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On *Afromygale*, a new mygalomorph spider genus from East Africa (Araneae: Pycnothelidae)

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ABSTRACT

A new Afrotropical mygalomorph, *Afromygale* n. gen., is established for two newly discovered species, the type species *A. rukanga* n. sp. (Kenya) and *A. pinnipalpis* n. sp. (Tanzania); both described from single males. The diagnoses, illustrated descriptions and the presently available data on the relationships and distribution of these species are provided. Despite having some ambiguous features, the new genus is tentatively assigned to the Pycnothelidae. Like the known pycnothelid genera, *Afromygale* lacks the cheliceral rastellum and the metatarsal preening combs and has a reduced unpaired claws on tarsi I–IV. Males of *Afromygale* differ from other pycnothelid males in having a characteristic pterygoid keel at the base of the embolus.

KEYWORDS: Biodiversity, Mygalomorphae, new genus, new species, taxonomy, Afrotropical, Kenya, Tanzania.

INTRODUCTION

The spider family Pycnothelidae Chamberlin, 1917 is currently known to include six genera and 81 species distributed exclusively in the Southern Hemisphere (World Spider Catalog 2020). Originally described as a subfamily of Aviculariidae (=Theraphosidae; Chamberlin 1917), this taxon was then raised up to the family rank (Petrunkevitch 1928) but later transferred to the Nemesiidae, being considered again as a subfamily (Raven 1985). Very recently, however, it has been revalidated in the family rank (Opatova *et al*. 2020).

Unlike better investigated Australia, New Zealand and South America, the pycnothelid fauna of Africa looks to be less well studied. Within mainland Africa, pycnothelids were thought to occur only in the far southwest of the continent (three species of the endemic African genus *Pionothele* Purcell, 1902 distributed from western Namibia to the Western Cape of South Africa). None of the pycnothelids and their relatives previously included in the Nemesiidae *sensu lato* has hitherto been known from West, Central and East Africa north of Namibia, Zimbabwe and Mozambique. Hence, the occurrence of two new mygalomorph species, belonging most seemingly to the Pycnothelidae, in the materials from Kenya and Tanzania is of great interest.

The further examination revealed that both these species belong to the same genus, which has not been yet described. In this study the diagnoses and descriptions of the genus and the included species are provided, and the currently available data on their relationships are briefly discussed.

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MATERIAL AND METHODS

The specimens used for the study were borrowed from the spider collections of the Royal Museum for Central Africa in Tervuren, Belgium, and of the Senckenberg Research Institute and Museum in Frankfurt am Main, Germany. After publication, they are intended to be returned, being designated as the holotypes, into the corresponding collections.

The acronyms of museum collections mentioned in the text are as follows: AMS – Australian Museum (Australia, Sydney); FMNH – Field Museum of Natural History (USA, Chicago); MNHN – Musée national d'Histoire naturelle (Paris, France); NCA –National Collection of Arachnida, ARC-Plant Protection Research Institute (Pretoria, South Africa); RMCA – Royal Museum for Central Africa (Tervuren, Belgium); SFM – Senckenberg Museum (Frankfurt-on-Main, Germany); SMNH – Steinhardt Museum of Natural History (Tel Aviv, Israel); ZMUT – Zoological Museum, the University of Turku (Turku, Finland).

The following comparative material has been examined:

Family Bemmeridae Simon, 1903

Atmetochilus lehtineni Zonstein & Marusik, 2016: 1♂ **Indonesia:** Sumatra Isl., Sumatra Utara Province, Pisarani, 22.ix.1978, P. Lehtinen (ZMUT).

Spiroctenus sp.: 1♂ **South Africa:** *KwaZulu-Natal*: Sani Pass, 1–30.ix.2007, D. Prentice (NCA 2008/3423).

Family Cyrtaucheniidae Simon, 1889

Acontius nimba Zonstein, 2018: ♂ holotype, **Guinea:** *Nzérékoré Region*: Nimba Mts, Mount Nimba Nature Reserve, 1500 m, 1–31.xii.1957, M. Lamotte (SMF).

Ancylotrypa elongata Purcell, 1908: 2♂ **Botswana:** *Kgalagadi District*: Kalahari Desert, Lotlhake Pan, 19–28.vii.1973, R. Hakanen (ZMUT).

Ancylotrypa sp. aff. *fasciata* Fage, 1936: 5♂ **Kenya:** *Kirinyaga County*: Mt Kenya, Castle Forest Lodge, 1985 m, 21–28.vi.2004, R. Jocqué, C. Warui & D. Van den Spiegel (RMCA-ARA-215347).

Ancylotrypa sp. aff. *granulata* (Hewitt, 1935): 2♂ **Namibia:** *Oshikoto Region*: Etosha Nat. Park, Beisebvlakte, 10–14.xi.1996, A. Russell-Smith (RMCA-ARA-215431).

Ancylotrypa sp. aff. *kankundana* Roewer, 1953: 4♂ **Burundi:** *Cibitoke Province*: Kibira Nat. Park, Rwegura, 2100 m, 10.i.2009, B. Nzigidahera (RMCA-ARA-226883).

Ancylotrypa zebra (Simon, 1892): 1♂ **Mozambique:** *Maputo Province*: Inhaka, 8–22.i.1994, T. Steyn (RMCA-ARA-209467).

Cyrtauchenius terricola (Lucas, 1846): 4♂ **Algeria:** *Oran Province*: Oran, [no other data] (MNHN AR4296).

Family Entypesidae Opatova, Hedin & Bond, 2020

Entypesa enakara Zonstein, 2018: ♂ holotype, **Madagascar:** *Toliara Province*: Andohahela Nat. Park, Enakara, 16.xi.1992, B.L. Fisher (FMNH-INS-70174).

Entypesa schoutedeni Benoit, 1965: ♂ holotype, **South Africa:** *Limpopo*: Soutpansberg Mts., [no date], H. Schouteden (RMCA-ARA-127592).

Hermacha masoena Hewitt, 1915: 1♂ **Zimbabwe:** *Harare Province*: Harare, 1–31.viii.2007, M. Cumming (RMCA-ARA-236659).

Lepthercus sp.: 3♂ **South Africa:** *Gauteng*: Magaliesburg, 2.iv.1976, F. Wanless & A. Russel-Smith (RMCA-ARA-154430).

Family Nemesiidae Simon, 1889

Amblyocarenum walckenaeri (Lucas, 1846): 1♂ **Spain:** *Tarragona Province*: L'Aldea, 23.vii.2001, E. Gros (MNHN N/A). The species is also known from North Africa (see Decae & Bosmans 2014).

Iberesia barbara (Lucas, 1946): ♂ lectotype, **Algeria:** Oran–Alger–El Kala, 1840–1842, H. Lucas (MNHN AR5060).

Nemesia africana (C.L. Koch, 1838): 3♂ **Algeria:** *Blida Province*: Blida, 1882–1883, E. Simon (MNHN AR4304).

Family Pycnothelidae Chamberlin, 1917
Acanthogonatus sp.: 1♂ **Chile:** *Quillota Province*: Cordillera de la Costa Mts., La Campana Nat. Park, Sector Ocoa, 17–18.xii.2014, K.Y. Eskov (SMNH).
Pionothele straminea Purcell, 1902: 1♂ **South Africa:** *Western Cape*: Muizenberg, 21.iv–5.v.1991, R. Legg (RMCA-ARA-173693/a).
Pionothele capensis Zonstein, 2016: ♂ holotype, **South Africa:** *Western Cape*: Muizenberg, 21.iv–5.v.1991, R. Legg (RMCA-ARA-173693/b).
Stanwellia grisea (Hogg, 1901): ♂ **Australia:** *Victoria State*: Macedon Mts., 12.ii.1965, [no collector] (AMS-KS-8236).

Photographs were taken using a Zeiss Discovery V20 stereomicroscope with a Canon PowerShot G9 camera, or using a Canon EOS 500D camera with a Canon EF 100 mm f/2.8 macro lens for the totals, and prepared using the Helicon Focus 6.3.2 Pro (http://www.heliconsoft.com).

Measurements were taken through the above-mentioned stereomicroscope to an accuracy of 0.01 mm. All measurements are given in millimetres. Total body length includes chelicerae but not spinnerets. The diameter of the AME is usually given as the diameter of a sharply edged AME circle ('pupil'). When the AME cornea is well-separated and elevated, and its diameter could be measured, the corresponding data follow in brackets. Any eye interdistances counting this parameter are also given in brackets. The length of the sternum was measured along the straight line between the posterior tip of the sternum and the hindmost part of the labium. Lengths of the leg and palp segments were measured on the dorsal side, and lengths of spinneret segments on the ventral side, from the midpoint of the anterior margin to the midpoint of the posterior margin.

The abbreviations used in text are: AC – aciniform gland spigot(s), ALE – anterior lateral eye(s), AME – anterior median eye(s), d – dorsal, MAC – modified aciniform gland spigot(s), p – prolateral, pd – prodorsal, PLE – posterior lateral eye(s), PLS – posterior lateral spinneret(s), PME – median lateral eye(s), PMS – posterior median spinneret(s), PTC – paired tarsal claw(s), r – retrolateral, rd – retrodorsal, v – ventral.

TAXONOMY

Family Pycnothelidae Chamberlin, 1917

Genus ***Afromygale*** n. gen.

LSID: urn:lsid:zoobank.org:act:501CAA13-6CCD-403E-933C-7DF46ADBD12E.

Type species: *Afromygale rukanga* n. sp., by present designation.

Etymology: *Afromygale* is a combination of the Latinized prefix *Afro-* (that means African) and the historical genus name *Mygale* used in the first half of XIX century for most mygalomorph species known at that time (later, *Mygale* Latreille, 1802 in the Araneae was found to be preoccupied by *Mygale* Cuvier, 1800 in the Mammalia and replaced by *Avicularia* Lamarck, 1818); the gender is feminine.

Diagnosis: A controversial set of the diagnostic characters found in members of *Afromygale* n. gen. could indicate their similarity to several mygalomorph families (see Discussion). Nevertheless, the genus can be easily distinguished from all other

groups of African mygalomorphs where spiders are known to possess tarsi I–IV provided with the biserially toothed paired claws and lacking tarsal tufts:

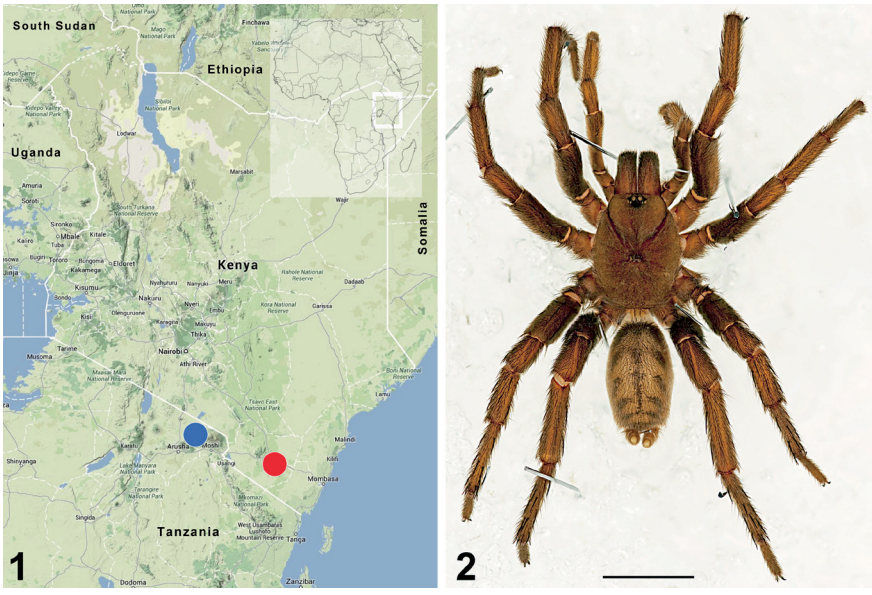
(a) from the Cyrtaucheniidae (*Cyrtauchenius* Thorell, 1869, *Acontius* Karsch, 1879 and *Ancylotrypa* Simon, 1889) – by a well defined and highly elevated eye tubercle, by a short and straight thoracic fovea and by the absence of a true cheliceral rastellum;

(b) from the Entypesidae (*Hermacha* Simon, 1889, *Entypesa* Simon, 1902 and *Lepthercus* Purcell, 1902) – by a considerably shorter apical segment of PLS (triangular vs. digitiform) and by the absence of the metatarsal preening combs;

(c) from the Bemmeridae (*Spiroctenus* Simon, 1889, where males possess teeth on the tarsal claws arranged in one S-shaped row, and *Homostola* Simon, 1892, where the male characters are unknown) – by an elevated eye tubercle, by the absence of both the metatarsal preening combs and a well-developed rastellum, and by the biserially toothed tarsal claws in males;

(d) from the Nemesiidae (North-African species of *Nemesia* Audouin, 1826, *Iberesia* Decae & Cardoso 2006, and *Amblyocarenum* Simon, 1892) – by a shorter straight thoracic fovea, by a much longer and slender male palpal tibia, by the absence of cheliceral rastellar teeth, and from members of the first two genera – by an unmodified male tibia I lacking megaspines;

(e) from *Pionothele* Purcell, 1902 (the only African genus of Pycnothelidae known hitherto), which species share with members of *Afromygale* n. gen. a reduced un-



Figs 1, 2: *Afromygale* n. gen.: (1) localities of *A. rukanga* n. sp. (red circle) and *A. pinnipalpis* n. sp. (blue circle); (2) *A. rukanga* n. sp., habitus of the holotype male in dorsal aspect. Scale bar = 5.0 mm.

paired tarsal claws – in having an anteriorly narrowed sternum, acuspulate maxillae and thickened legs III–IV vs. subcircular sternum, armed maxillae and equally slender legs I–IV in males of *Pionothele* spp. (Figs 2, 6, 14 cf. Figs 24, 34; Zonstein 2016, figs 1, 4, 9, 12; Bond & Lamb 2019, figs 2, 3).

Additionally, males of *Afromygale* n. gen. differ from all other male pycnothelids in having a very characteristic pterygoid (or a fin-shaped) keel located at the base of the embolus. The similar structures, one or several, if present in males in other pycnothelid genera are differently constructed (Figs 9, 10, 17, 18 cf. Forster 1968, figs 451–453; Main 1972, figs 10, 14, 18, 20; Goloboff 1995, figs 66A–C, 67E, 74C–E, 80E–G, 95E, 96D, Passanha *et al*. 2014, figs 4–6, 9–11, 13, 24–26, 29–31, 34–36, 39–41, 44–46, 48–50, 53–55; Pérez-Miles *et al*. 2014, fig. 4A; Indicatti *et al*. 2017, figs 7–9, 12–14, 17–19, 21, 22, 41–46, 49–51, 56–58.

Description: Medium-sized mygalomorphs (body length 14.8–16.8 mm). Carapace low, oval and densely hirsute, with cephalic part almost indistinctly elevated over thoracic portion. Clypeus narrow. Thoracic fovea short, deep and straight. Eye tubercle, carrying all eight eyes, well defined and highly elevated. Chelicerae without mound and rastellar spines or teeth; dorsodistal cheliceral edge with dense brush of thickened hairs and spikes. Fang without serration. Labium moderately long and narrow, nearly subquadrate, without cuspules. Sternum narrowed anteriorly. Labiosternal sigilla fused. Anterior and medium sternal sigilla small submarginal. Posterior sternal sigilla minute, oval and located remotely from sternal margin. Maxillae trapezoidal, acuspulate at least in males. Male palpal tibia long, slender and subcylindrical, without spines. Cymbium short, subglobular and aspinose. Embolus tapered with one pronounced keel at its base. Leg formula 4123, legs III and IV insufficiently thicker than legs I and II. Male tibia I unmodified, without megaspines. Metatarsal preening combs absent. Metatarsi I–IV ventrally either entirely ascopulate or with a few scopuliform hairs near distal edge. Male tarsi I–IV flexible and pallid ventrally (*A. pinnipalpis* n. sp.) or rather entire and rigid (*A. rukanga* n. sp.). Short, fine, entire and relatively dense ventral scopula well developed on tarsi I–III but absent on tarsus IV. Trichobothria arranged in two convex rows on tibiae, one straight row on metatarsi and one relatively narrow zigzag row on tarsi. Tarsal organ low and domed. Paired claws on tarsi I–IV broad and biserially dentate with numerous teeth. Unpaired tarsal claw always present, though reduced in size (more in *A. pinnipalpis* n. sp., less in *A. rukanga* n. sp.), and very sharply curved downwards. Two pairs of spinnerets: PMS medium-sized, PLS relatively thick and short with apical segment certainly shortened. All spigots uniform and visually appear belonging to the same type (MAS not evident, only AC type present). State of maxillary serrula, male intercheliceral glands and female characters unknown.

Species included: *A. pinnipalpis* n. sp. and *A. rukanga* n. sp., both currently known only from males.

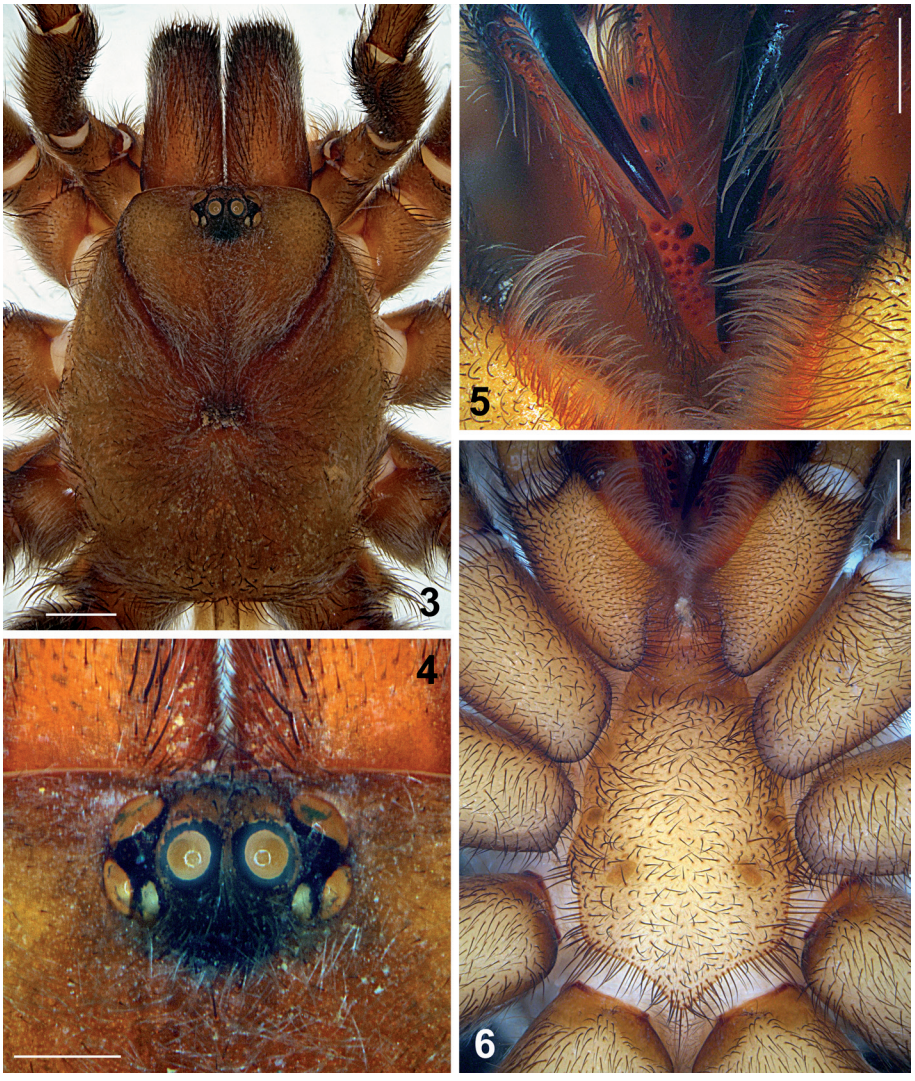
Distribution: Southern Kenya and northeastern Tanzania (Fig. 1).

Afromygale rukanga n. sp.

(Figs 2–11)

LSID: urn:lsid:zoobank.org:act:8BB71496-EF44-4006-82C7-2BF0F460BA2F.

Etymology: The specific epithet is a toponym (a noun in apposition) referring to the type locality: the environs of the Rukanga village.



Figs 3–6: *Afromygale rukanga* n. sp., male holotype (RMCA-ARA-213003): (3, 6) cephalothorax, dorsal and ventral, respectively; (4) eye tubercle, dorsal; (5) chelicerae, ventral. Scale bars for Figs 3, 6 = 1.0 mm, for Figs 4, 5 = 0.5 mm.

Diagnosis: The new species differs from *Afromygale pinnipalpis* n. sp. by a posteriorly narrower sternum, as well as by a number of the male characters: a relatively narrow (as broad as long) tegulum, an angularly ending embolic keel, and a longer distal portion of the embolus (vs. a posteriorly broader sternum, a broader than long tegulum, an obtuse-ending keel, and a shorter distal embolus; Figs 6, 9, 10 cf. Figs 15, 19, 20).

Description: Male (holotype). Total length 16.75. Habitus as in Fig. 2.

Colour in alcohol: carapace and most part of palps and legs medium ginger brown; eye tubercle brown to dark brown; chelicerae medium reddish brown; labium brownish orange; sternum, all coxae including maxillae, palpal tibia, cymbium, metatarsi and tarsi of legs I–IV yellowish brown; abdomen ventrally light brownish orange with pale brownish yellow spinnerets, dorsally light greyish brown with brown pattern consisting of narrow interrupted longitudinal median stripe and several pairs of lateral spots.

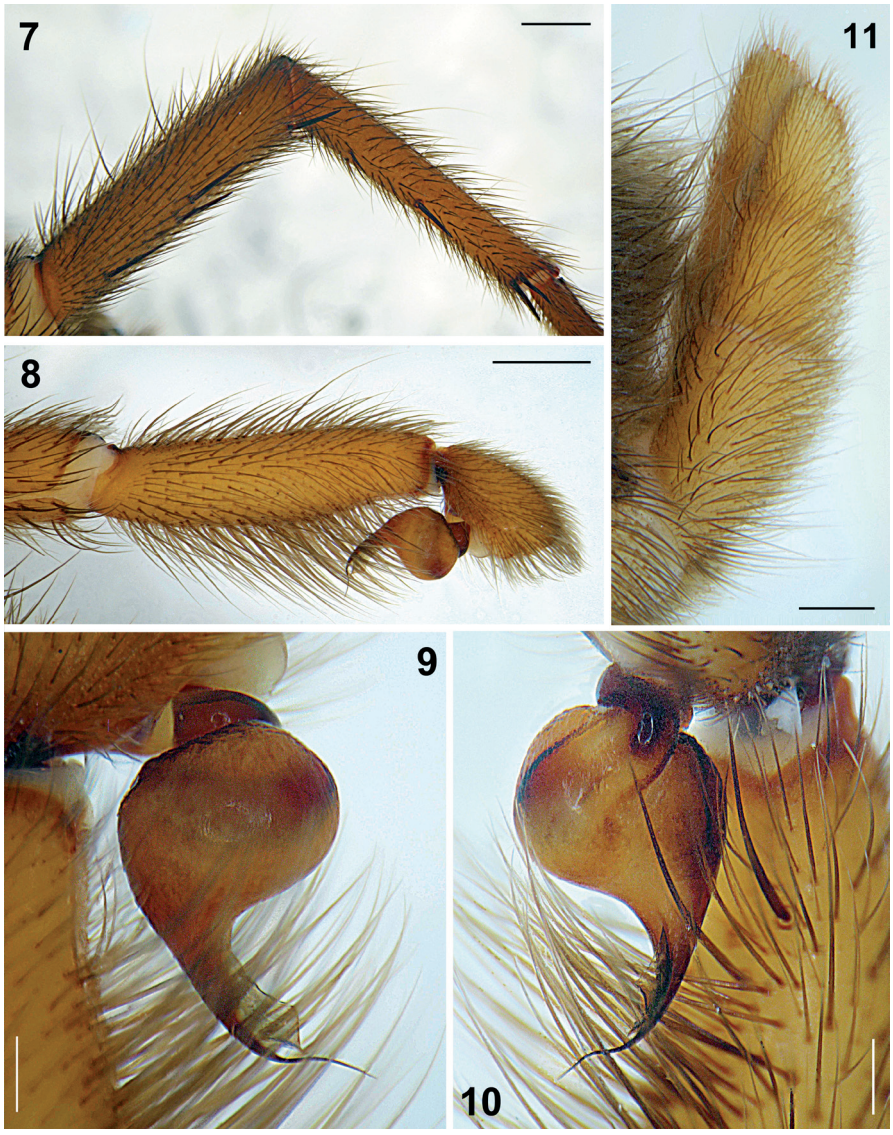
Cephalothorax dorsally and ventrally as in Figs 3 and 6, respectively. Carapace 6.62 long, 5.13 wide. Eye tubercle as in Fig. 4. Eye diameters and interdistances: AME 0.23 (0.31), ALE 0.32, PLE 0.26, PME 0.15, AME-AME 0.16 (0.08), AME-ALE 0.14 (0.10), ALE-PLE 0.09, PLE-PME 0.05, PME-PME 0.62. Cheliceral furrow with 8 promarginal teeth and 20–22 minute mesobasal denticles (Fig. 5). Male intercheliceral tumescence not reliably evident. Labium 0.82 long, 1.11 wide. Sternum 3.56 long, 2.52 wide.

Palp and leg structures. Tibia and metatarsus I as in Fig. 7. Spines (entire palp and tarsi I–III aspinose). Leg I: femur d1–1–1–1–1, pd0–1–1, rd0–1–1; patella p0–1; tibia p1(0)–1(0)–1, v1(0)–2(1)–2; metatarsus p1–1(0), v1–1–3. Leg II: femur d1–1–1–1, pd0–1–1, rd1(0)–1–1(0); patella p0–1; tibia p0–1–1, v2–2–3; metatarsus p1–1, v2–2–3. Leg III: femur d1–1–1–1, pd1–1–1, rd1–1–1; patella p1–1; tibia d1–1, p1–1–1(2), r1–1, v2–2–3; metatarsus d1–1–2, p1–1–1–1, r1–1–1, v2–2–3. Leg IV: femur d1–1–1–1–1–1(0), pd0, rd1–1–1; tibia p0–1–1–0, r0–1–1–0, v2–2–3; metatarsus d0–1–1–1, p1–1–1–1, r1–1–1, v2–2–3; tarsus r1. Trichobothria: 2 rows of 11–13 each on tibiae I–IV (7–8 in each row on palpal tibia), 15–18 on metatarsi, 12–14 on tarsi, 9 on cymbium. Scopula entire on tarsi I–III, distal and rudimentary on metatarsi I and II, absent on tarsus IV. PTC I–IV: outer and inner margins with 7–8 and 6–7 teeth, respectively. Unpaired claw on tarsi I–IV present, less reduced in size than in following species. Leg measurements:

	Palp	I	II	III	IV
Femur	4.26	5.95	5.32	4.58	6.69
Patella	2.16	3.09	2.32	2.27	3.08
Tibia	2.91	4.02	3.80	3.11	5.03
Metatarsus	–	4.41	4.08	4.57	6.37
Tarsus	1.12	2.60	2.56	2.74	3.12
Total	10.45	20.07	18.08	17.27	24.29

Distal segments of pedipalp and copulatory organ as in Fig. 8. Embolus tapering and slightly twisted, basoventrally with pterygoid membranous keel having longitudinal fold and acute distalmost edge (Figs 9, 10).

Spinnerets (Fig. 11). PMS: length 0.69, diameter 0.26. PLS: maximal diameter 0.79; length of basal, medial and apical segments 1.30, 0.72, 0.73; total length 2.75; apical segment triangular.



Figs 7–11: *Afromygale rukanga* n. sp., male holotype (RMCA-ARA-213003): (7) tibia and metatarsus I, retrolateral aspect; (8) distal segments of pedipalp, showing palpal organ, retrolateral; (9, 10) palpal organ, retrolateral and ventral, respectively; (11) spinnerets, lateral. Scale bars for Figs 7, 8 = 1 mm, for Figs 9, 10 = 0.25 mm, for Fig. 11 = 0.5 mm.

Female. Unknown.

Holotype: ♂ **Kenya:** *Taita-Taveta County*: Mt Kasigau 1–3 km SE Rukanga Village, 3°50'S 38°39'E, pitfall trap, 1–7.xii.2001, E. Selempo (RMCA-ARA-213003). The holotype is in a good condition.

Distribution: The species is known only from the type locality.

Ecology: According to the label data, the holotype was collected in a pitfall trap in the montain forest. The label does not mention the altitude, but in conformity with the Google Earth satellite imagery data its possible range should be limited to values from 1500 m (the summit of Mt Kasigau) to 600 m (the altitude of the surrounding cultivated plains).

Afromygale pinnipalpis n. sp.

(Figs 12–21)

LSID: urn:lsid:zoobank.org:act:7109E3DB-243C-4AB2-98EB-77A459624647.

Etymology: The species name is a Latin adjective composed of nouns *pinna* (a fin) and *palpus* (a palp), thus meaning 'fin-palped'. The specific epithet refers to a fin-shaped membranous embolic keel characteristic for this species.

Diagnosis: The new species differs from *Afromygale rukanga* n. sp. by a posteriorly broader sternum, as well as by a number of the male characters: by a relatively wide (broader than long) tegulum, an obtuse-ending embolic keel, and a shorter distal portion of the embolus (vs. a posteriorly narrower sternum, a narrower tegulum, an angularly ending keel, and a longer distal embolus; Figs 15, 19, 20 cf. Figs 6, 9, 10).

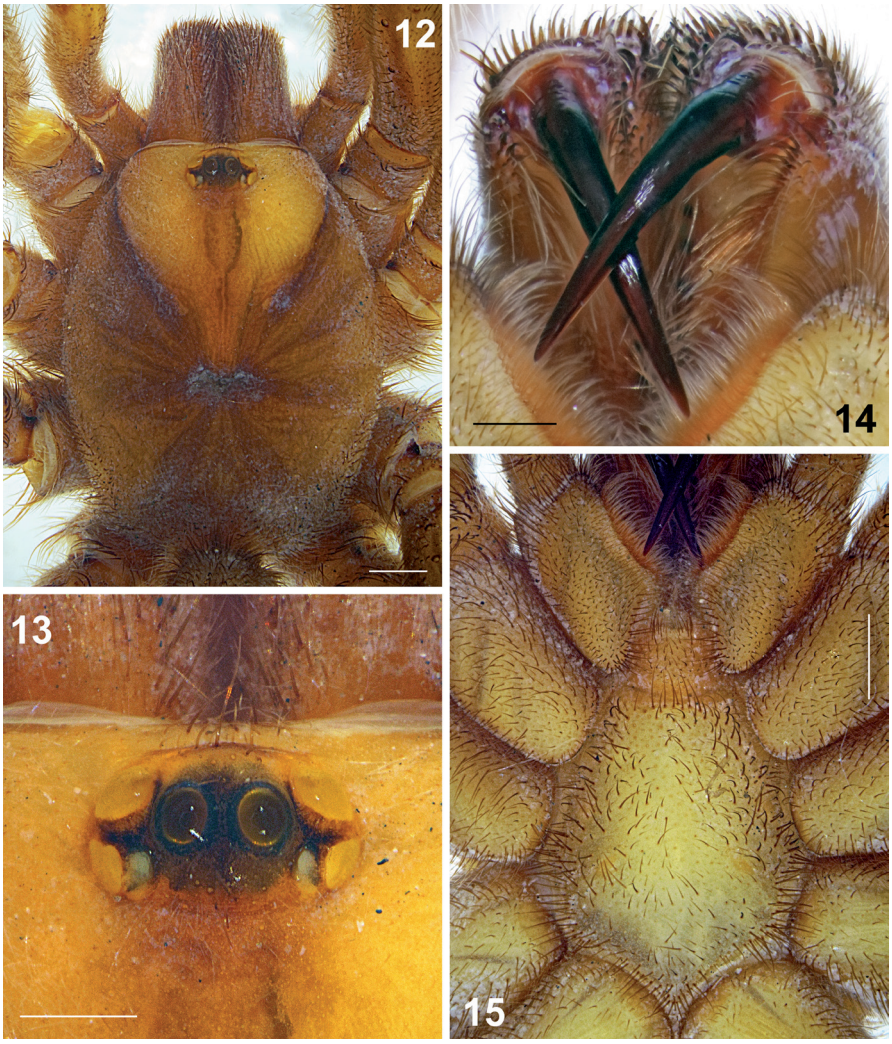
Description: Male (holotype). Total length 14.80.

Colour in alcohol: carapace and most part of palps and legs medium to dark ochre brown, with cephalic portion of carapace noticeably lighter than thoracic part; darkened eye tubercle brown; chelicerae dark brownish orange; labium, sternum, all coxae including maxillae, entire palp, and distal segments of legs I–IV pale yellowish brown; abdomen and spinnerets pale ochre brown, darker brown dorsal abdominal pattern, as in preceding species, formed by narrow dashed median stripe and several pairs of short lateral chevrons.

Cephalothorax dorsally and ventrally as in Figs 12 and 15, respectively. Carapace 6.61 long, 6.18 wide. Eye tubercle as in Fig. 13. Eye diameters and interdistances: AME 0.24 (0.32), ALE 0.32, PLE 0.25, PME 0.18, AME-AME 0.12 (0.04), AME-ALE 0.07 (0.03), ALE-PLE 0.09, PLE-PME 0.03, PME-PME 0.61. Chelicerae, each carrying dense brush of partially broken setae on distal edge, as in Fig. 14. Cheliceral furrow with 7–8 promarginal teeth and about 30 mesobasal denticles arranged as in *A. rukanga* n. sp. Male intercheliceral tumescence and maxillary serrula indiscernible. Labium 0.81 long, 1.34 wide. Sternum 3.54 long, 3.02 wide.

Palp and leg structures. Tibia and metatarsus I as in Fig. 16; tarsus I as in Fig. 17. Spines (palpal patella and patella IV, palpal tibia, cymbium and tarsi I–IV aspinose): Palp: femur d0–1–1–1, pd1. Leg I: femur d1–1–1–1, pd0–1(0)–1, rd1(0)–1–0; patella

p1; tibia p0–1–1, v2–2–1; metatarsus p0–1–0, v0–1–2. Leg II: femur d1–1–1–1, pd1–1–0, rd0–1–0; patella p0–1; tibia p0–1–1, v2–2–3; metatarsus p1–1–1, v2–2–2. Leg III: femur d1–1–1–1, pd1–1–0, rd0–1–0; patella p2(1)–2(1)–2; tibia d1–1, p1–1, r1–1, v2–2(1)–2; metatarsus d1–1–1, p1–1–1–1, r1–1–1, v2–1–2. Leg IV: femur d1–1–1–1, rd0–0–1; tibia p0–1–1, r1–1–1, v2–2–3(2); metatarsus d1–1–1, p1–1–1, r1–1–1, v2–1–0–1–3. Trichobothria: 2 rows of 7–8 each on tibiae I–IV (6–7 in each of two rows on palpal tibia), 10–12 on metatarsi, 12–15 on tarsi, 8–9 on cymbium.



Figs 12–15: *Afromygale pinnipalpis* n. sp., male holotype (SFM 3122): (12, 15) cephalothorax, dorsal and ventral, respectively; (13) eye tubercle, dorsal; (14) chelicerae, ventral. Scale bars for Figs 12, 15 = 1.0 mm, for Figs 13, 14 = 0.5 mm.

Scopula entire on tarsi I–III, absent on metatarsi I–IV and on tarsus IV. PTC I–II and III–IV with 7–9 and 6–8 teeth on each margin, respectively. Unpaired claw on tarsi I–IV very small, more reduced in size than in preceding species.

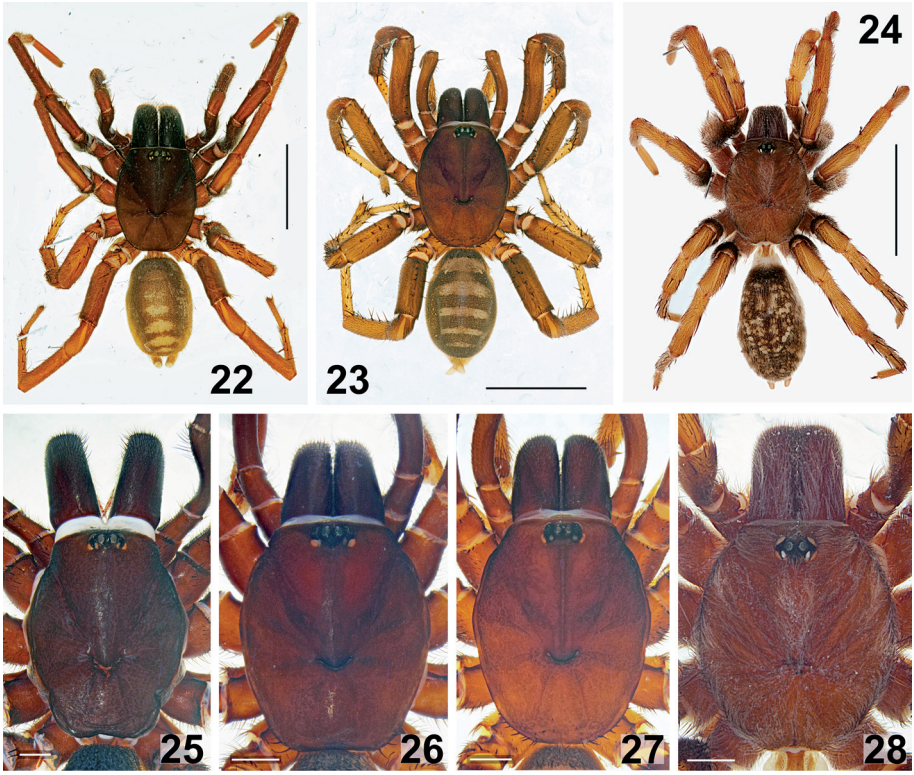
Figs 16–21: *Afromygale pinnipalpis* n. sp., male holotype (SFM 3122): (16) tibia and metatarsus I, retrolateral aspect; (17) distal metatarsus and tarsus I, retrolateral; (18) distal segments of pedipalp, showing palpal organ, retrolateral; (19, 20) palpal organ, retrolateral and ventral, respectively; (21) spinnerets, lateral. Scale bars for Figs 16–18, 21 = 1 mm, for Figs 19, 20 = 0.25 mm.

Leg measurements:

	Palp	I	II	III	IV
Femur	4.48	5.91	5.52	4.69	6.60
Patella	2.19	2.74	2.49	2.14	2.76
Tibia	3.18	4.10	3.69	2.89	4.94
Metatarsus	–	4.27	3.97	4.38	5.75
Tarsus	1.12	2.43	2.40	2.49	2.78
Total	10.97	19.45	18.07	16.59	22.83

Distal segments of pedipalp and copulatory organ as in Fig. 18. Embolus short, tapering and curved, carrying proximally longitudinal and semi-transparent membranous keel with obtuse distalmost edge (Figs 19, 20).

Spinnerets (Fig. 21). PMS: length 0.69, diameter 0.28. PLS: maximal diameter 0.68; length of basal, medial and apical segments 1.27, 0.67, 0.72; total length 2.66; apical segment triangular.



Figs 22–28: Cyrtaucheniid and pycnothelid males, habitus (22–24) and cephalothorax in dorsal aspect (25–28): (22) *Acontius nimba* Zonstein, 2018 (holotype, SMF); (23, 27) *Ancylotrypa zebra* (Simon, 1892) (RMCA); (24, 28) *Pionothele capensis* Zonstein, 2016 (RMCA); (25) *Ancylotrypa* sp. aff. *granulata* (Hewitt, 1935); (26) *Ancylotrypa* sp. aff. *kankundana* Roewer, 1953. Scale bars for Figs 22–24 = 5 mm, for Figs 25–28 = 1 mm.

Female. Unknown.

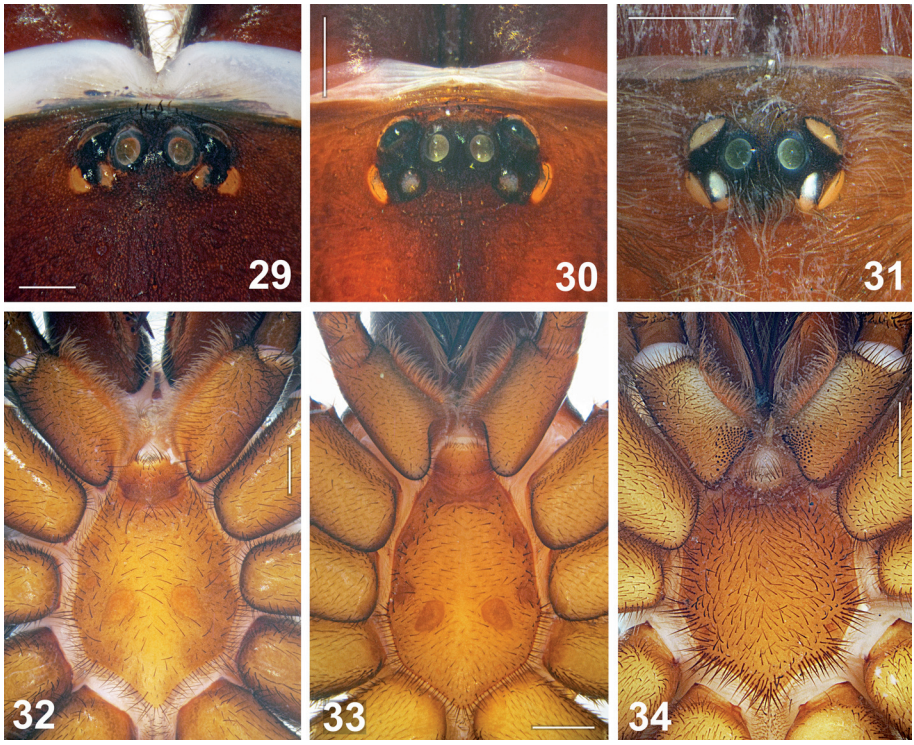
Holotype: ♂ **Tanzania:** *Arusha Region*: surroundings of Arusha ("Ost-Afrika, Arüscha", according to the original label), collector and collection date remain unknown, most probably the spider was collected during the German Ost-Afrika period, between 1890 and 1914 (SFM 3122). This specimen stored in alcohol for several decades was found to be somewhat bleached and contaminated by debris; the left legs are partially separated and kept together with the spider in the same vial: femur to tarsus I, metatarsus and tarsus II, tibia to metatarsus III, and tarsus IV.

Distribution: The species is known only from the type locality.

Ecology: Unknown.

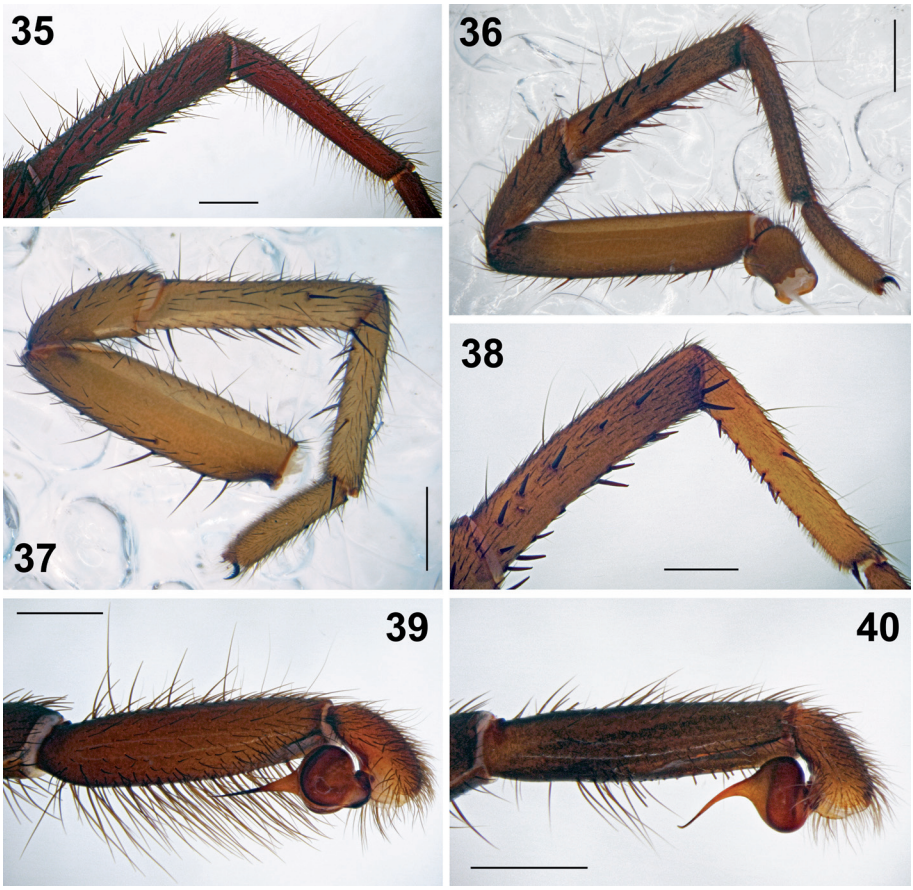
DISCUSSION

It should be noted that the studied spiders were found already identified and labeled as representatives of the Cyrtaucheniidae: *Afromygale rukanga* n. sp. as a member of the family without details, while *A. pinnipalpis* n. sp. as *Ancylotrypa* sp. This preliminary assignment of the specimens was evidently based on their most visible and most conspicuous features. At first impression, due to the possession of



Figs 29–34: Cyrtaucheniid and pycnothelid males, eye tubercle, dorsal (29–31), sternum, labium and maxillae, ventral (32–34): (29, 32) *Ancylotrypa* sp. aff. *granulata* (Hewitt, 1935); (30, 33) *A. zebra* (Simon, 1892); (31, 34) *Pionothele capensis* Zonstein, 2016. Scale bars for Figs 29–31 = 0.5 mm, for Figs 32–34 = 1 mm.

a subquadrate labium, an anteriorly narrowed sternum, widened legs III–IV and a shortened apical segment of the PLS, both males actually do resemble cyrtaucheniids rather than members of any other allied group (e.g., Figs 6, 15 cf. Figs 32, 33). In addition, *Afromygale* n. gen. and male cyrtaucheniids share a short, thin and relatively dense scopula on tarsi I and II, and almost completely ascopulate metatarsi I–IV; males of *Ancylotrypa* spp. are also known to possess acuspulate maxillae (Dippenaar-Schoeman 2002). The Afrotropical male cyrtaucheniids are also similar to males of *Afromygale* n. gen. in having the tibia I lacking well-defined megaspines (as in Figs 35–38). Additionally, some species of *Ancylotrypa* are also found to have a fairly slender subcylindrical male palpal tibia somewhat resembling that in *Afromygale* spp. (Figs 39, 40 cf. Figs 8, 18).



Figs 35–40: *Ancylotrypa* spp., males, tibia and metatarsus I, prolateral (35, 38), entire leg I, prolateral (36, 37) and distal segments of palp, retrolateral (39, 40): (35, 39) *Ancylotrypa* sp. aff. *granulata* (Hewitt, 1935); (36, 40) *Ancylotrypa* sp. aff. *kankundana* Roewer, 1953; (37) *Ancylotrypa* sp. aff. *fasciata* Fage, 1936; (38) *A. zebra* (Simon, 1892). Scale bars = 1 mm.

However, both cyrtaucheniid genera undoubtedly belonging to this family (i.e., *Cyrtauchenius* and *Ancylotrypa*, see Opatova *et al*. 2020) and a questionable cyrtaucheniid *Acontius* share a mostly hairless carapace with a certainly elevated cephalic part, a low eye tubercle and a fairly wide procurved thoracic fovea (Figs 22, 23, 25–30). This combination of characters clearly contradicts their states detected in *Afromygale* n. gen.

Contrary to the above, the observed states of some characters can bring the new genus closer to members of the Pycnothelidae. In addition to a low hirsute carapace, an elevated eye tubercle and a short straight thoracic fovea (that can also indicate a similarity to several genera of the Nemesiidae), *Afromygale* n. gen. resembles pycnothelids in possessing both a small unpaired claw on tarsi I–IV, this reduced in size, and longitudinal keels or flanges generally located close to the base of the embolus. The latter structures are widely distributed throughout the family, although they have not hitherto been perceived within a few pycnothelid groups (particularly, they are absent in all known *Pionothele* spp.). In some genera of the Pycnothelidae, e.g. in *Acanthogonatus* Karsch, 1880, the unpaired tarsal claw looks to be even noticeably larger than that in *Afromygale* n. gen. (Fig. 17, cf. Indicatti *et. al*. 2015, fig. 5). Other characters of the studied genus making its allocation among the pycnothelid genera more preferable than alternative assignments listed in the generic diagnosis.

According to Opatova *et. al*. (2020), the current status of most nemesiid genera, which are now listed in the Nemesiidae as the genera *insertae sedis*, remains to be clarified. Further research could help in a better placement of those genera; this also refers to the genera of some related groups including the Pycnothelidae. Under the present circumstances, a tentative placement of *Afromygale* n. gen. among the Pycnothelidae seems to be the most reasonable solution. Later, especially once females are discovered and examined, this preliminary assignment can be confirmed, refined, or revised.

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