto, dorsal view. Scale line=1.4 mm (26, 31), 1.0 mm (27–29, 32–34), 7.0 mm (30).

	Femur	Patella	Tibia	Metatarsus	Tarsus
I	8.7–18.2 (12.6 ± 3.0)	5.4–11.5 (8.0 ± 1.9)	6.3–13.4 (9.3 ± 2.4)	5.4–11.6 (8.0 ± 2.0)	4.7–8.1 (6.3 ± 1.2)
II	7.6–16.5 (11.4 ± 2.9)	4.8–10.0 (7.1 ± 1.6)	5.6–11.9 (8.2 ± 2.1)	5.0–11.2 (7.7 ± 1.9)	4.6–8.0 (6.0 ± 1.1)
III	6.8–14.7 (10.1 ± 2.6)	4.4–8.5 (6.1 ± 1.3)	4.7–10.2 (7.0 ± 1.7)	5.3–12.0 (8.3 ± 2.2)	4.5–8.1 (6.0 ± 1.1)
IV	8.8–17.2 (12.4 ± 2.7)	4.7–9.4 (6.7 ± 1.5)	6.5–13.3 (9.6 ± 2.1)	7.1–15.8 (11.2 ± 2.7)	5.0–8.7 (6.6 ± 1.1)
Palp	6.0–13.2 (9.0 ± 2.2)	3.7–7.6 (5.8 ± 1.2)	4.2–8.6 (6.0 ± 1.4)	—	5.6–10.6 (7.6 ± 1.5)

Table 6: *Pterinochilus murinus* Pocock, 1897. Lengths of leg and palp segments. Females (n=17 except leg I tibia, metatarsus and tarsus where n=16) including a type of *Harpactira elevata*. Range (mean ± SD).

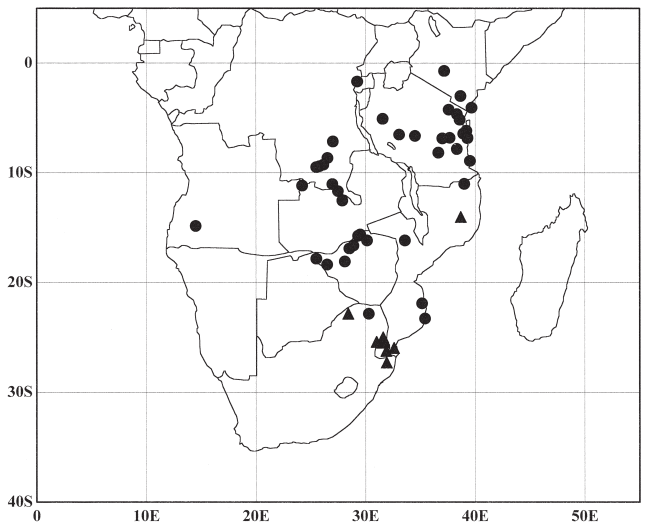
live specimens, booklung covers and epigastric scutum lighter in colour than rest of abdomen (both paler in alcohol-preserved specimens). Spermathecae (Figs. 27–29): paired and unlobed, with terminal parts curved inwards. Some specimens with flattened spermathecae, others with more circular cross-section. Setal fringe on posterior margin of epigastric scutum with long, centrally placed, curved setae.

Male: Total length 30.0–53.4 (37.7 ± 7.0; 14). Carapace profile low, length 13.0–22.6 (16.3 ± 3.1; 14), width 11.0–19.0 (13.7 ± 2.5; 14). Abdomen length 12.6–21.9 (15.9 ± 2.9; 14), width 7.6–15.3 (10.5 ± 2.3; 14). Fovea deep, transverse. Ocular tubercle length 1.63–2.43 (1.93 ± 0.23; 16), width 2.27–3.11 (2.53 ± 0.23; 16). Clypeus 0.16–0.64 (0.35 ± 0.15; 16). Eye sizes: AME 0.52–0.85 (0.66 ± 0.08; 16), ALE 0.50–0.84 (0.68 ± 0.10; 16), PME 0.37–0.53 (0.47 ± 0.04; 16), PLE 0.49–0.75 (0.60 ± 0.07; 16). Sternum with three pairs of oval submarginal sigilla. Labium with *c*. 40 cuspules. Maxilla with *c*. 100 cuspules. DS of posterior spinneret digitiform. Chelicerae with 9–14 (11 ± 1; 13) teeth on promargin. Stridulatory scopulae as in female. Leg and palp segment lengths in Table 7. Femur of leg III not incrassate. Metatarsus of leg I straight. Tarsal and metatarsal scopulae as in female. Spination: palp tibia 1DPV; leg I tibia 1DRV; legs II–IV tibiae 1DRV, 1DPV; leg III metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1DPD, 1DRD; leg IV metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1DPD, 1DRD. Remaining leg segments aspinose. Tibial spur (Fig. 31): DPV apophysis long, cylindrical; surmounted megaspine inflexed from apophysis, protruding ventrally. Coloration: as in female, but dark abdominal pattern ill-defined, without reticulations. Carapace striae metallic. Palpal bulb (Figs. 32–34): pyriform with filiform, mid-inflected, elongated, acuminate embolus. Keels absent along embolus.

Material examined and reliable citations: ANGOLA: MRAC 166.888, 1♀, Quipungo, 14°51′S, 14°30′E, 15 February 1973 (Crawford Cabral). BURUNDI: MRAC 068.100, 1 imm. ♂, Makumba, 12 December 1949, 1500 m. DEMOCRATIC REPUBLIC OF CONGO (ZAIRE): ISNB, 1♂, Elizabethville (=Lubumbashi), 11°40′S, 27°28′E, November 1933 (Ch. Seydel); MRAC 005.216, 1♂, Sankisia, 09°24′S, 25°48′E (Dr Rodhain); MRAC 005.217, 1♂, Katanga, 11°02′S, 26°58′E, January 1931 (G. F. De Witte); MRAC 070.003, 1♂, Elizabethville (=Lubumbashi), 11°40′S, 27°28′E (Van Hirtum); MRAC 014.435, 1♀, Elizabethville (=Lubumbashi), 11°40′S, 27°28′E, 1936 (Dr Richard); MRAC 130.816, 1♀, Elizabethville (=Lubumbashi), 11°40′S, 27°28′E, 1921 (Dumont); MRAC 139.252, 1♀, Kaziba, 07°09′S, 27°01′E, 25 February 1948, 1140 m (G. F. De Witte); MRAC 139.259, 1♀, Mabwe, Upemba, 08°39′S, 26°31′E, 28 January 1949, 585 m (G. F. De Witte); MRAC 139.273, 1♂ 2 imm. ♀, Kanonga, 09°16′S, 26°08′E, 23 February 1949, 675–860 m (G. F. De Witte); MRAC 139.274A, 1♀, Mabwe, Upemba, 08°39′S, 26°31′E, 6 December 1948, 585 m (G. F. De Witte); MRAC 139.274B, 1♀, Mabwe, Upemba, 08°39′S, 26°31′E, 6 December 1948, 585 m (G. F. De Witte); MRAC 139.276, 1♂ (palp only), Kalule, Lualaba, 09°29′S, 25°30′E, 28 February 1949, 1050 m (G. F. De Witte); MRAC 200.495, 2♀ (spermathecae missing), North Goma, 01°41′S, 29°14′E, 1989. KENYA: BMNH 1904.12.19.51.56, 1♂ (holotype of *P. hindei*), Fort Hall (=Murang'a), 00°43′S, 37°10′E, 1904, 4000–4400′ (S. L. Hinde); Hirst, 1907, BMNH, ♂, Mombasa, 04°04′S, 39°40′E (Captain Crawshay); MRAC 200.487, 1♂ 1♀, Tsavo, 03°00′S, 38°40′E, June 1992 (Rechsteiner); ZMB 31144, 1♀ (Kübner). MOZAMBIQUE: NM 2031, 1 imm. ♀, Naurus village, Ruvuma river, East Africa, Mozambique or Tanzania, 11°S, 39°E, January 1918 (R. Tomlinson); NM, 1♀, Maputo, 10 m E. of Massinga Mission, hole in tree 12′ up, 23°17′S, 35°25′E, June–August 1971 (F. Farquharson); NMZA 9057, 1♀, Pambarra, 2135C3, 21°54′S, 35°09′E, September 1991 (P. R. Fox); ZMB 2841, 3♂ 2 imm. ♂ 1♀ (types of *Harpactira elevata*) (Peters); ZMB 2874, 1♀ (type of *H. elevata*), Tette (=Tête), 16°10′S, 33°35′E (Peters); ZMB 31091, 1♀ (W. Tiesler). SOUTH AFRICA: TM 5138, 1♂, Lake Fundudzi, 22°51′S, 30°17′E; TM 5139, 1♂, Lake Fundudzi, 22°51′S, 30°17′E. TANZANIA: Perret, 1974a, Ifakara, 08°10′S, 36°38′E; BMNH 1890.4.15.5, 1 imm. ♂ (holotype of *P. murinus*), Ugogo region (=Dodoma region), 06°38′S, 34°30′E (Emin Pasha); BMNH 1926.VI.19.15.19, ♂♀ (many), Lendaguru, Tanganyika, 1926 (W. E. Butler); BMNH, 1♂ 1♀, probably from Usambara region (R. Gabriel via Tanzanian dealer); MNHN AR4750, 1♂ 1♀, Zanzibar, 06°10′S, 39°12′E, 1890 (Frére Alexandre, mission du St. Esprit); MRAC 160.575, 1♀, Dar es Salaam, 06°48′S, 39°17′E, 8 October 1977 (K. M. Howell); NM 1353, 1♀, Uteia, 22 miles S. of Kilossa, 06°52′S, 37°00′E, July 1917 (R. Tomlinson); TM 1024, 1♂, Mayai 42 m W. of Dar es Salaam, July 1917 (A. Roberts); ZMB 31090, 1♀, Amani, 05°09′S, 38°36′E, December 1904; ZMB 31093, 1♀ 1 imm. ♂, Tirnaja?, Usambara, ~04°40′S, 38°20′E (Reiner); ZMB 31094, 2♀ 1♂, Nordl Khulu (=Kululu?) steppe, 06°31′S, 33°04′E, December 1899; ZMB 31095, 1♀ 2 imm., Kilwa (assumed to be largest town), 08°55′S, 39°31′E (Reiner); ZMB 31097, 1♂ 1♀, Bagamoyo (assumed to be largest town), 06°26′S, 38°55′E (F. Langheld); ZMB 31137, 1♂, Dar es

	Femur	Patella	Tibia	Metatarsus	Tarsus
I	11.5–18.6 (14.3 ± 2.1)	6.8–11.5 (8.4 ± 1.4)	9.6–15.9 (11.8 ± 1.8)	8.2–13.9 (10.2 ± 1.7)	5.9–8.9 (7.1 ± 0.9)
II	10.6–17.6 (13.1 ± 2.0)	5.9–11.0 (7.6 ± 1.5)	8.1–13.6 (10.0 ± 1.6)	7.7–13.0 (9.6 ± 1.5)	5.7–8.7 (6.9 ± 0.8)
III	9.3–14.8 (11.2 ± 1.7)	5.0–8.6 (6.2 ± 1.0)	6.6–11.3 (8.2 ± 1.3)	7.9–14.0 (10.2 ± 1.6)	5.4–8.7 (6.7 ± 0.9)
IV	10.6–17.5 (13.6 ± 2.0)	5.6–9.1 (6.9 ± 1.0)	8.3–14.5 (11.1 ± 1.7)	10.8–17.7 (13.5 ± 2.0)	6.4–9.9 (7.5 ± 1.0)
Palp	6.8–12.2 (8.7 ± 1.6)	4.6–7.5 (5.5 ± 0.9)	5.5–9.1 (6.8 ± 1.1)	—	1.8–4.1 (2.8 ± 0.8)

Table 7: *Pterinochilus murinus* Pocock, 1897. Lengths of leg and palp segments. Males (n=14 except leg IV where n=13) including a type of *Harpactira elevata*. Range (mean ± SD).



Map 3: Distribution of *Pterinochilus murinus* Pocock ●; *Augacephalus breyeri* (Hewitt) ▲.

Salaam, 06°51′S, 39°18′E (Dr Reuss); ZMB 31136, 1♀, Dar es Salaam, 06°51′S, 39°18′E, 9 May 1909 (Dr Reuss); ZMB 31138, 1 imm. ♂, Dar es Salaam, 06°51′S, 39°18′E, 29 March 1909 (Dr Reuss); ZMB 31139, 2♀ 1 imm. ♂, Dar es Salaam, Hinterland, Pangani river, 04°15′S, 37°35′E (R. Regmer); ZMB 31140, 1♀, Dar es Salaam, 06°51′S, 39°18′E, 8 March 1894 (Dr Schumann); ZMB 31141, 1♂ 1 imm. ♂, Mkoffa (Nkotta?), 1 June 1909 (R. Schoenheit); ZMB 31142, 1♀, Morogoro, 06°49′S, 37°40′E, 3 October 1909 (Dr Reuss); ZMB 31143, 1♂ 1 imm., Kombe, Uniifea, 05°05′S, 31°34′E (Fülleborn); ZMB 31145, 1♂, Langea (Dr Fülleborn); ZMB 31146, 1♀, Zanzibar, 06°10′S, 39°12′E, 9 May 1898 (Fingy); ZMB 31148, 2♀ 1♂ 4 imm., Kisraki Steppe, Rufidji (=Rufiji river), Nyassasee Expedition, 07°50′S, 38°19′E, November 1898 (Goedge); ZMB 32166, 1♀ 1 imm., Moschi (=Moshi) Upsm Ueo . . . (illegible script), 03°21′S, 37°19′E. ZAMBIA: NM 12254, 1♂, Chingola, 12°32′S, 27°52′E (L. Magic); NMZA 8749, 1♂ 1 imm. ♂, Hillwood farm, 1124A4, 11°10′S, 24°12′E, 5 October 1990 (D. G. Broadley). ZIMBABWE: NMZA 1699, 1 imm. ♂, Katambora Rapids, 1725C4, 17°50′S, 25°30′E, 1 December 1982 (J. Taylor); NMZA 2031, 1♂, Sengwa Wildlife Research Institute 1828A1, 18°05′S, 28°06′E, 12 December 1983 (D. Gibson); NMZA 2301, 1 imm. ♀, Tashinga camp site, 1628C4, 16°54′S, 28°31′E, 11 December 1983 (G. Putterill); NMZA 2309, 1♀, Tashinga, 1628C4, 16°54′S, 28°31′E, 12 January 1984 (G. Putterill); NMZA 2328, 1♀, Tashinga, 16°54′S, 28°31′E, 23 March 1984 (G. Putterill); NMZA 3790, 3 imm. ♂ 1♀, Chine pool, Mana Pools, 15°44′S, 29°19′E, 5 December 1984 (Falcon College); NMZA 3907, 1♀, Dinosaur prints, Ntumbe river, Guruve Communal Land, 16°10′S, 30°09′E, 11 December 1984 (Falcon College); NMZA 3908, 1♂, Nyamepi camp, 15°38′S, 29°30′E, 14 December 1984 (Falcon College); NMZA 3987, 1♂, Nyamepi camp, 15°38′S, 29°30′E, December 1984 (Falcon College); NMZA 5379, 1♀, Katombora, 1725C4, 17°50′S, 25°30′E, 27 August 1986 (Falcon College); NMZA 6260, 2♂, Hwange, 18°22′S, 26°29′E, December 1987 (A. Ellert); NMZA 7353, 1♂, Charara, Kariba, 1628D2, 16°38′S, 28°54′E, 31 December 1988 (T. Everett); NMZA 9043, 2♂, Tashinga, 2028C4, 16°54′S, 28°31′E, 31 December 1983 (G. Putterill); NMZA 9043, 1♂, Tashinga, 1628C4, 16°54′S, 28°31′E, 31 December 1983 (G. Putterill). NO DISTRIBUTIONAL DATA: TM 8938, 2♂ (atypical specimens exhibiting palp re-growth); ZMB 31096, 2♀ 3♂.

Distribution: Eastern central Africa with a single record from south-western Angola. Occurs in Angola, Burundi, Democratic Republic of Congo (Zaire), Kenya, Mozambique, South Africa, Tanzania, Zambia and Zimbabwe (Map 3). Altitudinal range between sea level and 1450 m.

Ecology: This species constructs a dense, tubular, silken retreat beneath stones, logs and houses. It can also live arboreally within hollow tree branches. It does not seem to construct burrows, but merely occupies and adapts existing cavities. Perret (1974a) studying a population at Ifakara, Tanzania, noted that mature males were present only between November and April and were absent between June and October. However, mature males have been collected in June, July and October at other localities.

Notes: The venom of this species has been studied extensively by several authors (Bachmann, 1982; Freyvogel *et al*., 1968; Maretić *et al*., 1967; Perret, 1974b). Perret (1974a) described the natural history and laboratory maintenance of the species. Gallon & Gabriel (2000) also provided details on captive breeding and maintenance. The growth rate, fecundity and optimal temperature preference of the species have also been investigated (Reichling & Gutzke, 1998).

Pterinochilus simoni Berland, 1917 (Figs. 35–46)

Pterinochilus Simoni Berland, 1917: 466, figs. 1–2 (D♂♀).
Pterinochilides Obenbergeri Strand, 1920: 99 (D♂).
Pterinochilus mutus Strand, 1920: 101 (D♂); Laurent, 1946: 321 (♂, D♀, syn.); Smith, 1988a: 135 (♂); 1990: 100 (described ♂, but not figs. 552–553). **New synonymy.**
Pterinochilus occidentalis Strand, 1920: 102 (D♂♀); Smith, 1988a: 135 (♂♀); 1990: 101.
Pterinochilus occidentalis (var.?) Strand, 1920: 103 (D imm. ♂).
Pterinochilus simoni: Laurent, 1946: 323 (♂♀, syn.); Smith, 1988a: 136, fig. 86h (♂♀); 1990: 101, figs. 579–580 (♂♀).
Pterinochilides obenbergeri: Smith, 1988a: 133 (♂).
Pterinochilus obenbergeri: Smith, 1990: 101.

Type material: Syntypes 1♂ 3♀ (MNHN AR4747) of *P. simoni* from Angola, Landana (=Cacongo), 05°13′S, 12°08′E; examined. Holotype ♂ (ISNB) of *Pterinochilides obenbergeri* from Democratic Republic of Congo (Zaire), Lukula, 05°21′S, 13°02′E (Wilverth); examined. Syntypes 1♂ 1♀ (ISBN) of *Pterinochilus occidentalis* from Democratic Republic of Congo (Zaire), Banana, 05°58′S, 12°27′E (Busschodts); examined. Type imm. ♂ (ISNB) of *P. occidentalis* (var.?) from Democratic Republic of Congo (Zaire), Lingunda, August 1900, 00°49′N, 21°08′E (L. Mairessa); examined. Holotype ♂ (ISNB) of *P. mutus* from Kongo, August 1900 (G. Hoton); examined.

Remarks: Strand (1920) was incorrect in stating that the type of *P. occidentalis* (var.?) is female. *Pterinochilus mutus* is synonymised with *P. simoni* because they share the longitudinal line of stiffened setae bisecting the scopula on the prolateral face of the palpal trochanter. The type of *P. mutus*, like *P. simoni*, also possesses pale, woolly setae on the carapace and russet setae concentrated on the posterior of the abdomen. The palpal bulb morphology is also similar, with an evenly curved acuminate embolus.

Diagnosis: Both sexes differ from all other *Pterinochilus* species by the presence of a longitudinal line of stiffened setae bisecting the scopula on the prolateral face of the palpal trochanter (Fig. 35).

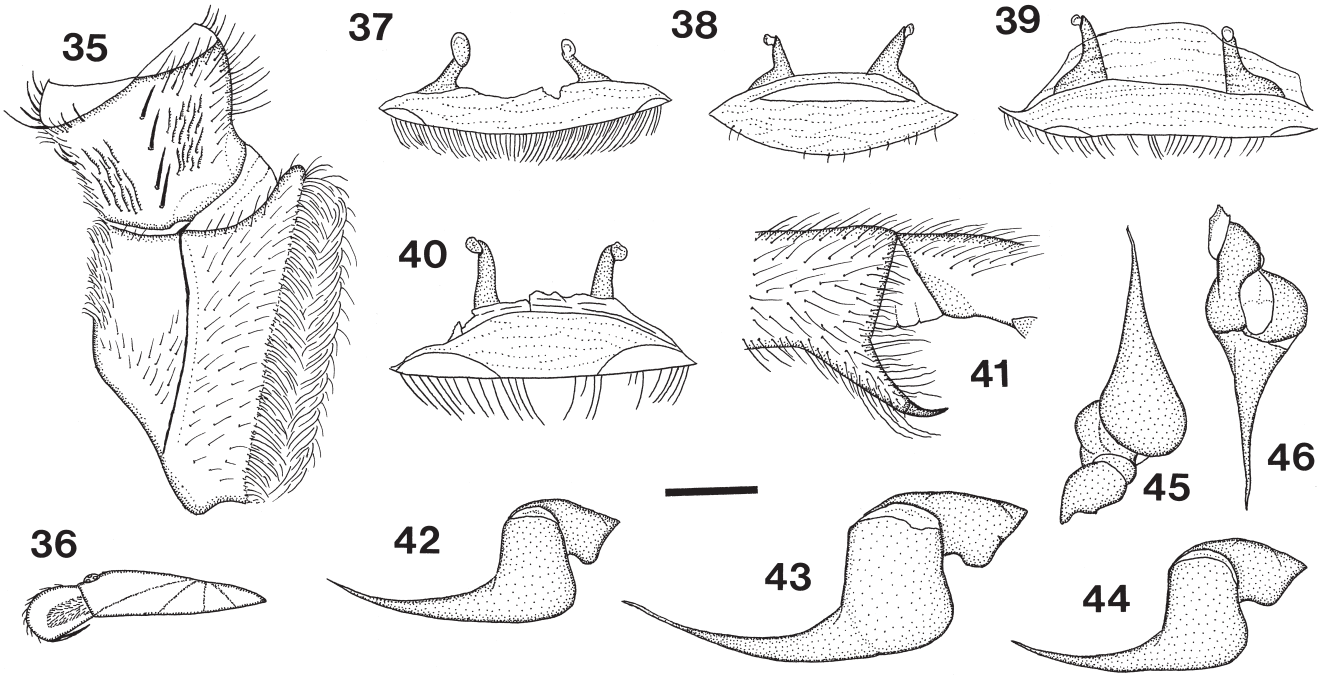
Female: Total length 21.9–39.0 (33.0 ± 7.6; 4). Carapace profile low (Fig. 36), length 11.1–14.7 (13.3 ± 1.6; 4), width 9.4–12.2 (11.2 ± 1.3; 4). Abdomen length 6.2–18.7 (14.5 ± 5.6; 4), width 11.1–13.4

	Femur	Patella	Tibia	Metatarsus	Tarsus
I	7.8–10.6 (9.7 ± 1.3)	5.2–7.1 (6.3 ± 0.8)	5.9–8.0 (7.2 ± 0.9)	4.9–7.5 (6.5 ± 1.1)	5.2–6.5 (5.7 ± 0.6)
II	7.2–9.6 (8.9 ± 1.1)	5.0–6.5 (5.8 ± 0.6)	5.3–7.2 (6.4 ± 0.8)	4.7–6.8 (6.1 ± 1.0)	4.3–5.8 (5.1 ± 0.7)
III	6.5–9.4 (8.0 ± 1.2)	4.0–5.9 (5.1 ± 0.8)	4.5–5.8 (5.4 ± 0.6)	5.3–7.2 (6.6 ± 0.9)	4.3–6.1 (5.1 ± 0.8)
IV	8.2–11.1 (10.1 ± 1.3)	4.8–6.5 (5.8 ± 0.8)	6.7–8.8 (8.0 ± 1.0)	7.8–10.7 (9.5 ± 1.2)	4.6–6.5 (5.5 ± 0.8)
Palp	6.0–8.1 (7.3 ± 0.9)	4.0–5.7 (4.8 ± 0.7)	4.5–5.6 (5.1 ± 0.5)	—	5.1–6.2 (5.7 ± 0.5)

Table 8: *Pterinochilus simoni* Berland, 1917. Lengths of leg and palp segments. Females (n=4) including a syntype and the syntype of *P. occidentalis*. Range (mean ± SD).

(11.9 ± 1.0; 4). Fovea deep, transverse. Ocular tubercle length 1.54–2.00 (1.81 ± 0.21; 4), width 2.22–2.85 (2.53 ± 0.34; 4). Clypeus 0.08–0.31 (0.20 ± 0.11; 4). Eye sizes: AME 0.61–0.72 (0.65 ± 0.05; 4), ALE 0.54–0.73 (0.63 ± 0.10; 4), PME 0.42–0.69 (0.56 ± 0.11; 4), PLE 0.53–0.76 (0.64 ± 0.10; 4). Sternum with three pairs of oval submarginal sigilla. Labium with *c*. 50 cuspules. Maxilla with *c*. 100 cuspules. DS of posterior spinneret digitiform. Chelicerae with 11–12 (11 ± 1; 3) teeth on promargin. Small stridulatory scopula of plumose setae on retrolateral cheliceral face (Fig. 36), corresponding with scopula of similar plumose setae, bisected by longitudinal row of thick setae, on prolateral trochanteral face of palp (Fig. 35). Leg and palp segment lengths in Table 8. All tarsi with integral scopulae. Metatarsal scopulae of legs I–III integral; metatarsal scopula of leg IV bisected longitudinally by band of stiffened setae. Spination: palp and legs I, II tibiae 1DRV, 1DPV; legs III, IV tibiae 2DRV, 1DPV; leg III metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD; leg IV metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD. Remaining leg segments aspinose. Coloration: legs, palpi, chelicerae and dorsum of abdomen chestnut brown. Light bands at leg and palp joints. Carapace, ocular tubercle and dorsum of trochanters pale yellow. Dorsum of abdomen with pattern of dark bars and spots. Venter of abdomen dark brown, with lighter booklung covers and epigastric scutum (probably less pale in live specimens). Sternum and coxae dark brown ventrally. Spermathecae (Figs. 37–40): paired, with single terminal lobe. Main body of spermathecae elongated. Setal fringe on posterior margin of epigastric scutum composed of uniformly sized, long, curved setae.

Male: Total length 28.0–38.5 (33.2 ± 4.7; 6). Carapace profile low, length 11.0–17.3 (13.9 ± 2.5; 6), width 9.0–15.8 (12.0 ± 2.5; 6). Abdomen length 12.0–15.7 (14.2 ± 1.6; 6), width 7.6–12.5 (9.9 ± 1.9; 6). Fovea deep, transverse. Ocular tubercle length 1.53–2.21 (1.84 ± 0.24; 6), width 1.99–3.18 (2.50 ± 0.43; 6). Clypeus 0.08–0.22 (0.15 ± 0.05; 6). Eye sizes: AME 0.59–0.80 (0.68 ± 0.08; 6), ALE 0.51–0.73 (0.63 ± 0.08; 6), PME 0.40–0.58 (0.50 ± 0.07; 6), PLE 0.48–0.77 (0.62 ± 0.12; 6). Sternum with three pairs of oval submarginal sigilla.



Figs. 35–46: *Pterinochilus simoni* Berland. **35** Male left palp maxilla and trochanter (MRAC 012.353), prolateral view; **36** Female carapace profile (MRAC 130.829); **37** Spermathecae (syntype of *P. occidentalis*), dorsal view; **38** Spermathecae (MRAC 004.290), dorsal view; **39** Spermathecae (MRAC 130.829), dorsal view; **40** Spermathecae (MRAC 014.440), dorsal view; **41** Male tibial spur of left leg I (syntype), prolateral view; **42** Male reversed right palpal bulb (holotype of *Pterinochilides obenbergeri*), retrolateral view; **43** Male left palpal bulb (holotype of *P. mutus*), retrolateral view; **44** Male left palpal bulb (syntype of *P. occidentalis*), retrolateral view; **45** Ditto, ventral view; **46** Ditto, dorsal view. Scale line=1.4 mm (35, 41), 1.0 mm (37–40, 42–46), 7.0 mm (36).

	Femur	Patella	Tibia	Metatarsus	Tarsus
I	9.9–16.3 (12.7 ± 2.5)	5.8–8.6 (7.1 ± 1.1)	7.8–12.2 (9.6 ± 2.0)	7.8–12.6 (9.7 ± 2.2)	5.1–9.0 (6.9 ± 1.6)
II	9.2–14.6 (11.7 ± 2.3)	5.4–8.0 (6.5 ± 1.1)	6.5–11.3 (8.7 ± 2.0)	6.8–10.9 (8.9 ± 1.8)	5.5–7.8 (6.6 ± 1.0)
III	7.9–12.6 (10.3 ± 1.9)	4.7–7.2 (5.7 ± 1.1)	5.8–10.2 (7.7 ± 1.8)	7.0–12.0 (9.2 ± 2.1)	5.0–7.7 (6.3 ± 1.2)
IV	10.2–16.6 (12.9 ± 2.6)	5.0–7.5 (6.1 ± 1.0)	7.9–13.0 (10.3 ± 2.2)	9.6–15.6 (12.5 ± 2.5)	5.5–9.0 (6.9 ± 1.3)
Palp	6.1–10.6 (8.3 ± 1.8)	4.2–6.3 (5.0 ± 0.8)	5.2–8.4 (6.6 ± 1.4)	—	1.5–3.0 (2.4 ± 0.7)

Table 9: *Pterinochilus simoni* Berland, 1917. Lengths of leg and palp segments. Males ($n=6$) including syntype males of *P. simoni* and *P. occidentalis* and holotypes of *P. mutus* and *Pterinochilides obenbergeri*. Range (mean ± SD).

Labium with *c.* 45 cuspules. Maxilla with *c.* 100 cuspules. DS of posterior spinneret digitiform. Chelicerae with 8–12 (11 ± 2; 5) teeth on promargin. Stridulatory scopulae as in female. Leg and palp segment lengths in Table 9. Femur of leg III not incrassate. Metatarsus of leg I straight. Tarsal and metatarsal scopulae as in female. Spination: palp tibia 1DPV; leg I tibia 1DRV; leg II tibia 1DRV, 1DPV; leg III tibia 1/2DRV, 1DPV, metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD; leg IV tibia 2DRV, 1DPV, metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD. Remaining leg segments aspinose. Tibial spur (Fig. 41): DPV apophysis long, sub-cylindrical; surmounted megaspine short, strongly curved, protruding ventrally. Coloration: as in female, but dark dorsal abdominal pattern indistinct, with emergent, russet-coloured setae concentrated posteriorly. Carapace setae woolly. Palpal bulb (Figs. 42–46): pyriform, with evenly curved, acuminate embolus. Keels absent along embolus.

Material examined: ANGOLA: MNHN AR4747, 1♂ 3♀ (syntypes of *P. simoni*), Landana (=Cacongo), 05°13′S, 12°08′E; ZMB 32193, 1♂, Chinchoxo, July 1876 (Falkenstein). DEMOCRATIC REPUBLIC OF CONGO (ZAIRE): ISNB, 1♂ (holotype of *Pterinochilides obenbergeri*), Lukula, 05°21′S, 13°02′E (Wilverth); ISNB, 1♂ 1♀ (syntypes of *Pterinochilus occidentalis*), Banana, 05°58′S, 12°27′E (Busschodts); ISNB, 1 imm. ♂ (type of *P. occidentalis* (var.?)), Lingunda, 00°49′N, 21°08′E, August 1900 (L. Mairessa); ISNB, 1♂ (holotype of *P. mutus*), August 1900 (G. Hoton); MRAC 004.290, 1♀, Eala, 00°03′N, 18°19′E, 11 November 1938 (G. Couteauy); MRAC 005.215, 1♂, Ibembo, 02°36′N, 23°40′E (Van Hecke); MRAC 012.353, 1♂, Komi, Lodja, 03°29′S, 23°26′E, April 1930 (J. Ghesquiere); MRAC 014.421, 1 imm. ♂, Binga, 10°55′S, 27°58′E, August 1932 (V. Goossens); MRAC 014.440, 1♀, Inkongo, Lusambo, 04°58S, 23°26′E (Rev. Wilson); MRAC 016.214, 1♀, Bokuma, 00°06′S, 18°41′E, September 1930 (P. Staner); MRAC 057.854, 1♀, Ngilo, North Kasai, 1 July 1946 (Lagae); MRAC 074.069, 1♂, Katako-Kombe, 02°58′S, 25°53′E, March 1953 (Dr Fontaine); MRAC 080.508, 1♀, Yangambi, 00°46′N, 24°27′E, November 1953 (J. Decelle); MRAC 081.297, 1♂, Kasai, Lomela, 02°19′S, 23°15′E, 1955 (Hantier); MRAC 085.067, 1♀, Bayenga, Wamba, 03°55′S, 20°19′E, 28 January 1956 (R. Castelain); MRAC 085.244, 1♂, Tshuapa, Bamania, 00°01′N, 18°19′E, May 1955 (R. P. Hulstaert); MRAC 085.504, 1♂, Sankuru, Lusambo, 04°59′S, 23°26′E, 1956 (E. R. Detlye); MRAC 086.168, 1♀, Bamania, 00°01′N, 18°19′E, 1955 (R. P. Hulstaert); MRAC 112.576, 2♀ 1 imm. ♂, Kasai, Makaw, 03°29′S, 18°19′E, 1958 (E. Jans); MRAC 130.827, 1♀, Stanleyville (=Kisangani), 00°31′N, 25°11′E, 1941 (J. Florent); MRAC 130.829, 1♀, Inkongo, Lusambo, 04°58′S, 23°26′E, 1929 (Rev. Wilson). NO DISTRIBUTIONAL DATA: ZMB 32192, 1♂ 1♀.

Distribution: Congo River basin, occurring in Angola and the Democratic Republic of Congo (Zaire) (Map 1). Altitudinal range between sea level and 500 m (possibly over 1000 m if extralimital Binga collection site is correct).

Ecology: Unknown. Males are mature between March and August.

Pterinochilus vorax Pocock, 1897 (Figs. 47–56)

Pterinochilus vorax Pocock, 1897: 752, pl. 43, figs. 3–3e (D♂); 1898a: 316 (in part, type ♂, other ♂♀ are misidentifications); Strand, 1906a: 19 (♂♀)? (see remarks); Laurent, 1946: 319 (♂, D♀); Smith, 1988a: 137 (♀)?, fig. 88 spinnerets, not other figs. (see remarks); 1990: 102, figs. 591–600 (♂, not photograph of ♀).

Pterinochilus constrictus: Strand, 1907a: 236 (not described ♀, part of synonymy list only); Roewer, 1942: 270 (part of synonymy list only); Smith, 1988a: 133 (♂ not ♀ as stated); 1990: 94 (not described ♀, part of synonymy list only).

Pterinochilus meridionalis: Laurent, 1946: 320 (♂♀, misidentifications); Roewer, 1953: 71, figs. 28–29 (♂, misidentification in part).

Pterinochilus mutus: Roewer, 1953: 74, figs. 26–27 (♂, misidentification).

Type material: Holotype ♂ (BMNH 1894.12.25.5) of *P. vorax* from Tanzania, Fwambo, Lake Tanganyika (A. Carson); examined.

Remarks: Roewer (1942) incorrectly cited Pocock's holotype as female. Roewer's (1953) figures of *P. meridionalis* relate to *P. vorax*, but the cited material also includes misidentified specimens of *P. murinus*. Roewer's (1953) *Pterinochilus mutus* specimens are misidentified examples of *P. vorax*. Strand's (1906a) *P. vorax* are *Pterinochilus incertae sedis* as the specimens were destroyed in WWII and the descriptions do not allow identification. Smith's (1988a) description of *P. vorax* refers to Strand's (1906a) specimens, but the figures do not; fig. 88 (spinnerets) relates to the holotype male of *P. vorax*, but figs. 88, 88b, 88e and plate 3 are of misidentified specimens of *Augacephalus breyeri*. Strand's (1907a) *P. constrictus* female is *P. murinus*. Smith's (1988a) description of *P. constrictus* relates to the holotype male of *P. vorax* and not to a female as stated. Berland's (1914: 45) *P. vorax* specimens refer to *P. chordatus*. Schmidt's (1995) figure of *P. vorax* does not relate to this species (probably *Augacephalus breyeri*). The photograph labelled as *P. vorax* in Smith (1990: 103) is *Augacephalus breyeri*.

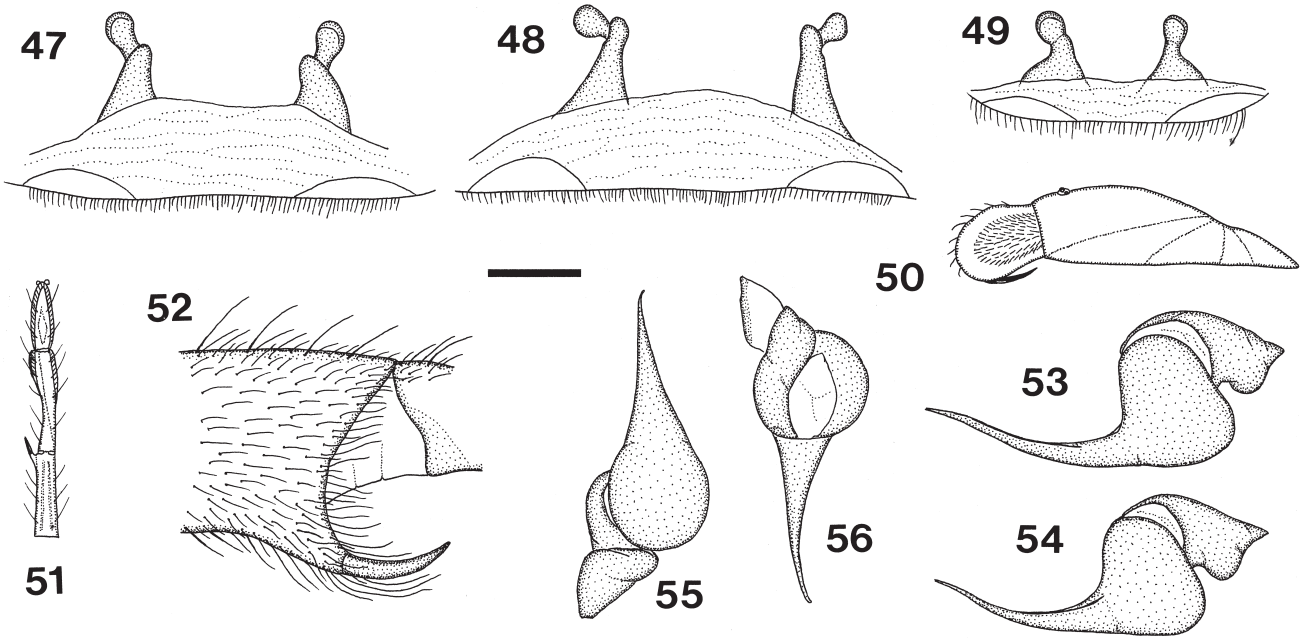
Diagnosis: The female differs from all other *Pterinochilus* species except *P. lugardi* and *P. simoni* by the presence of a single terminal lobe on the spermathecae (Figs. 47–49). Both sexes of *P. vorax* are separated from *P. simoni* by the absence of a longitudinal line of stiffened setae on the palpal trochanter. Females are distinguished from those of *P. lugardi* by their larger retrolateral cheliceral scopula composed of well-developed plumose setae (Fig. 50), and by their darker coloration. Rarely specimens may be encountered where

	Femur	Patella	Tibia	Metatarsus	Tarsus
I	7.7–14.8 (11.3 ± 2.5)	5.3–9.9 (7.5 ± 1.6)	5.9–10.6 (8.0 ± 1.7)	5.2–8.8 (7.0 ± 1.3)	4.8–7.0 (5.8 ± 0.8)
II	7.3–13.1 (10.0 ± 2.2)	4.8–9.3 (6.5 ± 1.4)	4.8–8.7 (6.7 ± 1.3)	4.5–8.1 (6.3 ± 1.2)	4.2–6.6 (5.2 ± 0.8)
III	6.6–11.6 (8.8 ± 1.7)	4.0–7.4 (5.6 ± 1.1)	4.1–6.4 (5.2 ± 0.9)	5.2–8.5 (6.6 ± 1.3)	4.2–6.4 (5.1 ± 0.8)
IV	8.4–14.2 (11.0 ± 2.1)	4.8–8.5 (6.3 ± 1.2)	6.0–9.6 (7.8 ± 1.4)	7.4–12.1 (9.6 ± 1.8)	4.7–7.2 (5.9 ± 1.0)
Palp	5.9–10.2 (7.7 ± 1.7)	4.0–7.2 (5.5 ± 1.1)	3.6–7.0 (5.2 ± 1.0)	—	4.9–7.9 (6.2 ± 1.0)

Table 10: *Pterinochilus vorax* Pocock, 1897. Lengths of leg and palp segments. Females (n=11 except leg III tibia, metatarsus and tarsus where n=10 and leg IV tibia where n=10). Range (mean ± SD).

the terminal spermathecal lobes are fused with the main body of the spermathecae (Fig. 49). Such specimens can be distinguished from *P. chordatus* by the presence of a visible fusion mark. Males differ from *P. chordatus* by the absence of an inflected embolic tip (Figs. 53–54). Males are separated from those of *P. lugardi* by their laterally flexed metatarsus I (Fig. 51); in small males metatarsus I is not flexed, but the flexed embolus and darker body coloration allow identification. The male of *P. vorax* is distinguished from those of *P. murinus* and *P. alluaudi* by its elongated, acuminate, flexed embolus and incrassate femur III.

Female: Total length 29.4–53.7 (38.6 ± 8.3; 11). Carapace profile domed, raised at caput (Fig. 50), length 12.0–20.5 (15.4 ± 3.1; 11), width 8.7–17.0 (12.0 ± 2.7; 11). Abdomen length 12.5–25.7 (17.9 ± 4.5; 11), width 8.0–16.5 (11.7 ± 3.1; 11). Fovea transverse slit. Ocular tubercle length 1.19–2.02 (1.62 ± 0.26; 11), width 1.84–2.66 (2.22 ± 0.29; 11). Clypeus 0.18–0.85 (0.48 ± 0.21; 11). Eye sizes: AME 0.47–0.67 (0.57 ± 0.06; 11), ALE 0.50–0.75 (0.59 ± 0.08; 11), PME 0.36–0.60 (0.44 ± 0.08; 11), PLE 0.47–0.69 (0.57 ± 0.07; 11). Sternum with three pairs of oval submarginal sigilla. Labium with *c*. 80 cuspules. Maxilla with *c*. 100 cuspules. DS of posterior spinneret digitiform. Chelicerae with 11–15 (12 ± 1; 11) teeth on promargin. Large stridulatory scopula of well-developed plumose setae on retrolateral cheliceral face (Fig. 50), corresponding with scopula of similar plumose setae on prolateral trochanteral face of palp; in large specimens plumose setae may extend onto proximal, prolateral region of palpal femur. Leg and palp segment lengths in Table 10. All tarsi with integral scopulae. Metatarsal scopulae of legs I–III integral; metatarsal scopula of leg IV bisected longitudinally by band of stiffened setae. Spination: palp tibia 2DRV, 2DPV; legs I, II tibiae 1DRV, 1DPV; legs III, IV tibiae 2DRV, 1DPV; leg III metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD; leg IV metatarsus 1MRV, 1MPV, 1DRV, 1DMV, 1DPV, 1MRD, 1MPL, 1DPD, 1DRD. Remaining leg segments aspinose. Coloration: legs, palpi and chelicerae brown. Leg and palp joints pale yellow. Carapace brown with golden, radial striae (striae often absent or very fine); dark "mask" around ocular tubercle. Dorsum of abdomen brown with dark pattern of bars, spots and reticulations; anterior pair of spots prominent. Venter of abdomen brown with pale booklung covers and epigastric scutum (probably less pale in live specimens). Sternum and proximal portion of coxae black. Spermathecae (Figs. 47–49): paired, with single rounded terminal lobe. Setal fringe on posterior



Figs. 47–56: *Pterinochilus vorax* Pocock. **47** Spermathecae (MRAC 014.437), dorsal view; **48** Spermathecae (MRAC 139.271), dorsal view; **49** Spermathecae (MRAC 139.264), dorsal view; **50** Female carapace profile (MRAC 139.271); **51** Male distal portion of right leg I (MRAC 139.271b), dorsal view; **52** Male tibial spur of left leg I (MRAC 139.281), prolateral view; **53** Male left palpal bulb (ditto), retrolateral view; **54** Male left palpal bulb (MRAC 139.271b), retrolateral view; **55** Ditto, ventral view; **56** Ditto, dorsal view. Scale line=1.4 mm (52), 1.0 mm (47–49, 53–56), 7.0 mm (50), 8.4 mm (51).

	Femur	Patella	Tibia	Metatarsus	Tarsus
I	9.5–15.2 (12.2 ± 1.8)	5.5–8.9 (7.1 ± 1.1)	7.8–11.3 (9.1 ± 1.2)	6.2–13.0 (9.8 ± 2.0)	5.0–8.2 (6.7 ± 1.0)
II	8.5–14.6 (11.0 ± 1.9)	4.6–7.7 (6.2 ± 0.9)	6.4–10.1 (7.7 ± 1.2)	6.0–10.6 (8.0 ± 1.4)	4.8–7.0 (5.8 ± 0.7)
III	7.5–12.5 (9.8 ± 1.5)	3.9–6.3 (5.2 ± 0.7)	4.7–7.7 (5.9 ± 1.0)	6.5–11.5 (8.8 ± 1.5)	4.5–6.8 (5.5 ± 0.8)
IV	9.1–15.3 (11.9 ± 1.9)	4.4–7.4 (6.0 ± 0.9)	6.7–11.7 (8.7 ± 1.6)	8.8–15.3 (11.7 ± 2.0)	5.1–7.7 (6.5 ± 0.9)
Palp	5.4–8.6 (6.8 ± 1.0)	3.4–5.7 (4.7 ± 0.7)	4.2–7.6 (5.7 ± 1.1)	—	1.7–3.7 (2.4 ± 0.7)

Table 11: *Pterinochilus vorax* Pocock, 1897. Lengths of leg and palp segments. Males (n=7). Range (mean ± SD).

margin of epigastric scutum composed of uniformly sized, short, straight setae.

Male: Total length 24.7–39.2 (31.3 ± 4.2; 7). Carapace profile low, length 10.7–16.9 (13.6 ± 1.9; 7), width 8.5–14.4 (11.1 ± 1.8; 7). Abdomen length 11.0–16.7 (13.3 ± 1.7; 7), width 7.2–11.2 (8.5 ± 1.3; 7). Fovea transverse slit. Ocular tubercle length 1.18–1.77 (1.43 ± 0.18; 7), width 1.60–2.20 (1.87 ± 0.18; 7). Clypeus 0.18–0.55 (0.37 ± 0.15; 7). Eye sizes: AME 0.46–0.60 (0.51 ± 0.05; 7), ALE 0.45–0.64 (0.50 ± 0.07; 7), PME 0.33–0.47 (0.39 ± 0.06; 7), PLE 0.40–0.67 (0.47 ± 0.09; 7). Sternum with three pairs of oval submarginal sigilla. Labium with *c*. 70 cuspules. Maxilla with *c*. 100 cuspules. DS of posterior spinneret digitiform. Chelicerae with 9–13 (11 ± 1; 7) teeth on promargin. Stridulatory scopulae as in female. Leg and palp segment lengths in Table 11. Femur of leg III incrassate. Metatarsus of leg I laterally flexed (Fig. 51), but not distinct in small specimens such as MRAC 014.431. Tarsal and metatarsal scopulae as in female. Spination: palp tibia 1DPV; leg I tibia 1DRV; leg II tibia 1DRV, 1DPV, metatarsus 1DMV; legs III, IV tibiae 2DRV, 1DPV; leg III metatarsus 1MRV, 1MPV, 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD; leg IV metatarsus 1MRV, 1MPV, 1DRV, 1DMV, 1DPV, 1MRD, 1MPL, 1DPD, 1DRD. Remaining leg segments aspinose. Tibial spur (Fig. 52): DPV apophysis robust and prominent; surmounted megaspine strong, curved, protruding ventro-laterally. Coloration: as in female, but carapace black or brown with metallic golden striae. Carapace margin and dorsum of trochanters coloured as carapace striae. Dark dorsal abdominal pattern well-defined, but reticulations absent. Darkening of coxae not as extensive as in female. Palpal bulb (Figs. 53–56): pyriform, with flexed, acuminate embolus. Keels absent along embolus.

Material examined: ANGOLA: ZMB 32164, 1♀, Loanda (=Luanda), 08°50′S, 13°15′E, 15 August 1900 (Consul. Sleinn). BURUNDI: MRAC 014.437, 1♀, Rumonge, 03°58′S, 29°26′E, 1936 (A. Lestrade); MRAC 014.438, 1♂ 1♀, Rumonge, 03°58′S, 29°26′E, 1936 (A. Lestrade); MRAC 067.261, 1♂, Kibumbu Hospital (Dr Schouteden); MRAC 068.100, 1 imm. ♀, Makamba, 12 December 1949, 1500 m, 04°08′S, 29°48′E; MRAC 130.612, 1♀, Plaine de la Ruzizi, 03°21′S, 29°17′E, May 1966, 890 m (S. Ndani). DEMOCRATIC REPUBLIC OF CONGO (ZAIRE): MRAC 014.431, 1♀ 1♂, Sandoa, 09°41′S, 22°53′E, 1932 (J. Denis); MRAC 016.218, 1♀, Ubangi, Nzali, ~04°S, 19°E, 2 February 1932 (H. J. Bredo); MRAC 069.070, 2♀, Sakania, 12°45′S, 28°34′E, 1951 (Seur Maria Paula); MRAC 077.172, 1♀, Kakanda, 10°45′S, 26°25′E, December 1953 (R. P. De Caters); MRAC 091.119, 1♀, Katanga, non radioactive, 10°59′S, 26°44′E, October 1956 (Z. Bacq); MRAC 092.805, 1♂, Uvira, 03°25′S, 29°08′E, 1 April 1956 (G. Marlier); MRAC 127.090, 1♂, Lualaba, Kisenge, 10°42′S, 23°10′E, 1964 (A. Regnard); MRAC 134.234, 1♀, Katanga, Kasapa, 11°35′S, 27°25′E, November 1967 (G. Goffinet); MRAC 139.252, 1♂, Kaziba, 07°09′S, 27°01′E, 25 February 1948, 1140 m (G. F. De Witte); MRAC 139.254, 1♀, Lusinga, 08°56′S, 27°12′E, 12 December 1947, 1810 m (G. F. De Witte); MRAC 139.261, 1♀ 5 imm., Kaswabilenga (R. Lufira), 08°51′S, 26°43′E, 1 October 1947, 680 m (G. F. De Witte); MRAC 139.265, 1♀ 2 imm. ♀, Kaswabilenga (Lufira), 08°51′S, 26°43′E, 15 September 1947, 680 m (G. F. De Witte); MRAC 139.266, 1 imm. ♀, Kaziba, 07°09′S, 27°01′E, 24 February 1948, 1140 m (G. F. De Witte); MRAC 139.271, 3♂ 1♀, Kaswabilenga, 08°51′S, 26°43′E, 30 October 1947, 680 m (G. F. De Witte); MRAC 139.276, 1 imm. ♀, Kalule, Lualaba, 09°29′S, 25°30′E, 28 February 1949, 1050 m (G. F. De Witte); MRAC 139.281, 1♂, Lusinga, 08°53′S, 27°12′E, 19 March 1947, 1810 m (G. F. De Witte). RWANDA: MRAC 120.758, 2 imm., Kigali district, Nyabiho, 01°56′S, 30°04′E, November 1961 (R. Kiss). TANZANIA: BMNH 1894.12.25.5, 1♂ (holotype of *P. vorax*), Fwambo, Lake Tanganyika (A. Carson); ZMB 32167, 2♀, Usamwialager, P. Ufipa, December 1908 (Fromm); ZMB 32169, 1♀, Tabora, 05°04′S, 32°49′E (Dr Leupolt).

Distribution: Widely distributed across central Africa, occurring in Angola, Burundi, Democratic Republic of Congo (Zaire), Rwanda and Tanzania (Map 2). Altitudinal range between sea level and 1810 m.

Ecology: Unknown. Males are mature between February and April and in October.

Genus *Augacephalus* gen. n.

Pterinochilus: Smith, 1990: 92 (in part).

Type species: *Pterinochilus breyeri* Hewitt, 1919.

Species included: *A. breyeri* (Hewitt, 1919) and *A. junodi* (Simon, 1904).

Etymology: The generic name is derived from the Greek *auga* (sun rays) and *kephale* (head), pertaining to the prominent, radial, carapace striae present in both species. Gender masculine.

Diagnosis: Distinguished from *Harpactirella* by the presence of a retrolateral cheliceral scopula composed of plumose setae (in males scopula not obviously composed of plumose setae). Separated from *Harpactira* and *Trichognatha* gen. n. by the absence of a dense scopula on the upper prolateral cheliceral surface. Further separated from *Harpactira* by the absence of plumose stridulatory strikers on the prolateral maxillary surface, and by the absence of a discrete row of bristles below the retrolateral cheliceral scopula. Distinguished from *Idiothele* by the possession of digitiform DS on posterior spinnerets. Differs from *Ceratogyrus* by the lack of a foveal tubercle/procurved fovea. Female *Augacephalus* gen. n. are separated from those of *Eucratoscelus* by the unmodified (not incrassate) tibiae of leg IV. Male *Augacephalus* gen. n. are separated from those of *Eucratoscelus* and *Pterinochilus* by lacking the DPV tibial apophysis or by the reduced surmounted megaspine. Further separated from *Eucratoscelus* by the absence of a DPV tumid protuberance on metatarsus I. The presence of a DPD spine on metatarsi III and IV

further separates *Augacephalus* gen. n. from *Eucratoscelus*. Female *Augacephalus* gen. n. are separated from those of *Pterinochilus* by the absence of long emergent setae on the chelicerae (giving them a velvety appearance), their robust palpi and legs I–II, and by the position of their posterior sternal sigilla.

Key to the species of *Augacephalus* gen. n.

1. Females.....2
– Males.....3
2. Spermathecae medially constricted, terminally circular in cross section (Figs. 67–68); sternum and coxae covered with dense black velvety setae; profile of carapace as in Fig. 69..... *A. junodi*
– Spermathecae flattened, sub-triangular (Figs. 57–59); sternum and coxae covered with dense black velvety setae with long emergent setae; profile of carapace often stepped at fovea (Fig. 60)..... ..... *A. breyeri*
3. DPV tibial apophysis on leg I present, but surmounted megaspine weakly-developed (Fig. 61); palpal bulb as in Fig. 62..... *A. breyeri*
– DPV tibial apophysis on leg I absent (Fig. 71); palpal bulb as in Fig. 72..... *A. junodi*

***Augacephalus breyeri* (Hewitt, 1919), new combination** (Figs. 57–64)

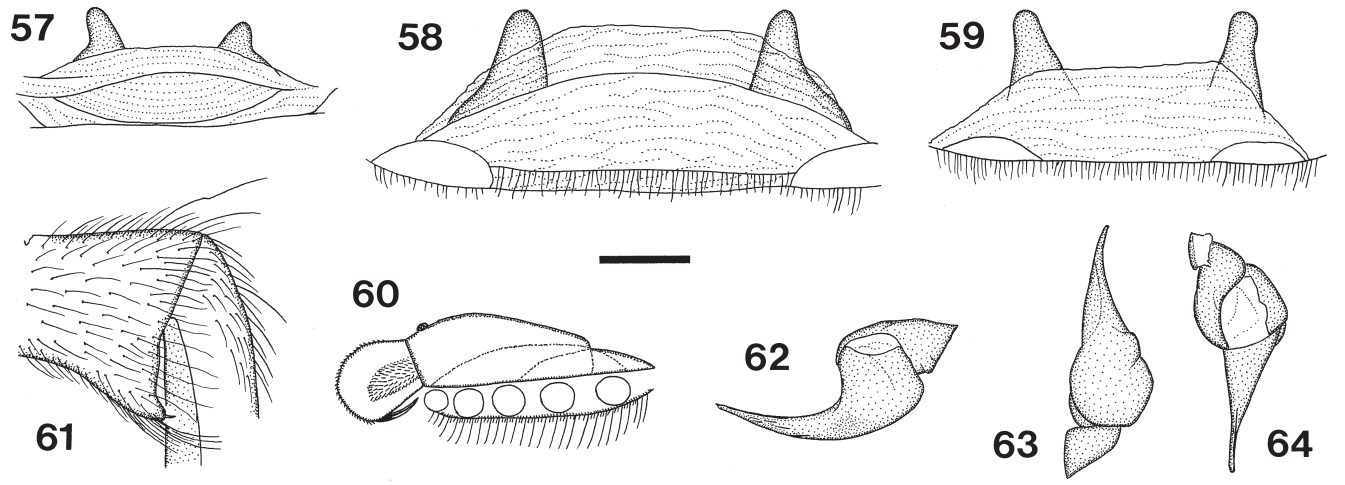
Pterinochilus breyeri Hewitt, 1919: 102 (D♀); Smith, 1988a: 133 (♀); 1990: 94 (♀).

Pterinochilus vorax: Smith, 1988a: 137, figs. 88, 88b, 88e, pl. 3 (not described ♀ — see remarks under *P. vorax*); 1990: 102 (misidentified photograph of ♀ only).

Type material: Holotype ♀ (TM 2995) from South Africa, Malelane, Barberton district, Transvaal, 25°29′S, 31°26′E, February 1915 (A. Roberts); examined.

Diagnosis: The female is distinguished from *A. junodi* by the presence of long emergent setae on the sternum and coxae (Fig. 60) and by the form of the spermathecae (Figs. 57–59), which are flattened and more triangular in shape. It further differs from *A. junodi* in that the ventral, setal fringes on the femora of legs I–II and the palp are either sparse or dense only in the proximal region. The profile of the carapace (Fig. 60) provides additional distinction from *A. junodi*. The male differs from *A. junodi* by the possession of a weakly-developed megaspine surmounting a DPV tibial apophysis on leg I (Fig. 61) and by the more robust embolus (Fig. 62).

Female: Total length 40.8–55.6 (49.7 ± 4.8; 7). Carapace profile domed at caput, sometimes stepped at fovea (Fig. 60), length 15.5–21.8 (19.7 ± 2.3; 7), width 12.1–18.0 (15.4 ± 2.0; 7). Abdomen length 18.8–27.2 (23.0 ± 2.5; 7), width 12.9–19.4 (16.1 ± 2.2; 7). Transverse fovea shallow, dimple-like. Ocular tubercle length 1.62–2.15 (1.99 ± 0.19; 7), width 2.05–2.64 (2.40 ± 0.24; 7). Clypeus 0.63–1.56 (1.21 ± 0.31; 7). Eye sizes: AME 0.55–0.81 (0.66 ± 0.08; 7), ALE 0.59–0.77 (0.65 ± 0.06; 7), PME 0.42–0.57 (0.49 ± 0.05; 7), PLE 0.48–0.77 (0.63 ± 0.10; 7). Sternum with two anterior pairs of submarginal sigilla circular, posterior sigilla ovoid and away from sternal margin. Labium with *c*. 35 cuspules. Maxilla with *c*. 100 cuspules. DS of posterior spinneret digitiform. Chelicerae with 9–11 (10 ± 1; 7) teeth on promargin. Small stridulatory scopula of well-developed plumose setae on retrolateral cheliceral face (Fig. 60), corresponding with scopula of similar plumose setae on prolateral trochanteral face of palp; in large specimens plumose setae may extend onto proximal, prolateral region of palpal femur. Leg and palp segment lengths in Table 12. Palpi and legs I–II robust relative to legs III–IV. Ventral femoral fringes on palpi and legs I–II usually sparse, on large specimens can be dense proximally. All tarsi with integral scopulae. Metatarsal scopulae of legs I–III integral; metatarsal scopula of leg IV bisected longitudinally by band of stiffened setae. Spination: palp tibia 2DRV, 2DPV; legs I, II tibiae 1DRV, 1DPV; legs III, IV tibiae 2DRV, 1DPV; leg III metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD; leg IV metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MRD, 1DPD, 1DRD. Remaining leg segments aspinose. Coloration: dorsum of legs, palpi and abdomen beige/orange, increasingly ruddy distally on appendages. Leg and palp joints pale yellow. Chelicerae grey, velvety. Carapace with radial pattern of orange striae on background of black setae; black "mask" around ocular tubercle. Dorsum of abdomen orange/beige with dark pattern of bars, spots and



Figs. 57–64: *Augacephalus breyeri* (Hewitt). **57** Spermathecae (holotype), dorsal view; **58** Spermathecae (NM 16025), dorsal view; **59** Spermathecae (TM 4736), dorsal view; **60** Female carapace profile (holotype); **61** Male tibial spur of left leg I (BMNH), prolateral view; **62** Male left palpal bulb (ditto), retrolateral view; **63** Ditto, ventral view; **64** Ditto, dorsal view. Scale line = 1.4 mm (61), 1.0 mm (57–59, 62–64), 7.0 mm (60).

	Femur	Patella	Tibia	Metatarsus	Tarsus
I	11.1–15.9 (14.2 ± 1.5)	7.0–10.7 (9.3 ± 1.3)	7.9–10.4 (9.8 ± 0.9)	6.9–10.0 (9.0 ± 1.0)	4.9–7.3 (6.2 ± 0.8)
II	9.9–14.2 (12.4 ± 1.4)	6.5–9.5 (8.0 ± 1.0)	6.3–8.8 (8.0 ± 0.8)	6.8–9.4 (8.3 ± 0.9)	5.0–6.5 (5.9 ± 0.6)
III	7.9–11.6 (10.3 ± 1.2)	4.9–7.3 (6.4 ± 0.8)	5.1–7.1 (6.3 ± 0.7)	7.1–9.4 (8.5 ± 0.7)	4.6–6.3 (5.5 ± 0.6)
IV	10.4–15.0 (13.1 ± 1.5)	5.8–8.6 (7.5 ± 0.9)	8.3–10.2 (9.4 ± 0.7)	9.2–13.5 (11.7 ± 1.4)	5.3–7.4 (6.5 ± 0.9)
Palp	8.1–11.9 (10.3 ± 1.2)	5.6–7.7 (6.7 ± 0.7)	5.2–7.2 (6.4 ± 0.7)	—	6.1–8.2 (7.3 ± 0.8)

Table 12: *Augacephalus breyeri* (Hewitt, 1919). Lengths of leg and palp segments. Females ($n=7$) including holotype. Range (mean ± SD).

reticulations. Venter of abdomen orange/beige with pale transverse band over and between posterior booklung covers (band obscure in some specimens). Prolateral femoral surfaces of palp, legs I–II jet-black. Sternum, coxae and trochanters velvety black with long emergent orange/brown setae. Entire ventral surface of palpi black. Proximal region of legs I–II black up to proximal region of tibiae, remainder of legs beige/orange ventrally. Spermathecae (Figs. 57–59): paired, unlobed, with flattened sub-triangular form. Setal fringe on posterior margin of epigastric scutum composed of uniformly sized, short, straight setae.

Male: Total length 18.0. Carapace profile low, length 8.4, width 6.7. Abdomen length 7.9, width 4.1. Fovea transverse, shallow, dimple-like. Ocular tubercle length 1.07, width 1.38. Clypeus 0.16. Eye sizes: AME 0.44, ALE 0.44, PME 0.23, PLE 0.41. Sternum with two anterior pairs of submarginal sigilla circular, posterior sigilla ovoid and away from margin. Labium with *c*. 40 cuspules. Maxilla with *c*. 100 cuspules. DS of posterior spinneret digitiform. Chelicerae with 10 teeth on promargin. Stridulatory scopulae as in female, but setae not obviously plumose and do not extend onto palpal femur. Leg and palp segment lengths in Table 13. Femur of leg III not incrassate. Metatarsus of leg I straight. Tarsal and metatarsal scopulae as in female. Spination: palp tibia aspinose; legs I, II tibiae 1DPV (fine); leg III tibia 1DRV (fine), 1DPV, metatarsus 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD; leg IV tibia 1DRV, 1DPV, metatarsus 1DRV, 1DMV, 1DPV, 1MRD, 1DPD, 1DRD. Remaining leg segments aspinose. Tibial spur (Fig. 61): DPV tibial apophysis robust; surmounted megaspine very small, protruding ventrally. Coloration: dorsum of legs, palpi and entire abdomen light brown (faded in alcohol). Dark abdominal pattern indistinct. Chelicerae grey with long emergent setae. Carapace with radial pattern of golden metallic striae on background of black setae; black "mask" around ocular tubercle. Prolateral and ventral leg, palp and sternal coloration as in female, except beige/orange areas are light brown and prolateral surface of palp patella jet-black. Palpal bulb (Figs. 62–64): pyriform, with thick, evenly curved embolus. Keels absent along embolus. Secondary haematodocha concave.

	Fe	Pa	Ti	Mt	Ta
I	8.4	4.4	6.9	5.8	4.0
II	7.1	3.4	5.5	5.1	4.0
III	6.0	2.9	4.0	5.0	3.4
IV	7.7	3.3	6.7	7.3	4.3
Palp	4.5	2.8	3.8	—	2.0

Table 13: *Augacephalus breyeri* (Hewitt, 1919). Lengths of leg and palp segments of male.

Material examined: MOZAMBIQUE: MRAC 200.485, 1♀, Maputo, March 1989, 25°58′S, 32°35′E; TM 1082, 1♀, Papai, 8 July 1915, 14°02′S, 38°41′E (G. Van Dam). SOUTH AFRICA: NM 5948, 1♀, Gollel, KwaZulu-Natal, October 1953, 27°18′S, 31°55′E; NM 9770, 2♀, Skukuza, Kruger National Park, Northern Province, 25 October 1962, 25°00′S, 31°36′E; NM 16025, 1♀, Maastroom district, Northern Province, April 1983, 22°51′S, 28°25′E (M. Wolfer); NM 16013, 1♀, Mpumalanga, Kruger National Park, 6 km S. Skukuza, silk-lined burrow in grassveld, 17 December 1984, 25°00′S, 31°36′E (C. & T. M. Griswold); PPRI AcAT 94/875, 1♀, White River, Marlo Park, mites on spider live in burrow, 25°25′S, 31°00′E, 4 April 1994 (A. S. D.); TM 1054, 1♀, Malelane, 25°29′S, 31°26′E, March 1920 (A. Roberts); TM 1055, 1 imm. ♀, Malelane, 25°29′S, 31°26′E, March 1920 (A. Roberts); TM 1056, 1♀, Malelane, 25°29′S, 31°26′E, March 1920 (A. Roberts); TM 1057, 1♀, Malelane, 25°29′S, 31°26′E, March 1920 (A. Roberts); TM 1072, 1♀, Malelane, 25°29′S, 31°26′E, June 1897 (E. W. Steyling); TM 2995, 1♀ (holotype), Malelane, Barberton district, Transvaal, 25°29′S, 31°26′E, February 1915 (A. Roberts); TM 4734, 1♀, Hectorspruit, 25°26′S, 31°35′E, April 1910 (F. Streeter); TM 4735, 1 imm., Hectorspruit, 25°26′S, 31°35′E, April 1910 (F. Streeter); TM 4736, 1♀, Hectorspruit, 25°26′S, 31°35′E, July 1910 (F. Streeter); TM 4739, 1 imm., Hectorspruit, 25°27′S, 31°41′E, July 1910 (F. Streeter); TM 4740, 1 imm. ♀, Hectorspruit, 25°27′S, 31°41′E, July 1910 (F. Streeter); TM 4741, 1 imm., Hectorspruit, 25°27′S, 31°41′E, July 1910 (F. Streeter); TM 4742, 1♀, Hectorspruit, 25°27′S, 31°41′E, July 1910 (F. Streeter); TM 4743, 1 imm., Hectorspruit, 25°27′S, 31°41′E, July 1910 (F. Streeter); TM 4744, 1♀, Hectorspruit, 25°27′S, 31°41′E, July 1910 (F. Streeter); TM 4745, 1 imm., Hectorspruit, 25°27′S, 31°41′E, July 1910 (F. Streeter); TM 4746, 1 imm., Hectorspruit, 25°27′S, 31°41′E, July 1910 (F. Streeter); TM 4747, 1♀, Hectorspruit, 25°27′S, 31°41′E, July 1910 (F. Streeter); TM 4748, 1♀, Hectorspruit, 25°27′S, 31°41′E, July 1910 (F. Streeter); TM 4749, 1♀, Hectorspruit, 25°27′S, 31°41′E, July 1910 (F. Streeter). SWAZILAND: NM, 1♀, Mbuluzi Nature Reserve, hole 20 cm, thornveld with grass, 6 October 1982, 26°14′S, 31°54′E. NO DISTRIBUTIONAL DATA: BMNH, 1♂, captive bred (J. Hancock).

Distribution: South-eastern Africa, occurring in Mozambique, South Africa and Swaziland with a single record from northern Mozambique (Map 3). Altitudinal range between sea level and 350 m.

Ecology: No published data exist on the natural history of this species. From the information on the labels of PPRI AcAT 94/875 and NM (Mbuluzi Nature Reserve) it can be deduced that the species is fossorial, inhabiting thornveld grassland. The season of male maturity is unknown.

Augacephalus junodi (Simon, 1904), new combination (Figs. 65–74)

Pterinochilus Junodi Simon, 1904: 65 (D♀).
Harpactira curvipes: Smith, 1990: 84 (misidentified photograph of ♀ only).
Coelogenium nigrifemur Schmidt, 1995: 7, fig. 1 (D♀).
Pterinochilus junodi: Gallon, 2001: 19 (syn.).

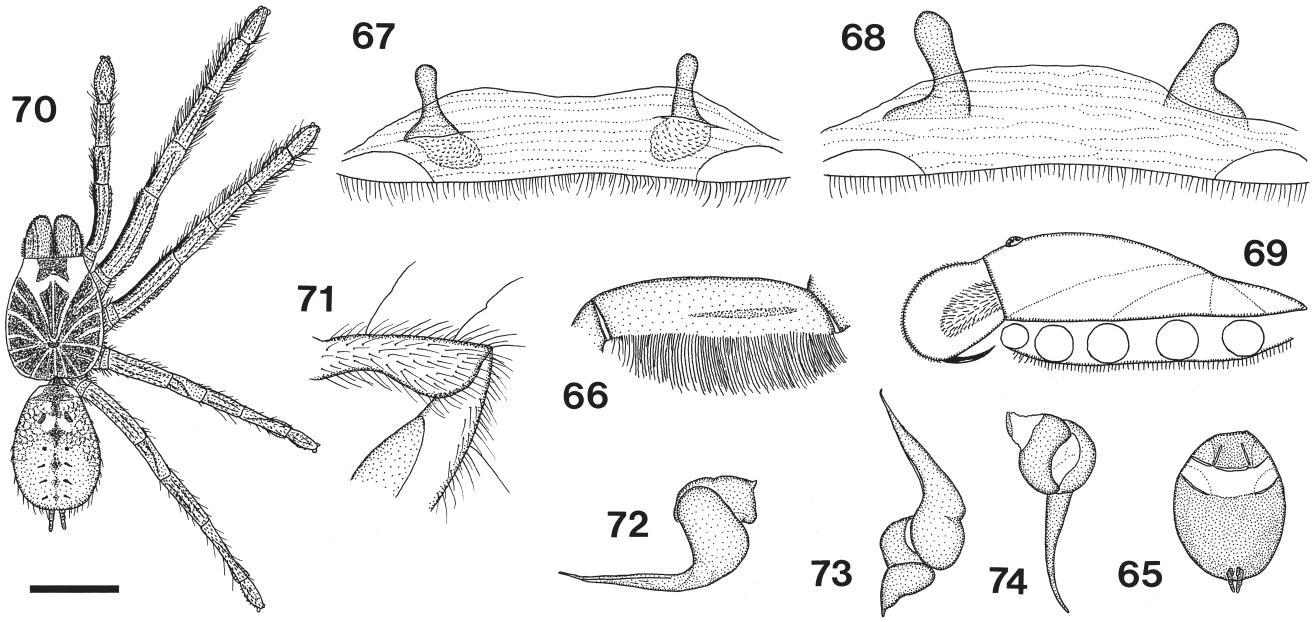
Type material: Holotype ♀ (MHNG) of *Pterinochilus junodi* from South Africa, Shilouvane (=Silwane), near Leydsdorp, Zoutpansberg, 23°58′S, 31°07′E (H. A. Junod); topotypes examined. Holotype ♀ (live specimen not lodged in a museum) of *Coelogenium nigrifemur* from East Africa (Mr Michael Bullmer); not examined.

Remark: *Coelogenium nigrifemur* was synonymised with *Pterinochilus junodi* by Gallon (2001).

Diagnosis: The female is distinguished from *A. breyeri* by the presence of dense, ventral, setal fringes on the femora of legs I–II and the palp (Fig. 66). The medially constricted, rounded spermathecae (Figs. 67–68), and the carapace profile (Fig. 69), provide further distinction from *A. breyeri*. The male is separated from *A. breyeri* by the absence of a DPV tibial spur on leg I (Fig. 71) and the finer embolus (Fig. 72). Both sexes are further distinguished from *A. breyeri* by the lack of long emergent setae on the sternum and coxae (Fig. 69).

Female: Total length 35.5–59.8 (48.5 ± 7.4; 17). Carapace profile domed at caput (Fig. 69), length 15.1–25.1 (20.1 ± 3.1; 17), width 11.3–20.6 (15.9 ± 2.5; 17). Abdomen length 15.1–28.0 (21.6 ± 4.0; 17), width 10.3–22.0 (15.6 ± 3.3; 17). Fovea deep, slightly procurved. Ocular tubercle length 1.28–2.42 (2.00 ± 0.32; 14), width 1.71–3.06 (2.57 ± 0.36; 14). Clypeus 0.65–1.73 (1.06 ± 0.32; 14). Eye sizes: AME 0.42–0.78 (0.62 ± 0.09; 14), ALE 0.35–0.80 (0.65 ± 0.12; 14), PME 0.29–0.66 (0.49 ± 0.09; 14), PLE 0.42–0.77 (0.64 ± 0.11; 14). Sternum with two anterior pairs of submarginal sigilla circular, posterior sigilla ovoid and away from sternal margin. Labium with *c*. 50 cuspules. Maxilla with *c*. 100 cuspules. DS of posterior spinneret digitiform. Chelicerae with 8–15 (11 ± 2; 17) teeth on promargin. Small stridulatory scopula of well-developed plumose setae on retrolateral cheliceral face (Fig. 69), corresponding with scopula of similar plumose setae on prolateral trochanteral face of palp; in large specimens plumose setae may extend onto proximal, prolateral region of palpal femur. Leg and palp segment lengths in Table 14. Palpi and legs I–II robust relative to legs III–IV (Fig. 70). Dense ventral femoral fringes on palpi and legs I–II (Fig. 66). All tarsi with integral scopulae. Metatarsal scopulae of legs I–III integral; metatarsal scopula of leg IV bisected longitudinally by band of stiffened setae. Spination: palp tibia 2DRV, 2DPV; legs I, II tibiae 1DRV, 1DPV; legs III, IV tibiae 2DRV, 1DPV; leg III metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD; leg IV metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1DPD, 1DRD. Remaining leg segments aspinose. Coloration: dorsum of legs, palpi and abdomen beige, increasingly reddened distally on appendages. Leg and palp joints pale yellow. Chelicerae grey, velvety. Carapace with radial pattern of pale yellow striae on background of black setae; black "mask" around ocular tubercle. Dorsum of abdomen with dark pattern of bars, spots and reticulations (Fig. 70). Venter of abdomen dark brown with pale transverse band covering posterior booklung covers and region between them (Fig. 65); in some specimens this pale band extends onto posterior region of epigastric scutum. Prolateral femoral surfaces of palpi and legs I–II jet-black. Sternum, coxae and trochanters velvety black. Proximal ventral surfaces of palpi and legs I–II black up to proximal region of tibiae, remainder of legs beige. Spermathecae (Figs. 67–68): paired, unlobed, with medial constriction. Terminal portion of spermathecae circular in cross section. Setal fringe on posterior margin of epigastric scutum composed of uniformly sized, short, straight setae.

Male (PPRI AcAT 98/427): Total length 14.9. Carapace profile low, length 5.5, width 4.5. Abdomen length 7.4, width 4.3. Fovea deep, transverse. Ocular



Figs. 65–74: *Augacephalus junodi* (Simon). **65** Female abdomen (TM 1045), ventral view; **66** Female left palp femoral fringe (NMSA 16012), retrolateral view; **67** Spermathecae with sperm plugs (TM 4726, topotype), dorsal view; **68** Spermathecae (TM 1045), dorsal view; **69** Female carapace profile (TM 4678); **70** Female (TM 4834), dorsal view; **71** Male tibia of left leg I (PPRI AcAT 98/427), prolateral view; **72** Male left palpal bulb (ditto), retrolateral view; **73** Ditto, ventral view; **74** Ditto, dorsal view. Scale line=1.0 mm (67–68, 71–74), 7.0 mm (69), 17.1 mm (65, 70), 4.3 mm (66).

	Femur	Patella	Tibia	Metatarsus	Tarsus
I	11.5–17.7 (14.8 ± 1.8)	7.1–12.7 (9.7 ± 1.5)	7.7–12.5 (10.4 ± 1.3)	7.5–11.8 (9.7 ± 1.2)	5.5–7.9 (6.7 ± 0.7)
II	9.5–15.9 (13.1 ± 1.7)	6.8–10.3 (8.5 ± 1.2)	6.0–10.3 (8.6 ± 1.2)	6.6–12.1 (8.9 ± 1.4)	5.2–7.0 (6.3 ± 0.6)
III	7.5–12.9 (10.3 ± 1.5)	5.3–8.7 (6.9 ± 1.0)	5.1–8.0 (6.5 ± 0.8)	5.8–10.0 (8.3 ± 1.2)	5.0–6.6 (5.9 ± 0.5)
IV	10.2–15.6 (12.9 ± 1.6)	5.6–10.0 (7.7 ± 1.3)	7.5–11.5 (9.6 ± 1.1)	8.9–15.0 (11.6 ± 1.7)	5.4–8.0 (6.5 ± 0.7)
Palp	8.1–12.8 (10.5 ± 1.4)	5.3–8.2 (6.7 ± 0.9)	5.0–8.8 (6.9 ± 0.9)	—	6.1–9.8 (8.0 ± 1.0)

Table 14: *Augacephalus junodi* (Simon, 1904). Lengths of leg and palp segments. Females (n=17). Range (mean ± SD).

tubercle length 0.87, width 1.09. Clypeus 0.12. Eye sizes: AME 0.36, ALE 0.36, PME 0.23, PLE 0.30. Sternum with two anterior pairs of submarginal sigilla circular, posterior sigilla ovoid and away from margin. Labium with 22 cuspules. Maxilla with *c*. 100 cuspules. DS of posterior spinneret digitiform. Chelicerae with 9 teeth on promargin. Stridulatory scopulae as in female, but setae not obviously plumose and do not extend onto palpal femur. Leg and palp segment lengths in Table 15. Femur of leg III not incrassate. Metatarsus of leg I straight. Tarsal and metatarsal scopulae as in female. Spination: palp 1DPV; legs I, II tibiae (examination not possible owing to position of legs); legs III, IV tibiae 1DRV, 1DPV; leg III metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD; leg IV metatarsus 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD. Tibial spur (Fig. 71): absent. Coloration: examined male poorly sclerotised, pale, having died immediately after final moult. Carapace with radial golden striae and dark ocular ''mask''. Prolateral femoral surfaces of palp and legs I–II black. Sternum and ventral coxal surfaces black. Abdomen brown with dark, ill-defined dorsal pattern of spots and bars. Published photographs of a mature male show base colour to be light brown (Paulsen, 1998). Palpal bulb (Figs. 72–74): sub-pyriform, with curved, acuminate embolus; angle between embolus and tegulum acute. Keels absent along embolus.

Material examined: NAMIBIA: SAM-ENW-C001194, 1♀, Kunene river (assumed to be at Ruacana), 17°27′S, 14°21′E, 1983 (J. Visser). SOUTH AFRICA: MRAC 155.449, 3♀, Naboomspruit, 25 cm burrow, 24°32′S, 28°36′E, 19 April 1981 (J. Leroy); MRAC 200.499, 1♀, East Transvaal, near river, 1987 (M. Ziegler); NM 9769, 1♀, Hlamalala North near Mpendhle, KwaZulu-Natal, 29°36′S, 29°52′E, 2 April 1962; NM 9776, 1♀, Nyandu sandveld, Mpumalanga, Kruger National Park, ~25°S, 31°30′E, 23 November 1963; NM 16012, 1♀, Ellisras, Northern Province, 23°39′S, 27°44′E, 1983; NMBA 3288, 1♀, Phalabora SE, Hoedspruit (died in captivity December 1989), 24°22′S, 30°52′E, October 1987; PPRI AcAT 78/600, 1 imm. ♀, Vergeval farm, Ngotshe district, Pongola, Natal (pitfall trap), 27°28′S, 32°07′E (Dr Koning); PPRI AcAT 84/757, 1 imm., Dendron, 23°23′S, 29°29′E, 12 June 1967 (A. S. D.); PPRI AcAT 91/131, 1♀, Chester Farm, Blyde Canyon, in burrow deep in rocky terrain, 24°33′S, 30°50′E, 27 December 1988 (M. Filmer); PPRI AcAT 91/503, 1 imm. ♀, Thabazimbi, in burrow, 24°36′S, 27°24′E, October 1988 (L. van der Meer); PPRI AcAT 91/889, 1♀, Rust de Winter, LR 724, late stage of ecdysis, fragile, 25°15′S, 28°29′E, 19 April 1986 (J. Leroy); PPRI AcAT 98/427, 1♂, Hammanskraal (reared from egg sac from wild caught ♀), not fully sclerotised, 25°28′S, 28°16′E (M. Paulsen); TM 1042, 1♀, East London, 32°59′S, 27°53′E, 1917 (Mrs Barrett); TM 1045, 1♀, Pietersburg, 23°54′S, 29°27′E, 20 November 1916 (L. Beacom); TM 4674, 1♀, Leydsdorp, Griffin mine, 23°59′S, 30°32′E, January 1915 (G. P. F. Van Dam); TM 4675, 1♀, Leydsdorp, Griffin mine, 23°59′S, 30°32′E, January 1915 (G. P. F. Van Dam); TM 4676, 1♀, Leydsdorp, Griffin mine, 23°59′S, 30°32′E, January 1915 (G. P. F. Van Dam); TM 4677; 1♀, Leydsdorp, Griffin mine, 23°59′S, 30°32′E, January 1915 (G. P. F. Van Dam); TM 4678, 1♀, Leydsdorp, Griffin mine, 23°59′S, 30°32′E, January 1915 (G. P. F. Van Dam); TM 4679, 1♀, Leydsdorp, Griffin mine, 23°59′S, 30°32′E, January 1915 (G. P. F. Van Dam); TM 4680, 1♀, Leydsdorp, Griffin mine, 23°59′S, 30°32′E, January 1915 (G. P. F. Van Dam); TM 4682, 1♀, Leydsdorp, Griffin mine, 23°59′S, 30°32′E, January 1915 (G. P. F. Van Dam); TM 4683, 1♀, Leydsdorp, Griffin mine, 23°59′S, 30°32′E, January 1915 (G. P. F. Van Dam); TM 4684, 1♀, Leydsdorp, Griffin mine, 23°59′S, 30°32′E, January 1915 (G. P. F. Van Dam); TM 4685, 1 imm. ♀, Leydsdorp, Griffin mine, 23°59′S, 30°32′E, January 1915 (G. P. F. Van Dam); TM 4687, 1♀, Pietersburg, 23°54′S, 29°27′E, 7 September 1914 (Boy Scouts); TM 4688, 1♀, Bandelierkop, Zoutpansberg, 23°18′S, 29°47′E, 17 November 1913 (R. H. Stevenson); TM 4722, 1♀, Premier mine, North Pretoria, 25°44′S, 28°12′E (H. Auret); TM 4723, 1♀, Rustenburg district, Mooivlei, 25°41′S, 27°15′E, 29 January 1916 (W. Powell); TM 4724, 1♀, Rustenburg district, Mooivlei, 25°41′S, 27°15′E, 29 January 1916 (W. Powell); TM 4725, 1 imm. ♀, Shaholle *c*. 10 m NE of Gravelotte, 23°50′S, 30°37′E, 20 June 1917 (G. P. F. Van Dam); TM 4726, 1♀, Silwane *c*. 32 m E. of Gravelotte railway station, Ward Low county, 23°58′S, 31°07′E, 28 June 1917 (G. P. F. Van Dam); TM 4727, 1♀, salt pan, Black Hills, Ward Low county, 23°40′S, 30°40′E, 20 June 1917 (G. P. F. Van Dam); TM 4729, 1♀, Maiepo near Letaba Drift *c*. 25 m N. of Gravelotte station, Ward Low county, 23°38′S, 30°38′E, June 1917 (J. D. Stanford); TM 4730, 1♀, Maiepo near Letaba Drift *c*. 25 m N. of Gravelotte station, Ward Low county, 23°38′S, 30°38′E, June 1917 (G. P. F. Van Dam); TM 4733, 1♀, Pietersburg, 23°54′S, 29°27′E, 31 October 1916 (M. Wilson); TM 4737, 1 imm., Shilowane (=Silwane), 23°58′S, 31°07′E, 1910 (T. Maphophe); TM 4738, 1♀, Shilowane (=Silwane), 23°58′S, 31°07′E, May 1910 (T. Maphophe); TM 5071, 1♀, Pretoria, 25°44′S, 28°12′E (P. J. Joubert); TM 5147, 1 imm. ♀, near Mica, 24°10′S, 30°51′E; TM 5148, 1♀, near Mica, 24°10′S, 30°51′E; TM 5149, 1♀, near Mica, 24°10′S, 30°51′E; TM 5150, 1 imm. ♀, near Mica, 24°10′S, 30°51′E; TM 5151, 1♀, near Mica, 24°10′S, 30°51′E; TM 5152, 1♀, near Mica, 24°10′S, 30°51′E; TM 5175, 1♀, Pretoria, 25°44′S, 28°12′E; TM 9780, 1♀, Pretoria district (killed after moult, very pale), 25°44′S, 28°12′E. NO DISTRIBUTIONAL DATA: SAM-ENW-C001313, 1♀; SAM-ENW-C001314, 1♀; SAM-ENW-C001315, 1 imm. ♀; SAM-ENW-C001316, 1♀; SAM-ENW-C001317, 1♀; SAM-ENW-C001318, 1♀; TM 4690, 1♀; TM 4691, 1♀; TM 4692, 1♀; TM 4693, 1 imm.; TM 4694, 1♀; TM 4696, 1 imm.; TM 4697, 1 imm.; TM 4698, 1 imm. ♀; TM 4699, 1 imm.; TM 4700, 1♀; TM 4701, 1♀; TM 4702, 1 imm. ♀; TM 4703, 1♀; TM 4704, 1♀; TM 4705, 1 imm.; TM 4706, 1♀; TM 4707, 1♀; TM 4708, 1♀; TM 4709, 1♀; TM 4711, 1♀; TM 4712, 1 imm. ♀; TM 4713, 1 imm. ♀; TM 4714, 1 imm.; TM 4716, 1♀; TM 4717, 1♀; TM 4718, 1♀; TM 4719, 1♀; TM 4720, 1♀; TM 4817, 1♀; TM 4834, 1♀ (presented by Zoological Gardens, Pretoria); TM 5368, 1♀; TM 6132, 2♀; TM 6155, 1♀; TM 6212, 1 imm.; TM 6574, 1♀; TM 6575, 1♀.

	Fe	Pa	Ti	Mt	Ta
I	4.7	2.7	4.2	3.2	2.9
II	4.2	2.3	3.3	3.3	2.9
III	3.8	1.9	2.2	3.5	2.9
IV	4.8	2.4	4.1	5.0	2.9
Palp	3.0	1.8	3.0	—	1.9

Table 15: *Augacephalus junodi* (Simon, 1904). Lengths of leg and palp segments of male.

Distribution: South-eastern Africa with a single record from south-western Africa. Recorded from Namibia and South Africa (Map 2). Altitudinal range between sea level and 1400 m.

Ecology: This is a fossorial species which can be found in extensive ''colonies'' in grasslands (M. Paulsen and T. Ezendam, pers. comm.). The mating of this species was described by Paulsen (1998). The season of male maturity is unknown. Females have been found guarding single, fixed egg sacs in December (T. Ezendam, pers. comm.).

Genus *Idiothele* Hewitt, 1919

Idiothele Hewitt, 1919: 96; Raven, 1985: 154 (syn.). **Removed from synonymy of *Pterinochilus***.
Pterinochilus: Smith, 1990: 92 (in part).

Type species: *Pterinochilus nigrofulvus* Pocock, 1898.
Species included: *I. nigrofulva* (Pocock, 1898).

Remarks: Hewitt (1919) distinguished *Idiothele* from *Pterinochilus* on account of its short DS on the posterior spinnerets and smaller retrolateral cheliceral scopula. Raven (1985) considered that the former character was autapomorphic within *Pterinochilus*. The current study demonstrates that the size of the retrolateral cheliceral scopula is variable within *Pterinochilus sensu stricto* and rejects Raven's suggestion that the short DS on the posterior spinneret is autapomorphic within *Pterinochilus*. The weakly-developed plumose scopula on the prolateral face of the palpal trochanter is here cited as an additional distinguishing feature of *Idiothele*. The palpal bulb of *Idiothele* possesses a flattened, typically flanged embolus which contrasts with the typically rounded, keel-less embolus of *Pterinochilus sensu stricto* (NB: although *P. alluaudi* has a keeled embolus, its digitiform DS on the posterior spinnerets and well-developed plumose scopula on the prolateral face of the palpal trochanter precludes its inclusion in *Idiothele*). It must also be noted that *Idiothele* is behaviourally distinct from *Pterinochilus* in that it furnishes its burrow mouth with a trap door. For these reasons *Idiothele* is removed from the synonymy of *Pterinochilus*.

Diagnosis: Distinguished from *Harpactirella* by the presence of a retrolateral cheliceral scopula. Separated from all other Harpactirinae by the possession of a sub-conical DS on the posterior spinnerets and by the possession of weakly plumose setae on the prolateral face of the palpal trochanter. Additionally separated from *Harpactira* and *Trichognatha* gen. n. by the absence of a prolateral cheliceral scopula. Further separated from *Harpactira* by the absence of plumose stridulatory strikers on the prolateral maxillary surface (Fig. 75), and by the absence of a discrete row of bristles below the retrolateral cheliceral scopula. Differs from *Ceratogyrus* by the lack of a foveal tubercle/procurved fovea. Female *Idiothele* are also separated from those of *Eucratoscelus* by the unmodified (not incrassate) tibiae of leg IV. Male *Idiothele* are separated from those of *Eucratoscelus* by the absence of a DPV tumid protuberance on metatarsus I. The presence of a DPD spine on metatarsi III and IV further separates *Idiothele* from *Eucratoscelus*. Females are separated from those of *Augacephalus* gen. n. by the unmodified (not robust) palpi and legs I–II. Male *Idiothele* are distinguished from those of *Augacephalus* gen. n. by the possession of a well-developed DPV tibial apophysis and surmounted megaspine on leg I. Separable from *Pterinochilus* by the weakly-developed plumose setae on the palpal trochanter and the shorter DS of the posterior spinnerets (Figs. 75–76).

Idiothele nigrofulva (Pocock, 1898), new combination
(Figs. 75–88)

Pterinochilus nigrofulvus Pocock, 1898a: 317 (D♂♀); Smith, 1988a: 135 (♂♀); 1990: 100, figs. 554–566 (♂♀).
Pterinochilus crassispina Purcell, 1902: 335 (D♂♀); Strand, 1917: 165 (♂); Smith, 1990: 94, figs. 491–503 (♂♀). **New synonymy**.
Idiothele nigrofulvus: Hewitt, 1919: 98, figs. 11, 12a, pl. 2, fig. b (♂♀).
Pterinochilus crassispana: Smith, 1988a: 134 (♂♀); 1989: 13, unnumbered fig. (figure transposed with *Ceratogyrus darlingi* Pocock, 1897).

Type material: Syntypes 1♂ 1♀ (BMNH 98.5.7.24) of *P. nigrofulvus* from South Africa, Barberton, 25°48′S, 31°03′E (P. Rendall); examined. Holotype ♂ (SAM-ENW-X006252) of *P. crassispinus* from Zimbabwe, Metopo district (=Matopo district), Matabeleland, 20°27′S, 28°30′E, 1898 (R. Pillans); examined.

Remarks: Purcell (1902) erroneously stated that *P. crassispinus* differed from *P. nigrofulvus* by its short conical DS on the posterior spinnerets. The holotype of *P. crassispinus* has an embolus with a distinct retrolateral hook and weakly-developed prolateral inferior keel. In contrast the terminal hook is less prominent, but the prolateral inferior keel is well-developed and forms a flange, in the syntype ♂ of *P. nigrofulvus*. The examination of many males has shown that these two characters are variable. Purcell (1902) also cited the fact that the carapace of *P. crassispinus* does not possess radial striae as in *P. nigrofulvus*. This feature is also variable amongst males of *P. nigrofulvus*. As no other differences could be found to separate the two species they are considered synonymous.

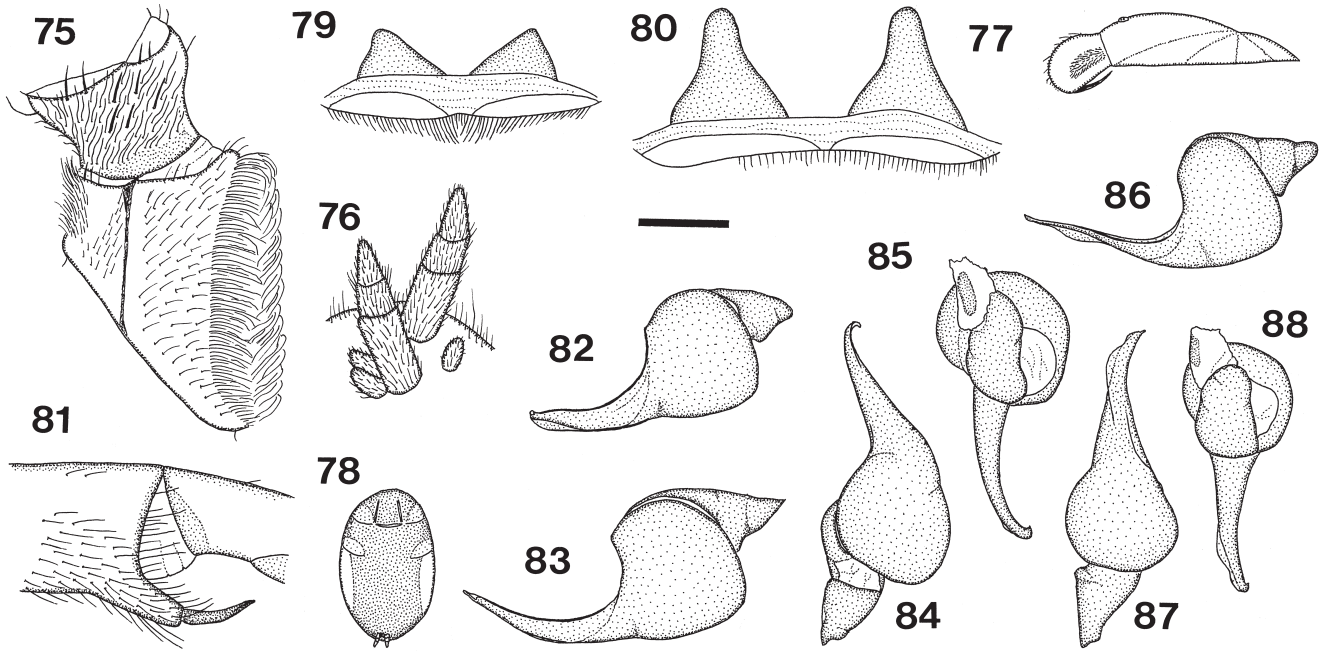
Female: Total length 29.3–38.2 (32.9 ± 3.7; 5). Carapace profile domed (Fig. 77), length 12.0–15.3 (13.8 ± 1.4; 5), width 9.5–13.6 (11.6 ± 1.5; 5). Abdomen length 12.0–19.1 (15.1 ± 2.8; 5), width 9.1–18.5 (12.6 ± 4.0; 5). Fovea transverse slit. Ocular tubercle length 1.37–1.79 (1.61 ± 0.17; 5), width 1.81–2.33 (2.06 ± 0.24; 5). Clypeus 0.45–0.90 (0.62 ± 0.17; 5). Eye sizes: AME 0.56–0.63 (0.58 ± 0.03; 5), ALE 0.46–0.63 (0.52 ± 0.07; 5), PME 0.28–0.36 (0.32 ± 0.04; 5), PLE 0.36–0.47 (0.41 ± 0.05; 5). Sternum with three pairs of oval submarginal sigilla. Labium with *c*. 30 cuspules. Maxilla with *c*. 40 cuspules. DS of posterior spinneret sub-conical (Fig. 76). Chelicerae with 8–11 (9 ± 1; 6) teeth on promargin. Small stridulatory scopula of weakly plumose setae on retrolateral cheliceral face (Fig. 77), corresponding with region of flattened, wavy, weakly plumose setae with long emergent black setae on prolateral trochanteral face of palp (Fig. 75). Leg and palp segment lengths in Table 16. All tarsi with integral scopulae. Metatarsal scopulae of legs I–III integral;

	Femur	Patella	Tibia	Metatarsus	Tarsus
I	7.9–10.3 (9.2 ± 1.0)	5.5–7.3 (6.5 ± 0.7)	5.5–7.1 (6.4 ± 0.7)	5.0–6.7 (5.9 ± 0.6)	3.7–4.6 (4.1 ± 0.4)
II	7.1–9.6 (8.6 ± 1.0)	5.2–7.0 (6.1 ± 0.6)	5.1–6.6 (5.8 ± 0.6)	4.8–6.6 (5.9 ± 0.7)	3.9–5.2 (4.4 ± 0.5)
III	6.7–9.6 (8.0 ± 1.1)	4.4–5.8 (5.2 ± 0.5)	4.6–5.4 (5.1 ± 0.4)	6.1–7.8 (6.9 ± 0.6)	4.2–4.9 (4.6 ± 0.3)
IV	8.5–11.1 (9.7 ± 1.0)	4.7–6.2 (5.7 ± 0.6)	6.2–7.9 (6.9 ± 0.7)	8.7–10.9 (9.8 ± 0.8)	4.6–5.5 (5.2 ± 0.4)
Palp	6.2–8.0 (7.4 ± 0.7)	4.5–5.3 (5.1 ± 0.3)	3.9–4.8 (4.5 ± 0.3)	—	4.5–5.8 (5.3 ± 0.5)

Table 16: *Idiothele nigrofulva* (Pocock, 1898). Lengths of leg and palp segments. Females ($n = 5$). Range (mean ± SD).

metatarsal scopulae of leg IV bisected longitudinally by band of stiffened setae. Spination: palp and legs I–III tibiae 1DRV, 1DPV; leg III metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD; leg IV tibia 2DRV, 1DPV, metatarsus 1 or 0 MRV, 1MPV, 1DRV, 1DMV, 1DPV, 1MRD, 1MPL, 1DPD, 1DRD. Remaining leg segments aspinose. Coloration: legs, palpi and chelicerae uniformly light brown. Leg and palp joints pale. Carapace with radial pattern of yellow striae on background of dark brown setae; dark brown "mask" around ocular tubercle. Dorsum of abdomen with dark pattern of bars, spots and reticulations. Venter of abdomen uniformly dark brown contrasting with paler lateral and dorsal coloration (Fig. 78). Sternum, coxae and trochanters dark brown. Spermathecae (Figs. 79–80): paired, unlobed, with flattened triangular form. Setal fringe on posterior margin of epigastric scutum composed mainly of uniformly sized, short, straight setae; some specimens additionally possess longer, centrally placed, curved setae.

Male: Total length 24.8–37.9 (29.3 ± 4.0; 13). Carapace profile low, length 10.6–16.2 (12.9 ± 1.7; 13), width 9.2–14.8 (11.1 ± 1.7; 13). Abdomen length 10.1–16.7 (12.3 ± 2.0; 13), width 5.9–10.0 (7.9 ± 1.2; 13). Fovea transverse slit. Ocular tubercle length 1.37–1.87 (1.59 ± 0.16; 13), width 1.70–2.32 (1.94 ± 0.21; 13). Clypeus 0.22–0.78 (0.55 ± 0.17; 12). Eye sizes: AME 0.46–0.67 (0.54 ± 0.06; 12), ALE 0.38–0.58 (0.49 ± 0.08; 12), PME 0.26–0.38 (0.32 ± 0.04; 12), PLE 0.37–0.57 (0.45 ± 0.06; 12). Sternum with three pairs of oval submarginal sigilla. Labium with *c*. 30 cuspules. Maxilla with *c*. 40 cuspules. DS of posterior spinneret subconical (Fig. 76). Chelicerae with 8–12 (10 ± 1; 14) teeth on promargin. Stridulatory scopulae as in female. Leg and palp segment lengths in Table 17. Femur of leg III not incrassate. Metatarsus of leg I straight. Tarsal and metatarsal scopulae as in female. Spination: palp tibia 1DPV; leg I tibia 1DRV; legs II–IV tibiae 1DRV, 1DPV; leg III metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD; leg IV metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MRD, 1MPL, 1DPD, 1DRD. Remaining leg segments aspinose. Tibial spur (Fig. 81): DPV apophysis cylindrical; surmounted megaspine curved, inflected medially, protruding ventrally. Coloration: as in female except dark abdominal pattern ill-defined without reticulate markings. In some specimens carapace striae weakly defined. In some old alcohol-preserved material, booklung covers pale. Palpal bulb



Figs. 75–88: *Idiothele nigrofulva* (Pocock). **75** Male left palp maxilla and trochanter (holotype of *P. crassispinus*), prolateral view; **76** Male spinnerets and anal tubercle (syntype), prolateral view; **77** Female carapace profile (TM 15746); **78** Female abdomen (TM 3957), ventral view; **79** Spermathecae (ditto), dorsal view; **80** Spermathecae (TM 15746), dorsal view; **81** Male tibial spur of left leg I (holotype of *P. crassispinus*), prolateral view; **82** Male left palpal bulb (TM 15626), retrolateral view; **83** Male left palpal bulb (holotype of *P. crassispinus*), retrolateral view; **84** Ditto, ventral view; **85** Ditto, dorsal view; **86** Male left palpal bulb (SAM 6621), retrolateral view; **87** Ditto, ventral view; **88** Ditto, dorsal view. Scale line = 1.4 mm (75, 81), 1.0 mm (79, 80, 82–88), 2.3 mm (76), 7.0 mm (77), 9.1 mm (78).

	Femur	Patella	Tibia	Metatarsus	Tarsus
I	8.9–12.7 (10.4 ± 1.2)	5.2–7.9 (6.4 ± 0.9)	6.3–9.0 (7.5 ± 0.8)	6.3–9.0 (7.4 ± 0.9)	4.1–6.2 (5.1 ± 0.5)
II	7.8–12.2 (9.9 ± 1.3)	4.9–7.5 (6.0 ± 0.8)	5.6–8.1 (7.0 ± 0.8)	6.5–9.4 (7.5 ± 0.9)	4.5–5.6 (5.1 ± 0.4)
III	6.9–11.3 (9.0 ± 1.2)	4.0–6.1 (5.1 ± 0.6)	4.8–7.8 (6.1 ± 0.9)	7.2–10.7 (8.5 ± 1.0)	4.7–6.0 (5.3 ± 0.4)
IV	8.6–13.6 (10.9 ± 1.5)	4.5–7.1 (5.5 ± 0.8)	6.8–9.3 (8.0 ± 0.8)	9.9–14.6 (11.6 ± 1.4)	5.0–6.4 (5.8 ± 0.4)
Palp	6.3–9.8 (7.6 ± 1.1)	3.8–6.1 (4.9 ± 0.7)	4.7–7.2 (5.7 ± 0.8)	—	1.5–3.5 (2.3 ± 0.6)

Table 17: *Idiothele nigrofulva* (Pocock, 1898). Lengths of leg and palp segments. Males ($n=13$ except leg III tibia, metatarsus and tarsus where $n=12$) including holotype of *P. crassispinus*. Range (mean ± SD).

(Figs. 82–88): pyriform, variable. Embolus flattened, curved, with two keels (prolateral superior and prolateral inferior) along its length; prolateral inferior keel forming variably sized, transparent, flange. Most specimens with embolus terminating in retrolateral, flattened hook (Figs. 85, 88). Variability of bulb appearance due to variation in twist of embolus (Figs. 82, 83, 86).

Material examined and reliable citations: BOTSWANA: NMZA 2009, 1♂, Makgadikgadi Pans, ~20°30′S, 25°30′E, 11 December 1983 (J. L. Minshull). MOZAMBIQUE: NMZA 9057, 1♂, Pambarra, 21°54′S, 35°09′E, September 1991 (P. R. Fox); SAM-ENW-B006621, 1♂, Masiene near Chai Chai (=Xai-Xai), 25°03′S, 33°48′E, January 1924 (R. F. Lawrence). NAMIBIA: MWNH (Strand 1917, destroyed in WWII), 1♂, Okahandja, 21°59′S, 16°58′E (V. Reppert); ZMB 31147, 1♂ (Dr Lubbert). SOUTH AFRICA: BMNH 98.5.7.24, 1♂ 1♀ (syntypes of *P. nigrofulvus*), Barberton, 25°48′S, 31°03′E (P. Rendall); NMBA 233, 1♂, Krugersdrift, SE 2825 Dd, 28°S, 25°E, 15 December 1982 (Museum staff); NMBA 692, 1♂, Florisbad, 28°46′S, 26°05′E, December 1983 (Museum staff); NMBA 2799, 1♂, Bloemfontein, in garden, 29°08′S, 26°10′E, 15 December 1987 (Museum staff); NMBA 3140, 1♀, C. R. Haiondale, De Hoek, under stones, captive till April 1989, 33°45′S, 23°18′E, 29 December 1988 (V. R. Strydom); NMBA 3443, 1♂, Brandfort, Florisbad, 28°46′S, 26°05′E, 1250 m, 9–23 November 1987 (L. N. Lotz); NMBA 3727, 1♂, Brandfort, Florisbad, 28°46′S, 26°05′E, 1250 m, 8–21 December 1987 (L. N. Lotz); NMBA 8255, 1♂, Bloemfontein, 29°08′S, 26°10′E, 1996 (D. Martins); NMBA 8254, 1♂, Bloemfontein, in water meter hole, 29°08′S, 26°10′E, 14 December 1995 (L. N. Lotz); PPRI AcAT 78/598, 1♀, Farm Vergeval, Ngotshe district, near Pongola, Natal, pitfall, 27°28′S, 32°07′E, 5 July 1968 (H. van Art); PPRI AcAT 78/599, 1♀, Farm Amsterdam, Soutpansberg district, pitfall, 23°23′S, 29°19′E, 1 July 1969 (T. Viljoen); PPRI AcAT 78/603, 1♀, Pongola (± 20 cm), 27°28′S, 32°07′E, 12 October 1967 (J. von Vuuren); PPRI AcAT 80/144, 1 imm. ♂, Army Battle School, 45 km S. of Sishen, North Cape, silk-lined burrow, 28°03′S, 23°03′E, 26 March 1978 (M. Stiller); PPRI AcAT 84/772, 1 imm. ♂, Dendron (pitfall trap), 23°23′S, 29°19′E, 6 November 1969 (J. Viljoen); PPRI AcAT 91/1401, 1 imm. ♂, Skukuza Camp, Kruger National Park, 24°59′S, 31°35′E, September 1973 (F. Scholtz); PPRI AcAT 91/1441, 1♀, Barberspan, dead in rondavel with damaged abdomen, 26°50′S, 25°50′E, 29 December 1987 (K. Morgan); TM 1002, 1♂, Kimberley, 28°45′S, 24°46′E, November 1911 (J. H. Power); TM 3956, 1♂, Wolmaransstad, 27°11′S, 26°00′E, 30 November 1910 (Resident Magistrate); TM 3957, 1♀ (one of the types of *Idiothele*), Malelane, Barberton district, 25°29′S, 31°31′E, 24 June 1916 (A. Roberts); TM 5212, 1♀, Lake Fundudzi, 22°51′S, 30°17′E; TM 5249, 1 imm. ♀, Komatipoort, 25°26′S, 31°57′E; TM 6118, 1♂, Tugela Estates, Weenen, 2830GA (palps missing), 8 October 1925, 28°S, 30°E; TM 15625, 1 imm. ♂, Dwars River, 23°25′S, 29°41′E, 2 November 1906 (Dr Gough); TM 15626, 2♂, Selati (probably the river), 24°00′S, 30°41′E, December 1896; TM 15631, 1♂, Hectorspruit, 25°27′S, 31°41′E, 10 October 1913 (F. Streeter); TM 15746, 1♀, near Black Hills, Letaba district, 2330 Dc, 23°40′S, 30°40′E, 20 June 1917 (G. P. F. Van Dam); TM 15750, 1♂, Pafuri, Kruger National Park, 22°58′S, 31°18′E, 6 January 1972 (E. J. Kendelsohn). ZIMBABWE: NMZA 1150, 1♂, Bulawayo, Matsheamhlope, 2028B1, 20°10′S, 28°43′E, 27 November 1978 (K. H. Buchan); NMZA 1426, 1♂, Bulawayo, 20°10′S, 28°43′E, 6 November 1979 (A. Thompson); NMZA 1628, 1♂, Bulawayo hillside, 20°10′S, 28°43′E, 14 November 1980 (G. Miller-Cranko); NMZA 1633, 1♂, Bikita, 2031B1, 20°06′S, 31°41′E (J. I. W. Mullins); NMZA 1656, 1♂, Bulawayo, 2028B1, 20°10′S, 28°43′E, 1 December 1982 (G. Kaufman); NMZA 1742, 1♂, Bulawayo, 20°10′S, 28°43′E, 9 December 1982; NMZA 2013, 2♂, Chishawasha, 1731C3, 17°52′S, 31°06′E, 20 November 1983 (A. Mulcondo); NMZA 2083, 1♂, Bulawayo, 2028B1, 20°10′S, 28°43′E, 14 November 1983 (P. Mwanga); NMZA 2719, 1♂, Hillcrest school, Mutare, 18°58′S, 32°40′E, 16 November 1984 (S. van der Pyll); NMZA 3113, 1♀, 1 imm. ♂, Chipinda pools, Gonarezhou National Park, 21°05′S, 31°55′E, 20 April 1985 (J. Minshull); NMZA 5341, 1♂, Chipinda pools HQ., Gonarezhou National Park (no palps), 21°05′S, 31°55′E, 6 December 1984 (P. Kagoro); NMZA 6421, 1♀, Nketa six, Bulawayo, 2028B1, 20°10′S, 28°43′E, 21 February 1988 (E. Tshuma); NMZA 7247, 1♀, Beacon Hill, Mvuma, 1930A4, 19°17′S, 30°32′E, 13 December 1988 (D. G. Broadley); NMZA 7756, 1♀, Harare, 1731C3, 17°50′S, 31°03′E, 20 April 1970 (H. R. Mackay); NMZA 7760, 1♀, Bulawayo suburbs, 2028B1, 20°10′S, 28°43′E, 11 November 1989 (T. Buyanga); NMZA 7761, 1♂, Gutu Mission, 1931C1, 19°41′S, 31°09′E, 1–2 November 1989 (T. Volpers); NMZA 7789, 1♂, Bulawayo hillside, 2028B1, 20°10′S, 28°43′E, November 1989 (P. Minshull); NMZA 10487, 1 imm. ♂, Newton West, Bulawayo, 2028B1, 20°10′S, 28°43′E, 10 June 1993 (K. Hurry); SAM-ENW-X006252, 1♂ (holotype of *P. crassispinus*), Metopo district (=Matopo district), Matabeleland, 20°27′S, 28°30′E, 1898 (R. Pillans); TM 13493, 1 imm. ♂, near Lundi river, 21°08′S, 31°13′E, 28 September 1913 (A. Roberts). NO DISTRIBUTIONAL DATA: TM 5289, 1♂; TM 5441, 1♂; TM 5442, 1♂.

Distribution: Southern Africa, occurring in Botswana, Mozambique, Namibia, South Africa and Zimbabwe (Map 1). Altitudinal range between sea level and 1500 m.

Ecology: Hewitt (1919) stated that females were collected from ''tubular retreats provided with a well-developed trap-door''. The trap door was described as being ''large but thin, becoming very delicate and flexible at the margin''. One of the females collected from these trap door burrows (TM 3957) was examined and its identity confirmed. This behaviour was recently confirmed by M. Paulsen (pers. comm.) and makes *I. nigrofulva* almost unique amongst the Theraphosidae in covering its burrow entrance with a trap door. The only other theraphosid known to produce a trap door is an, as yet unidentified, Asian ornithoctonine (C. Portman, pers. comm.). Males are mature between September and January.

Genus *Trichognatha* gen. n.

Pterinochilus: Smith, 1990: 92 (in part).

Type species: *Pterinochilus schonlandi* Pocock, 1900.

Species included: *T. schonlandi* (Pocock, 1900).

Etymology: The generic name is derived from the Greek *thrix* (hair) and *gnatha* (jaw), pertaining to the prolateral cheliceral scopula present in this genus. Gender feminine.

Remarks: Hewitt (1919) discussed the taxonomic position of this taxon with Hirst, who noted that the holotype possessed a prolateral cheliceral scopula. Hewitt expressed the opinion that this precluded its inclusion in *Pterinochilus*, but did not follow-up on this observation. Smith (1990) also commented on this prolateral cheliceral scopula, stating that it was "unusual for the genus" (*Pterinochilus*).

Diagnosis: Distinguished from *Harpactirella* by the presence of a retrolateral cheliceral scopula (Figs. 89, 91). Separated from all other Harpactirinae, except *Harpactira*, by the presence of a prolateral cheliceral scopula (Figs. 90, 92). Separated from *Harpactira* by the prolateral and retrolateral cheliceral scopulae and prolateral trochanteral palp scopula being composed of non-plumose setae. Further separated from *Harpactira* by the absence of plumose, prolateral maxillary strikers (Fig. 93), and by the absence of a discrete row of bristles below the retrolateral cheliceral scopula. The presence of a DPD spine on metatarsi III and IV further separates *Trichognatha* gen. n. from *Eucratoscelus*.

Trichognatha schonlandi (Pocock, 1900), new combination (Figs. 89–101)

Pterinochilus Schönlandi Pocock, 1900a: 318 (D♂).
Pterinochilus schonlandi: Smith, 1988a: 136 (♂); 1990: 101, figs. 567–578 (♂).

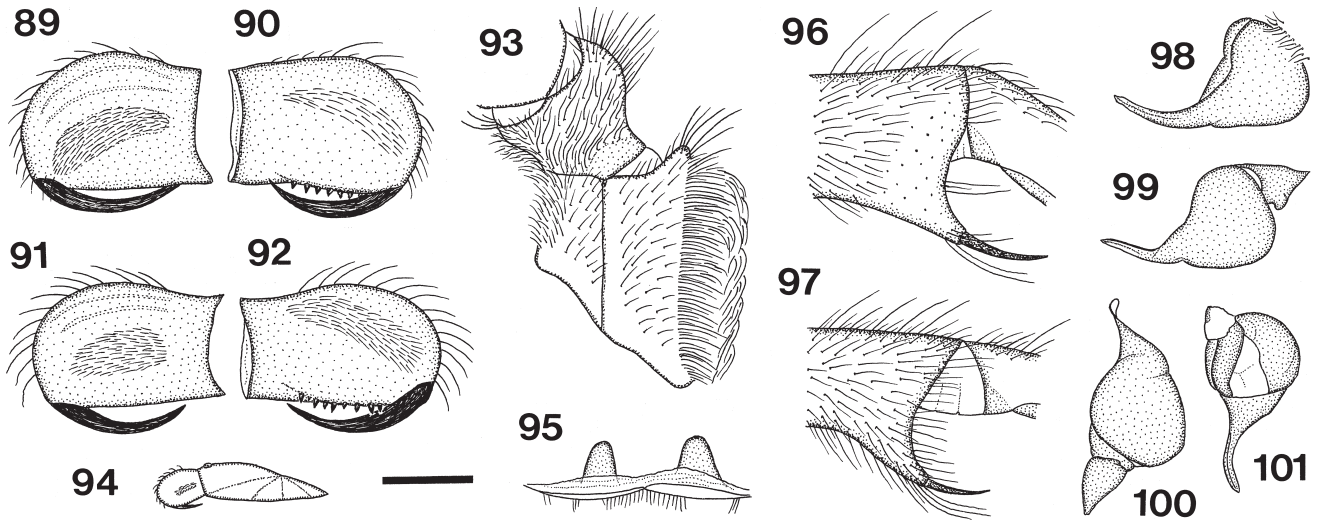
Type material: Holotype ♂ (BMNH 99.7.24.37) of *P. schonlandi* from South Africa, Grahamstown, 33°18′S, 26°32′E (Dr Schönland); examined.

Female (MRAC 124.482): Total length 28.2. Carapace profile domed (Fig. 94), length 9.5, width 7.8. Abdomen length 13, width 8.5 (misshapen). Fovea transverse, deep, obscured by setae, 1.90. Ocular tubercle length 1.43, width 1.69. Clypeus 0.13. Eye sizes: AME 0.35, ALE 0.35, PME 0.35, PLE 0.41. Sternum with three pairs of oval submarginal sigilla. Labium with 46 cuspules. Maxilla with *c*. 80 cuspules. DS of posterior spinneret digitiform. Chelicerae with 8 teeth on promargin. Small stridulatory scopula of non-plumose setae on retrolateral cheliceral face (Figs. 94, 89), corresponding with scopula of similar setae on prolateral trochanteral face of palp (Fig. 93); additional scopula composed of non-plumose setae present on upper prolateral cheliceral surface (Fig. 90). Leg and palp segment lengths in Table 18. All tarsi with integral scopulae. Metatarsal scopulae of legs I–III integral; metatarsal scopula of leg IV bisected longitudinally by band of stiffened setae. Spination: palp tibia 1DRV, 2DPV; leg I tibia 1DRV, 1DPV, metatarsus 1PRV (left only); legs II–IV tibiae 1DRV, 1DPV; legs III, IV metatarsi 1MRV, 1MPV, 1DRV, 1DMV, 1DPV, 1MRD, 1MPL, 1DPD, 1DRD. Remaining leg segments aspinose. Coloration: legs, palpi, chelicerae and abdomen grey/brown. Leg and palp joints pale yellow. Carapace worn, but with evidence of yellow radial striae. Dorsum of abdomen with reticulations, but dark pattern of bars and spots not visible (alcohol faded?). Booklung covers and epigastric scutum pale (probably less pale in live specimens). Sternum and coxae dark brown. Spermathecae (Fig. 95): paired, unlobed, obtuse. Setal fringe on posterior margin of epigastric scutum composed of short, straight setae.

Male (MRAC 124.482): Total length 18.4. Carapace profile low, length 7.8, width 6.5. Abdomen length 8.2, width 3.8. Fovea transverse, deep, obscured by setae,

	Fe	Pa	Ti	Mt	Ta
I	7.4	4.5	4.8	4.7	3.6
II	6.9	3.9	4.1	4.3	3.4
III	5.5	3.6	3.1	4.9	3.5
IV	7.2	4.2	5.2	6.8	4.1
Palp	5.6	3.3	3.5	—	4.1

Table 18: *Trichognatha schonlandi* (Pocock, 1900). Lengths of leg and palp segments of female.



Figs. 89–101: *Trichognatha schonlandi* (Pocock). **89** Female left chelicera (MRAC 124.482), retrolateral view; **90** Ditto, prolateral view; **91** Male left chelicera (ditto), retrolateral view; **92** Ditto, prolateral view; **93** Male left palp maxilla and trochanter (ditto), prolateral view; **94** Female carapace profile (ditto); **95** Spermathecae (ditto), dorsal view; **96** Male tibial spur of left leg I (holotype), prolateral view; **97** Male tibial spur of left leg I (MRAC 124.482), prolateral view; **98** Male reversed right palpal bulb (holotype), retrolateral view; **99** Male left palpal bulb (MRAC 124.482), retrolateral view; **100** Ditto, ventral view; **101** Ditto, dorsal view. Scale line = 2.9 mm (89–92), 1.4 mm (93, 96, 97), 1.0 mm (95, 98–101), 7.0 mm (94).

	Fe	Pa	Ti	Mt	Ta
I	7.5	3.8	5.8	6.0	3.8
II	7.4	3.6	5.0	7.3	3.6
III	6.2	2.9	4.1	6.2	4.0
IV	7.9	3.3	5.5	7.9	4.5
Palp	4.9	2.7	3.5	—	2.0

Table 19: *Trichognatha schonlandi* (Pocock, 1900). Lengths of leg and palp segments of male.

1.14. Ocular tubercle length 1.12, width 1.27. Clypeus 0.16. Eye sizes: AME 0.29, ALE 0.29, PME 0.23, PLE 0.26. Sternum with three pairs of oval submarginal sigilla. Labium with 23 cuspules. Maxilla with *c*. 55 cuspules. DS of posterior spinneret digitiform. Chelicerae with 8 teeth on promargin. Stridulatory cheliceral scopulae as in female, but more prominent (Figs. 91, 92). Leg and palp segment lengths in Table 19. Femur of leg III not incrassate. Metatarsus of leg I straight. Tarsal and metatarsal scopulae as in female. Spination: palp tibia 1DPV; leg I tibia 1DRV; leg II tibia 1DRV, 1DPV, metatarsus 1DMV; leg III tibia aspinose; legs III, IV metatarsi 1MRV, 1MPV, 1DRV, 1DMV, 1DPV, 1MRD, 1MPL, 1DPD, 1DRD; leg IV tibia 1DRV, 1DPV. Remaining leg segments aspinose. Tibial spur (Figs. 96–97): DPV apophysis robust; surmounted megaspine long, fine, gently curved, protruding ventrally. Coloration: as in female, but golden, carapace striae more apparent. No dark ''mask'' around ocular tubercle. Abdomen without reticulations or dark dorsal pattern (alcohol faded?). Palpal bulb (Figs. 98–101): pyriform, squat, with short, flattened, bi-keeled (prolateral superior and apical) embolus. Union between embolus and tegulum with folded appearance.

Material examined: SOUTH AFRICA: BMNH 01.3.13.108, 1♂, Jansenville, 32°56′S, 24°40′E (Mia Leppran); BMNH 99.7.24.37, 1♂ (holotype), Grahamstown, 33°18′S, 26°32′E (Dr Schönland). TANZANIA: MRAC 124.482, 1♂ 1♀, Ushetu, 04°10′S, 32°16′E (P. L. G. Benoit). NO DISTRIBUTIONAL DATA: BMNH, 4♂.

Distribution: Recorded from two widely separated areas: southern South Africa and north-western Tanzania (Map 1). Altitudinal range between 550 and ~1000 m.

Ecology: Unknown. Season of male maturity unknown.

Genus *Eucratoscelus* Pocock, 1898

Eucratoscelus Pocock, 1898b: 500; Smith, 1990: 78; Peters, 1998a: 4.
Pterinochilus: Smith, 1990: 92 (in part).

Type species: *Eucratoscelus longiceps* Pocock, 1898.

Species included: *E. constrictus* (Gerstäcker, 1873) and *E. pachypus* Schmidt & von Wirth, 1990.

Diagnosis: The female differs from those of all other Harpactirinae by the possession of a highly incrassate tibia on leg IV. The male is diagnosed from all other Harpactirinae (except *Harpactira hamiltoni* Pocock, 1902) by the possession of a DPV tumid protuberance within the metatarsal scopula of leg I. *Eucratoscelus* is further distinguished from *Harpactira* by the absence of prolateral plumose stridulatory strikers on the maxilla, and by the absence of a discrete row of bristles below the retrolateral cheliceral scopula. *Eucratoscelus* also differs from *Harpactira* and *Trichognatha* gen. n. by the absence of a prolateral cheliceral scopula, and is distinguished from *Harpactirella* by the presence of a retrolateral cheliceral scopula. Females can also be distinguished from those of *Augacephalus* gen. n. by the presence of long emergent cheliceral setae and by their less robust anterior appendages. The digitiform DS on the posterior spinnerets provides additional distinction from both sexes of *Idiothele*. The absence of a DPD spine on metatarsi III and IV further separates both sexes of *Eucratoscelus* from all other Harpactirinae.

Remarks: The two species in the genus differ in very few characters and may simply represent extremes of a continuum. Insufficient material is currently available to draw firm conclusions, so the two species are maintained in this revision.

Schmidt and Gelling (2000) incorrectly stated that the possession of lobed spermathecae, and not the possession of an incrassate tibia IV, was the key generic character of *Eucratoscelus*. Unfortunately they did not investigate the spermathecal structure of all the *Pterinochilus* species. As half of all *Pterinochilus* species, including the type species *P. vorax*, also possess lobed spermathecae, their suggestion is rejected. Note also that their new species, *Eucratoscelus tenuitibialis*, is a junior synonym of *Pterinochilus lugardi*. Therefore the possession of an incrassate tibia IV in females remains a key feature of *Eucratoscelus*.

Key to the species of *Eucratoscelus*

1. Females.....2
– Males.....3
2. Only tibia of leg IV incrassate (Fig. 102)..... *E. constrictus*
– Tibia, metatarsus and tarsus of leg IV incrassate (Fig. 108)..... *E. pachypus*
3. Embolus strongly curved (viewed retrolaterally) (Fig. 107); carapace length/ocular tubercle width ratio *c*. 6.5..... *E. constrictus*
– Embolus slightly curved (viewed retrolaterally) (Fig. 113); carapace length/ocular tubercle width ratio *c*. 5.5..... *E. pachypus*

Eucratoscelus constrictus (Gerstäcker, 1873), new combination (Figs. 102–107)

Harpactira constricta Gerstäcker, 1873: 486 (D♀); Ausserer, 1875: 187 (♀).
Harpactira chordata: Pavesi, 1881: 548 (part of synonymy list only); Bösenberg & Lenz, 1895: 27 (part of synonymy list only).
Eucratoscelus longiceps Pocock, 1898b: 500 (D♀); Smith, 1988a: 129 (♀); 1990: 78, figs. 386–395 (♀); Peters, 1998a: 5, figs. 1, 2, 5 (♀). **New synonymy**.
Pterinochilus spinifer Pocock, 1898b: 502, pl. 41, figs. 1–1a (D♂); Smith, 1988a: 136 (♂); 1990: 102, figs. 581–590 (♂). **New synonymy**.
Pterinochilus constrictus: Stand 1907a: 236 (not described ♀, part of synonymy list only); Smith, 1990: 94 (not described ♀, part of synonymy list only).

Type material: Holotype ♀ (ZMB 2351) of *H. constricta* from Kenya, Dschagga, Dafeta (=Taveta?), 03°23′S, 37°40′E (Von der Decken); examined. Holotype ♀ (BMNH 1897.11.20.54) of *E. longiceps* from Kenya, Voi, 03°23′S, 38°35′E (Mr C. S. Betton); examined.

Holotype ♂ (BMNH 1897.11.20.53) of *P. spinifer* from Kenya, Mbuyuni, 03°25′S, 37°56′E (Mr C. S. Betton); examined.

Remarks: The "*Pterinochilus constrictus*" female described by Strand (1907a) and later Smith (1990) is a misidentified specimen of *P. murinus*.

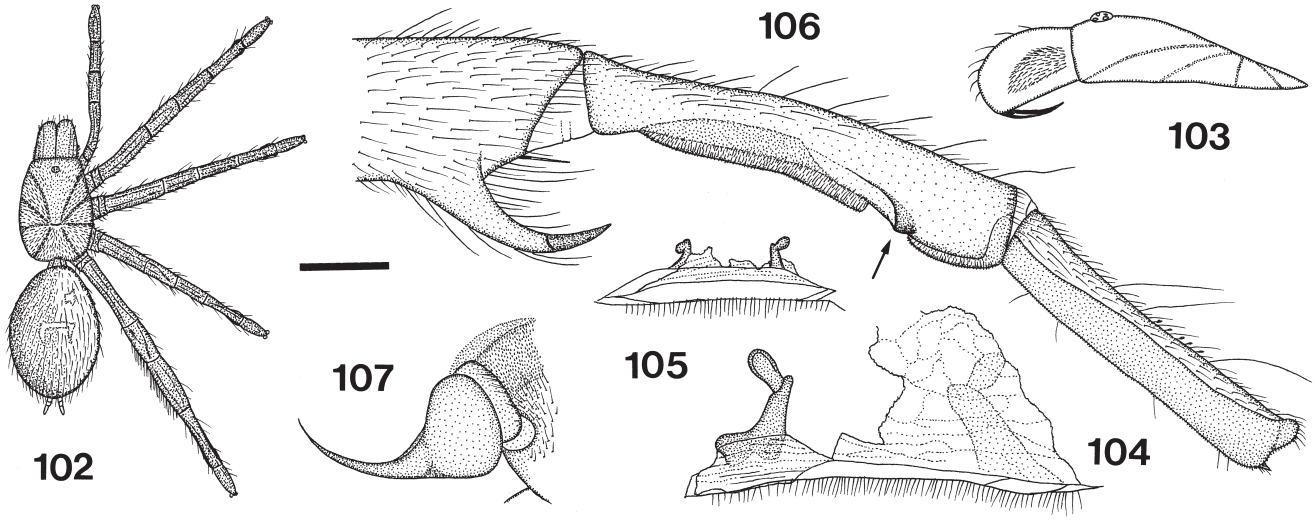
The male of *Eucratoscelus pachypus* was reared from an egg sac produced by a wild-caught female *E. pachypus*. This demonstrated that the male of *Eucratoscelus* differs from those of *Pterinochilus* by the possession of a tumid DPV metatarsal protuberance on leg I. As *Pterinochilus spinifer* also possesses this feature it is referable to *Eucratoscelus*. The males of *P. spinifer* and *E. pachypus* were also found to differ (see below). This evidence, along with the fact that the holotypes of *E. longiceps* and *P. spinifer* were collected by the same person within 80 km of each other, suggests they are synonymous. The holotype female of *E. longiceps* shares its incrassate tibia IV, terminally lobed spermathecae and sparse, long, emergent abdominal setae with the holotype female of *Pterinochilus constrictus*. For these reasons both *E. longiceps* and *P. spinifer* are synonymised with *P. constrictus*, which in turn is transferred to *Eucratoscelus*.

Diagnosis: The female is distinguished from that of *E. pachypus* by only the tibia of leg IV being incrassate (viewed dorsally). The male differs from *E. pachypus* by the relative size of the ocular tubercle and the greater curvature of the embolus (Fig. 107).

Female (holotype and BMNH 1897.11.20.54 respectively): Total length 27.5–51.2. Carapace profile domed at caput (Fig. 103), length 11.8–18.8, width 7.7–13.8. Abdomen length 12.2–24.4, width 7.1–18.1. Fovea deep, transverse. Ocular tubercle length 1.42–2.28, width 1.89–2.44. Clypeus 0.36–0.77. Eye sizes: AME 0.50–0.64, ALE 0.61–0.83, PME 0.36–0.60, PLE 0.52–0.74. Sternum with two anterior pairs of submarginal sigilla circular, posterior sigilla ovoid and away from sternal margin. Labium with *c*. 50 cuspules. Maxilla with *c*. 100 cuspules. DS of posterior spinneret digitiform. Chelicerae with 10–11 teeth on promargin. Large stridulatory scopula of well-developed plumose setae on retrolateral cheliceral face (Fig. 103), corresponding with scopula of similar plumose setae on prolateral trochanteral face of palp; several plumose setae on proximal, prolateral region of palpal femur (larger *E. longiceps* holotype only). Leg and palp segment lengths in Table 20. Patella, tibia and metatarsus of leg IV robust, with tibia incrassate (Fig. 102). All tarsi with integral scopulae. Metatarsal scopulae of legs I–III integral; metatarsal scopula of leg IV bisected longitudinally by band of stiffened setae. Spination: palp tibia 1DRV, 1DPV; leg I tibia 1DRV, 1DPV, metatarsus 1DMV; leg II tibia 1DRV (*P. constrictus* holotype only), 1DPV, metatarsus 1DMV; leg III tibia 1DRV, 1DPV, metatarsus 1MPV, 1DRV, 1DMV, 1DPV (*E. longiceps* holotype only), 1DRD; leg IV tibia 1DRV (2 on left of *E. longiceps*), 1DPV, metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MRD, 1DRD. Remaining leg segments aspinose. Coloration (faded): legs, palpi, chelicerae and carapace grey/ash. Leg IV with few, long stiffened, setae on retrolateral surfaces of patella and tibia. Leg and palp joints pale. Abdomen yellow/brown with sparse, long, emergent setae. Dorsum of abdomen without reticulations or dark pattern of bars and spots. Venter of abdomen yellow/brown with pale epigastric scutum and booklung covers (probably less pale in live

	Fe	Pa	Ti	Mt	Ta
I	7.8–12.5	5.0–7.7	5.3–8.4	4.9–8.1	4.2–6.7
II	6.8–11.6	4.6–7.7	4.6–7.4	4.6–7.3	4.1–5.9
III	5.8–9.9	3.8–6.6	3.9–6.2	4.5–8.0	3.9–5.5
IV	8.8–14.2	5.1–8.2	7.0–11.1	7.8–12.4	4.7–6.5
Palp	5.5–9.1	3.9–6.1	3.4–6.0	—	4.4–6.7

Table 20: *Eucratoscelus constrictus* (Gerstäcker, 1873). Lengths of leg and palp segments of holotype female *E. constrictus* and *E. longiceps* respectively.



Figs. 102–107: *Eucratoscelus constrictus* (Gerstäcker). **102** Female (holotype of *E. longiceps*), dorsal view; **103** Female carapace profile (ditto); **104** Spermathecae (ditto), dorsal view; **105** Spermathecae (holotype), dorsal view; **106** Male tibial spur and metatarsal protuberance (arrowed) of left leg I (holotype of *Pterinochilus spinifer*), prolateral view; **107** Male reversed right palpal bulb (ditto), retrolateral view. Scale line = 1.4 mm (106), 1.0 mm (104, 105, 107), 7.0 mm (103), 17.1 mm (102).

	Fe	Pa	Ti	Mt	Ta
I	9.5	5.0	6.8	7.6	5.3
II	8.5	4.8	6.1	6.7	4.8
III	7.0	3.8	5.0	7.2	4.7
IV	9.4	4.6	8.1	10.1	5.6
Palp	5.5	3.5	4.9	—	2.4

Table 21: *Eucratoscelus constrictus* (Gerstäcker, 1873). Lengths of leg and palp segments of holotype male of *Pterinochilus spinifer*.

specimens). Sternum and leg coxae darker. Spermathecae (Figs. 104–105): paired, with single rounded terminal lobe; main body of spermathecae sub-triangular in form. Setal fringe on posterior margin of epigastric scutum composed of short, straight setae.

Male (BMNH 1897.11.20.53): Total length 25.3. Carapace profile low, length 9.6, width 7.4. Abdomen length 10.4, width 6.1. Fovea deep, transverse, obscured by setae. Ocular tubercle length 1.24, width 1.46. Clypeus 0.26. Eye sizes: AME 0.39, ALE 0.46, PME 0.36, PLE 0.41. Sternum with two anterior pairs of submarginal sigilla circular, posterior sigilla ovoid and away from margin. Labium with *c*. 60 cuspules. Maxilla with *c*. 100 cuspules. DS of posterior spinneret digitiform. Chelicerae with 9 teeth on promargin. Stridulatory scopulae as in female, but setae weakly plumose. Leg and palp segment lengths in Table 21. Femur of leg III incrassate. Metatarsus of leg I laterally flexed. Tarsal and metatarsal scopulae as in female. Spination: palp tibia 1DPV; leg I tibia 1DRV, metatarsus 1DMV; leg II tibia 1DRV, 1DPV, metatarsus 1DRV, 1DMV (right only); leg III tibia 2DRV, 1DPV, metatarsus 1MPV, 1DRV (right only), 1DMV, 1DPV (right only), 1DRD; leg IV tibia 1DRV, 1DPV, metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1DRD. Remaining leg segments aspinose. Tibial spur (Fig. 106): DPV apophysis long, cylindrical; surmounted megaspine short, gently curved, protruding ventro-laterally. Tumid DPV metatarsal protuberance on leg I within scopula, but scopula rubbed in this specimen. Coloration (faded?): as in female, but all legs and palpi golden/grey, without thick, stiffened setae on leg IV. Carapace black with golden, metallic, radial striae. Dorsum of abdomen rubbed. Palpal bulb (Fig. 107): pyriform, with very fine, strongly curved, acuminate embolus. Keels absent along embolus. Left embolus damaged.

Material examined: KENYA: ZMB 2351, 1♀ (holotype of *Harpactira constricta*), Dschagga, Dafeta (=Taveta?), 03°23′S, 37°40′E (Von der Decken); BMNH 1897.11.20.53, 1♂ (holotype of *Pterinochilus spinifer*), Mbuyuni, 03°25′S, 37°56′E (Mr C. S. Betton); BMNH 1897.11.20.54, 1♀ (holotype of *E. longiceps*), Voi, 03°23′S, 38°35′E (Mr C. S. Betton).

Distribution: Recorded from Taveta, Voi and Mbuyuni, southern Kenya (Map 2). Altitude 550 m.

Ecology: This is a fossorial species found in grassland (J. Hancock, pers. comm.). The season of male maturity is unknown.

Eucratoscelus pachypus Schmidt & von Wirth, 1990 (Figs. 108–115)

Eucratoscelus pachypus Schmidt & von Wirth, 1990: 11, fig. 2 (D♀); Schmidt, 1993: 118, fig. 367 (♀); Peters, 1998a: 7, figs. 6, 9, 11, 12, 14, 15 (♀).

Type material: Holotype ♀ (SMFD) from Tanzania, January 1990 (M. Bullmer); not examined. Paratype ♀ (SMFD) from Tanzania, August 1989 (V. von Wirth); not examined.

Diagnosis: The female is distinguished from that of *E. constrictus* by the possession of incrassate tibia, metatarsus and tarsus on leg IV. The male differs from *E. constrictus* by the relative size of the ocular tubercle and the reduced curvature of the embolus (Fig. 113).

Female: Total length 36.7–48.1 (43.0 ± 4.4; 7). Carapace profile domed at caput (Fig. 109), length 14.2–18.5 (16.5 ± 1.7; 7), width 11.0–13.9 (12.6 ± 1.2; 7). Abdomen length 17.7–24.9 (21.6 ± 2.7; 7), width 11.2–15.9 (13.2 ± 1.5; 7). Fovea deep, transverse. Ocular tubercle length 1.83–2.47 (2.08 ± 0.20; 7), width 1.94–2.49 (2.21 ± 0.21; 7). Clypeus 0.49–0.81 (0.65 ± 0.12; 7). Eye sizes: AME 0.49–0.67 (0.59 ± 0.06; 7), ALE 0.55–0.81 (0.66 ± 0.09; 7), PME 0.44–0.52 (0.48 ± 0.03; 7), PLE 0.49–0.61 (0.56 ± 0.05; 7). Sternum with two anterior pairs of submarginal sigilla circular, posterior sigilla ovoid and away from sternal margin. Labium with *c*. 80 cuspules. Maxilla with *c*. 100 cuspules. DS of posterior spinneret digitiform. Chelicerae with 8–12 (9 ± 2; 7) teeth on promargin. Large stridulatory scopula of well-developed plumose setae on retrolateral cheliceral face (Fig. 109), corresponding with scopula of similar plumose setae on prolateral trochanteral face of palp; in large specimens plumose setae may extend onto proximal, prolateral region of palpal femur. Leg and palp segment lengths in Table 22. All segments of leg IV robust, with tibia, metatarsus and tarsus highly incrassate (Fig. 108). All tarsi with integral scopulae. Metatarsal scopulae of legs I–III integral; metatarsal scopula of leg IV restricted to distal portion of segment and bisected longitudinally by band of stiffened setae. Spination: palp tibia 1DPV; legs I–III tibiae 1DRV, 1DPV; legs I, II metatarsi 1DMV; legs III, IV metatarsi 1MPV, 1DRV, 1DMV, 1DPV, 1DRD; leg IV tibia 1DRV, 2DPV. Remaining leg segments aspinose. Coloration: legs I–III, palpi and chelicerae grey/ash.

	Femur	Patella	Tibia	Metatarsus	Tarsus
I	9.8–11.9 (11.0 ± 0.8)	6.3–7.8 (7.2 ± 0.5)	6.6–8.0 (7.3 ± 0.5)	6.2–7.8 (7.0 ± 0.5)	5.4–6.5 (5.8 ± 0.4)
II	8.5–10.5 (9.5 ± 0.7)	5.7–7.4 (6.5 ± 0.6)	5.5–6.8 (6.1 ± 0.4)	5.6–7.3 (6.5 ± 0.6)	5.1–5.8 (5.4 ± 0.3)
III	7.5–9.5 (8.7 ± 0.8)	5.2–6.6 (6.1 ± 0.6)	4.7–6.0 (5.5 ± 0.5)	5.8–7.6 (6.8 ± 0.7)	4.6–5.5 (5.1 ± 0.3)
IV	11.7–13.5 (12.6 ± 0.8)	6.8–8.8 (7.9 ± 0.8)	9.2–10.7 (10.1 ± 0.6)	10.2–12.7 (11.7 ± 1.0)	5.1–7.2 (5.8 ± 0.8)
Palp	6.9–9.0 (8.0 ± 0.7)	4.8–5.6 (5.3 ± 0.3)	4.6–5.4 (5.0 ± 0.3)	—	5.2–6.4 (6.0 ± 0.4)

Table 22: *Eucratoscelus pachypus* Schmidt & von Wirth, 1990. Lengths of leg and palp segments. Females (n=7). Range (mean ± SD).

Leg IV dark brown with numerous, long, stiffened russet setae on retrolateral surfaces of patella, tibia, metatarsus and tarsus; on distal portion of metatarsus these setae extend dorsally. Leg and palp joints pale yellow. Carapace grey/ash without radial striae; dark "mask" around ocular tubercle. Dorsum of abdomen dark brown with sparse, long, emergent, orange/brown setae; without reticulations or dark patterns of bars, spots rarely visible. Venter of abdomen grey/ash with pale orange booklung covers. Epigastric scutum pales in alcohol. Sternum and leg coxae black, grading distally into leg coloration. Palp coxa and trochanter black. Spermathecae (Figs. 110–111): paired, with single rounded terminal lobe; main body of spermathecae typically sub-triangular in form. Setal fringe on posterior margin of epigastric scutum composed of short, straight setae.

Male: Total length 24.5. Carapace profile low, length 8.9, width 6.8. Abdomen length 11.7, width 8.3. Fovea deep, transverse. Ocular tubercle length 1.16, width 1.60. Clypeus 0.17. Eye sizes: AME 0.46, ALE 0.46, PME 0.29, PLE 0.46. Sternum with two anterior pairs of submarginal sigilla circular, posterior sigilla ovoid and away from margin. Labium with *c*. 40 cuspules. Maxilla with *c*. 100 cuspules. DS of posterior spinneret digitiform. Chelicerae with 9 teeth on promargin. Stridulatory scopulae as in female, but setae weakly plumose. Leg and palp segment lengths in Table 23. Femur of leg III incrassate. Metatarsus of leg I laterally flexed. Tarsal and metatarsal scopulae as in female, except metatarsal scopula on leg IV extends further proximally. Spination: palp tibia 1DPV; leg I tibia 1DRV, metatarsus 1DRV (left only), 1DMV; legs II, III tibiae 1DRV, 1DPV; leg II metatarsus 1DRV, 1DMV; leg III metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1DRD (left only); leg IV tibia 2DRV (1 on left), 1DPV, metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MRD, 1DRD. Remaining leg segments aspinose. Tibial spur (Fig. 112): DPV apophysis long, cylindrical; surmounted megaspine short, gently curved, protruding ventro-laterally. Tumid DPV metatarsal protuberance on leg I within scopula. Coloration: as in female, but all legs and palpi golden/grey, without numerous, long, stiffened russet setae on leg IV. Carapace black with golden, metallic, radial striae. Dorsum of abdomen golden/grey, without dorsal pattern (damaged), with long emergent setae posteriorly. Palpal bulb (Figs. 113–115): pyriform, with very fine, curved, acuminate embolus. Keels absent along embolus.

	Fe	Pa	Ti	Mt	Ta
I	7.8	4.7	5.5	6.5	4.6
II	6.9	4.0	4.6	5.7	4.2
III	6.2	3.6	3.8	5.4	4.1
IV	8.0	4.5	6.6	8.9	5.0
Palp	4.8	3.5	4.0	—	2.1

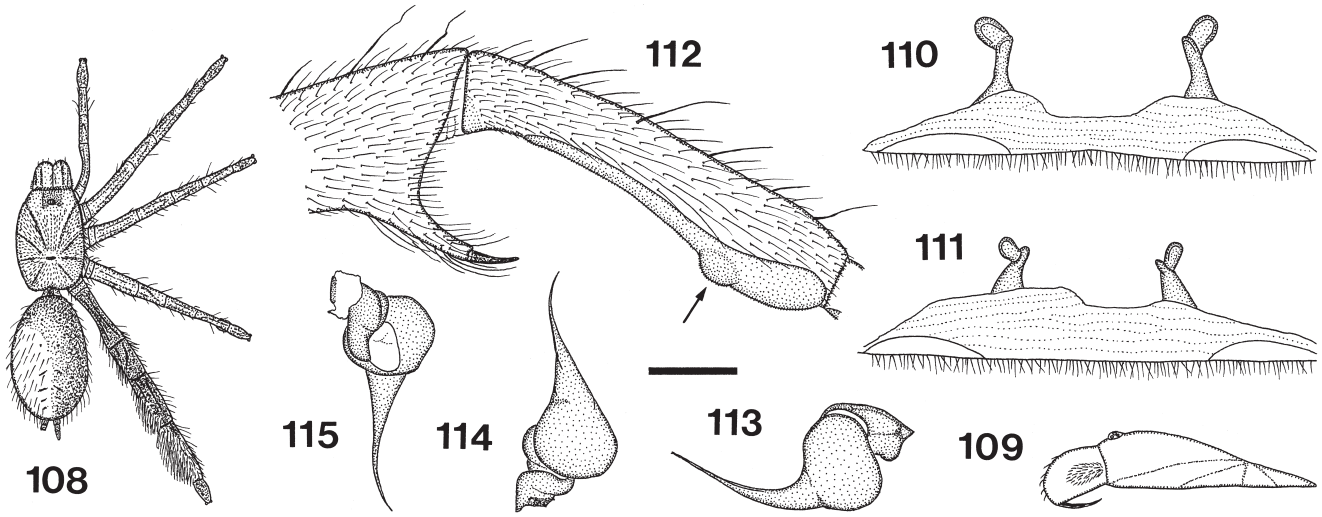
Table 23: *Eucratoscelus pachypus* Schmidt & von Wirth, 1990. Lengths of leg and palp segments of male.

Note: Dunlop (1991) whilst investigating the leg structure of a female *E. pachypus* noted that the venom duct terminated at the tip of the fang (not on the side). This is now believed to be an artefact of fang wear, perhaps as a result of burrow excavation activity (J. Dunlop, pers. comm.).

Material examined: TANZANIA: BMNH, 1♂ 1♀ (T. Ezendam via Tanzanian dealer); BMNH, 3♀ (T. Ezendam via Tanzanian dealer); BMNH, 1♀ (R. Gabriel via Tanzanian dealer); MRAC 209.568, 1♀; ZMB 32209, 1♀ (R. Gabriel via Tanzanian dealer).

Distribution: Tanzania. Precise localities unknown, but Peters (1998a) suggests it occurs along the north-eastern border with Kenya (Map 2). Altitudinal range unknown.

Ecology: Unknown, but captive specimens live fossorially (pers. obs.). The season of male maturity is unknown.



Figs. 108–115: *Eucratoscelus pachypus* Schmidt & von Wirth. **108** Female (BMNH, T. Ezendam with ♂), dorsal view; **109** Female carapace profile (ditto); **110** Spermathecae (BMNH, T. Ezendam), dorsal view; **111** Spermathecae (BMNH, T. Ezendam with ♂), dorsal view; **112** Male tibial spur and metatarsal protuberance (arrowed) of left leg I (BMNH, T. Ezendam), prolateral view; **113** Male left palpal bulb (ditto), retrolateral view; **114** Ditto, ventral view; **115** Ditto, dorsal view. Scale line=1.4 mm (112), 1.0 mm (110, 111, 113–115), 7.0 mm (109), 17.1 mm (108).

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