

Two new *Pterinochilus* species from Kenya (Araneae, Theraphosidae, Harpactirinae)

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Summary

Two new theraphosid spider species from East Africa are described: *Pterinochilus raygabrieli* sp. n. from south-central Kenya and *Pterinochilus andrewsmithi* sp. n. from north-western Kenya. The two new species are illustrated and diagnosed from their congeners.

Introduction

The African theraphosid spider genus *Pterinochilus* Pocock, 1897 was revised by Gallon (2002), reducing the number of species within the genus from 23 to 6, by synonymy and transfers to other genera. Schmidt (2002a, b) added an additional species, *Pterinochilus leetzi* Schmidt, 2002, but Gallon (2008) considered this species to be a junior synonym of *Pterinochilus murinus* Pocock, 1897. In the same publication Gallon described *Pterinochilus cryptus* Gallon, 2008 from coastal Angola.

Whilst working through unidentified and unsorted African theraphosids at the Natural History Museum, London, I came across two hitherto undescribed *Pterinochilus* species from Kenya. The description of these two species here brings the total number of *Pterinochilus* species to nine.

Methods

Methods follow Gallon (2002), except that ocular and somatic measurements were obtained microscopically

using an eyepiece graticule (± 0.01 mm and ± 0.1 mm respectively).

Abbreviations: Eyes: AME=anterior median, ALE=anterior lateral, PME=posterior median, PLE=posterior lateral. Leg spines: DPV=distal proventral, DRV=distal retroventral, MPV=medial proventral, MPD=medial prodorsal, MRD=medial retrodorsal, MPL=medial prolateral, DMV=distal midventral, DPD=distal prodorsal, DRD=distal retrodorsal. R=right, L=left. Spinnerets: DS=distal segment. Collections: BMNH=Natural History Museum, London, UK.

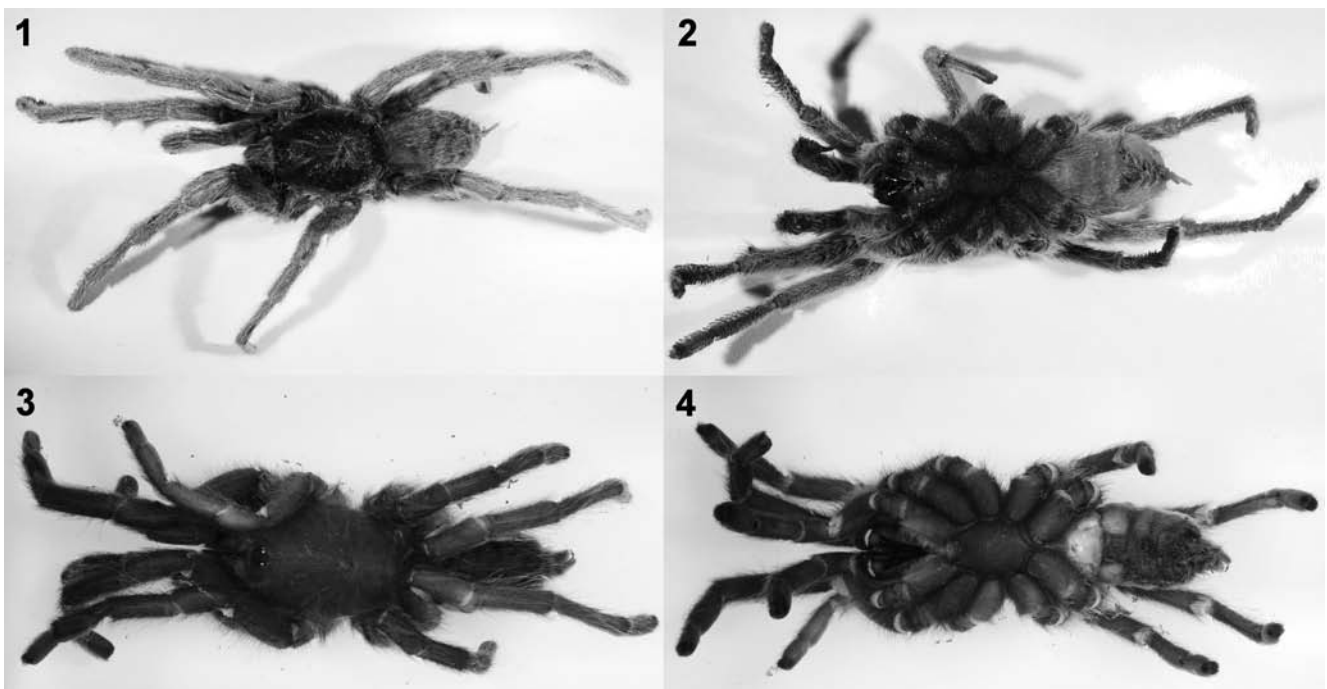
Pterinochilus raygabrieli sp. n. (Plates 1–2, Figs. 1–8)

Type material: Holotype ♂ (BMNH) from Kenya, Mt. Thatha area, 10 miles W of mountain on Nairobi road, 5 August 1951 (Lord Richard Percy).

Etymology: The specific name is a patronym in honour of Ray Gabriel who has done much to assist my work on African theraphosid taxonomy.

Diagnosis: The broad, elongated, four-keeled embolus readily distinguishes *P. raygabrieli* sp. n. from its congeners. The absence of distal prolateral spike setae on the maxilla provides additional distinction from *Pterinochilus murinus*. *Pterinochilus raygabrieli* sp. n. shows affinities with *P. alluaudi* Berland, but possesses a more elongated embolus, without the distinctive tri-keeled, triangular cross-section found in that species.

Description: **Holotype male** (BMNH) (Plates 1–2): Total length 24.9. Carapace profile low, length 11.5, width 8.6. Abdomen length 10.7, width 7.0. Fovea deep transverse pit. Ocular tubercle length 1.15, width 1.54. Clypeus 0.29. Eye sizes: AME 0.42, ALE 0.44, PME 0.24, PLE 0.35. Sternum with three pairs of oval submarginal sigilla. Labium with *c.* 75 cuspules. Maxilla with *c.* 120 cuspules. DS of posterior spinneret



Plates 1–4: 1–2 *Pterinochilus raygabrieli* sp. n. 1 Dorsal view; 2 Ventral view. 3–4 *Pterinochilus andrewsmithi* sp. n. 3 Dorsal view; 4 Ventral view.

	Fe	Pa	Ti	Mt	Ta
I	9.6	5.6	7.6	7.8	5.2
II	8.9	5.1	6.7	7.0	4.9
III	7.7	4.1	5.0	7.5	4.8
IV	10.0	4.5	8.0	10.6	5.6
Palp	5.7	3.7	4.2	—	2.7

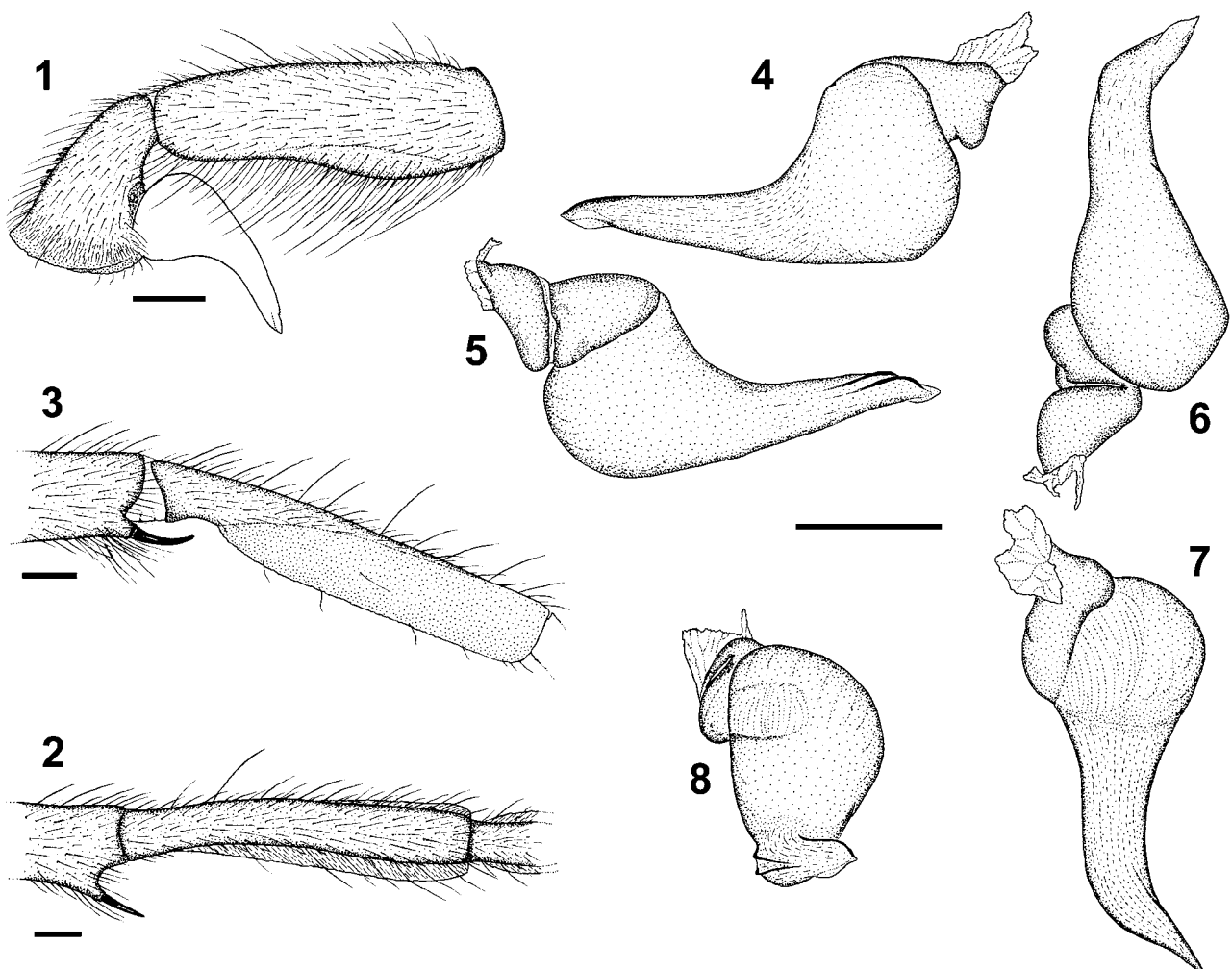
Table 1: *Pterinochilus raygabrieli* sp. n. Lengths of leg and palp segments of holotype male (BMNH).

digitiform. Chelicerae with 10R, 11L teeth on pro-marginal. 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. Palpal tibia swollen proximally (Fig. 1). Metatarsus I bowed as viewed dorsally (Fig. 2), straight as viewed laterally, without DPV tumid protuberance. Femur III not incrassate. Tarsal scopulae integral. Metatarsal scopulae: leg I 83%, leg II 83%, leg III 80%, leg IV 75% (I–III integral, IV bisected longitudinally by band of stiff setae). Paired claws smooth, third claw absent. All tarsi with paired claw tufts. Clavate trichobothria: restricted to U-shaped region on apical half

of all tarsi (tarsus I, 12R rubbed, 30L). Spinose: leg I tibia 1DRV; leg II tibia 1DRV, 1DPV; leg III tibia 2DRV, 1DPV, metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD; leg IV tibia 2DRV, 1DPV, metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MPD, 1DPD, 1DRD. Remaining leg segments aspinose. Tibial spur (Fig. 3): DPV apophysis short; surmounted megaspine long and curved, protruding proventrally. Coloration: faded pale yellow-brown. Sternum and ventral surfaces of coxae and trochanters darker brown. Carapace with distinct radial striae of longer pale setae and dark mask around ocular tubercle. Dorsum of abdomen with ill-defined dark markings; ventral surface with pale booklung covers and genital sclerite. Palpal bulb (Figs. 4–8): tegulum pyriform. Embolus robust, elongated and curved retrolaterally in terminal third. Embolus with four keels: dorsal keel starts halfway along embolus, terminating at embolic tip; ventral keel starts in distal quarter of embolus, terminating at embolic tip; two parallel prolateral keels start halfway along embolus, spiralling prodorsally and ending short of embolic tip. Embolus irregular in cross-section.

Female: Unknown.

Distribution: Kenya, Mount Thatha area.



Figs. 1–8: *Pterinochilus raygabrieli* sp. n. **1** Left palp, retrolateral view; **2** Left metatarsus I, dorsal view; **3** Tibial spur on left leg I, prolateral view; **4–8** Left palpal bulb: **4** Retrolateral view; **5** Prolateral view; **6** Ventral view; **7** Dorsal view; **8** Anterior view. Scale lines = 1 mm.

Ecology: Largely unknown. The male is mature during August. Presumably fossorial.

Pterinochilus andrewsmithi sp. n. (Plates 3–4, Figs. 9–10)

Type material: Holotype ♀ (BMNH 1952.5.3.114) from Kenya, Northern Turkana, February–June 1934 (V. E. Fuchs, Lake Rudolf Rift Valley Expedition).

Etymology: The specific name is a patronym in honour of Andrew Smith in recognition of his work on African theraphosids and his support of my own research on the topic.

Diagnosis: The unlobed, semicircular spermathecae of *P. andrewsmithi* sp. n. provide distinction from all other *Pterinochilus* species where the females are known. The absence of distal prolateral spike setae on the maxilla provides additional distinction from *Pterinochilus murinus*.

Description: *Holotype female* (BMNH 1952.5.3.114) (Plates 3–4): Total length 23.1. Carapace profile raised at caput (Fig. 9), length 10.4, width 7.9. Abdomen length 9.9, width 5.7. Fovea deep transverse pit. Ocular tubercle length 1.15, width 1.51. Clypeus 0.21. Eye sizes: AME 0.41, ALE 0.46, PME 0.26, PLE 0.37. Sternum with three pairs of oval submarginal sigilla. Labium with *c.* 45 cuspules. Maxilla with *c.* 100 cuspules. DS of posterior spinneret digitiform. Chelicerae with 10R, 9L teeth on promargin. 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 2. Tarsal scopulae integral. Metatarsal scopulae: leg I 80%, leg II 80%, leg III 80%, leg IV 70% (I–III integral, IV bisected longitudinally by band of stiff setae). Paired claws smooth, third claw absent. All tarsi with paired claw tufts. Clavate trichobothria: restricted to U-shaped region on apical half of all tarsi (tarsus I, 16R, 18L). Spinination: palp tibia 2DRV (0R),

	Fe	Pa	Ti	Mt	Ta
I	7.3	4.8	5.1	4.9	3.6
II	6.7	4.4	4.4	4.4	3.6
III	5.7	3.7	3.6	4.9	3.5
IV	7.5	4.1	5.4	6.9	4.1
Palp	5.5	3.7	3.4	—	4.2

Table 2: *Pterinochilus andrewsmithi* sp. n. Lengths of leg and palp segments of holotype female (BMNH 1952.5.3.114).

1DPV; leg I tibia 1DPV; leg II tibia 1DRV (0R), 1DPV (0R); leg III tibia 1DRV, 1DPV, metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MPD, 1MPL (0R), 1DPD, 1DRD; leg IV tibia 2DRV (1R), 1DPV, metatarsus 1MPV (0R), 1DRV, 1DMV, 1DPV, 1MRD (0R), 1DPD (0R), 1DRD (0R). Remaining leg segments aspinose. Coloration (in spirit): uniformly reddish brown. Dorsum of abdomen with ill-defined dark markings; ventral surface with pale booklung covers and genital sclerite. Spermathecae (Fig. 10): Paired, unlobed and semicircular. Flattened in cross-section with termini swollen relative to basal section. Setal fringe on posterior margin of epigastric scutum composed of inwardly curved setae.

Male: Unknown.

Distribution: Kenya, Northern Turkana.

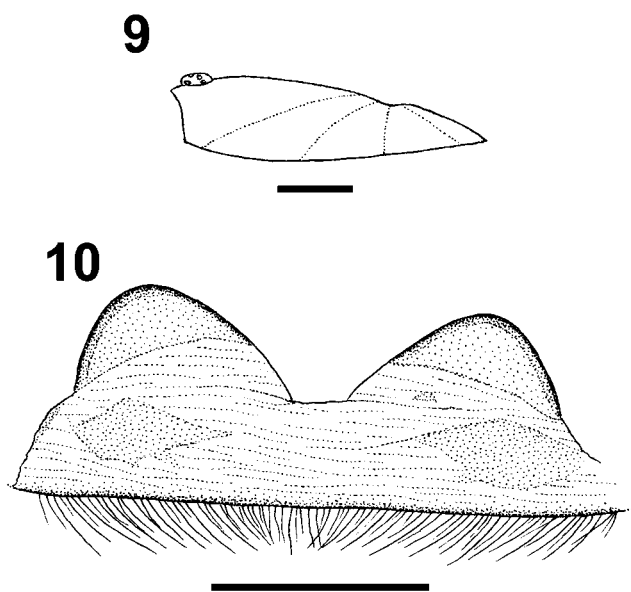
Ecology: Unknown.

Discussion

Given that two new *Pterinochilus* species are described here from single specimens of opposite sexes, consideration was given as to whether they were conspecific, or represented the undescribed sex of an already described species.

Of the seven previously recognised *Pterinochilus* species, all except two are known from both sexes; *P. alluaudi* Berland, 1914 and *P. cryptus* are known from males only. Therefore, *Pterinochilus raygabrielii* sp. n. can be readily distinguished from all other known *Pterinochilus* species. *Pterinochilus cryptus* is known from coastal Angola and possesses a fine, elongated embolus which would be inconsistent with the short semicircular spermathecae of *P. andrewsmithi* sp. n. The type locality of *Pterinochilus alluaudi* is in south-eastern Kenya, however one would expect its distinctive triangular, tri-keeled embolus to be accommodated by spermathecae exhibiting a compatible cross-sectional morphology. However, the spermathecae of *P. andrewsmithi* sp. n. are flattened, suggesting that it is unlikely to represent the undescribed female of *P. alluaudi*.

Examination of satellite imagery (Google Maps, 2009) suggests that the type locality of *Pterinochilus raygabrielii* sp. n. lies within an area of uplands (>1200 m a.s.l.). This contrasts with the lowland (*c.* 400 m a.s.l.) habitat associated with the Lake Rudolf (=Lake Turkana) area and *P. andrewsmithi* sp. n. The labium of the type of *P. raygabrielii* sp. n. has *c.* 75 cuspules, whereas that of the similarly sized *P. andrewsmithi* sp. n. has *c.* 45 cuspules. For these biogeographical and morphological reasons *Pterinochilus raygabrielii* sp. n. and *P. andrewsmithi* sp. n. are described as separate species.



Figs. 9–10: *Pterinochilus andrewsmithi* sp. n. **9** Carapace, lateral view; **10** Spermathecae, dorsal view. Scale lines=2.5 mm (9), 1 mm (10).

Acknowledgement

Thanks are due to Janet Beccaloni for providing access to the arachnid collections at the Natural History Museum, London.

References

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