

A revision of African mynogenines (Araneae: Linyphiidae: Mynogeninae)

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Summary

This paper deals with a collection of mynogenines from eastern central Africa, mainly from Ruwenzori, Congo, and neighbouring regions. Twelve new species of *Afroneta* Holm are described and figured: *A. elgonensis* sp. n., *A. pallens* sp. n., *A. tenuivulva* sp. n., *A. lobeliae* sp. n., *A. erecta* sp. n., *A. annulata* sp. n., *A. fulva* sp. n., *A. maculata* sp. n., *A. lativulva* sp. n., *A. tristis* sp. n., *A. fusca* sp. n. and *A. subfuscoides* sp. n. One further new species of *Afroneta*, *A. immaculoides* sp. n., was found among the paratypes of *A. immaculata* Holm. The male of *A. guttata* Holm and the females of *A. subfusca* Holm and *Trachyneta extensa* Holm are described for the first time.

A new genus, *Gibbafroneta*, is established for *G. gibbosa* sp. n., and a second species of *Trachyneta* Holm, *T. jocquei* sp. n., is also described. *Afroneta bidentata* Holm, *A. brevistyla* Holm and *A. locketi* Merrett & Russell-Smith are transferred to the new genus *Laminafroneta*.

New figures and supplementary descriptive notes are provided for *Afroneta immaculata* Holm, *A. praticola* Holm, *A. picta* Holm, *A. longispinosa* Holm, *A. altivaga* Holm, *A. basilewskyi* Holm and *A. bamilekei* Bosmans. Identification keys are given to the males and females of all 32 known species of African mynogenines.

Introduction

Linyphiid spiders of the subfamily Mynogeninae, which are characterised primarily by the presence of a pair of sulci on the clypeus below the anterior lateral eyes, are of Gondwanan origin, and are especially numerous in New Zealand, from where 64 species in 12 genera were described by Blest (1979) and a further 26 species were added by Blest & Vink (2002, 2003). Mynogenines also appear to be common, especially in montane habitats, in eastern and central Africa. Ten species of *Afroneta* Holm and one species of *Trachyneta* Holm were described from east and central Africa (eastern Congo, Kenya, Tanzania and Cameroon) by Holm (1968), and one further species of *Afroneta* was added by Bosmans (1988) from Cameroon. Merrett & Russell-Smith (1996) described four more species of *Afroneta* and one species of the new genus *Fromynoglenes* from Ethiopia.

This paper describes a collection of mynogenines deposited in the Koninklijk Museum voor Midden-Afrika, Tervuren, Belgium, most of which were collected by M. Lejeune on Ruwenzori, eastern Congo, in 1974. Some smaller collections were made by M. Lejeune and R. Jocqué elsewhere in eastern Congo and in Rwanda and Malawi. A few other specimens collected in the 1950s in Kenya, Tanzania and Congo, but apparently not seen by Holm, were also included. All of the holotypes and some of the paratypes of the species described by Holm (1968) and Bosmans (1988) were also examined and redrawn.

The new material included 12 new species of *Afroneta*, one new species of *Trachyneta*, and one new species of the new genus *Gibbafroneta*. One further new species of *Afroneta* was found among the paratypes of *A. immaculata* Holm, and the male of *A. guttata* Holm and females of *A. subfusca* Holm and *Trachyneta extensa* Holm are also described for the first time. In addition, *Afroneta bidentata* Holm, *A. brevistyla* Holm and *A. locketi* Merrett & Russell-Smith are transferred to the new genus *Laminafroneta*.

Thus, the total number of species of African mynogenines is now 32 (*Afroneta* 25, *Laminafroneta* 3, *Trachyneta* 2, *Gibbafroneta* 1 and *Fromynoglenes* 1). Of the 25 species of *Afroneta*, 12 are known only from females, and 2 only from males, but the species in the other genera are all known from both sexes.

There is a considerable range of diversity among the species currently included in *Afroneta*, and almost certainly the genus will eventually have to be split into several genera. However, most of the species which remain in *Afroneta* lack clearly distinctive characters which could be used to define genera, and the large proportion of species which are known only from females also makes it difficult to establish their relationships satisfactorily. Nevertheless, an attempt has been made here to indicate several species groups, which include only some of the species but which might eventually form the basis of new genera when the group is better known.

The new genus *Laminafroneta* is erected to accommodate three species originally described in *Afroneta*. These are distinguished by the male palp having a sclerotised conductor which forms a leaf-like separate sclerite partially enclosing the embolus, and in the female by the absence of a central scape on the dorsal plate of the epigyne. The separate sclerotised conductor is possibly homologous with that seen in *Trachyneta*, but the two genera differ greatly in other characters. Holm (1968) also noted this similarity in his description of *Trachyneta*.

The genus *Trachyneta* was distinguished from *Afroneta* by Holm (1968) primarily because he thought there was only one dorsal spine on all tibiae, and because of the absence of a trichobothrium on metatarsus IV. However, as shown here, tibiae I-III have 2 dorsal spines and only tibia IV has one dorsal spine, but the separation of the genus from *Afroneta* remains valid based on this and all other characters.

Here the new monotypic genus *Gibbafroneta* is characterised mainly by the raised head in the male, which resembles that of some erigonine species, and by lacking spines on femora III-IV.

Fromynoglenes Merrett & Russell-Smith was diagnosed mainly by the exceptionally long embolus of the male palp and the very long recurved genital ducts in the epigyne of the only known species.

Material and methods

All the types of the new species described here are deposited in the Koninklijk Museum voor Midden-Afrika,

Tervuren, Belgium (MT). Some types of species described by Holm (1968) and Bosmans (1988) were also borrowed from MT and from the Evolutionsmuseet (Zoologi), Uppsala, Sweden (UZM). Most specimens were collected in the Democratic Republic of Congo, which is here referred to as "Congo" for the sake of brevity.

The nomenclature of parts of the male palp follows that used by Hormiga (1994) except that here the term "conductor" is used instead of "embolic membrane". The use of these terms is discussed at length by Hormiga, who used "embolic membrane" because the "conductor" of linyphiids is not thought to be homologous with that of araneids. However, in view of the presence of a separate sclerotised "conductor" in *Trachyneta* and *Laminafroneta*, which may or may not be homologous with the membranous structure seen in *Afroneta* species, it seems preferable to use the term "conductor" in a purely functional sense for all these structures which support or protect the distal end of the embolus in mynoglennines.

Mynoglenine epigynal and vulval structures were described by Millidge (1984, 1993). His nomenclature is followed here, but as the vulvae were cleared in clove oil *in situ* on the spider, it was not possible to see the detailed internal structure of the ducts.

Males and females were matched in most cases by similarities in their abdominal and carapace coloration, as well as by their occurrence together. For some of the *Afroneta lobeliae* group of species, which are very similar in general appearance and abdominal coloration, there are subtle differences in the markings on the carapace which are apparent when comparing specimens under the microscope, but which are impossible to describe in words or illustrate adequately. *Trachyneta extensa* is probably the only species where there might be some doubt about the matching of the sexes.

Most mynoglennines typically have single or paired basal and median spines on all leg tibiae, 2 ventral apical spines on tibiae I-II, and 2 ventral, 1 prolateral and 1 retrolateral apical spine on tibiae III-IV. In this paper the apical spines are described separately from the basal and median ventral spines. There is considerable variation in the numbers of femoral, tibial and metatarsal spines, but the spination can nevertheless be used as a diagnostic character in some cases if treated with caution.

All measurements are in mm, expressed to the nearest 0.05 mm.

Genus *Afroneta* Holm, 1968

Afroneta Holm, 1968: 21.

Type species: *Afroneta immaculata* Holm, 1968.

Diagnosis: Distinguished from the new genus *Laminafroneta* by the male palp having a wholly membranous conductor and in the female by the dorsal plate of the epigyne usually having a central scape with a socket. *Trachyneta* is separated by the presence of only one dorsal spine on tibia IV and the absence of a trichobothrium on metatarsus IV. *Gibbafroneta* is characterised by

the presence of a raised head in the male, and by the absence of spines on femora III-IV, and *Afromynoglenes* by the exceptionally long embolus and long recurved median ducts in the epigyne.

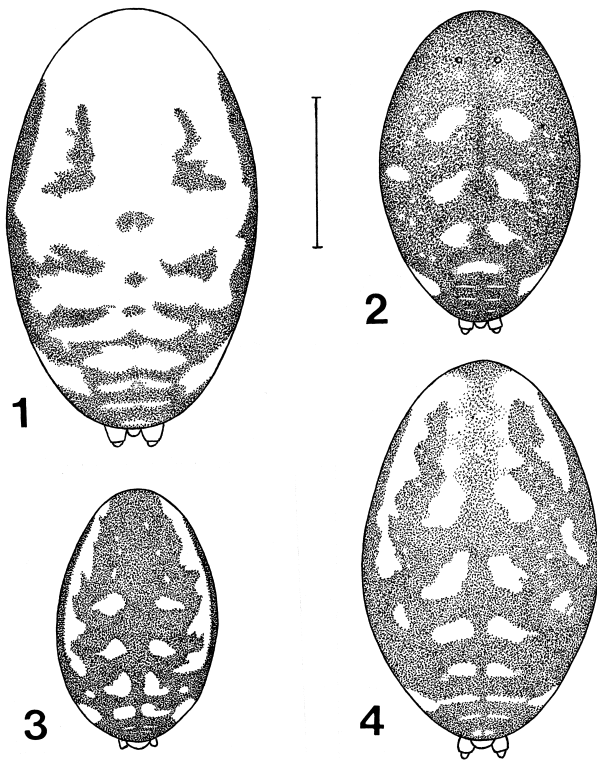
Description: The description and diagnosis provided by Holm (1968) remains valid apart from the exclusion of *A. bidentata* and *A. brevistyla* having a separate sclerotised conductor.

Species groups: As indicated in the introduction, the fact that nearly half of the known *Afroneta* species are known only from females makes it difficult to establish the relationships of many species, but some groups of related species are discernible. Here the species have been arranged initially according to their abdominal coloration and general appearance, which produces 3 rather poorly defined groups:

(1) Species with almost uniformly pale abdomens: *A. immaculata*, *A. immaculoides*, *A. elgonensis*, *A. praticola* and *A. pallens*. Of these, *A. immaculata* and *A. immaculoides* are clearly closely related, and *A. elgonensis* is probably close to *A. praticola*, but males of these two species will be needed in order to determine how closely they are related to *A. immaculata*. The male palp and epigyne of *A. pallens* are different from those of the other species in this group, and the position of this species based on colour is probably artificial. The palp, with 2 retrolateral trichobothria on the tibia, is fairly close to that of *A. subfuscooides* (group 3), and the epigyne is rather like that of *A. lativulva* (group 2), but *A. pallens* differs greatly from these species in other characters.

(2) Mainly large species with pale abdomens with dark bars or blotches dorsally (as in Fig. 1): *A. tenuivulva*, *A. lobeliae*, *A. erecta*, *A. annulata*, *A. fulva*, *A. maculata*, *A. picta*, *A. lativulva* and *A. longispinosa*. The male palps and/or epigynes of *A. tenuivulva*, *A. lobeliae*, *A. erecta*, *A. annulata* and *A. maculata* are of similar form, and these 5 species, all from Ruwenzori, are probably all closely related. The epigynes of *A. picta* and *A. lativulva* are rather less similar, as is the palp of *A. fulva*, so these 3 species are probably less closely related to the *A. lobeliae* group. The epigyne and chaetotaxy of *A. longispinosa* are strikingly different from those of all other *Afroneta* species, and its relationships are obscure.

(3) Species with dark brown or black abdomens with a series of pale spots (as in Fig. 2): *A. altivaga*, *A. basilewskyi*, *A. tristis*, *A. bamilekei*, *A. guttata*, *A. subfusca*, *A. fusca* and *A. subfuscooides*. The male palps (with 2 retrolateral trichobothria on the tibia) and epigynes of *A. guttata*, *A. subfusca* and *A. fusca* are all similar, and these 3 species are clearly closely related. The palps and epigynes of this group appear to show some resemblance to those of the New Zealand genus *Parafroneta* Blest, 1979. *Afroneta altivaga* and *A. basilewskyi*, which are known only from females, are apparently closely related to each other, with similar epigynes and chaetotaxy, but are possibly not close to the *A. guttata* group. Apart from their coloration, *A. tristis* and *A. bamilekei* show no clear relationship to any other species. The coloration of *A. subfuscooides* is very like that of *A. subfusca*, but the



Figs. 1–4: Female dorsal abdominal patterns, from slightly behind. **1** *Afroneta lobeliae* sp. n.; **2** *A. subfusca* Holm; **3** *Gibbafroneta gibbosa* sp. n.; **4** *Laminafroneta bidentata* (Holm). Scale line = 1.0 mm.

palp and epigyne are superficially closer to those of *Gibbafroneta gibbosa*, which however differs in other respects.

The three species of *Afroneta* described from Ethiopia by Merrett & Russell-Smith (1996), i.e. *A. millidgei*, *A. blesti* and *A. snazelli*, do not fit easily into any of the above groups, but *A. blesti* may belong in *Laminafroneta* (see under that genus), and *A. snazelli* could be related to *A. elgonensis* and *A. praticola*, as they are all unusual in lacking apical ventral spines on tibiae I–II and there is some similarity in the form of the epigyne.

Afroneta immaculata Holm, 1968 (Figs. 5–8)

Afroneta immaculata Holm, 1968: 22, figs. 31–36 (descr. ♂ ♀).

Types: Holotype ♂ and allotype ♀, Congo, Kivu, Uvira Terr., Itombwe, Mt. Kambekulu, June 1955, leg. N. Leleup, 03°15'S, 28°50'E (MT 131.638 and 131.639), examined. Same data, 2450 m, 1♀ paratype (UZM type 1139), examined.

Note: Two females from Congo, Kivu, Kabare Terr., Nyakasiba, 2350 m, February 1951, identified by Holm (1968) as paratypes of *A. immaculata* but not described, are here considered to be a distinct species, *A. immaculoides* sp. n.

Diagnosis: The species is diagnosed by the coloration, chaetotaxy, male palp and epigyne. The yellow-brown carapace with no clear markings and unicolorous pale abdomen distinguish *A. immaculata* from all *Afroneta* species except *A. praticola* Holm, *A. elgonensis* sp. n., *A. pallens* sp. n. and *A. immaculoides* sp. n. It can be distinguished from *A. praticola* and *A. pallens* by the

absence of metatarsal spines, and from *A. elgonensis* by the presence of a retrolateral spine on all tibiae. The male palp is also distinctive, having a very long, almost straight, embolus. The epigyne differs from that of *A. immaculoides* in having a more pronounced scape with a narrower sclerotised posterior margin, and by the spermathecae being larger in relation to the median ducts.

Description: Both sexes described by Holm (1968). **Supplementary notes:** **Male:** Palp as in Figs. 5–6. Tegular apophysis, conductor and embolus all long and smoothly tapering. Paracymbium with deep notch. Tibia with 3 retrolateral trichobothria.

Female (allotype): Eyes: AME very small, *c.* 0.5 diam. apart and *c.* 1.2 diam. from ALE, PME *c.* 0.5 diam. apart and *c.* 0.5 diam. from PLE. Epigyne (Figs. 7–8): With broad, deep, central scape, with narrow, posterior sclerotised border; region anterior to this white, membranous and slightly distended. Spermathecae large, slightly overlapped by median ducts. **Para-type:** Total length 5.2. Carapace length 2.15, width 1.35. Abdomen length 3.1. Sternum length 1.25, width 0.9. PME *c.* 0.7 diam. from PLE. TmI 0.51, TmIV 0.51.

Distribution: Known only from the type locality, Mt. Kambekulu, Congo.

Ecology: Both sexes taken in June at 2450 m altitude. Habitat unknown.

Afroneta immaculoides sp. n. (Figs. 9–10)

Afroneta immaculata Holm, 1968: 25 (in part, not ♀ described and figured, misidentification).

Types: Holotype ♀, Congo, Kivu, Kabare Terr., Nyakasiba, 2350 m, February 1951, leg. N. Leleup, 02°49'S, 28°50'E (MT 92564). Same data, 1♀ paratype (MT 92565).

Etymology: The specific name refers to the close resemblance of the species to *A. immaculata* Holm.

Diagnosis: Similar to *A. immaculata* in all characters except the epigyne, which has the dorsal plate with a much less pronounced scape and a distinct socket some distance from the posterior edge. The spermathecae are also smaller in relation to the median ducts, and do not overlap them. The values of TmI and TmIV are slightly higher than in *A. immaculata*, but this may not be consistent.

Note: These two females were identified by Holm (1968) as paratypes of *A. immaculata*, but were not included in the description. However, the epigynes of both specimens are virtually identical and distinctly different from those of the allotype and paratype of *A. immaculata* which came from the type locality of that species. The type localities of *A. immaculata* and *A. immaculoides* are *c.* 50 km apart. The female of *A. immaculata* is larger, with a distinctly larger abdomen, and was collected at a different time of year, so it is possible that the apparent differences in the epigyne could be related to the state of maturity of the specimens, but it seems best to describe *A. immaculoides* as a separate species at present. Further material, including males, will be needed to confirm the status of *A. immaculoides*.

Description: Female (holotype): Total length 4.4. Carapace length 1.95, width 1.25. Abdomen length 2.4. Sternum length 1.3, width 0.85. Carapace yellow-brown, with faint traces of grey laterally. Chelicerae and legs yellow-brown. Sternum yellow-brown, suffused with grey. Abdomen whitish grey, paler ventrally. Eyes: AME very small, *c.* 0.5 diam. apart and *c.* 1.5 diam. from ALE, PME *c.* 0.6 diam. apart and *c.* 1 diam. from PLE. Diameter of PME *c.* 0.08, vs. 0.10 in *A. immaculata*. Clypeus with a pair of sulci below lateral eyes. Chelicerae with 3 large promarginal teeth and 6 small retromarginal denticles. Legs: all femora with 2 dorsal spines, femur I also with 2 prolateral spines. All tibiae with 2 dorsal, 1 prolateral, 1 retrolateral and 2 ventral spines. Tibiae I-II also with 2 apical ventral spines, III-IV with 4 apical ventral and lateral spines. Metatarsi spineless. TmI 0.65, TmIV 0.61. Leg measurements:

	Fe	Pa	Ti	Mt	Ta	Total
I	2.00	0.50	2.00	1.70	1.10	7.30
IV	1.85	0.45	1.75	1.60	1.10	6.75

Epigyne (Figs. 9–10): Dorsal plate broad, with broad shallow central scape, with distinct socket on anterior side of broad sclerotised edge. Median ducts broad, longer than spermathecae.

Variation (paratype): Total length 4.8. Abdomen length 2.8. Legs: femur II with 1 prolateral spine. TmI 0.64, TmIV 0.58.

Male: Unknown.

Distribution: Known only from the type locality, Nyakasiba, Congo.

Ecology: Females collected in February, at 2350 m altitude. Habitat unknown.

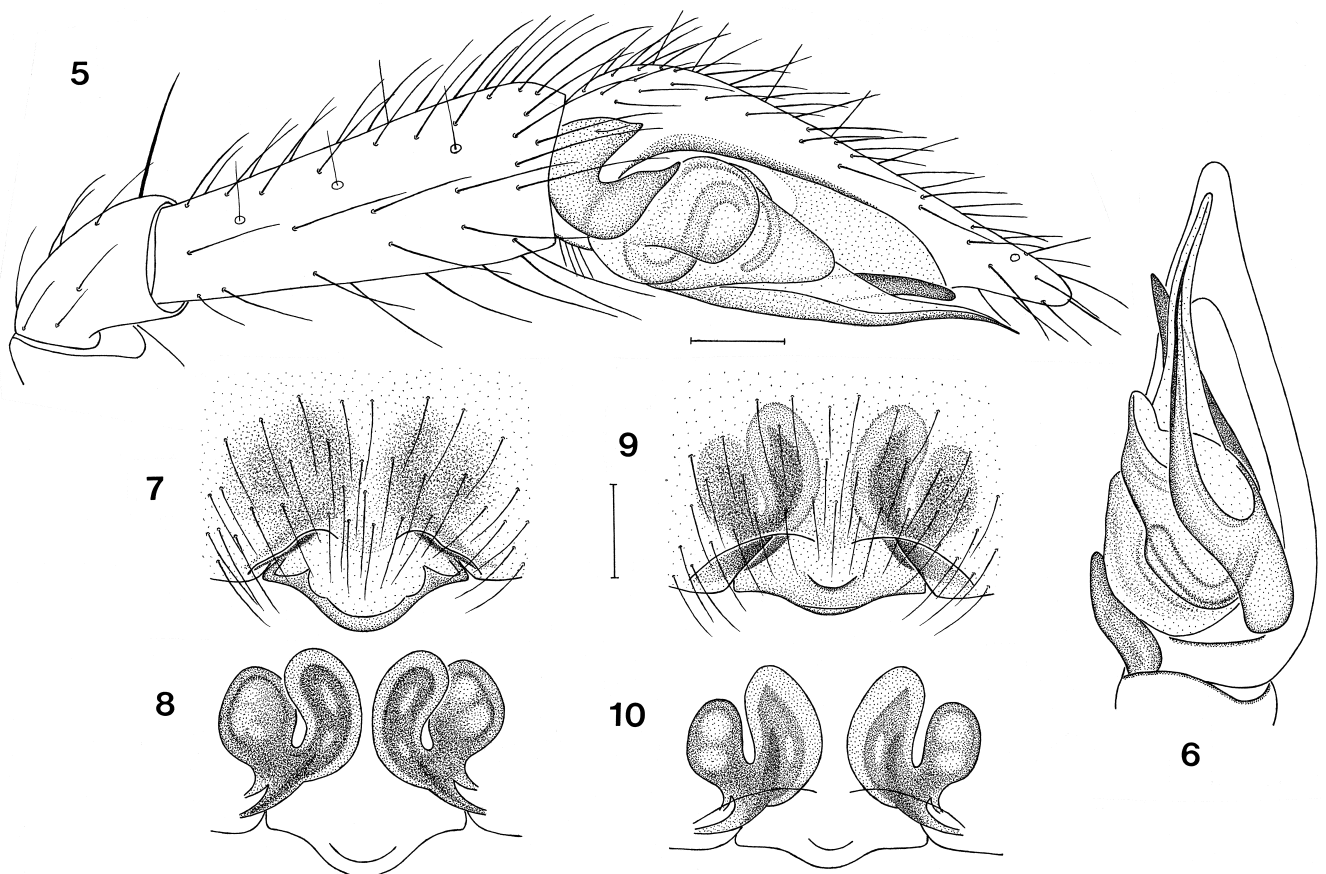
Afroneta elgonensis sp. n. (Figs. 11–13)

Types: Holotype ♀, Kenya, Mt. Elgon, 3100 m, 8 December 1953, leg. J. Bouillon, 01°08'N, 34°33'E (MT 076.907). Paratypes: 10♀, same data (MT 076.907).

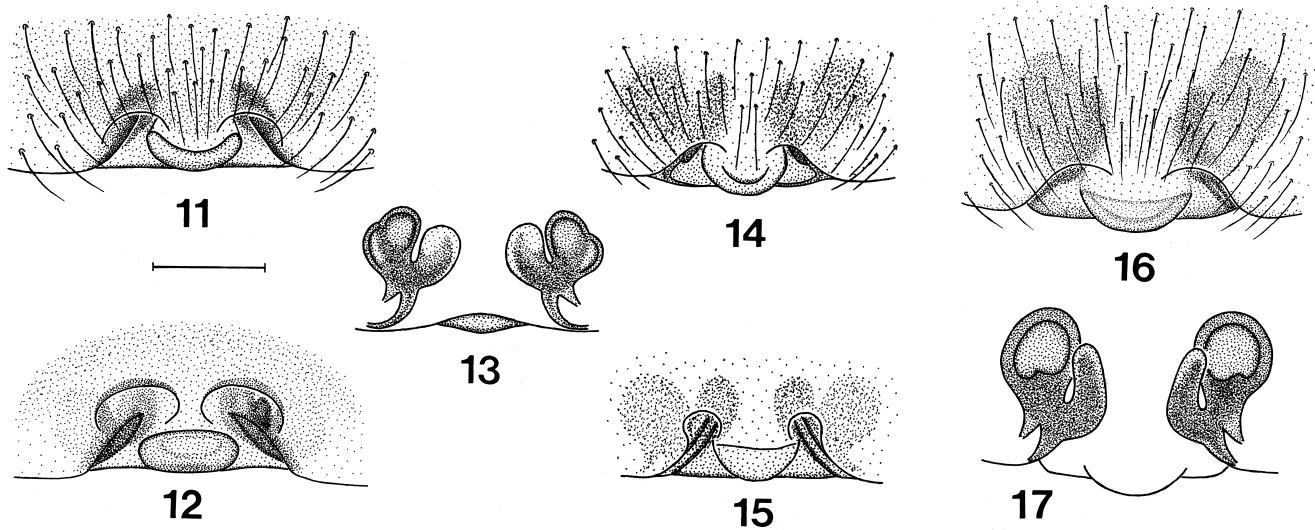
Etymology: The specific name is an adjective referring to the type locality.

Diagnosis: The female is diagnosed by the epigyne, coloration and chaetotaxy. The epigyne and coloration are both fairly close to those of *A. praticola* from Mt. Meru, Tanzania, but the scape of *A. elgonensis* is less rounded and the internal structures are smaller. The chaetotaxy of *A. elgonensis* is unusual in lacking metatarsal spines and retrolateral tibial spines.

Description: Female (holotype): Total length 3.5. Carapace length 1.55, width 1.0. Abdomen length 1.85. Sternum length 0.9, width 0.7. Carapace yellow-brown, black spots around eyes, lightly suffused with grey in foveal area and towards margins. Chelicerae yellow-brown. Legs yellow-brown, no markings. Sternum yellow-brown, lightly suffused with grey. Abdomen dorsally grey, with faint scattered lighter mottling. Venter darker grey, with pair of thin pale lines laterally. Eyes: AME very small, *c.* 0.5 diam. apart and *c.* 2 diam.



Figs. 5–10: **5–8** *Afroneta immaculata* Holm. **5** Right male palp (holotype), retrolateral view; **6** Ditto, ventral view; **7** Epigyne (allotype), ventral view; **8** Vulva (allotype), ventral view. **9–10** *A. immaculoides* sp. n., holotype. **9** Epigyne, ventral view; **10** Vulva, ventral view. Scale lines=0.1 mm.



Figs. 11–17: **11–13** *Afroneta elgonensis* sp. n., holotype. **11** Epigyne, ventral view; **12** Ditto, postero-ventral view; **13** Vulva, ventral view. **14–17** *A. praticola* Holm. **14** Epigyne (holotype), ventral view; **15** Ditto, postero-ventral view; **16** Epigyne (specimen MT 169.864), ventral view; **17** Vulva (169.864), ventral view. Scale line=0.1 mm.

from ALE, PME *c.* 1 diam. apart and *c.* 1.2 diam. from PLE. Clypeus with a pair of sulci below lateral eyes. Chelicerae with 3 promarginal teeth, retromarginal denticles not visible. Legs: all femora with 2 dorsal spines, femur I also with 2 prolateral spines. All tibiae with 2 dorsal spines, tibiae III–IV with 1 prolateral spine, no retrolateral spines. All tibiae with 2 basal and 1 median ventral spine, I–II with no apical spines, III–IV with 4 apical ventral and lateral spines. No metatarsal spines. TmI 0.6, TmIV 0.62. Trichobothria long and straight. Leg measurements:

	Fe	Pa	Ti	Mt	Ta	Total
I	1.35	0.40	1.25	1.05	0.85	4.90
IV	1.30	0.40	1.20	1.00	0.85	4.75

Epigyne (Figs. 11–13): Dorsal plate moderately broad, with broad scape with upturned posterior lip. Median ducts short, well separated, spermathecae small, bilobed.

Variation ($n=10$): Total length 2.5–3.5. Carapace length 1.2–1.55, width 0.8–1.05. Abdomen length 1.5–2.0. Sternum length 0.75–0.9, width 0.6–0.7. Chelicerae with 4 or 5 minute retromarginal denticles. Legs: on smaller specimens, femur III sometimes with only 1 dorsal spine and femur I occasionally with only 1 prolateral spine, tibia III sometimes lacking prolateral spine. TmI 0.58–0.64, TmIV 0.53–0.62.

Male: Unknown.

Distribution: Known only from the type locality, Mt. Elgon, Kenya.

Ecology: Females collected in December, at 3100 m altitude. Habitat unknown.

Afroneta praticola Holm, 1968 (Figs. 14–17)

Afroneta praticola Holm, 1968: 25, figs. 37–38 (descr. ♀).

Type: Holotype ♀, Tanzania, Mt. Meru, Olkokola, NE slope, moorland, 3600 m, 2 July 1957, leg. P. Basilewsky & N. Leleup (MT 112.205), examined.

Other material examined: 1♀, same locality as holotype but NW slope, 2500–2600 m, 3 August 1957, leg. P. Basilewsky & N. Leleup, 03°14'S, 36°45'E (MT 169.864).

Diagnosis: The female is diagnosed by the epigyne, coloration and chaetotaxy. The epigyne is closest to those of *A. basilewskyi* Holm and *A. snazelli* Merrett & Russell-Smith, but *A. basilewskyi* is much darker and has stronger and more numerous leg spines, and in *A. snazelli* the median ducts extend much further anteriorly in relation to the spermathecae. The almost uniform coloration of the carapace and legs, and the absence of apical spines on tibiae I–II, are also unusual. The epigyne and coloration are fairly close to those of *A. elgonensis*, but in *A. praticola* the internal structures of the epigyne are larger, and there are differences in the chaetotaxy.

Description. Female: Described by Holm (1968). Supplementary information based on second specimen: Total length 4.05. Carapace length 1.9, width 1.25. Abdomen length 2.45. Sternum length 1.05, width 0.85. Carapace, chelicerae and legs yellow-brown. Abdomen light grey. Sternum yellow-brown suffused with grey. Eyes: AME very small, *c.* 0.5 diam. apart and *c.* 2 diam. from ALE, PME *c.* 0.5 diam. apart and *c.* 0.6 diam. from PLE. Chelicerae with 5 promarginal teeth and 3 retromarginal denticles. Legs: all femora with 2 dorsal spines, femur I also with 2 prolateral spines. All tibiae with 2 dorsal spines and 1 prolateral spine. Tibiae III–IV with 1 retrolateral spine (absent on tibiae I–II, also in holotype, contrary to Holm, 1968). Tibiae I–II with 3 ventral spines (2 basal but no apical), tibia III with 2 ventral spines and 4 apical ventral and lateral spines, tibia IV with 3 ventral spines and 4 apical ventral and lateral spines (4 apical also in holotype). Metatarsus IV with 1 dorsal spine. TmI 0.68, TmIV 0.69. Trichobothria slightly bent. Epigyne (Figs. 16–17): Dorsal plate broad in relation to its depth, with broad, rounded central scape, broader than in holotype (Figs. 14–15). Median

ducts shorter relative to spermathecae than in holotype, but general appearance of epigyne similar (differences possibly related to size and maturity of specimens — the second specimen is larger than the holotype and was taken one month later and at 1000 m lower altitude).

Male: Unknown.

Distribution: Known only from the type locality, Mt. Meru, Tanzania.

Ecology: Females collected in July and August, at 2500–2600 m (habitat unknown) and on moorland at 3600 m.

Afroneta pallens sp. n. (Figs. 18–21)

Types: Holotype ♂, Congo, Ruwenzori, N face, Kilindera, 2750 m, among bamboo, July–August 1974, leg. M. Lejeune, 00°23'N, 29°55'E (MT 155.417). Paratypes: 1♂ 2♀, same data (MT 155.417).

Etymology: The specific name is an adjective referring to the very pale coloration of the whole spider.

Diagnosis: The male is diagnosed by the palp and coloration. The palp is rather like that of *A. fulva* sp. n., but it is much smaller, the tibia is much shorter with only two retrolateral trichobothria, and the conductor is of a simpler form. The whole spider is much paler, but it is uncertain to what extent this may be the result of bleaching. The female is diagnosed by the epigyne and coloration. The epigyne is rather like that of *A. lativulva* sp. n., but the dorsal plate is narrower in relation to its depth, the end of the scape is thicker, and the spermathecae have a secondary lobe.

Description: *Male* (holotype): Total length 2.4. Carapace length 1.15, width 0.8. Abdomen length 1.2. Sternum length 0.65, width 0.55. Carapace pale yellow, lightly suffused with grey in broad marginal band in posterior three-quarters. Chelicerae and legs pale yellow. Sternum pale yellow lightly suffused with grey. Abdomen whitish yellow with faint grey midline. Eyes: AME small, *c.* 1 diam. apart and *c.* 1 diam. from ALE,

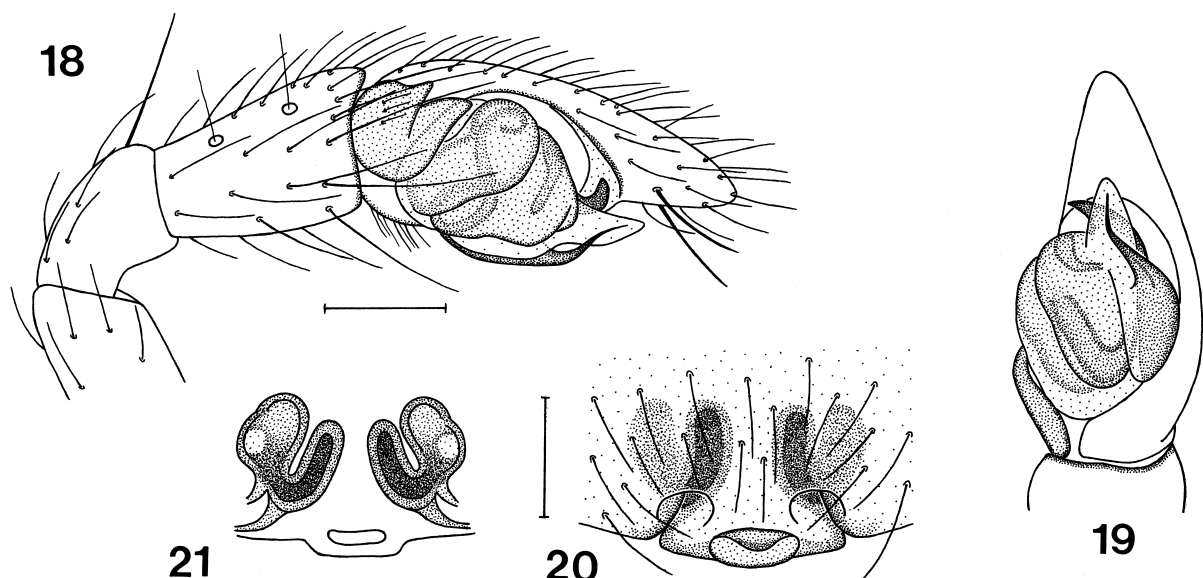
PME *c.* 0.6 diam. apart and *c.* 0.3 diam. from PLE. Clypeus with pair of sulci below lateral eyes. Chelicerae with 5 promarginal teeth and 4 small retromarginal denticles. Legs: all femora with 1 dorsal spine (one I with 2), femur I also with 1 prolateral spine. All tibiae with 2 dorsal, 1 prolateral, 1 retrolateral and usually 4 ventral spines (one basal sometimes missing). Tibiae I–II with 2 ventral apical spines, III–IV with 4 apical ventral and lateral spines. Metatarsus IV with 1 dorsal, 1 prolateral and 1 ventral spine. TmI 0.66, TmIV 0.65. Trichobothria long and straight. Leg measurements:

	Fe	Pa	Ti	Mt	Ta	Total
I	1.15	0.30	1.05	0.95	0.85	4.30
IV	1.25	0.30	1.20	1.00	0.85	4.60

Palp (Figs. 18–19): Tibia short, with 2 retrolateral trichobothria. Paracymbium with cluster of short hairs proximally. Cymbium moderately short, tegular apophysis appears upturned or straight in lateral view, depending on angle of view, but broadly curved laterally in ventral view. Embolus moderately short, with pronounced curve near distal end, accompanied by broad simple conductor.

Variation (*n*=1): Total length 2.7. Carapace length 1.3, width 0.9. Abdomen length 1.3. Sternum length 0.75, width 0.6. Legs: femora I, II and IV on one side with 2 dorsal spines, IV on other side with 3, femur I also with 2 prolateral spines. One metatarsus III with 1 dorsal spine. TmI 0.69, TmIV 0.68.

Female (*n*=2): Total length 3.5. Carapace length 1.45, width 0.95. Abdomen length 1.95–2.0. Sternum length 0.8–0.85, width 0.65. Carapace pale yellow-brown, lightly suffused with grey towards margins. Chelicerae and legs pale yellow. Sternum yellow, lightly suffused with grey. Abdomen whitish yellow, one specimen with faint grey midline. Eyes: AME small, *c.* 0.5 diam. apart and *c.* 1 diam. from ALE, PME *c.* 0.6 diam. apart and *c.* 0.4 diam. from PLE. Clypeus with pair of



Figs. 18–21: *Afroneta pallens* sp. n. 18 Right male palp (holotype), retrolateral view; 19 Ditto, ventral view; 20 Epigyne, ventral view; 21 Vulva, ventral view. Scale lines=0.1 mm.

sulci below lateral eyes. Chelicerae with 5 promarginal teeth and 3 small retromarginal denticles. Legs: femora I, II and IV with 1 or 2 dorsal spines, III with 1, femur I also with 1 or 2 prolateral spines. All tibiae with 2 dorsal, 1 prolateral, 1 retrolateral and 4 ventral spines. Tibiae I-II with 2 ventral apical spines, III-IV with 4 apical ventral and lateral spines. Metatarsus III with 1 dorsal spine, metatarsus IV with 1 dorsal, 1 prolateral and 1 ventral spine. TmI 0.64 ($n=1$), TmIV 0.64–0.7 ($n=2$). Leg measurements:

	Fe	Pa	Ti	Mt	Ta	Total
I	1.40	0.40	1.30	1.15	0.95	5.20
IV	1.40	0.40	1.30	1.15	0.95	5.20

Epigyne (Figs. 20–21): Dorsal plate moderately narrow, with central scape in form of narrow oval with indentation on anterior side. Median ducts moderately long, lying close to spermathecae, which have small secondary lobe.

Distribution: Known only from the type locality, Ruwenzori, Congo.

Ecology: Both sexes taken in July–August, among bamboo at 2750 m altitude.

Afroneta tenuivulva sp. n. (Figs. 22–25)

Types: Holotype ♂, Congo, Ruwenzori, N face, Kanzuiri camp, Karibumba, 3700 m, in moss, July–August 1974, leg. M. Lejeune, 00°25'N, 29°54'E (MT 154.917). Paratypes: same data, 2♂ 1♀ (MT 154.917); Kanzuiri camp, 3500 m, sweep-netting, 1♂ (MT 155.062); Kanzuiri camp, between Senguye and Karibumba, 3800 m, in litter, 1♂ (MT 155.436); all July–August 1974, leg. M. Lejeune, 00°25'N, 29°54'E.

Etymology: The specific name is an adjective derived from the Latin *tenuis*=thin, and *vulva*, referring to the thin median ducts in the epigyne.

Diagnosis: The male is diagnosed by the palp. It is close to that of *A. lobeliae* sp. n., but can be distinguished by the longer palpal tibia, paracymbium with notch close to proximal end, and longer embolus. It is also fairly close to that of *A. annulata* sp. n., but in *A. tenuivulva* the tegular apophysis is much broader and directed more dorsally, and the terminal part of the embolus is longer with a pronounced angle in lateral view. The female is diagnosed by the epigyne, colour and chaetotaxy. The epigyne is close to that of *A. lobeliae*, but the median ducts are thinner and the spermathecae smaller, and the scape is a different shape and smaller. The coloration of the carapace is rather like that of *A. fulva*, but the chaetotaxy of the femora and metatarsi is very different.

Description: *Male* (holotype): Total length 3.3. Carapace length 1.55, width 1.1. Abdomen length 1.7. Sternum length 0.95, width 0.75. Carapace yellow-brown, suffused with grey in broad central longitudinal band, slightly narrowed near mid-point, and lightly suffused with grey near margins, especially in posterior half. Chelicerae yellow-brown. Legs yellow-brown, tibiae with faint darker annulations medially and api-

cally, and faint medial annulations on femora. Sternum yellow-brown, suffused with grey, especially towards margins. Abdomen dorsally pale grey with 6 pairs of dark grey blotches, anterior pair large, others small, and with white guanine spots laterally in anterior half. Dark grey lateral band joins posterior dorsal blotches. Venter pale grey, with pair of diffuse darker bands laterally. Eyes: AME small, *c.* 0.7 diam. apart and *c.* 1.5 diam. from ALE, PME *c.* 0.8 diam. apart and *c.* 1 diam. from PLE. Clypeus with pair of sulci below lateral eyes. Chelicerae with 5 promarginal teeth and 2 small retromarginal denticles. Legs: legs II-IV on right side regenerated, description therefore taken from left side. Femora I-II with 2 dorsal spines, III-IV with 1; femur I also with 2 prolateral spines. All tibiae with 2 dorsal spines, 1 prolateral spine, 2 retrolateral spines (except 1 on III), and 4 ventral spines. Tibiae I-II with 2 ventral apical spines, III-IV with 4 apical ventral and lateral spines. Metatarsus III missing, metatarsus IV with 1 dorsal, 1 prolateral and 1 retrolateral spine. Regenerated right tibia IV with extra spines (6 ventral). TmI 0.83, TmIV 0.85. Trichobothria straight. Leg measurements:

	Fe	Pa	Ti	Mt	Ta	Total
I	1.80	0.40	1.65	1.50	1.20	6.55
IV	1.75	0.40	1.65	1.55	1.15	6.50

Palp (Figs. 22–23): Tibia long, with 3 retrolateral trichobothria. Paracymbium with cluster of short hairs proximally, notch near proximal end. Cymbium less pointed than in some other species, tegular apophysis broad and turned dorsally in lateral view. Proximal part of embolus short, with long thin distal end, appearing with pronounced angle in lateral view. Conductor long and fairly broad.

Variation ($n=4$): Total length 3.0–3.3. Carapace length 1.5–1.6, width 1.05–1.2. Abdomen length 1.5–1.7. Sternum length 0.95, width 0.75–0.8. Abdomen sometimes with ill-defined grey longitudinal band in midline. Legs: femora I-II sometimes with 3 dorsal spines, III-IV sometimes with 2 or 3; femur I occasionally with 3 prolateral spines. Metatarsus III with 1 dorsal, 1 prolateral and 1 retrolateral spine, metatarsus IV sometimes with 1 ventral spine. TmI 0.81–0.89, TmIV 0.82–0.87.

Female (paratype): Total length 5.0. Carapace length 2.0, width 1.4. Abdomen length 3.0. Sternum length 1.15, width 0.95. Carapace deep yellow-brown, lightly suffused with grey in midline and near margins. Chelicerae yellow-brown. Legs yellow-brown, with faint trace of annulations medially on femora and medially and distally on tibiae. Sternum yellow-brown, lightly suffused with grey. Abdomen pale grey, dorsally with 6 pairs of grey blotches, and faint grey stripe in midline anteriorly, followed by 3 central spots. Numerous white guanine spots, especially anteriorly. Wide grey band laterally. Venter pale grey, with pair of white lines laterally. Eyes: AME small, *c.* 0.8 diam. apart and *c.* 1.8 diam. from ALE, PME *c.* 0.7 diam. apart and *c.* 0.7 diam. from PLE. Clypeus with pair of sulci below lateral eyes. Chelicerae with 5 promarginal teeth, retromarginal

denticles not visible. Legs: femora I-II with 2 dorsal spines, III-IV with 1; femur I also with 2 prolateral spines, and left with extra small basal dorsal spine. All tibiae with 2 dorsal spines, 1 prolateral spine (except 2 on IV), 2 retrolateral spines, and 4 ventral spines. Tibiae I-II with 2 ventral apical spines, III-IV with 4 apical ventral and lateral spines. Metatarsus III with 1 dorsal and 1 pro- or retrolateral spine, metatarsus IV with 2 dorsal, 1 prolateral, and 1 retrolateral or ventral spine. TmI 0.87, TmIV 0.86. Trichobothria long and slightly bent. Leg measurements:

	Fe	Pa	Ti	Mt	Ta	Total
I	2.00	0.55	1.85	1.70	1.30	7.40
IV	1.95	0.50	1.85	1.80	1.40	7.50

Epigyne (Figs. 24–25): Dorsal plate broad, with oval central scape. Median ducts long and thin, well separated from bilobed spermathecae.

Distribution: Known only from the type locality, Ruwenzori, Congo.

Ecology: Both sexes taken in July–August, at altitudes between 3500 and 3800 m, in moss and litter and by sweep-netting.

Afroneta lobeliae sp. n. (Figs. 1, 26–29)

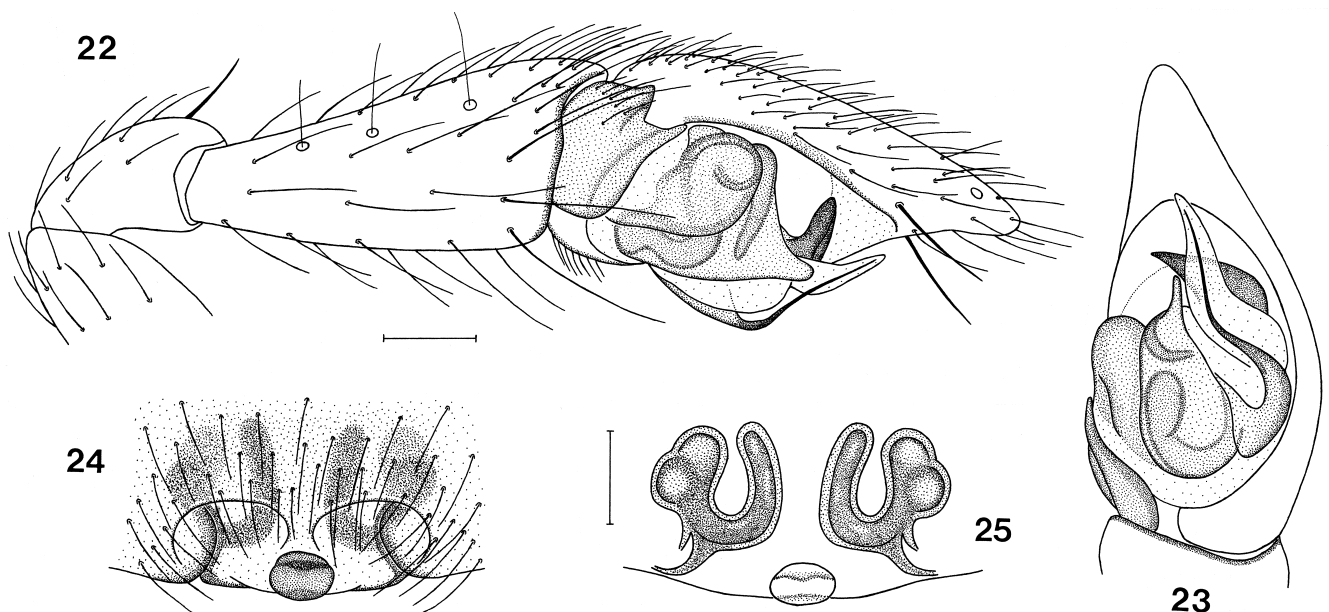
Types: Holotype ♂, Congo, Ruwenzori, N face, Kanziuri camp, Karibumba, 3800 m, in old *Lobelia*, July–August 1974, leg. M. Lejeune, 00°25'N, 29°54'E (MT 155.427). Paratypes: Congo, Ruwenzori, N face, Kanziuri camp: Karibumba ridge, 3800 m, in dry leaves, 1♂ 2♀ (MT 154.983); N face of Senguye, 3800 m, in dry leaves of old *Lobelia*, 1♀ (MT 155.433); same data but 3810 m, 1♀ (MT 155.088); all July–August 1974, leg. M. Lejeune, 00°25'N, 29°54'E.

Etymology: The specific name is a noun in the genitive case referring to the habitat of most of the specimens.

Diagnosis: The species is diagnosed by the male palp and epigyne. The palp is close to that of *A. tenuivulva*, but the tibia and embolus are shorter and the notch in the paracymbium is much deeper. The epigyne is also close to that of *A. tenuivulva*, but the median ducts are broader and the spermathecae larger, and the scape is larger and of a semicircular shape.

Description: *Male* (holotype): Total length 3.55. Carapace length 1.65, width 1.15. Abdomen length 2.05. Sternum length 0.95, width 0.8. Carapace yellow-brown, lightly suffused with grey in broad marginal band and less clearly in midline, especially in cephalic region. Chelicerae yellow-brown. Legs yellow-brown, tibiae with faint traces of annulations medially and apically, and medially on femora. Sternum yellow-brown suffused with grey. Abdomen pale whitish grey, dorsally with 5 pairs of dark blotches, anterior pair large, others smaller, last 3 pairs joined in midline as bars. Laterally with longitudinal dark band, joining dorsal bars posteriorly. Venter pale whitish grey. Eyes: AME small, *c.* 0.5 diam. apart and *c.* 1 diam. from ALE, PME large, *c.* 0.5 diam. apart and *c.* 0.4 diam. from PLE. Clypeus with pair of sulci below lateral eyes. Chelicerae with 5 pro-marginal teeth, retromargin not visible. Legs: all femora with 2 dorsal spines, III and IV on one side with 3, femur I also with 2 prolateral spines. All tibiae with 2 dorsal spines, 1 prolateral spine and 2 retrolateral spines (except III with 1). Tibiae I-II with 4 ventral spines and 2 ventral apical spines, III-IV with 3 ventral spines and 4 apical ventral and lateral spines. Metatarsus III with 1 dorsal and 1 prolateral spine, metatarsus IV with 1 dorsal, 1 prolateral, 1 retrolateral and 0 or 1 ventral spine. TmI 0.76, TmIV 0.78. Trichobothria almost straight. Leg measurements:

	Fe	Pa	Ti	Mt	Ta	Total
I	1.75	0.45	1.55	1.45	1.10	6.30
IV	1.75	0.45	1.65	1.65	1.15	6.65



Figs. 22–25: *Afroneta tenuivulva* sp. n. **22** Right male palp (holotype), retrolateral view; **23** Ditto, ventral view; **24** Epigyne, ventral view; **25** Vulva, ventral view. Scale lines=0.1 mm.

Palp (Figs. 26–27): Tibia moderately short, with 3 retrolateral trichobothria. Paracymbium with deep notch, and cluster of short hairs near proximal end. Tegular apophysis broad, turned somewhat dorsally in lateral view. Proximal part of embolus short, with moderately long curved distal end, accompanied by broad conductor.

Variation ($n=1$): Total length 3.45. Carapace length 1.65, width 1.2. Abdomen length 1.85. Sternum length 1.0, width 0.85. Legs: femur I with 3 prolateral spines, femur II with 3 dorsal spines. Tibiae III–IV with 4 ventral spines. TmI 0.77, TmIV 0.76.

Female ($n=4$): Total length 4.5–5.2. Carapace length 2.0–2.15, width 1.5–1.55. Abdomen length 2.6–3.1. Sternum length 1.15–1.3, width 1.0–1.05. Carapace deep yellow-brown, lightly suffused with grey in midline, especially in cephalic area, and near margins. Chelicerae yellow-brown. Legs yellow-brown, slightly darker medially and distally on tibiae. Sternum yellow-brown, lightly suffused with grey. Abdomen (Fig. 1) whitish grey, usually with 7 pairs of black blotches (rarely only 5), anterior pair large, others as narrow bars, 3–7 usually meeting in midline; sometimes with 2 spots in midline; curved black line laterally. Venter whitish grey flanked by pair of lateral black bands. Eyes: AME small, *c.* 0.7 diam. apart and *c.* 1.2 diam. from ALE, PME large, *c.* 0.4 diam. apart and *c.* 0.4 diam. from PLE. Clypeus with pair of sulci below lateral eyes. Chelicerae with 5 promarginal teeth and 3 small retromarginal denticles. Legs: all femora with 2 or 3 dorsal spines, femur I also with 2 prolateral spines. All tibiae with 2 dorsal spines, I–III with 1 prolateral spine, IV with 2, tibiae I, II and IV with 2 retrolateral spines, III with 1. All tibiae with 4 ventral spines, I–II with 2 ventral apical spines, III–IV

with 4 apical ventral and lateral spines. One specimen with extra spines on one tibia IV (probably regenerated). Metatarsus III with 1 dorsal, 1 prolateral and sometimes 1 retrolateral spine, metatarsus IV usually with 1 dorsal, 1 prolateral, 1 retrolateral and 1 ventral spine. TmI 0.83–0.87 ($n=4$), TmIV 0.80–0.87 ($n=3$). Leg measurements of paratype MT 155.433: carapace length 2.1:

	Fe	Pa	Ti	Mt	Ta	Total
I	2.00	0.55	1.90	1.80	1.20	7.45
IV	2.10	0.60	1.80	1.95	1.20	7.65

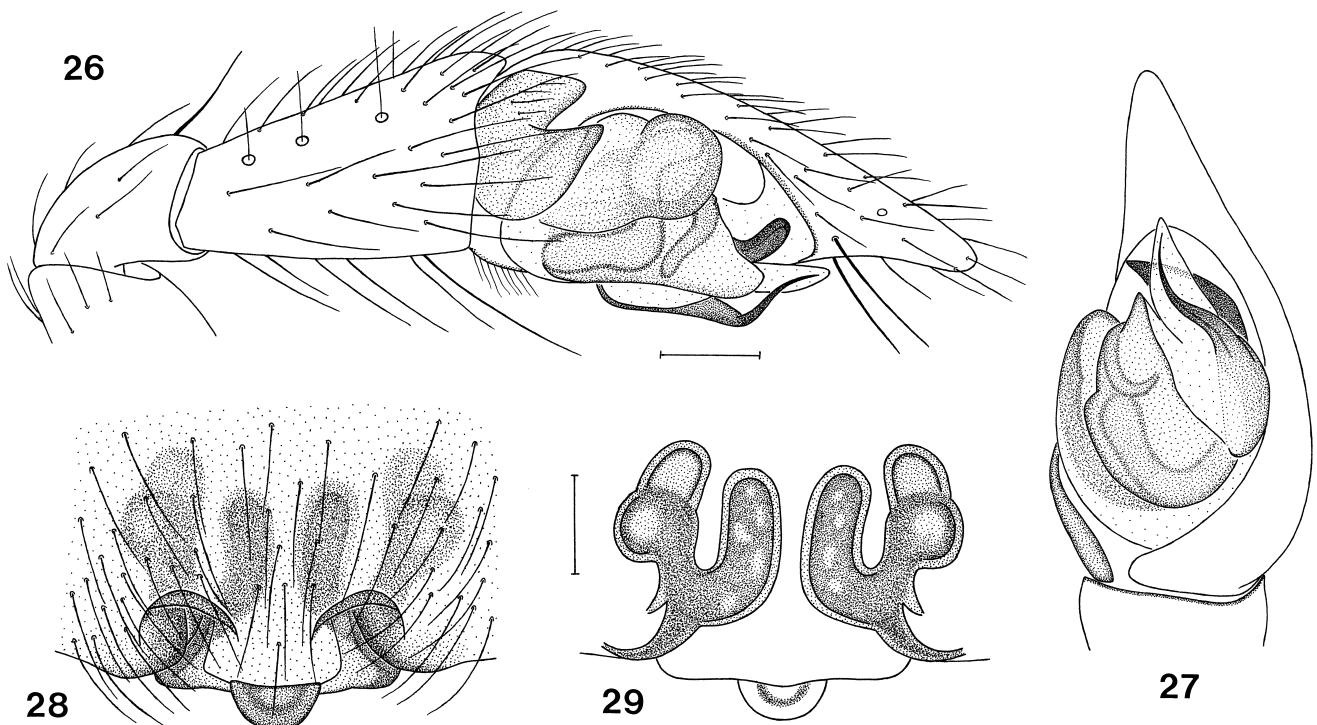
Epigyne (Figs. 28–29): Dorsal plate broad, with large semicircular scape. Median ducts moderately long and broad, well separated from large bilobed spermathecae.

Distribution: Known only from the type locality, Ruwenzori, Congo, on Karibumba and Senguye.

Ecology: Both sexes collected in July–August, at altitudes around 3800 m, mainly among dry leaves of old *Lobelia*.

Afroneta erecta sp. n. (Figs. 30–33)

Types: Holotype ♂, Congo, Ruwenzori, N face, Kanzuiri camp, Karibumba, 3700 m, in moss, July–August 1974, leg. M. Lejeune, 00°25'N, 29°54'E (MT 154.917). Paratypes: same data, 2♂ (MT 154.917); Kanzuiri camp, Kanzuiri ridge, 3500 m, in moss, 5♂ (MT 155.095); Kanzuiri camp, Senguye, 3800 m, in flower stalks of dead *Lobelia*, 1♂ (MT 154.658); Kanzuiri camp, Senguye, N face, 3800 m, in dry *Lobelia* leaves, 1♀ (MT 155.001); same locality, 3800 m, in litter, 2♀ (MT 154.695); same locality, 3810 m, in dry leaves of old



Figs. 26–29: *Afroneta lobeliae* sp. n. **26** Right male palp (holotype), retrolateral view; **27** Ditto, ventral view; **28** Epigyne (paratype MT 155.433), ventral view; **29** Vulva (155.433), ventral view. Scale lines=0.1 mm.

Lobelia, 1♀ (MT 155.088); all July–August 1974, leg. M. Lejeune, 00°25' N, 29°54' E.

Etymology: The specific name is an adjective referring to the dorsally-pointing tegular apophysis and embolus.

Diagnosis: The male is diagnosed by the palp. The short embolus with a sharp angle and distal end pointing dorsally (as seen laterally) is distinctive, as are the small conductor and long narrow tegular apophysis. The female is diagnosed by the epigyne, which is similar to those of *A. lobeliae* and *A. tenuivulva*, but the median ducts are much shorter (probably related to the short embolus), and the scape is much smaller.

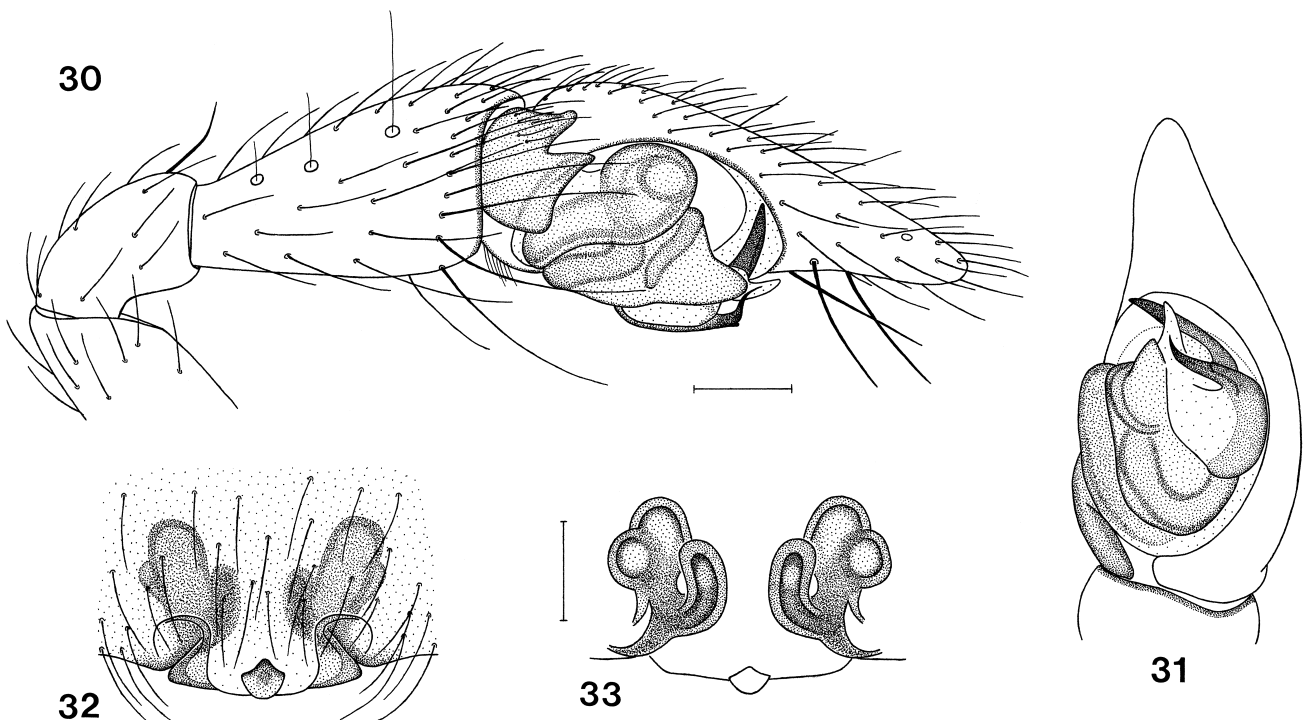
Description: *Male* (holotype): Total length 3.6. Carapace length 1.7, width 1.2. Abdomen length 1.85. Sternum length 1.0, width 0.75. Carapace yellow-brown, suffused with grey in central longitudinal band, especially in triangular mark anterior to fovea, and in broad marginal band. Chelicerae yellow-brown. Legs yellow-brown, with dark grey annulations medially and distally on tibiae, and medially on metatarsi; faint medial annulations on femora. Sternum yellow-brown, suffused with grey. Abdomen light grey dorsally, with 6 pairs of black bars laterally in posterior three-quarters; anteriorly with grey line in midline and anteriorly, and with numerous white guanine spots dorsally and laterally, especially anteriorly. Black lateral band joins posterior dorsal bars. Venter whitish grey. Eyes: AME small, *c.* 0.8 diam. apart and *c.* 1.2 diam. from ALE, PME *c.* 0.4 diam. apart and *c.* 0.4 diam. from PLE. Clypeus with pair of sulci below lateral eyes. Chelicerae with 5 promarginal teeth and 3 or 4 small retromarginal denticles. Legs: all femora with 2 dorsal spines, femur I also with 2 prolateral spines. Tibia I missing. Tibiae II–IV with 2 dorsal spines and 1 prolateral spine; tibia II

with 2 retrolateral spines, III–IV with 1. Tibiae II–IV with 4 ventral spines, II with 2 ventral apical, III–IV with 4 apical ventral and lateral spines. Metatarsus III with 1 dorsal spine, metatarsus IV missing. Palp (Figs. 30–31): Tibia moderately short, with 3 retrolateral trichobothria, increasing in length distally. Paracymbium with cluster of short hairs proximally. Cymbium long and pointed, tegular apophysis long, narrow, pointing dorsally in lateral view. Embolus short, distal end curved almost at right angle dorsally and laterally, with small protuberance on ventral angle. Conductor very small, corresponding to short distal end of embolus.

Variation (*n*=8): Total length 3.3–3.6. Carapace length 1.5–1.7, width 1.15–1.2. Abdomen length 1.65–1.85. Sternum length 0.95–1.0, width 0.75–0.8. Legs: femora occasionally with basal annulation, metatarsi sometimes with annulation missing. Abdomen sometimes with 7 pairs of black bars dorsally. Legs: femora I, II and IV sometimes with 3 dorsal spines, femur I occasionally with 3 prolateral spines. Tibia I with 2 dorsal, 1 prolateral, 2 retrolateral, 4 ventral and 2 ventral apical spines. Metatarsi III and IV with 1 dorsal, 1 prolateral and 1 retrolateral spine, and metatarsus IV sometimes with 1 ventral (variable). TmI 0.81–0.88 (*n*=5), TmIV 0.78–0.87 (*n*=6). Trichobothria slightly bent. Leg measurements of paratype from Kanzuiri ridge (MT 155.095: carapace length 1.55):

	Fe	Pa	Ti	Mt	Ta	Total
I	1.90	0.45	1.75	1.75	1.25	7.10
IV	1.90	0.40	1.70	1.75	1.20	6.95

Female (*n*=4): Total length 4.1–5.4. Carapace length 1.95–2.25, width 1.35–1.6. Abdomen length 2.05–3.3. Sternum length 1.2–1.25, width 1.0. Carapace yellow-



Figs. 30–33: *Afroneta erecta* sp. n. **30** Right male palp (holotype), retrolateral view; **31** Ditto, ventral view; **32** Epigyne (paratype MT 155.001), ventral view; **33** Vulva (155.001), ventral view. Scale lines=0.1 mm.

brown, suffused with grey in midline, especially anteriorly and as triangular mark before fovea, and towards margins, especially posteriorly. Chelicerae yellow. Legs yellow-brown, with faint grey annulations medially and sometimes proximally on femora, and darker medial and distal annulations on tibiae, and medially on metatarsi. Sternum yellow, suffused with grey. Abdomen whitish grey dorsally, with 5 or 6 pairs of ill-defined black blotches laterally, and scattered white guanine spots anteriorly. With black band laterally. Venter pale grey, with pair of thin white lines laterally. Eyes: AME small, *c.* 0.7 diam. apart and *c.* 1.2 diam. from ALE, PME *c.* 0.6 diam. apart and *c.* 0.5 diam. from PLE. Clypeus with pair of sulci below lateral eyes. Chelicerae with 5 promarginal teeth and 3 small retromarginal denticles. Legs: all femora usually with 2 dorsal spines, occasionally with 1, III and IV occasionally with 3, one IV with 4; femur I also with 2 prolateral spines. All tibiae with 2 dorsal, 1 prolateral, 2 retrolateral (except III with 1), and 4 ventral spines, I-II with 2 ventral apical, III-IV with 4 apical ventral and lateral spines. Metatarsus III with 1 dorsal, and sometimes 1 prolateral and 1 retrolateral spine, metatarsus IV with 1 dorsal, 1 retrolateral, 1 ventral, and sometimes 1 prolateral spine. TmI 0.85–0.88, TmIV 0.83–0.90 (*n*=4). Trichobothria long and slightly bent. Leg measurements of paratype MT 155.001: carapace length 1.95:

	Fe	Pa	Ti	Mt	Ta	Total
I	2.15	0.55	1.90	1.90	1.30	7.80
IV	2.10	0.50	1.85	1.95	1.30	7.70

Epigyne (Figs. 32–33): Dorsal plate moderately broad, with small anteriorly pointed scape. Median ducts short, close to or slightly overlapping proximal part of long bilobed spermathecae.

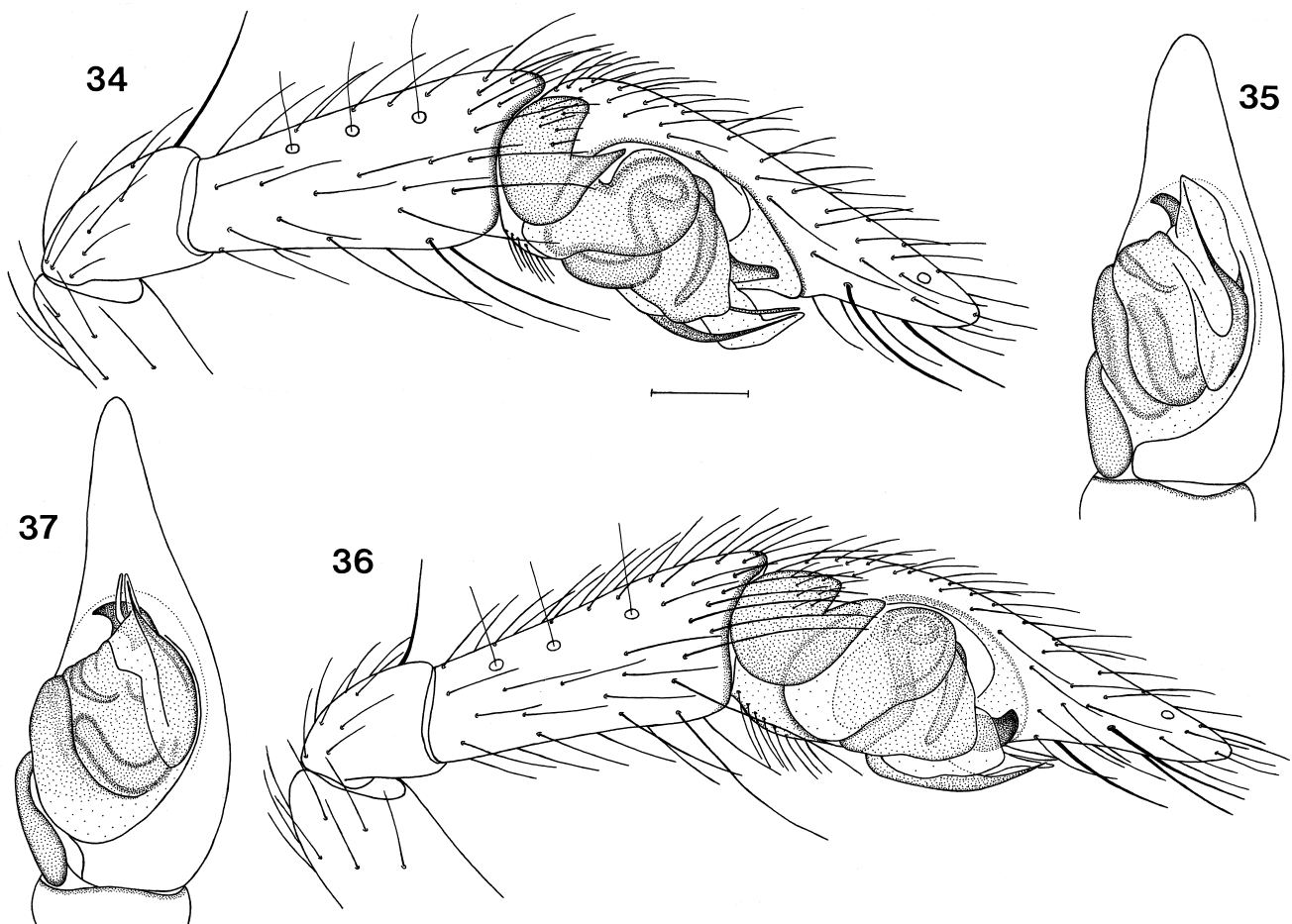
Distribution: Known only from the type locality, Ruwenzori, Congo.

Ecology: Both sexes collected in July–August, males at 3500–3800 m in moss and flower stalks of dead *Lobelia*, females only around 3800 m, in litter and dry *Lobelia* leaves.

Afroneta annulata sp. n. (Figs. 34–35)

Types: Holotype ♂, Congo, Ruwenzori, N face, Kanzuiri camp, Kanzuiri ridge, 3500 m, under old bark of tree heather, July–August 1974, leg. M. Lejeune, 00°25'N, 29°54'E (MT 154.971). Paratypes: same locality and date, in moss, 1♂ (MT 155.095); Kanzuiri camp, Karibumba, 3700 m, in moss, 2♂, July–August 1974, leg. M. Lejeune, 00°25'N, 29°54'E (MT 154.917).

Etymology: The specific name is an adjective referring to the clearly annulated legs.



Figs. 34–37: 34–35 *Afroneta annulata* sp. n., holotype. 34 Right male palp, retrolateral view; 35 Ditto, ventral view. 36–37 *A. fulva* sp. n., holotype. 36 Right male palp, retrolateral view; 37 Ditto, ventral view. Scale line=0.1 mm.

Diagnosis: The male is diagnosed by the palp. It is fairly close to that of *A. fulva*, but in *A. annulata* the tegular apophysis is narrower, and the conductor much larger. The large conductor and long embolus are rather like those of *A. lobeliae* and *A. tenuivulva*, but the tegular apophysis is much smaller.

Description: *Male* (holotype): Total length 3.55. Carapace length 1.55, width 1.15. Abdomen length 2.05. Sternum length 0.85, width 0.8. Carapace yellow-brown, with broad longitudinal dark grey band between eyes and fovea, and similar broad band around margins, with slightly marbled appearance. Chelicerae yellow-brown. Legs yellow-brown, with prominent dark grey annulations medially on femora, medially and apically on tibiae, and apically on metatarsi. Sternum yellow-brown, suffused with grey. Abdomen dorsally light grey, with 3 pairs of black irregular blotches on posterior two-thirds, posteriorly joined to lateral curved black stripe. With two smaller lighter grey blotches in midline. Venter whitish grey, with pair of thin faint grey stripes laterally. Eyes: AME small, *c.* 0.4 diam. apart and *c.* 1 diam. from ALE, PME *c.* 0.4 diam. apart and *c.* 0.3 diam. from PLE. Clypeus with pair of sulci below lateral eyes. Chelicerae with 5 promarginal teeth and 4 small retromarginal denticles. Legs: femora I, II and IV with 2 dorsal spines, III and one I with 1; femur I also with 2 prolateral spines. All tibiae with 2 dorsal spines and 1 prolateral spine, I with 2 retrolateral spines and II-IV with 1. Tibiae I, III and IV with 2 ventral spines, II with 3. Tibiae I-II with 2 ventral apical spines, III-IV with 3 apical spines (2 ventral and 1 retrolateral, but no prolateral). Metatarsus III with 1 dorsal spine. TmI 0.85, TmIV 0.81. Trichobothria long and slightly bent. Leg measurements:

	Fe	Pa	Ti	Mt	Ta	Total
I	2.10	0.45	2.00	2.00	1.20	7.75
IV	2.00	0.45	1.90	1.95	1.15	7.45

Palp (Figs. 34–35): Tibia long, with 3 retrolateral trichobothria. Paracymbium with cluster of short hairs proximally. Cymbium long and pointed, tegular apophysis appears almost straight in lateral view, but hooked in ventral view. Embolus long and smoothly curved, accompanied distally by large bent conductor.

Variation (*n*=3): Total length 3.35–3.65. Carapace length 1.5–1.65, width 1.1–1.15. Abdomen length 1.85–2.05. Sternum length 0.85–0.9, width 0.75–0.8. Abdomen sometimes dorsally white with 4 pairs of black blotches and 4 smaller black or grey blotches in midline. Legs: femora I, II and IV sometimes with only 1 dorsal spine. One specimen with one tibia III with 4 dorsal spines and one tibia I with 4 ventral spines (regenerated?). Metatarsus IV occasionally with 1 dorsal spine. TmI 0.84–0.85, TmIV 0.81–0.82.

Female: Unknown.

Distribution: Known only from the type locality, Ruwenzori, Congo.

Ecology: Males collected in July–August, from 3500–3700 m altitude, in moss and under old bark of tree heather.

Afroneta fulva sp. n. (Figs. 36–37)

Type: Holotype ♂, Congo, Ruwenzori, N face, Kanzuiri camp, Kanzuiri ridge, 3500 m, in moss, July–August 1974, leg. M. Lejeune, 00°25'N, 29°54'E (MT 155.095).

Etymology: The specific name is an adjective referring to the uniform deep yellow-brown colour of the carapace and legs.

Diagnosis: The male is diagnosed by the palp, colour and chaetotaxy. The palp is similar to that of *A. annulata*, but the tegular apophysis is broader and the embolus is much shorter at its distal end. The deep yellow-brown carapace with no markings distinguishes *A. fulva* from most other *Afroneta* species, as do the 3 dorsal spines on all femora.

Description: *Male* (holotype): Total length 3.6. Carapace length 1.65, width 1.15. Abdomen length 1.9. Sternum length 0.95, width 0.8. Carapace deep yellow-brown, with a few very faint darker striae. Chelicerae and legs yellow-brown, no trace of markings. Sternum deep yellow-brown, lightly suffused with grey, especially towards margins. Abdomen dorsally greyish white with median longitudinal dark grey stripe, and 6 pairs of lateral grey bars, joined together laterally and to median stripe. Narrow curved grey stripe laterally in anterior three-quarters. Venter whitish grey, with light grey median band in posterior half. Eyes: AME small, *c.* 0.4 diam. apart and *c.* 1.2 diam. from ALE, PME *c.* 0.4 diam. apart and *c.* 0.4 diam. from PLE. Clypeus with pair of sulci below lateral eyes. Chelicerae with 5 promarginal teeth and 3 or 4 small retromarginal denticles. Legs: all femora with 3 dorsal spines, one femur IV with 4; femur I with 2 or 3 prolateral spines. All tibiae with 2 dorsal spines, I-III with 1 prolateral spine, IV with 2, I-II with 1 retrolateral spine, III-IV with 2. All tibiae with 4 ventral spines (basal pair and 2 median), I-II with 2 ventral apical spines, III-IV with 4 apical ventral and lateral spines. Metatarsi III and IV with 1 dorsal spine, IV also with 1 ventral spine. TmI 0.72, TmIV 0.72. Trichobothria long and slightly bent. Leg measurements:

	Fe	Pa	Ti	Mt	Ta	Total
I	2.00	0.45	1.95	1.85	1.35	7.60
IV	2.10	0.45	2.05	2.00	1.35	7.95

Palp (Figs. 36–37): Tibia long, with 3 retrolateral trichobothria. Paracymbium with cluster of short hairs proximally. Cymbium long and pointed, tegular apophysis short, broad and bluntly hooked dorsally. Embolus short and smoothly curved.

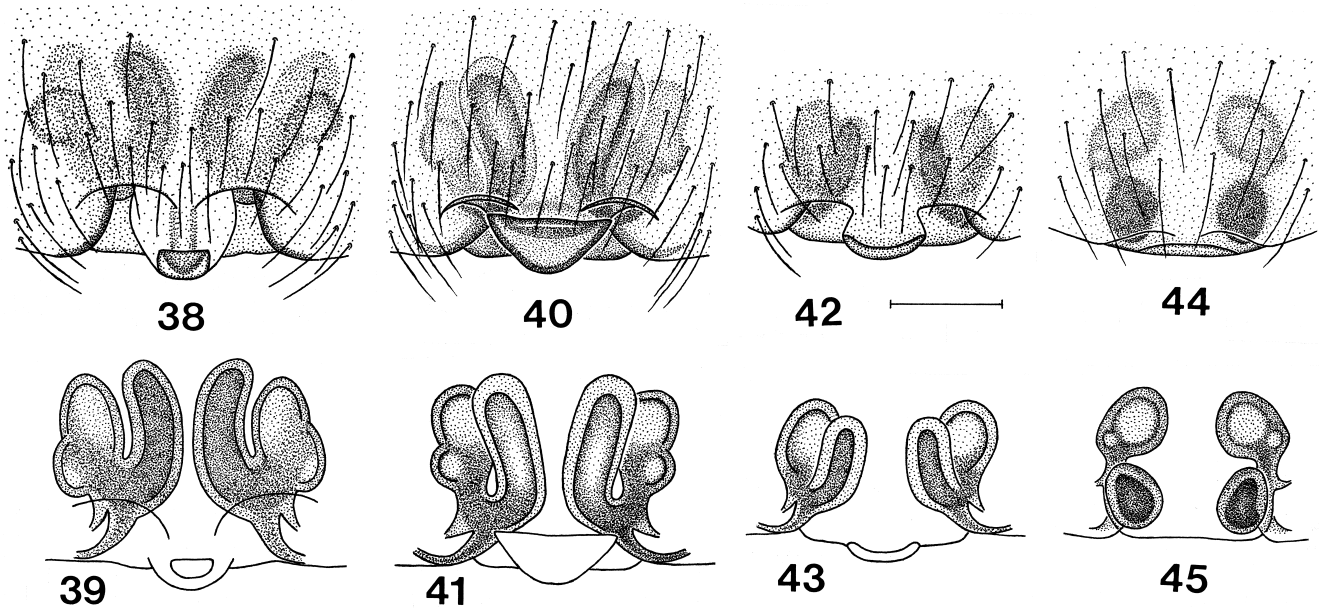
Female: Unknown.

Distribution: Known only from the type locality, Ruwenzori, Congo.

Ecology: Male collected in July–August, at 3500 m altitude, in moss.

Afroneta maculata sp. n. (Figs. 38–39)

Types: Holotype ♀, Congo, Ruwenzori, N face, Kilindera, 2750 m, among bamboo, July–August 1974,



Figs. 38–45: **38–39** *Afrometa maculata* sp. n. **38** Epigyne (holotype), ventral view; **39** Vulva (paratype MT 155.127), ventral view. **40–41** *A. picta* Holm, ex MT 081.521. **40** Epigyne, ventral view; **41** Vulva, ventral view. **42–43** *A. lativulva* sp. n., holotype. **42** Epigyne, ventral view; **43** Vulva, ventral view. **44–45** *A. longispinosa* Holm, holotype. **44** Epigyne, ventral view; **45** Vulva, ventral view. Scale line=0.1 mm.

leg. M. Lejeune, 00°23'N, 29°55'E (MT 155.417). Paratypes: same data, but inside dead bamboo, 1♀ (MT 155.127); same data, 1♀ (MT 158.713).

Etymology: The specific name is an adjective referring to the distinct marbled markings on the carapace.

Diagnosis: The female is diagnosed by the epigyne and coloration of the carapace. The epigyne is similar to those of *A. tenuivulva* and *A. lobeliae*, but the scape is smaller and the dorsal plate narrower. The clear marbled markings on the carapace, especially the striae, are also distinctive.

Description: *Female* (holotype): Total length 5.0. Carapace length 2.25, width 1.45. Abdomen length 2.6. Sternum length 1.2, width 0.95. Carapace yellow-brown, irregularly suffused with grey marbling in median line, on distinct striae, and toward margins. Chelicerae yellow-brown. Legs yellow with faint traces of darker annulations medially and distally on tibiae. Sternum yellow-brown, lightly suffused with grey. Abdomen pale grey, dorsally with 5 pairs of small darker grey blotches, and short anterior grey stripe in midline, followed by 2 small central spots. With numerous scattered small white guanine spots. Laterally with grey band. Venter pale grey. Eyes: AME small, *c.* 0.7 diam. apart and *c.* 1.2 diam. from ALE, PME *c.* 0.7 diam. apart and *c.* 0.7 diam. from PLE. Clypeus with pair of sulci below lateral eyes. Chelicerae with 6 promarginal teeth, no retro-marginal denticles visible. Legs: femora I, III and IV with 2 dorsal spines, II with 3; femur I also with 2 prolateral spines. Remaining segments of legs II and IV missing. Tibiae I and III with 2 dorsal spines and 1 prolateral spine, I also with 2 retrolateral, 4 ventral and 2 ventral apical spines, III with 1 retrolateral, 4 ventral and 4 apical ventral and lateral spines. Metatarsus III with 1 dorsal and 1 retrolateral spine. TmI 0.87.

Trichobothria long and slightly bent. Epigyne (Figs. 38–39): Dorsal plate relatively narrow, with small rectangular scape. Median ducts long, fairly close to bilobed spermathecae.

Variation (*n*=2): Total length 4.8–5.2. Carapace length 2.1–2.25, width 1.4–1.45. Abdomen length 2.6–2.8. Sternum length 1.1–1.2, width 0.9–0.95. Abdomen sometimes with 6 pairs of dorsal blotches. All the specimens appear rather bleached, so coloration probably should be darker. Legs: femur I sometimes with 3 dorsal spines. Tibiae II and IV with 2 dorsal, 1 prolateral and 2 retrolateral spines, II with 4 ventral and 2 ventral apical spines, IV with 4 ventral and 4 apical ventral and lateral spines. Metatarsus III sometimes with 1 prolateral spine, metatarsus IV with 1 dorsal, 1 prolateral, 1 retrolateral and 1 ventral spine (2 dorsal on one leg). TmI 0.87–0.88, TmIV 0.87–0.88 (*n*=2). Leg measurements of paratype MT 158.713: carapace length 2.1:

	Fe	Pa	Ti	Mt	Ta	Total
I	2.30	0.45	2.20	2.25	1.30	8.50
IV	2.25	0.50	2.15	2.25	1.35	8.50

Male: Unknown.

Distribution: Known only from the type locality, Ruwenzori, Congo.

Ecology: Females collected in July–August, at 2750 m altitude, among bamboo or inside dead bamboo.

Afrometa picta Holm, 1968 (Figs. 40–41)

Afrometa picta Holm, 1968: 30, figs. 45–46 (descr. ♀).

Types: Holotype ♀, Congo, Kivu, Uvira Terr., Lukula, 2780 m, 4 September 1951, leg. N. Leleup (MT 131.635), examined. Paratypes: same data, 1♀ (MT

92606-7); Congo, Kivu, Uvira Terr., Mt. Kambekulu, 2450 m, June 1955, 1♀, leg. N. Leleup (UZM type 1142).

Other material examined: Congo, Kivu, Uvira Terr., Mt. Kambekulu, 2450 m, June 1955, 2♀, leg. N. Leleup (MT 081.521).

Diagnosis: The female is diagnosed by the epigyne and chaetotaxy. The epigyne is closest to that of *A. lobeliae*, but the broad scape, filling most of the width of the dorsal plate, is distinctive. The body coloration is also similar to that of *A. lobeliae*, but *A. picta* is unusual among the larger species with pale abdomens in having only one dorsal spine on all femora and six ventral spines on tibiae I-II.

Description: Female: Described by Holm (1968). Supplementary information based on new material: Total length 4.15–4.3. Carapace length 1.8, width 1.25. Abdomen length 2.15–2.6. Sternum length 0.95–1.0, width 0.8–0.85. Carapace yellow-brown, suffused with dark grey in broad marginal band with marbled appearance and in broad diffuse band in midline. Chelicerae and legs yellow-brown, no markings. Sternum yellow-brown suffused with grey. Abdomen dorsally whitish-grey with 4–6 pairs of black bars or blotches, mostly joined in midline to broad black longitudinal stripe. Broad black band laterally, venter whitish grey. Eyes: AME small, *c.* 0.5 diam. apart and *c.* 1.2 diam. from ALE, PME *c.* 0.3 diam. apart and *c.* 0.3 diam. from PLE. Chelicerae with 5 or 6 promarginal teeth and 4–6 small retromarginal denticles (not visible in holotype). Legs: all femora with 1 dorsal spine, femur I also with 2 prolateral spines. All tibiae with 2 dorsal, 1 prolateral and 1 retrolateral spine, tibiae I-II with 6 ventral spines and 2 ventral apical spines, III-IV with 3 or 4 ventral spines (1 basal sometimes missing) and 4 apical ventral and lateral spines. Metatarsi III and IV with 1 dorsal spine. TmI 0.82–0.88, TmIV 0.79–0.83 (*n*=2). Trichobothria very long and bent. Epigyne (Figs. 40–41): Dorsal plate broad but shallow, with broad scape occupying most of its width, upturned anteriorly. Median ducts long (longer than in holotype in which they look slightly deformed), slightly overlapping long bilobed spermathecae.

Male: Unknown.

Distribution: Known only from Congo, Kivu, Uvira Terr., Lukula and Mt. Kambekulu.

Ecology: Females collected in June and September, at 2450 and 2780 m altitude. Habitat unknown.

Afroneta lativulva sp. n. (Figs. 42–43)

Type: Holotype ♀, Congo, Ruwenzori, N face, Kilindera, 2750 m, bamboo litter, July–August 1974, leg. M. Lejeune, 00°23'N, 29°55'E (MT 154.766).

Etymology: The specific name is an adjective referring to the dorsal plate of the epigyne being very broad in relation to its depth.

Diagnosis: The female is diagnosed by the epigyne, colour and chaetotaxy. The dorsal plate of the epigyne is very broad in relation to its depth, and the colour of the carapace and legs is almost uniform yellow-brown. The colour is similar to that of the male of *A. fulva*, but they

are unlikely to be conspecific as *A. fulva* is larger, especially the leg length (the male would be expected to be smaller than the female), the carapace of *A. fulva* is a deeper colour, the femora and tibiae have longer and more numerous spines, and the habitats and altitudes are different. The epigyne is fairly close to that of *A. pallens*, but distinctively different, as is the body coloration.

Description: Female (holotype): Total length 3.3. Carapace length 1.5, width 1.1. Abdomen length 1.6. Sternum length 0.85, width 0.7. Carapace yellow-brown, lightly suffused with grey towards margins. Chelicerae and legs yellow-brown, no markings. Sternum yellow-brown, lightly suffused with grey. Abdomen dorsally greyish white, with grey broad irregular median longitudinal band, and *c.* 5 pairs of ill-defined lateral grey blotches. Light grey stripe laterally. Venter light grey with pair of white longitudinal lines laterally. Eyes: AME small, *c.* 1 diam. apart and *c.* 1.2 diam. from ALE, PME *c.* 0.8 diam. apart and *c.* 0.5 diam. from PLE. Clypeus with pair of sulci below lateral eyes. Chelicerae with 5 promarginal teeth, no retromarginal denticles visible. Legs: all femora with 2 short dorsal spines, femur I also with 2 prolateral spines. All tibiae with 2 dorsal, 1 prolateral, 1 retrolateral and 4 ventral spines, tibiae I-II with 2 ventral apical spines, III-IV with 4 apical ventral and lateral spines. Metatarsus III with 1 dorsal spine, metatarsus IV with 1 dorsal, 1 prolateral and 1 ventral spine. TmI 0.68, TmIV 0.68. Trichobothria long and strongly bent. Leg measurements:

	Fe	Pa	Ti	Mt	Ta	Total
I	1.50	0.45	1.50	1.35	1.10	5.90
IV	1.65	0.45	1.50	1.40	1.10	6.10

Epigyne (Figs. 42–43): Dorsal plate very broad in relation to its depth, with broad curved scape. Median ducts well separated, broad, overlapping single-lobed spermathecae.

Male: Unknown.

Distribution: Known only from the type locality, Ruwenzori, Congo.

Ecology: Female collected in July–August, at 2750 m altitude, in bamboo litter.

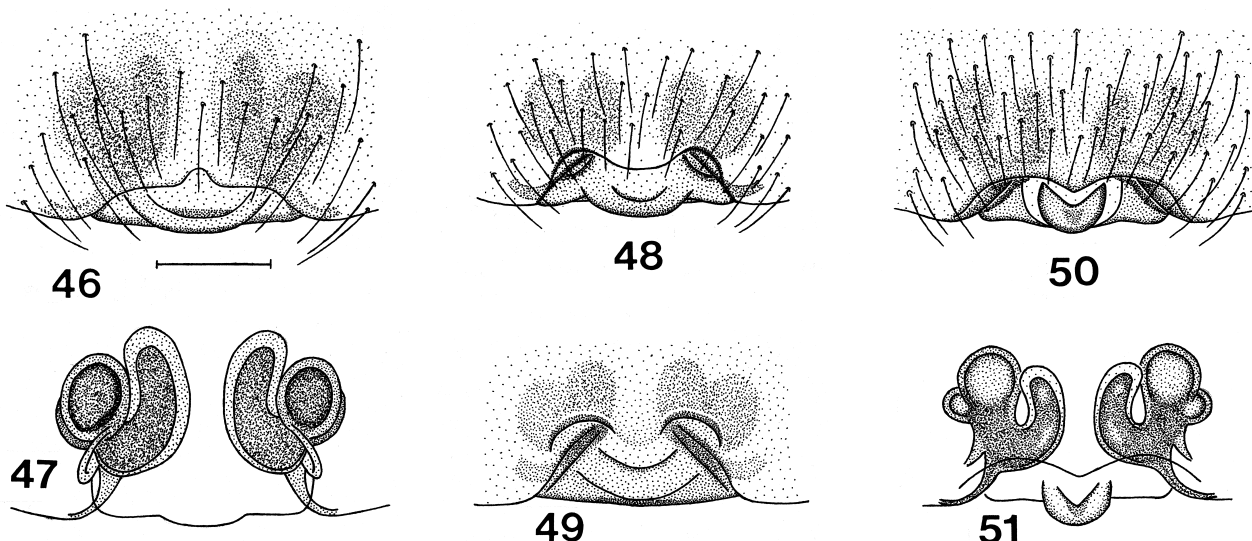
Afroneta longispinosa Holm, 1968 (Figs. 44–45)

Afroneta longispinosa Holm, 1968: 33, figs. 49–51 (descr. ♀).

Type: Holotype ♀, Congo, Kivu, Muhi, R. Isale, 3025 m, in litter, July 1955, leg. N. Leleup (MT 81.693), examined.

Diagnosis: The female is diagnosed by the epigyne, with short broad median ducts situated posterior to the spermathecae, and by the 4 pairs of long ventral spines on tibiae I-II.

Description: Female (holotype): Described by Holm (1968). Supplementary notes: Ground colour of carapace yellow-brown rather than brown. Eyes: AME slightly more than 1 diam. from ALE. Legs: one femur II with 2 dorsal spines. Last pair of ventral spines on tibiae I-II are shorter, apical spines, tibiae III-IV also



Figs. 46–51: **46–47** *Afroneta altivaga* Holm, holotype. **46** Epigyne, ventral view; **47** Vulva, dorsal view. **48–49** *A. basilewskyi* Holm, holotype. **48** Epigyne, ventral view; **49** Ditto, postero-ventral view. **50–51** *A. tristis* sp. n., holotype. **50** Epigyne, ventral view; **51** Vulva, ventral view. Scale line=0.1 mm.

with pair of apical lateral spines. Metatarsus III also with 1 dorsal spine. Epigyne (Figs. 44–45): Dorsal plate broad, but very shallow in ventral view, with thin posterior lip. Spermathecae situated anterior to short, broad median ducts, which curve antero-ventrally.

Male: Unknown.

Distribution: Known only from the type locality, Mt. Muhi, Congo.

Ecology: Female collected in July, at 3025 m altitude, in litter.

Afroneta altivaga Holm, 1968 (Figs. 46–47)

Afroneta altivaga Holm, 1968: 26, figs. 39–40 (descr. ♀).

Type: Holotype ♀, Congo, Kivu, Mt. Muhi, R. Isale, 3025 m, in litter, July 1955, leg. N. Leleup (MT 81.766), examined.

Diagnosis: The female is diagnosed by the epigyne, coloration and chaetotaxy. The epigyne is closest to that of *A. basilewskyi*, but the dorsal plate is broader in relation to its depth and the median ducts are longer. The coloration and chaetotaxy are also close to those of *A. basilewskyi*, but *A. altivaga* has metatarsus III with a dorsal spine and the coloration is generally darker, especially the legs.

Description: *Female* (holotype): Described by Holm (1968). Supplementary notes: Legs dark brown. Abdominal spots grey, first 3 pairs with white guanine spots. Venter dark grey. Clypeal sulci rather diagonal. Eyes: AME *c.* 1 diam. apart and *c.* 1.5 diam. from ALE, posterior eyes *c.* 0.7 diam. apart. Legs: left femora with 2, 3, 2, 2 dorsal spines, right femora with 1, 1, 2, 2. Two lateral apical spines also on tibia III. Metatarsus IV also with 1 ventral spine. Spines strong. Epigyne (Figs. 46–47): Dorsal plate very broad in relation to its depth, with exceptionally broad, shallow central scape. Median ducts long and broad, lying close to almost spherical spermathecae.

Male: Unknown.

Distribution: Known only from the type locality, Mt. Muhi, Congo.

Ecology: Female collected in July, at 3025 m altitude, in litter.

Afroneta basilewskyi Holm, 1968 (Figs. 48–49)

Afroneta basilewskyi Holm, 1968: 27, figs. 41–42 (descr. ♀).

Types: Holotype ♀, Tanzania, Mt. Meru, Olkokola, NE slope, 2750 m, at source of R. Latia, 25–30 June 1957, leg. P. Basilewsky & N. Leleup (MT 111.715), examined. Paratypes: same data, 6♀; same locality, in wooded ravine, 1♀; in gorge of R. Latia, 1♀ (UZM type 1140 and MT 112.137, 111.908, 131.636).

Diagnosis: The female is diagnosed by the epigyne, coloration and chaetotaxy. The epigyne is closest to those of *A. praticola* and *A. altivaga*, but the median ducts are longer in *A. altivaga* and the scape is more rounded in *A. praticola*. The abdominal coloration of *A. praticola* differs in being pale and unicolorous, and the ventral tibial spines are fewer. The epigyne of *A. altivaga* also differs in the dorsal plate being broader in relation to its depth, and metatarsus III has a dorsal spine.

Description: *Female* (holotype): Described by Holm (1968). Supplementary notes: Annulation of legs quite marked. Three of the 5 pairs of dorsal abdominal pale patches contain white guanine spots. Leg spines strong, no lateral apical spines on tibia III. Epigyne (Figs. 48–49): Dorsal plate with broad central scape. Median ducts extend anteriorly about as far as spermathecae (this varies according to angle of view, as the spermathecae are set more dorsally).

Male: Unknown.

Distribution: Known only from the type locality, Mt. Meru, Tanzania.

Ecology: Females collected in June, at 2700–2750 m altitude, near river and in wooded ravine.

Afroneta tristis sp. n. (Figs. 50–51)

Type: Holotype ♀, Congo, Ruwenzori, N face, Kilindera camp, 2750 m, bamboo litter, July–August 1974, leg. M. Lejeune, 00° 23' N, 29° 55' E (MT 158.574).

Etymology: The specific name is a Latin adjective meaning “dark”, referring to the coloration of the carapace and abdomen.

Diagnosis: The female is diagnosed by the epigyne and coloration. The epigyne is unlike that of any other known species of *Afroneta*, but with its large, anteriorly notched scape is perhaps closest to that of *A. lobeliae*. The body coloration is much darker than that of any of the *A. lobeliae* group of species, and the multiple trichobothria on metatarsi III and IV are also unusual.

Description: *Female* (holotype): Total length 3.9. Carapace length 1.65, width 1.15. Abdomen length 2.1. Sternum length 1.05, width 0.75. Carapace dark yellow-brown, strongly marked with dark grey on striae, and with grey marbling in central band and toward margins. Chelicerae dark yellow-brown. Legs yellow-brown, no markings. Sternum dark yellow-brown suffused with grey. Abdomen dorsally dark grey with 4 pairs of pale grey spots in posterior half, anterior pair larger. Few minute white guanine spots in grey spots. Laterally dark grey with 1 pale grey spot on each side, and curved pale band towards posterior ventral end. Venter pale grey. Eyes: AME small, *c.* 0.7 diam. apart and *c.* 1 diam. from ALE, PME *c.* 0.5 diam. apart and *c.* 0.3 diam. from PLE. Clypeus with pair of sulci below lateral eyes. Chelicerae with 5 promarginal teeth and 2 small retro-marginal denticles. Sternum broadly extended between coxae IV. Legs: all femora with 2 dorsal spines, left I with 3; femur I also with 2 prolateral spines. All other segments of legs I–II missing. Tibiae III–IV with 2 dorsal, 2 prolateral, 1 retrolateral, 4 ventral, and 4 apical ventral and lateral spines. Metatarsus III with 1 dorsal, 1 prolateral and 1 retrolateral spine. Metatarsus IV with

1 dorsal, 1 prolateral, 1 retrolateral and 1 ventral spine. TmIV 0.81–0.82. Metatarsus IV also with 3 more proximal trichobothria, metatarsus III with 2 extra trichobothria on one leg and 4 on the other. Trichobothria long and bent. Leg measurements:

	Fe	Pa	Ti	Mt	Ta	Total
I	1.60	—	—	—	—	—
IV	1.70	0.45	1.50	1.45	0.95	6.05

Epigyne (Figs. 50–51): Dorsal plate very broad in relation to its depth, with large central scape with prominent anterior notch. Median ducts moderately short, clearly separated from bilobed spermathecae.

Male: Unknown.

Distribution: Known only from the type locality, Ruwenzori, Congo.

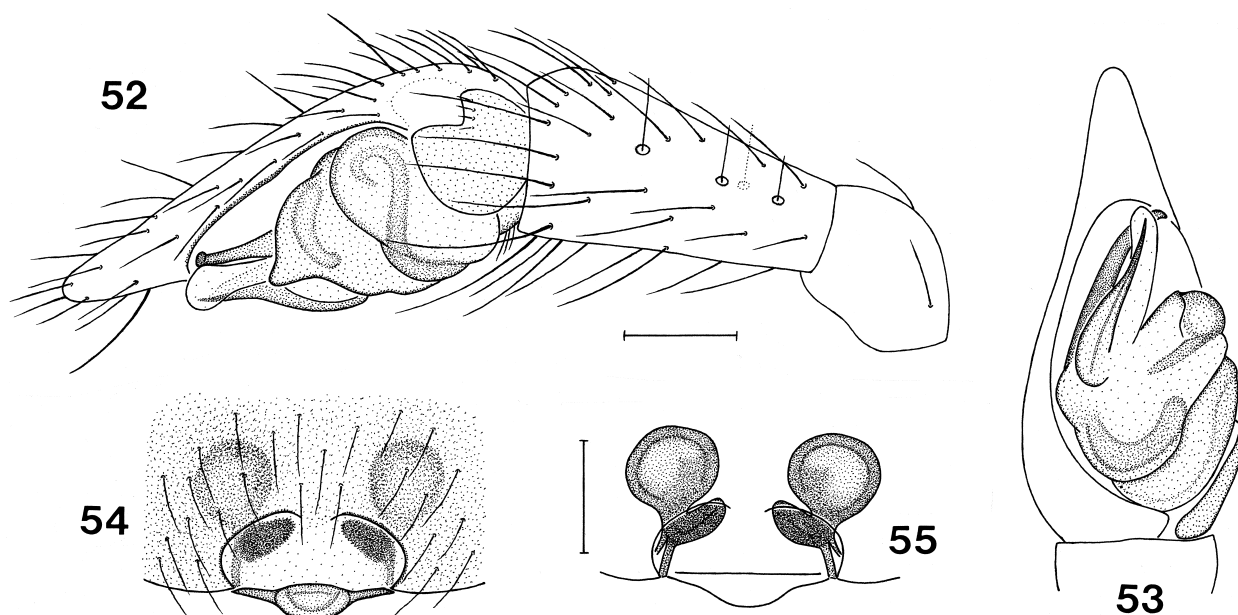
Ecology: Female collected in July–August, at 2075 m altitude, in bamboo litter.

Afroneta bamilekei Bosmans, 1988 (Figs. 52–55)

Afroneta bamilekei Bosmans, 1988: 28, fig. 11g–j (descr. ♂ ♀).

Types: Holotype ♂, Cameroon, Bambouto Mountains, 2700 m, in pitfall among shrubs in montane grassland, 24 January 1983, leg. J. Van Stalle (MT 165.085), examined. Paratypes: same data, 1♂ (MT 165.098), examined; Cameroon, Mt. Manengouba, 2250 m, in litter of montane forest, 25 February 1983, 3♀, leg. R. Bosmans (MT 165.107), examined.

Diagnosis: The male is diagnosed by the palp. The short, almost straight, embolus is unlike that of any other known *Afroneta* species, and the long, almost straight, tegular apophysis with a hooked tip is also unusual, being close to that of *A. millidgei* Merrett & Russell-Smith, which however differs greatly in other respects. In the female the epigyne is also distinctive,



Figs. 52–55: *Afroneta bamilekei* Bosmans. **52** Left male palp (holotype), retrolateral view (dotted line indicates position of trichobothrium on right palp, see text); **53** Ditto, ventral view; **54** Epigyne, ventral view; **55** Vulva, ventral view. Scale lines=0.1 mm.

possibly being closest to those of *A. praticola* and *A. basilewskyi*, but with much shorter median ducts.

Description: Both sexes described by Bosmans (1988). Supplementary notes: *Male* (holotype): Carapace marbled with grey rather as in *A. guttata* Holm. Legs: Bosmans (1988) states that only a ventral spine on all tibiae is present, but tibiae I-II have 3 ventral spines and 2 ventral apical spines, and tibia III has 2 ventral spines and 2 ventral apical spines; tibia IV missing. All femora lack spines, as stated by Bosmans, but the base of a single spine is clearly visible on all femora and the base of a prolateral spine on femur I (as described by Bosmans for the female). TmI 0.74, metatarsus IV missing. Palp (Figs. 52–53): Left palp with 3 retrolateral trichobothria, as shown in Fig. 52 and by Bosmans (1988: fig. 11g), but right palp with 2 trichobothria, basal one between positions of two basal ones of left palp, as indicated by dotted line in Fig. 52. In view of the proportions of the tibia compared with other *Afroneta* species, the normal expected number of trichobothria would probably be three. Tegular apophysis long and almost straight, apart from hooked distal end. Embolus short and almost straight, tapering gradually to a blunt point, accompanied by a slightly bulbous-ended conductor. Paracymbium broad and rounded, with shallow notch.

Male (paratype): Total length 2.70. Carapace length 1.45, width 1.05. Abdomen length 1.40. Sternum length 0.85, width 0.70. Legs: many spines missing, as in holotype, but tibiae I-II with 3 ventral spines and tibia IV with 2 ventral spines. Metatarsus IV with 1 prolateral spine. TmI 0.70, TmIV 0.75. Palp: tibia with 3 retrolateral trichobothria.

Female ($n=3$): Total length 2.6–3.3. Carapace length 1.2–1.35, width 0.85–0.95. Abdomen length 1.3–1.9.

Sternum length 0.7–0.8, width 0.6–0.65. Abdomen dorsally grey with 4 pairs of whitish spots followed by 2 narrow pale bars; 2 or 3 pairs of lateral pale spots, positions variable. Legs: all femora with 1 dorsal spine, occasionally absent on III or IV. Tibiae I-II sometimes with 2 ventral spines instead of 3, III-IV sometimes with 2 ventral spines instead of 1; tibiae I-II also with 2 ventral apical spines, III-IV with 4 apical ventral and lateral spines. Metatarsus IV usually with 1 ventral spine, sometimes absent. TmI 0.70, TmIV 0.71 ($n=2$). Leg measurements of specimen with carapace length 1.35:

	Fe	Pa	Ti	Mt	Ta	Total
I	1.15	0.35	1.05	0.90	0.70	4.15
IV	1.20	0.35	1.05	0.95	0.70	4.25

Epigyne (Figs. 54–55): Dorsal plate broad, with rounded anterior margin; posterior edge produced into narrow thickened lip with short, broad central scape. Median ducts short, situated postero-medially to simple round spermathecae.

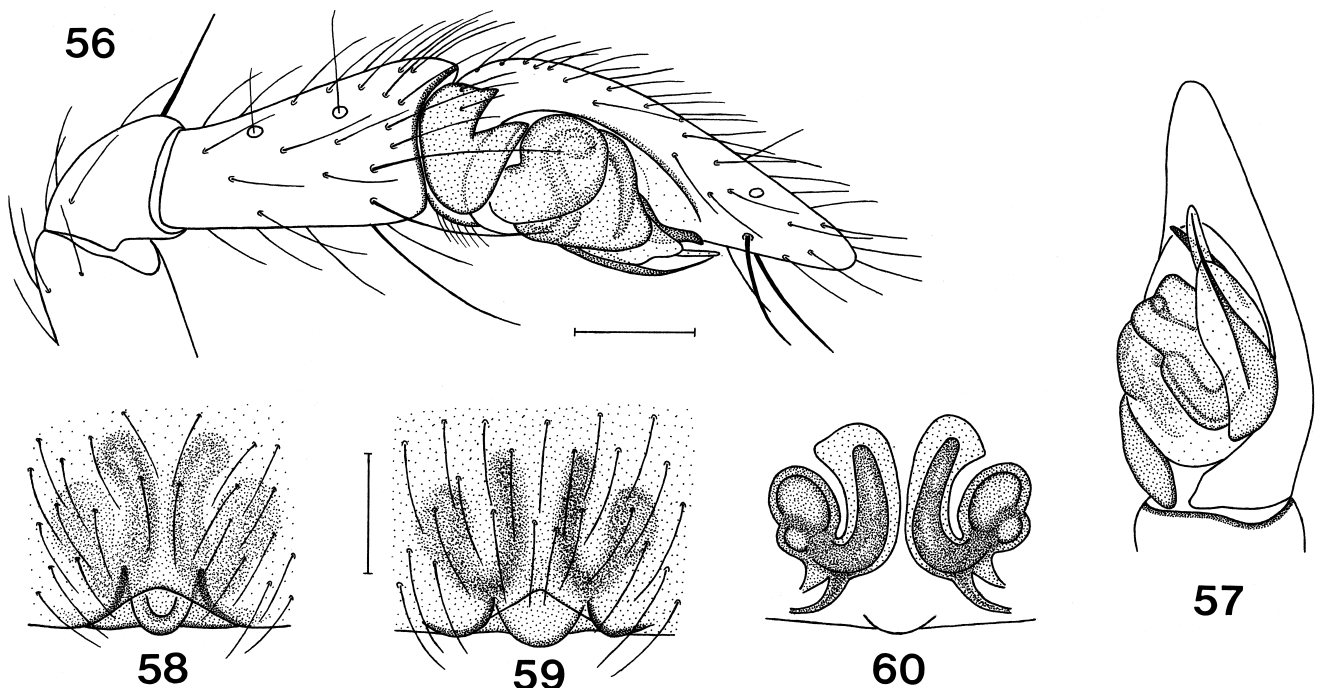
Distribution: Known only from the Bambouto Mountains and Mt. Manengouba, Cameroon. The two localities are *c.* 70 km apart, but in view of the similarities in coloration and chaetotaxy it seems reasonable to assume that the sexes are correctly matched.

Ecology: Males taken in January, at 2700 m, among shrubs in montane grassland; females collected in February, at 2250 m, in litter of montane forest.

Afroneta guttata Holm, 1968 (Figs. 56–60)

Afroneta guttata Holm, 1968: 29, figs. 43–44 (descr. ♀).

Types: Holotype ♀, Congo, Kivu, Uvira Terr., Mt. Kambekulu, 2450 m, June 1955, leg. N. Leleup,



Figs. 56–60: *Afroneta guttata* Holm. **56** Right male palp (ex MT 081.512), retrolateral view; **57** Ditto, ventral view; **58** Epigyne (holotype), ventral view; **59** Epigyne (specimen MT 203.025), ventral view; **60** Vulva (specimen MT 081.512), ventral view. Scale lines=0.1 mm.

03°15'S, 28°50'E (MT 81.538), examined. Paratypes: same locality, 3♀ (UZM type 1141 and MT 81.430).

Other material examined: Same data as holotype, 2♂ 1♀ (MT 0.81.512); same locality, bog at source of Kahololo, litter in montane forest with *Hagenia*, 2800 m, January 1960, 1♀, leg. N. Leleup, 03°15'S, 28°50'E (MT 203.025).

Diagnosis: The species is diagnosed by the coloration, male palp and epigyne. The abdominal coloration, palp and epigyne are all similar to those of *A. fusca* sp. n. and *A. subfusca* Holm, but *A. fusca* is distinguished by the dark leg femora and *A. subfusca* by having fewer ventral spines on tibiae I-II. The male palp of *A. guttata* has the embolus longer than that of *A. subfusca*, but the embolus and tegular apophysis are shorter than in *A. fusca*. The epigyne has the median ducts longer than in *A. subfusca*, and the posterior part of the epigyne lacks the transverse chitinised strip of *A. fusca*, having instead a clear rounded scape. The internal structures are similar to those of *A. fusca*.

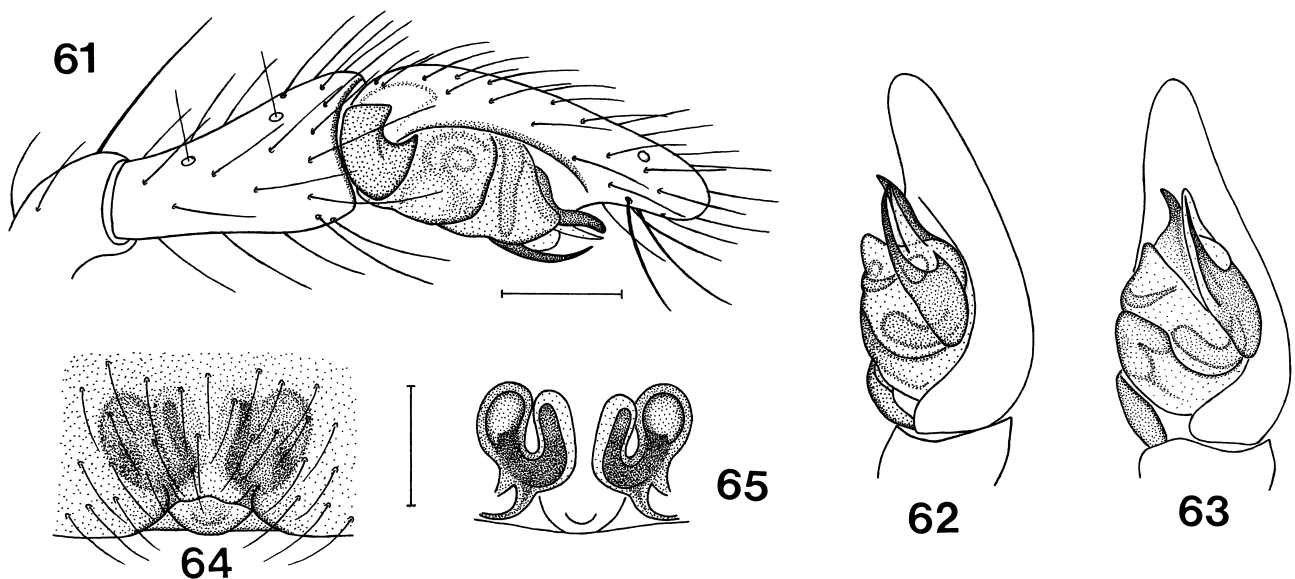
Male (n=2): Total length 2.75–2.8. Carapace length 1.4, width 1.0. Abdomen length 1.4–1.45. Sternum length 0.8, width 0.65. Carapace dark yellow-brown suffused with black, especially towards margin and in central band anterior to fovea and on striae. Chelicerae and legs yellow-brown, no markings. Sternum dark yellow-brown, suffused with black. Abdomen dorsally grey to black, with 4 pairs of whitish grey spots in posterior half, laterally black with 1 pair of white spots just anterior to spinnerets. Venter grey with lighter longitudinal line laterally. Eyes: AME small, *c.* 0.5 diam. apart and *c.* 1 diam. from ALE, PME large, *c.* 0.3 diam. apart and *c.* 0.3 diam. from PLE. Clypeus with pair of sulci below lateral eyes. Chelicerae with 4 promarginal teeth and 4 small retromarginal denticles. Legs: all femora with 1 dorsal spine, I, II and IV sometimes with 2, femur I also with 1 or 2 prolateral spines. All tibiae with 2 dorsal, 1 prolateral and 1 retrolateral spine, tibiae I-II with 6 ventral spines and 2 ventral apical spines,

tibiae III-IV with 2 (III) or 3 (IV) ventral spines and 4 apical ventral and lateral spines. Metatarsi III-IV with 1 dorsal spine. TmI 0.80–0.81, TmIV 0.77–0.83. Trichobothria long and slightly bent. Leg measurements:

	Fe	Pa	Ti	Mt	Ta	Total
I	1.30	0.35	1.20	1.00	0.80	4.65
IV	1.30	0.35	1.20	1.10	0.85	4.80

Palp (Figs. 56–57): Tibia with 2 retrolateral trichobothria. Paracymbium large, with deep notch. Embolus and tegular apophysis moderately long.

Female: Described by Holm (1968). Supplementary information based on new material (*n*=2): Total length 3.1–3.6. Carapace length 1.5–1.75, width 1.05–1.25. Abdomen length 1.75–2.0. Sternum length 0.95–1.05, width 0.7–0.8. Carapace dark yellow-brown, suffused with black, especially in midline, on striae and near margin. Chelicerae dark yellow-brown. Legs yellow-brown. Sternum dark yellow-brown, suffused with black. Abdomen dorsally black with 4 pairs of whitish grey spots (posterior two joined in midline), sometimes with white guanine spots, and pair of small pale spots laterally near spinnerets. Venter pale grey, with pair of thin white lines laterally. Eyes: AME small, *c.* 0.5 diam. apart and *c.* 1.2 diam. from ALE, PME *c.* 0.5 diam. apart and *c.* 0.5 diam. from PLE. Chelicerae with 6 promarginal teeth. Legs: all femora with 1 dorsal spine, II and IV sometimes with 2, femur I also with 1 or 2 prolateral spines. All tibiae with 2 dorsal, 1 prolateral and 1 retrolateral spine, tibiae I-II with 5 or 6 ventral spines (1 or 2 basal) and 2 ventral apical spines, tibiae III-IV with 2 ventral and 4 apical ventral and lateral spines. Lateral apical spines sometimes missing. Metatarsi III and IV with 1 dorsal spine. TmI 0.87–0.91, TmIV 0.87. Epigyne (Figs. 58–60): Dorsal plate narrow, with broad rounded central scape. Median ducts long, curved outwards, broad near anterior ends. The epigyne of specimen MT 203.025 (Fig. 59) differs slightly in appearance from those of the



Figs. 61–65: *Afroneta subfusca* Holm. **61** Right male palp (holotype), retrolateral view; **62** Ditto, ventro-mesal view; **63** Right male palp (ex MT 154.771), ventral view; **64** Epigyne (ex MT 155.396), ventral view; **65** Vulva (155.396), ventral view. Scale lines=0.1 mm.

holotype and the other female examined, but in all other characters it resembles typical *A. guttata*.

Distribution: Known only from the type locality, Mt. Kambekulu, Congo.

Ecology: Both sexes collected in June, at 2450 m altitude, habitat unknown. One female taken in January, at 2800 m, in litter in montane forest with *Hagenia*.

***Afroneta subfusca* Holm, 1968** (Figs. 2, 61–65)

Afroneta subfusca Holm, 1968: 31, figs. 47–48 (descr. ♂).

Type: Holotype ♂, Congo, Ruwenzori, R. Kaliba, 2245 m, 25 January 1954, leg. R. P. J. Célis (MT 77.049), examined.

Other material examined: Congo, Ruwenzori, N face, Kilindera, 2750 m, July–August 1974, leg. M. Lejeune, 00°23'N, 29°55'E: in Bambusetum, 1♂ 3♀ (MT 155.396); in Bambusetum, 1♂ (MT 155.417); in dead bamboo, 1♂ (MT 155.402); inside dead bamboo, 1♀ 1 juv. (MT 154.583); bamboo litter, 1♀ (MT 158.574); bamboo litter, 3♂ 1♀ (MT 154.771); bamboo litter, 1♀ (MT 158.719); Musoso, bamboo litter, 1♂ 1♀ (MT 158.601); mainly on grasses, 1♀ (MT 158.741).

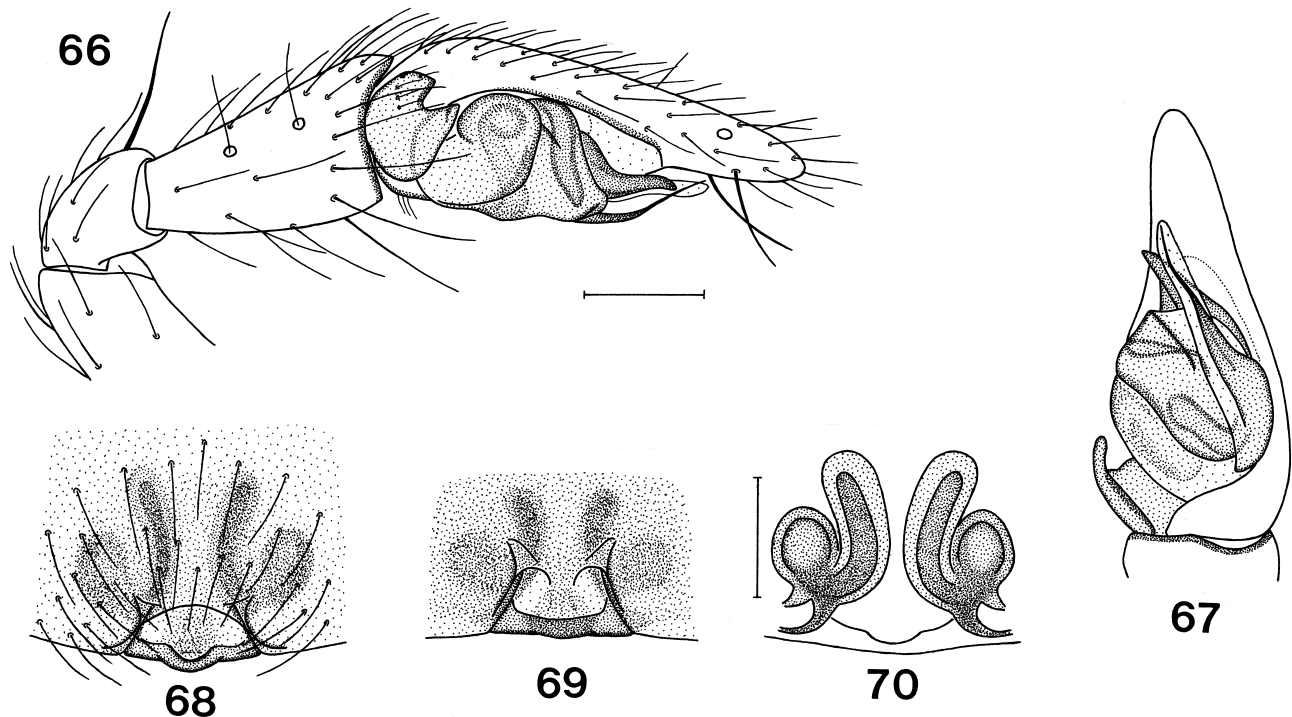
Diagnosis: The species is diagnosed by the coloration, male palp and epigyne. The abdominal coloration, palp and epigyne are all similar to those of *A. fusca* sp. n. and *A. guttata*, but *A. fusca* is distinguished by the dark leg femora and *A. guttata* by the larger number of ventral spines on tibiae I–II. The male palp of *A. subfusca* has a shorter embolus and smaller paracymbium than those of *A. fusca* and *A. guttata*, and the epigyne has the median ducts shorter (distance from epigastric groove to anterior end of median ducts less than 0.13, vs. more than 0.16 in *A. fusca* and *A. guttata*).

Description: **Male:** Described by Holm (1968). Supplementary information based on new material ($n=7$): Total length 2.2–2.8. Carapace length 1.2–1.35, width 0.85–0.95. Abdomen length 1.05–1.4. Sternum length 0.7–0.8, width 0.6–0.65. Darkening on legs often obscure or absent. Abdomen black with 4 pairs of dorsal pale spots, sometimes with white guanine spots, and one pair of posterior lateral pale spots. Chelicerae with 4 or 5 promarginal teeth. Legs: all femora with 1 dorsal spine, femur I also with 1 prolateral spine, femora I or II occasionally with 2 dorsal spines. All tibiae with 2 dorsal, 1 prolateral and 1 retrolateral spine, tibiae I–II usually with 3 ventral spines (1 basal and 2 median) and 2 ventral apical spines, III–IV with 1 ventral spine and 4 apical ventral and lateral spines; tibiae I–II occasionally with 4 ventral spines. Metatarsi III–IV with 1 dorsal spine (one also with 1 ventral on Mt IV). TmI 0.68–0.75, TmIV 0.62–0.75. Trichobothria long and slightly bent. Leg measurements of specimen with carapace length 1.3:

	Fe	Pa	Ti	Mt	Ta	Total
I	1.05	0.30	0.95	0.95	0.70	3.95
IV	1.05	0.30	0.95	0.95	0.60	3.85

Palp (Figs. 61–63): Tibia with 2 retrolateral trichobothria. Paracymbium small and smoothly rounded, with pointed tip. Embolus and tegular apophysis short.

Female ($n=9$): Total length 2.65–3.45. Carapace length 1.35–1.55, width 0.95–1.1. Abdomen length 1.35–2.1. Sternum length 0.8–1.0, width 0.6–0.75. Carapace dark yellow-brown, suffused with grey on striae. Chelicerae dark yellow-brown. Legs yellow-brown, femora and tibiae slightly darkened distally, femora sometimes streaked with grey in darker specimens, but not as dark as in *A. fusca*. Sternum dark yellow-brown



Figs. 66–70: *Afroneta fusca* sp. n. **66** Right male palp (holotype), retrolateral view; **67** Ditto, ventral view; **68** Epigyne (ex MT 154.771), ventral view; **69** Ditto, postero-ventral view; **70** Vulva (154.771), ventral view. Scale lines=0.1 mm.

suffused with black. Abdomen (Fig. 2) dark grey with 4 pairs of pale dorsal spots and 1 pair of pale spots laterally just in front of spinnerets, sometimes also 1 or 2 ill-defined pale lateral spots more anteriorly. Venter pale grey, dark laterally. Eyes: AME small, *c.* 0.7 diam. apart and *c.* 1 diam. from ALE, PME *c.* 0.4 diam. apart and *c.* 0.5 diam. from PLE. Clypeus with pair of sulci below lateral eyes. Chelicerae with 4 or 5 promarginal teeth. Legs: all femora with 1 dorsal spine, femur I also with 1 prolateral spine, femora I or II occasionally with 2 dorsal spines. All tibiae with 2 dorsal, 1 prolateral and 1 retrolateral spine, tibiae I-II usually with 3 ventral and 2 ventral apical spines, III-IV usually with 1 ventral and 4 apical ventral and lateral spines; tibia I occasionally with 4 and tibia IV occasionally with 2 ventral spines. Metatarsi III-IV with 1 dorsal spine, IV occasionally also with 1 ventral spine. TmI 0.67–0.77, TmIV 0.62–0.73. Trichobothria long and slightly bent. Leg measurements of specimen with carapace length 1.45:

	Fe	Pa	Ti	Mt	Ta	Total
I	1.20	0.35	1.05	1.00	0.75	4.35
IV	1.20	0.35	1.05	1.00	0.70	4.30

Epigyne (Figs. 64–65): Dorsal plate small, with broad but poorly defined central scape. Median ducts short, not extending far beyond anterior edge of spermathecae. The specimen MT 158.574 has the median ducts longer than normal, but not as long as in *A. fusca*.

Distribution: Known only from the type locality, Ruwenzori, Congo.

Ecology: Both sexes collected in July–August, at 2750 m altitude, mainly in bamboo litter or inside dead bamboo. Male also taken in January at 2245 m.

Afroneta fusca sp. n. (Figs. 66–70)

Types: Holotype ♂, Congo, Ruwenzori, N face, Kilindera camp, 2750 m, inside dead bamboo, July–August 1974, leg. M. Lejeune, 00°23'N, 29°55'E (MT 154.583). Paratypes: same data: 2♀ 2 juv. (MT 154.583), 1♂ 1♀ (MT 155.049), 1♂ (MT 155.128), 1♂ (MT 158.523), 1♀ (MT 158.706); same locality: bamboo litter, 1♂ 6♀ (MT 154.771), bamboo litter, 1♂ (MT 158.574), on tree, 1♀ (MT 158.581), swept off grass, 1♂ 1♀ (MT 158.723), mainly on grass, 1♂ 4♀ (MT 158.741); all July–August, leg. M. Lejeune.

Etymology: The specific name is an adjective referring to the dark coloration of the femora.

Diagnosis: The species is diagnosed by the coloration, male palp, and epigyne. The abdominal coloration, palp and epigyne are all similar to those of *A. subfusca* and *A. guttata*, but the dark femora on all legs are distinctive. The male palp is very close to that of *A. guttata*, but the embolus, conductor and tegular apophysis are longer; in *A. subfusca* the embolus is even shorter and the paracymbium is smaller. The epigyne has long median ducts like those of *A. guttata*, but the chitinised strip across the posterior edge of the epigyne of *A. fusca* is distinctive. The epigyne of *A. subfusca* is similar in general form, but the median ducts are much shorter

(related to the shorter embolus), and it lacks the posterior chitinised strip.

Description: *Male* (holotype): Total length 2.5. Carapace length 1.3, width 0.9. Abdomen length 1.25. Sternum length 0.75, width 0.6. Carapace dark brown, suffused with black, especially on striae, slightly rugose. Chelicerae dark brown, rather rugose anteriorly. Femora of all legs dark brown, other segments pale yellow-brown. Sternum dark brown suffused with black, slightly rugose. Abdomen dorsally black, with 4 pairs of small white spots on posterior half dorsally and 3 pairs laterally. Venter grey. Eyes: AME small, *c.* 0.8 diam. apart and *c.* 1.2 diam. from ALE, PME *c.* 0.5 diam. apart and *c.* 0.7 diam. from PLE. Clypeus with pair of sulci below lateral eyes. Chelicerae with 5 promarginal teeth, no retromarginal denticles visible. Legs: all femora with 1 dorsal spine, femur I also with 1 prolateral spine. All tibiae with 2 dorsal, 1 prolateral and 1 retrolateral spine; tibiae I-II with 4 ventral and 2 ventral apical spines, III-IV with 2 ventral (1 basal and 1 median) and 4 apical ventral and lateral spines. Metatarsi III-IV with 1 dorsal spine. TmI 0.72, TmIV 0.70. Trichobothria long and slightly bent. Leg measurements:

	Fe	Pa	Ti	Mt	Ta	Total
I	0.95	0.30	0.80	0.80	0.60	3.45
IV	1.00	0.30	0.85	0.85	0.55	3.55

Palp (Figs. 66–67): Tibia moderately long, with 2 retrolateral trichobothria. Paracymbium with cluster of hairs near proximal end, disto-dorsal tip slightly thickened. Tegular apophysis long, slightly curved downwards at distal end in lateral view, broad in ventral view. Embolus long, with fine, slightly sinuous point, accompanied by long narrow conductor.

Variation (*n*=7): Total length 2.2–2.6. Carapace length 1.15–1.3, width 0.8–0.9. Abdomen length 1.0–1.35. Sternum length 0.65–0.75, width 0.5–0.6. Leg femora sometimes streaked with yellow-brown dorsally. Abdominal spots sometimes reduced. Legs: occasionally 2 dorsal spines on one femur II. Ventral tibial spines with normal maximum of 2 basal and 2 median on I-II and 1 basal and 1 median on III-IV, but basal often missing; occasionally 2 median on one IV. TmI 0.70–0.75, TmIV 0.68–0.75.

Female (*n*=16): Total length 2.7–3.5. Carapace length 1.25–1.6, width 0.85–1.05. Abdomen length 1.65–2.3. Sternum length 0.75–0.85, width 0.55–0.65. Carapace dark brown, suffused with black, especially on striae, slightly rugose. Chelicerae dark brown, rather rugose anteriorly. Femora of all legs dark brown, sometimes streaked with yellow-brown dorsally, other segments pale yellow-brown. Abdomen dorsally black, with 4 or 5 pairs of light grey blotches dorsally and 4 pairs laterally, sometimes containing white guanine spots. Venter grey. Eyes: AME small, *c.* 0.8 diam. apart and *c.* 1.2 diam. from ALE, PME *c.* 0.7 diam. apart and *c.* 1 diam. from PLE. Clypeus with pair of sulci below lateral eyes. Chelicerae with 4 promarginal teeth and 4 minute retromarginal denticles. Legs: all femora with 1 dorsal spine, one I with 2, femur I also with 1 prolateral spine. All tibiae with 2 dorsal, 1 prolateral and 1

retrolateral spine. Tibiae I-II with normal maximum of 2 basal, 2 median and 2 apical ventral spines, III-IV with 1 basal and 1 median ventral spine and 4 apical ventral and lateral spines, but basal spines often missing; one IV with 2 median ventral. Metatarsi III-IV with 1 dorsal spine, one IV with 2 (possibly regenerated). TmI 0.71–0.78, TmIV 0.68–0.79. Trichobothria long and slightly bent. Leg measurements of specimen with carapace length 1.45:

	Fe	Pa	Ti	Mt	Ta	Total
I	1.10	0.35	0.90	0.85	0.65	3.85
IV	1.15	0.35	0.90	0.90	0.60	3.90

Epigyne (Figs. 68–70): Dorsal plate moderately narrow, with narrow sclerotised strip on posterior margin with median indentation forming a scape with anterior socket. Median ducts long, clearly separated from single-lobed, almost spherical, spermathecae.

Juveniles: The 2 juveniles in tube MT 154.583 had coloration similar to adult females but generally paler.

Distribution: Known only from the type locality, Ruwenzori, Congo.

Ecology: Both sexes collected in July–August, at 2750 m altitude, mainly inside dead bamboo or in bamboo litter, also on grass and a tree.

Afroneta subfuscoides sp. n. (Figs. 71–74)

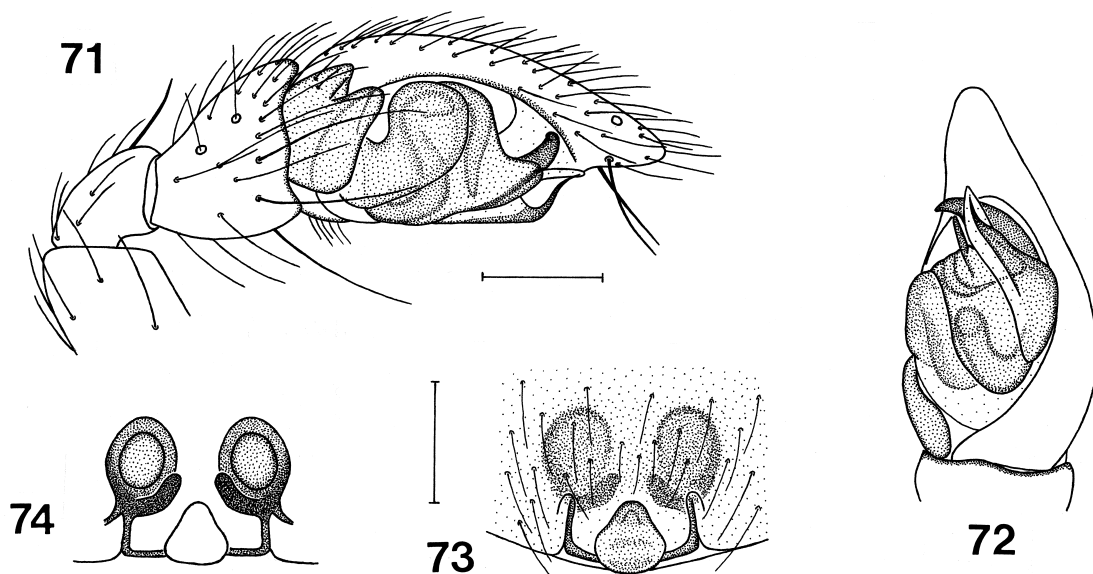
Types: Holotype ♂, Congo, Ruwenzori, N face, Kanzuiri camp, Kanzuiri ridge, 3500 m, in moss, July–August 1974, leg. M. Lejeune, 00° 25' N, 29° 54' E (MT 155.096). Paratypes: same data, 1♀ (MT 155.096); same locality, under old bark of tree heather, 1♀ (MT 154.969); Kanzuiri camp, N face of Senguye, 3810 m, in dry leaves of old *Lobelia*, 1♀ (MT 155.087); Kanzuiri camp, Karibumba, 3800 m, in old *Lobelia*, 1♀ (MT 155.427); all July–August 1974, leg. M. Lejeune.

Etymology: The specific name is an adjective referring to the body coloration resembling that of *A. subfusca*.

Diagnosis: The species is diagnosed by the coloration, male palp, and epigyne. The abdominal coloration, black with pale or white spots, is similar to that of *A. subfusca*, but the palp and epigyne are very different. The palp is closest to that of *Gibbafroneta gibbosa* sp. n., but the tibia is much shorter, the paracymbium is of a different form, the tegulum has a pronounced distolateral ridge, and the tegular apophysis is thicker in lateral view. The epigyne is also close to that of *G. gibbosa*, but the scape is more triangular and the spermathecae are closer together.

Description: *Male* (holotype): Total length 1.95. Carapace length 1.05, width 0.8. Abdomen length 1.0. Sternum length 0.6, width 0.5. Carapace orange-brown, suffused with grey towards margins and anterior to fovea, slightly rugose. Chelicerae orange-brown. Legs yellow, no markings. Sternum brown, suffused with grey, slightly rugose. Abdomen dorsally black with 2 pairs of small white spots near midpoint and one pair laterally near posterior end. A few faint pale chevrons posterior to median spots. Venter grey, black laterally. Eyes: AME small, *c.* 1 diam. apart and *c.* 1.5 diam. from ALE, PME *c.* 1 diam. apart and *c.* 1 diam. from PLE. Chelicerae with 5 promarginal teeth, no retro-marginal denticles visible. Clypeus with pair of sulci below lateral eyes. Legs: all femora with 1 dorsal spine, one II with 2, femur I also with 1 prolateral spine. All tibiae with 2 dorsal, 1 prolateral and 1 retrolateral spine, tibiae I, II and IV with 2 ventral spines (no basal), tibia III with 1. First dorsal spine on tibia IV very long (*c.* 3 diam. of tibia). Tibiae I-II with no apical spines, III-IV with 2 ventral apical spines. Metatarsi III-IV with 1 dorsal spine. TmI 0.51–0.55, TmIV 0.47. Trichobothria long and bent. Leg measurements:

	Fe	Pa	Ti	Mt	Ta	Total
I	0.80	0.25	0.60	0.65	0.50	2.80
IV	0.80	0.25	0.70	0.70	0.50	2.95



Figs. 71–74: *Afroneta subfuscoides* sp. n. **71** Right male palp (holotype), retrolateral view; **72** Ditto, ventral view; **73** Epigyne (paratype MT 154.969), ventral view; **74** Vulva (154.969), ventral view. Scale lines=0.1 mm.

Palp (Figs. 71–72): Tibia short, with 2 retrolateral trichobothria. Paracymbium with distal edge thickened dorsally. Tegulum with distal ventral edge forming a ridge, tegular apophysis thick and slightly hooked distally. Embolus short, strongly curved near distal end, accompanied by short flat conductor.

Female ($n=4$): Total length 2.1–2.3. Carapace length 1.05–1.1, width 0.75–0.8. Abdomen length 1.2–1.45. Sternum length 0.65, width 0.55. Carapace dark orange-brown, suffused with grey towards margins and anterior to fovea, slightly rugose. Chelicerae orange-brown. Legs yellow, no markings. Sternum brown, suffused with grey, slightly rugose. Abdomen dorsally black, with 4 or 5 pairs of grey spots, sometimes anterior 2 or 3 with white guanine centres, laterally with 4 pairs of diffuse grey spots, sometimes with white spots in centre. Spots greatly reduced in one specimen (from Senguye). Eyes: AME small, $c.$ 0.8 diam. apart and $c.$ 1.5 diam. from ALE, PME $c.$ 0.8 diam. apart and $c.$ 1.2 diam. from PLE. Clypeus with pair of sulci below lateral eyes. Chelicerae with 5 promarginal teeth, no retromarginal denticles visible. Legs: all femora with 1 dorsal spine, II sometimes with 2, femur I also with 1 prolateral spine. All tibiae with 2 dorsal, 1 prolateral, 1 retrolateral and 1 ventral spine (except tibia I with 2 ventral). First dorsal spine on tibia IV long ($c.$ 2.5 diam. of tibia). Tibiae I–II with no apical spines, III–IV with 2 ventral apical spines. Metatarsi III–IV with 1 dorsal spine. TmI 0.55–0.62, TmIV 0.52–0.56 ($n=4$). Trichobothria long and slightly bent. Leg measurements of specimen with carapace length 1.10:

	Fe	Pa	Ti	Mt	Ta	Total
I	0.80	0.25	0.60	0.65	0.50	2.80
IV	0.85	0.25	0.65	0.65	0.50	2.90

Epigyne (Figs. 73–74): Dorsal plate rather narrow, square, with large subtriangular scape. Median ducts short, lying posterior and median to large, single-lobed spermathecae.

Distribution: Known only from the type locality, Ruwenzori, Congo.

Ecology: Both sexes collected in July–August, at 3500–3810 m altitude, in moss, dry leaves of old *Lobelia*, and under bark of tree heather.

Genus *Gibbafroneta*, new genus

Type species: *Gibbafroneta gibbosa* sp. n.

Etymology: The generic name is derived from the Latin “gibbus”=a hump, and *Afroneta*. Gender feminine.

Diagnosis: The male is diagnosed by the hump on the carapace behind the eyes (Fig. 75), which is unique among African mynoglennines (though something similar occurs in the New Zealand genus *Cassafroneta* Blest, 1979) and is reminiscent of the erigonine *Oedothorax gibbosus* (Blackwall). Both sexes are also distinguished by the legs having few or no femoral spines and few lateral, ventral or apical tibial spines. The male palp and epigyne are closest to those of *Afroneta subfuscoides*, but

the chaetotaxy and male carapace are very different. The genus is also unusual among mynoglennines in having the leg tibiae, metatarsi and tarsi almost equal in length.

Description: The single known species has total length $c.$ 1.7–2.5. Carapace raised into a hump behind eyes in male (Fig. 75), and slightly raised in female. Eyes typical of mynoglennines, with AME small. Clypeus slightly projecting, wide, with pair of sulci below lateral eyes. Abdomen grey or black dorsally, with 4 pairs of light bars dorsally and broken longitudinal light bar laterally (Fig. 3). Legs: femora with 1 dorsal spine only on I and sometimes on II. All tibiae with 2 dorsal spines, I and IV usually with 1 prolateral spine, and I, II and IV with 1 retrolateral spine; ventral spines restricted to 1 sometimes on I and IV and occasionally on II, and occasionally 2 ventral apical spines on III and IV. Metatarsus IV with 1 dorsal spine, and occasionally 1 dorsal on metatarsus III. TmI 0.51–0.64, TmIV 0.51–0.63. Tibiae and metatarsi almost equal in length, and tarsi only $c.$ 10% shorter. Male palp (Figs. 76–77): Tibia moderately long, with 2 retrolateral trichobothria. Embolus short, distal end strongly curved dorsally in lateral view. Tegular apophysis strongly curved dorsally and laterally. Paracymbium large, with marked angular ventral anterior corner in lateral view. Epigyne (Figs. 78–79): Dorsal plate broad, with large upturned scape. Median ducts short, spermathecae small, bilobed, widely separated.

Included species: Only the type species.

Distribution: Only on volcanoes close to the border of Congo and Rwanda. Most specimens were collected in burrows of small mammals and in litter, at altitudes between 2700 and 3700 m.

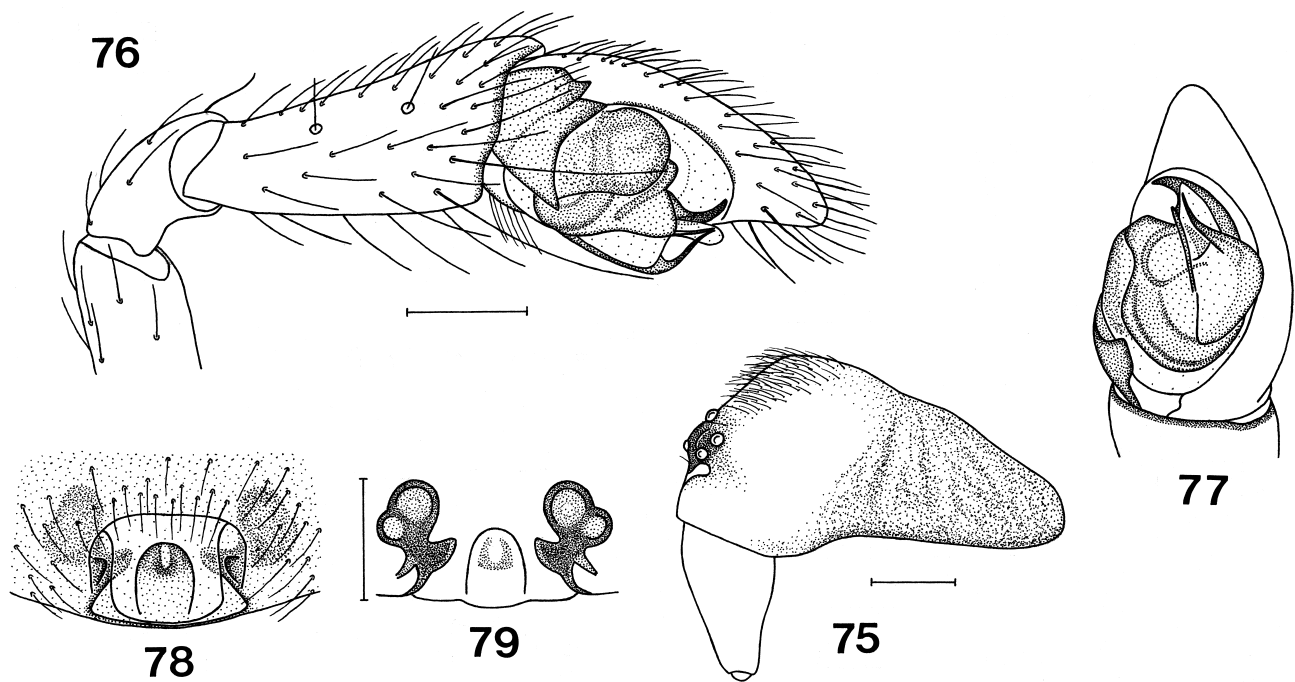
Gibbafroneta gibbosa sp. n. (Figs. 3, 75–79)

Types: Holotype ♂, Congo, Kivu, volcan Karisimbi, Rukumi, 3500 m, in mouse burrows, 14 July 1970, leg. M. Lejeune, 01°30'S, 29°27'E (MT 138.505). Paratypes: same data, 24♂ 86♀ 2 juv. (MT 138.505); Congo, Kivu, volcan Nyiragongo, Shaheru, 2700 m, in litter, 22♂ 95♀ 5 juv., 18 August 1970, leg. M. Lejeune, 01°28'S, 29°25'E (MT 138.514); Rwanda, Parc national des volcans, Bisoke, among dead leaves of giant *Senecio*, 1♀, 14 December 1984, leg. Jocqué, Nsengimana & Michiels, 01°28'S, 29°30'E (MT 165.327); same locality, 3700 m (summit), litter and moss under giant *Senecio*, 1♀, 14 December 1984, leg. Jocqué, Nsengimana & Michiels (MT 165.311).

Etymology: The specific name is an adjective derived from the Latin “gibbus”= a hump, referring to the humped carapace of the male.

Diagnosis: The species is diagnosed by the male palp and the epigyne, which are distinctive. See also diagnosis of genus.

Description: *Male* (holotype): Total length 1.85. Carapace length 0.9, width 0.7. Abdomen length 1.0. Sternum length 0.6, width 0.5. Carapace yellow-brown, suffused with grey on striae, towards margins, and in ocular region, slight rugose; raised into hump behind eyes, with numerous short curved hairs around sides of



Figs. 75–79: *Gibbafroneta gibbosa* sp. n. **75** Male carapace and chelicera, lateral view; **76** Right male palp (holotype), retrolateral view; **77** Ditto, ventral view; **78** Epigyne (ex MT 138.505), ventral view; **79** Vulva, ventral view. Scale lines=0.2 mm (75), 0.1 mm (76–79).

hump (Fig. 75). Chelicerae yellow-brown, rugose anteriorly. Legs yellow-brown, no markings. Sternum yellow-brown suffused with grey, slightly rugose. Abdomen (as female, Fig. 3) black, with 4 pairs of light bars dorsally, anterior 2 with white guanine spots, and with broken longitudinal light bar laterally, also containing white guanine spots. Venter grey. Eyes: AME small, *c.* 1 diam. apart and *c.* 2 diam. from ALE, PME *c.* 1.5 diam. apart and *c.* 2 diam. from PLE. ALE *c.* 0.7 diam. from PLE. Clypeus wide, slightly projecting, with pair of sulci below ALE. Chelicerae with 5 promarginal teeth, no retromarginal denticles visible. Legs: no femoral spines, except one weak dorsal on right I. All tibiae with 2 dorsal spines, I and IV with 1 prolateral, II and IV with 1 retrolateral spine, no ventral or apical spines. Metatarsus IV with 1 dorsal spine. TmI 0.57, TmIV 0.52. Trichobothria long and straight. Leg measurements:

	Fe	Pa	Ti	Mt	Ta	Total
I	0.75	0.25	0.55	0.55	0.50	2.60
IV	0.70	0.25	0.60	0.60	0.55	2.70

Palp (Figs. 76–77): Tibia moderately long, with 2 retrolateral trichobothria. Cymbium short, paracymbium with marked ventral anterior angle in lateral view, notch near dorsal end. Tegular apophysis upcurved in lateral view, broad and strongly curved laterally in ventral view, tegulum with thickened ventral anterior projection. Embolus short, curved strongly dorsally in lateral view, accompanied by short broad conductor.

Variation (*n*=10): Total length 1.7–2.1. Carapace length 0.85–0.95, width 0.65–0.7. Abdomen length 0.95–1.15. Sternum length 0.6–0.65. Carapace hump sometimes with fewer hairs than shown in Fig. 75. Chelicerae sometimes with 4 promarginal teeth. Abdomen some-

times with dorsal light spots reduced. Legs: femur I sometimes with 1 dorsal spine, and sometimes 1 weak dorsal spine on femur II. Tibia I sometimes, and tibia III occasionally, with 1 retrolateral spine, tibiae I and IV occasionally with 1 ventral median spine. Dorsal spine on metatarsus IV occasionally absent, and 1 small dorsal spine occasionally on metatarsus III. TmI 0.51–0.64, TmIV 0.51–0.62.

Female (*n*=10): Total length 2.1–2.5. Carapace length 0.95–1.05, width 0.7–0.8. Abdomen length 1.3–1.75. Sternum length 0.65–0.7, width 0.5–0.55. Coloration as male. Carapace slightly raised behind eyes. Eyes: AME small, *c.* 1 diam. apart and *c.* 2 diam. from ALE, PME *c.* 1 diam. apart and *c.* 1.5 diam. from PLE. Chelicerae with 4 promarginal teeth. Clypeus projecting, with pair of sulci below lateral eyes. Legs: femur I usually with 1 dorsal spine, femur II sometimes with 1 weaker dorsal spine, femur I occasionally with 1 prolateral spine. All tibiae with 2 dorsal spines, tibiae I and IV with 1 prolateral spine and 1 median ventral spine, tibiae I, II and IV with 1 retrolateral spine; occasionally 1 prolateral spine on tibia III, 1 ventral on tibia II, or 2 ventral apical on tibiae III–IV. Metatarsus IV with 1 dorsal spine, and occasionally on metatarsus III. TmI 0.56–0.63, TmIV 0.55–0.63. Leg measurements of specimen with carapace length 1.0:

	Fe	Pa	Ti	Mt	Ta	Total
I	0.75	0.25	0.60	0.60	0.55	2.75
IV	0.75	0.25	0.65	0.60	0.55	2.80

Epigyne (Figs. 78–79): Dorsal plate broad, with large upturned central scape. Median ducts short and widely separated, spermathecae small and bilobed.

Distribution: Known only from the volcanoes Karisimbi and Nyiragongo in eastern Congo and the neighbouring Bisoke in Rwanda.

Ecology: Both sexes collected in large numbers in July and August, in litter at 2700 m and in mouse burrows at 3500 m. Single females also taken in December, among dead leaves of giant *Senecio*, and at 3700 m in litter and moss under giant *Senecio*.

Genus *Laminafroneta*, new genus

Type species: *Afroneta bidentata* Holm, 1968.

Etymology: The generic name is derived from the Latin "lamina"=a plate, leaf, and *Afroneta*, and refers to the sclerotised leaf-like conductor of the male palp. Gender feminine.

Diagnosis: The male is diagnosed by the palp. The conductor forms a separate leaf-like sclerite which partially encloses the distal end of the embolus (Figs. 81, 86). The subtegulum is also very deep in lateral view (Figs. 80, 85) compared with most *Afroneta* species. The female is diagnosed by the epigyne, which has a broad, triangular, partly sclerotised dorsal plate (Figs. 83, 88). There is no true scape with a socket as in *Afroneta* species, but in antero-ventral view the ventral plate may appear to be extended into a rounded lobe or "pseudoscape" (Figs. 82, 87).

Description: The three known species have total length *c.* 2.5–3.8. Carapace unmodified. Eyes typical of mynognlenines, with AME small. Clypeus with pair of sulci below lateral eyes. Abdomen typically dark grey or black with irregular pale blotches or bars (Fig. 4), sometimes with pale colour more extensive, appearing pale with dark spots rather than dark with pale spots. Legs usually with faint annulations on tibiae. All femora typically with 1 dorsal spine (sometimes 2 on I-II) and femur I with 1 prolateral spine (occasionally 2). All tibiae with 2 dorsal, 1 prolateral, and (except sometimes on III) 1 retrolateral spine. Tibiae I-II with 2–3 ventral and 2 ventral apical spines, III-IV with 1–3 ventral and

4 apical ventral and lateral spines. Metatarsi III-IV may have 1 dorsal and 1 ventral spine, sometimes absent, especially on III. TmI 0.66–0.78, TmIV 0.63–0.78. Male palp (Figs. 80–81, 85–86): Tibia short, with 2 retrolateral trichobothria. Paracymbium broad and rounded. Subtegulum deep in lateral view. Tegular apophysis with hooked tip. Embolus moderately long, distally partly enclosed in partially sclerotised conductor, which appears to represent a separate sclerite attached to the embolic membrane. Epigyne (Figs. 82–84, 87–89): Ventral plate forming broad lobe or "pseudoscape" when viewed antero-ventrally (Figs. 82, 87). In postero-ventral view, broad, subtriangular, partly sclerotised dorsal plate, with lateral grooves leading to anterior genital openings (Figs. 83, 88). Median ducts short, spermathecae with 1 or 2 lobes.

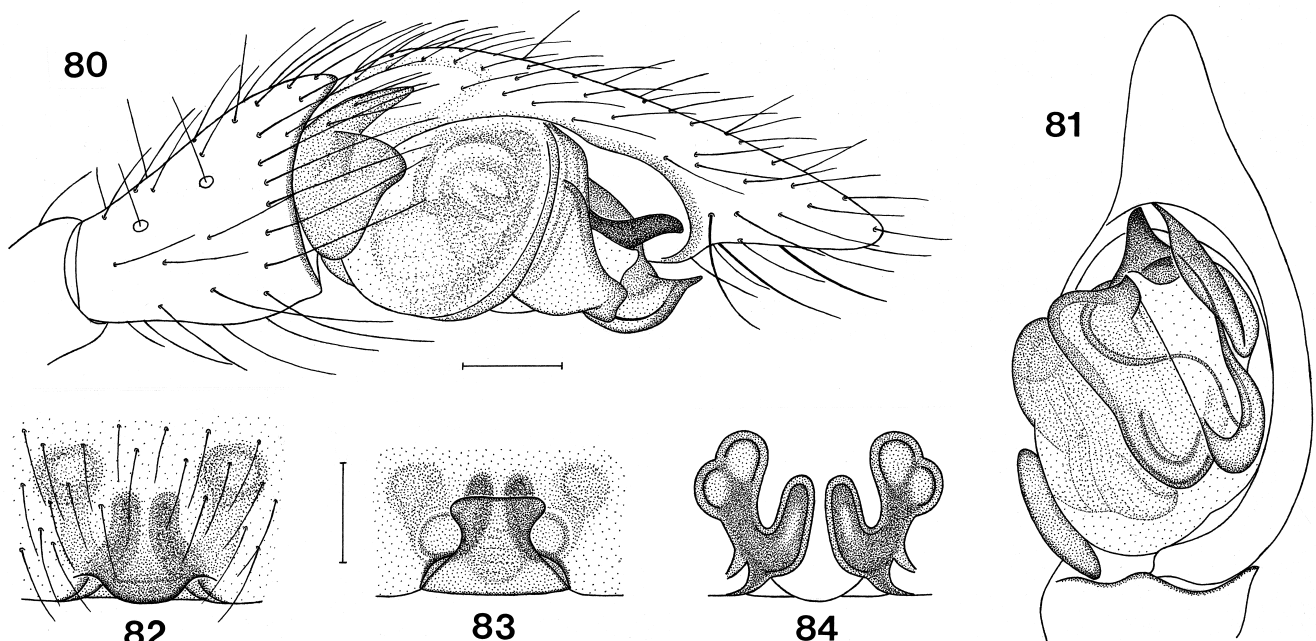
Included species: The type species, *L. brevistyla* (Holm, 1968) and *L. locketi* (Merrett & Russell-Smith, 1996). *Afroneta blesti* Merrett & Russell-Smith, 1996 may also belong in *Laminafroneta*, judging by the epigyne, abdominal coloration and chaetotaxy, but males will be needed in order to confirm this.

Distribution: Recorded from Cameroon, Congo, Rwanda, Tanzania, Kenya and Ethiopia. The three known species of *Laminafroneta* are unusual among African mynognlenines in being fairly widely distributed, at a considerable range of altitudes from 1800–3700 m, in litter in montane forest and in a range of mainly marshy habitats at lower altitudes.

Laminafroneta bidentata (Holm, 1968) (Figs. 4, 80–84)

Afroneta bidentata Holm, 1968: 34, figs. 52–57 (descr. ♂ ♀).

Types: Holotype ♂ and allotype ♀, Kenya, Cherangany Hills, Kamatira forest, 2440 m, in litter in *Acanthus* thicket in forest, 22 January 1965 (UZM type 1143), examined.



Figs. 80–84: *Laminafroneta bidentata* (Holm). **80** Right male palp (holotype), retrolateral view; **81** Ditto, ventral view; **82** Epigyne (allotype), ventral view; **83** Ditto, postero-ventral view; **84** Vulva (MT 138.441), ventral view. Scale lines=0.1 mm.

Other material examined: Congo, Kivu, volcan Karisimbi, Rukumi, 3600 m, among *Senecio* leaves, 1♂ 1♀, 9 July 1970, leg. M. Lejeune, 01°30'S, 29°27'E (MT 138.441); Rwanda, Forêt de Nyungwe, 7.5 km S of Pindura, river Nyungwe bank, 1850 m, 1♀, 9 November 1985, leg. Jocqué, Nsengimana & Michiels, 02°29'S, 29°13'E (MT 164.878); Rwanda, Parc national des volcans, Bisoke, 3700 m (summit), litter and moss under giant *Senecio*, 1♀, 14 December 1984, leg. Jocqué, Nsengimana & Michiels, 01°28'S, 29°30'E (MT 165.311).

Diagnosis: Both sexes are close to those of *L. brevistyla* (Holm) and *L. locketi* (Merrett & Russell-Smith). The male is distinguished from *L. brevistyla* by the longer embolus and conductor in *L. bidentata*, and from *L. locketi* by that species having a distinct kink near the distal end of the conductor and a longer tegular apophysis directed dorsally. The female is distinguished from *L. brevistyla* by the epigyne having longer median ducts and by the dorsal plate being relatively broader posteriorly; *L. locketi* also has shorter median ducts and lacks the ventral "pseudoscape" of *L. bidentata*. The epigyne of *Afroneta blesti* Merrett & Russell-Smith is also fairly close to that of *L. bidentata*, but it lacks the "pseudoscape" and the median ducts are longer in relation to the spermathecae.

Description: Both sexes described by Holm (1968). Supplementary notes based on new material: *Male:* Total length 3.1. Carapace length 1.6, width 1.1. Abdomen length 1.65. Sternum length 0.95, width 0.75. Eyes: AME *c.* 0.7 diam. apart and *c.* 1.5 diam. from ALE, PME *c.* 0.5 diam. apart and *c.* 0.7 diam. from PLE. Legs: tibia IV with 2 median ventral spines. TmI 0.71, TmIV 0.72. Palp (Figs. 80–81): Tibia short, with 2 retrolateral trichobothria. Embolus long, distally partly enclosed in partially sclerotised conductor.

Female (n=3): Total length 3.2–3.8. Carapace length 1.45–1.65, width 1.0–1.15. Abdomen length 1.9–2.35.

Sternum length 0.85–1.0, width 0.65–0.8. Abdomen also with 2 pairs of pale spots laterally; pale ground colour sometimes more extensive, abdomen dorsally appearing pale with dark spots rather than dark with pale spots. Eyes as in male. Legs: tibia III sometimes with 1 retrolateral spine. Tibiae III–IV sometimes with 1 basal and 2 median ventral spines, as tibiae I–II. One specimen with 1 ventral spine on metatarsus IV and one metatarsus II with 1 dorsal and 1 ventral spine (possibly regenerated?). TmI 0.68–0.69, TmIV 0.68–0.71. Epigyne (Figs. 82–84): Ventral plate appearing to have broad shallow "pseudoscape" in antero-ventral view. Dorsal plate flattened, posteriorly broad and subtriangular with anterior lateral extensions in posterior view. Median ducts fairly long, but shorter than bilobed spermathecae.

Distribution: Recorded from Kenya, Congo and Rwanda.

Ecology: Both sexes collected in January and July, and females also in February, April, November and December, at altitudes ranging from 1850–3700 m. In litter in *Acanthus* thicket in forest, near a lake and a river, and at higher altitudes in litter and moss under giant *Senecio*.

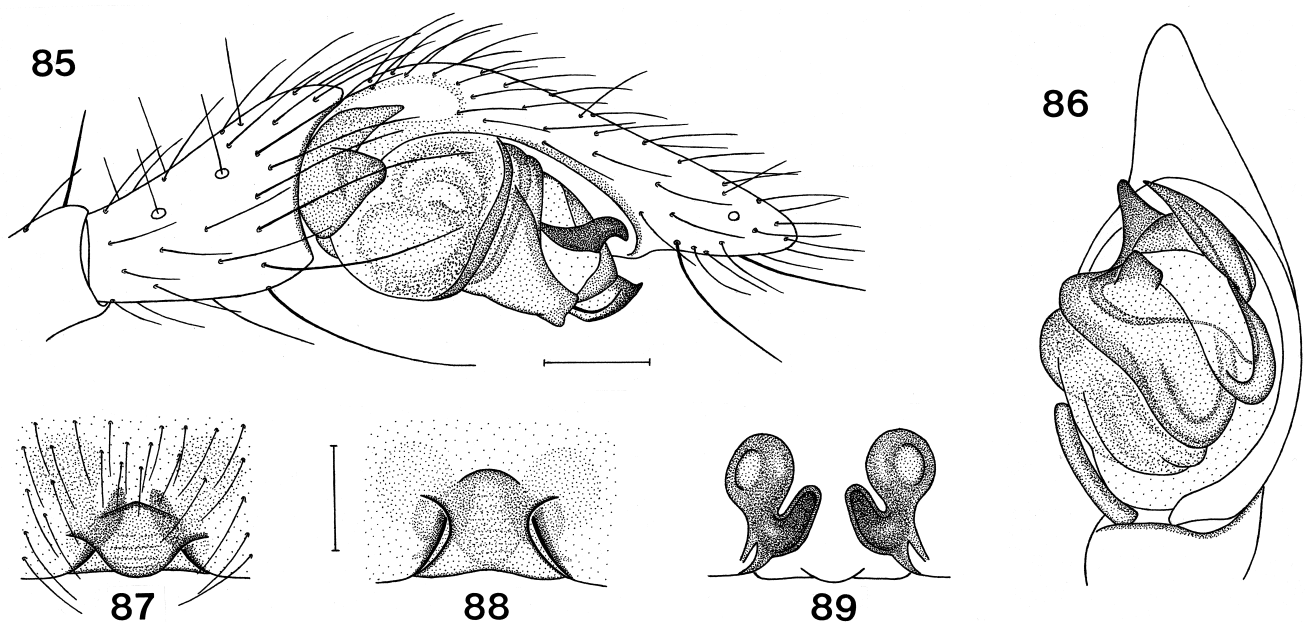
Laminafroneta brevistyla (Holm, 1968) (Figs. 85–89)

Afroneta brevistyla Holm, 1968: 37, figs. 58–62 (descr. ♂ ♀).

Types: Holotype ♂ and allotype ♀, Cameroon, Mt. Cameroon, 1800 m, 11 February 1956, leg. K. Byström (UZM type 1144), examined.

Other material examined: Tanzania, Mt. Oldeani, montane forest, 3♀, 10 June 1957, leg. P. Basilewsky & N. Leleup, 03°16'S, 35°26'E (MT 127.617); Congo, Bikara, 18 km S of Lubero, Lubero–Goma road, 2100 m, collected by flotation, marsh, 1♀ 1♂, December 1976, leg. M. Lejeune, 00°15'S, 29°12'E (MT 159.765).

Diagnosis: Both sexes are close to those of *L. bidentata* and *L. locketi*. The male is distinguished from



Figs. 85–89: *Laminafroneta brevistyla* (Holm). **85** Right male palp (holotype), retrolateral view; **86** Ditto, ventral view; **87** Epigyne (allotype), ventral view; **88** Ditto, postero-ventral view; **89** Vulva (ex MT 127.617), ventral view. Scale lines=0.1 mm.

L. bidentata by its shorter embolus and conductor, and from *L. locketi* by its shorter tegular apophysis not directed dorsally. The female is distinguished from *L. bidentata* by the epigyne having shorter median ducts and by the form of the dorsal plate in posterior view. The epigyne of *L. locketi* also has short median ducts, but they are usually further apart than in *L. brevistyla* and there is no "pseudoscape" on the ventral plate in *L. locketi*.

Description: Both sexes described by Holm (1968). Supplementary notes based on new material: **Male:** Total length 2.6. Carapace length 1.3, width 0.95. Abdomen length 1.2. Sternum length 0.8, width 0.6. Eyes: AME *c.* 0.5 diam. apart and *c.* 1.2 diam. from ALE, PME *c.* 0.5 diam. apart and *c.* 0.5 diam. from PLE. Legs: tibia IV with 1 basal and 2 median ventral spines. TmI 0.73, TmIV 0.72. Palp (Figs. 85–86): Tibia short, with 2 retrolateral trichobothria. Embolus and conductor shorter than in *L. bidentata*, conductor partially sclerotised.

Female (n=4): Total length 3.2–3.6. Carapace length 1.6–2.0, width 1.1–1.4. Abdomen length 1.6–2.0. Sternum length 1.0–1.1, width 0.75–0.9. Abdomen sometimes paler, as in *L. bidentata*, dorsally appearing pale with dark spots rather than dark with pale spots. Eyes as in male. Legs: femur I sometimes with 2 prolateral spines. Tibia III usually with 1 retrolateral spine. Tibiae III–IV sometimes with 1 basal and 2 median ventral spines, as tibiae I–II. One specimen with one metatarsus IV with 1 dorsal and 1 ventral spine, 2 specimens with 1 dorsal or 1 dorsal and 1 ventral spine on metatarsus III and 1 dorsal, 1 ventral and 1 prolateral spine on one metatarsus IV. One specimen lacking all metatarsal spines. TmI 0.68–0.73, TmIV 0.68–0.71. Epigyne (Figs. 87–89): Ventral plate appearing to have rounded shallow "pseudoscape" in antero-ventral view. Dorsal plate flattened, with strongly concave sides in posterior view. Median ducts short, strongly converging anteriorly.

Distribution: Recorded from Cameroon, Congo, Tanzania and Kenya (Scharff, 1989).

Ecology: Both sexes collected in December, February and June, males also in January and September, at altitudes ranging from 1800–3190 m, but most records are from between 1800 and 2200 m. In montane forest, and from marshy areas at lower altitudes.

Genus *Trachyneta* Holm, 1968

Trachyneta Holm, 1968: 39.

Type species: *Trachyneta extensa* Holm, 1968.

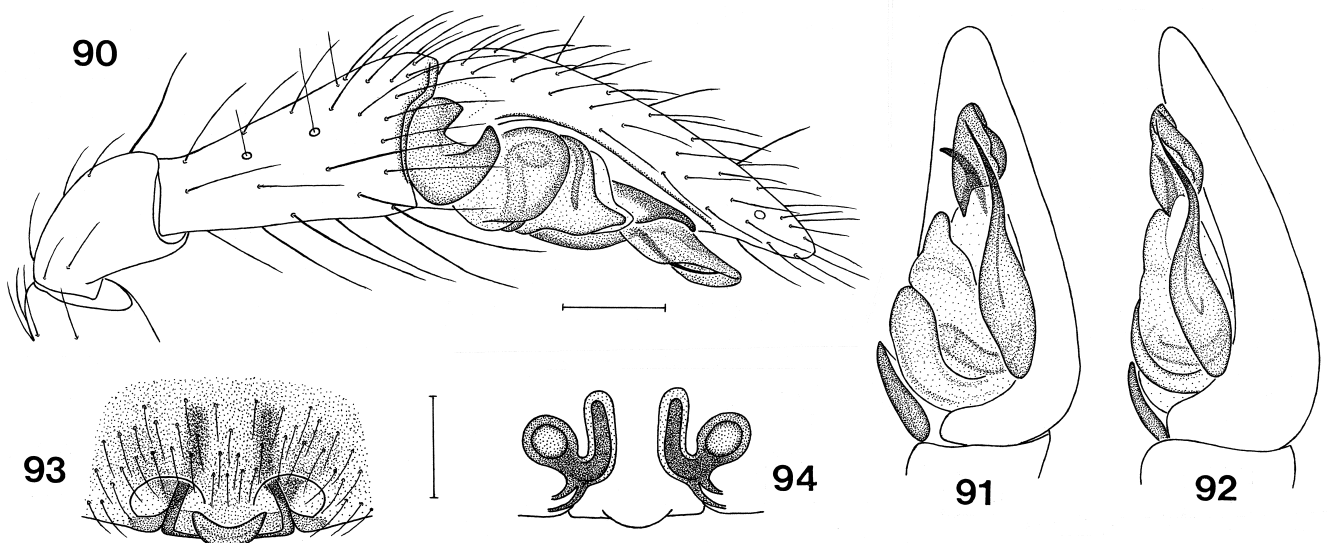
Diagnosis: Separated from *Afroneta* by Holm (1968) primarily by the apparent presence of only one dorsal spine on all tibiae in the only known male specimen, and by the absence of a trichobothrium on metatarsus IV. However, 2 dorsal spines are present on tibiae I–III in both sexes of *T. jocquei* sp. n. (which is clearly very close to the type species *T. extensa* in all other characters) and in the female assumed here to belong to *T. extensa*. The proximal position of the tibial spines in the male of *T. extensa*, and the fact that many of the hairs and spines are missing, suggest that the second spines on tibiae I–III have probably been knocked off. Chelicerae of female with 3 promarginal teeth (central largest) and 3 small retromarginal denticles, lacking the knobs on the anterior surface seen in males. Leg IV may sometimes be slightly longer than leg I. The diagnosis and description provided by Holm (1968) remains valid in all other respects.

Trachyneta extensa Holm, 1968 (Figs. 90–94)

Trachyneta extensa Holm, 1968: 40, figs. 63–66 (descr. ♂).

Type: Holotype ♂, Congo, Kivu, R. Kalehe, SW of Kahuzi [erroneously given as SE in Holm, 1968], 2200 m, July 1951, leg. N. Leleup, 02°10'S, 28°55'E (MT 92.725), examined.

Other material examined: Congo, Kivu, Kambaila–Sindani, 1800 m, montane forest, 1♀, May 1973, leg. M. Lejeune, 00°10'N, 29°10'E (MT 145.881).



Figs. 90–94: *Trachyneta extensa* Holm. **90** Right male palp (holotype), retrolateral view; **91** Ditto, ventral view; **92** Ditto, ventro-mesal view; **93** Epigyne (MT 145.881), ventral view; **94** Vulva (145.881), ventral view. Scale lines=0.1 mm.

Diagnosis: The male is distinguished from *T. jocquei* sp. n. by the tegular apophysis being narrower at the distal end and appearing straighter proximally in lateral view, and by the embolus being smoothly curved with no sharp angle in the middle when seen in mesal view. The female is distinguished from *T. jocquei* by lacking a prolateral spine on femur I and tibia I; these are also lacking in the male holotype, but as it has many other spines missing it is not possible to be sure that they have not merely been knocked off. The epigyne is close to that of *T. jocquei*. In the only female of *T. extensa* the dorsal plate is narrower, with straighter sides (width of posterior edge of dorsal plate 0.13 vs. >0.15 in *T. jocquei*), but this may not be reliable in all cases. In *T. extensa* the median ducts extend further anterior to the spermathecae, but this also may not be consistent.

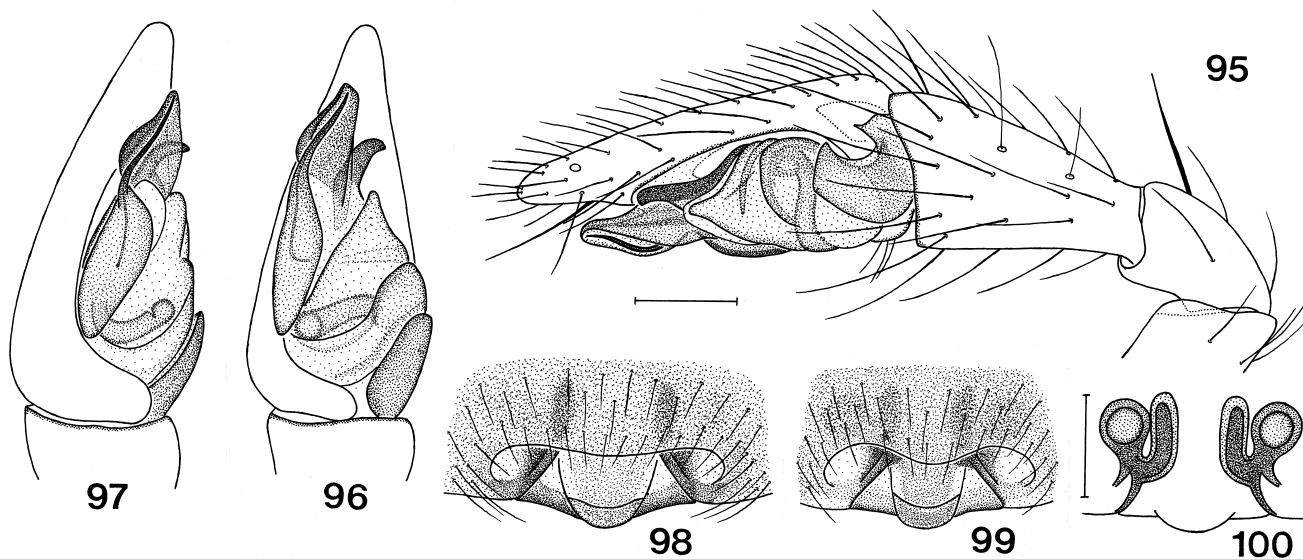
Note: The female is placed with the male of *T. extensa* on grounds of parsimony. Both came from the same region and differ from both sexes of *T. jocquei*, but apart from having similar general coloration and probably lacking a prolateral spine on femur I and tibia I, there is no clear evidence that they are conspecific. The localities of the male and female of *T. extensa* are c. 245 km apart, but the type locality of *T. extensa* is c. 1000 km from that of *T. jocquei*.

Description: Male (holotype): Described by Holm (1968). Supplementary notes: Total length 3.6 (not 2.65 as stated by Holm). Carapace length 1.55, width 1.15. Abdomen length 1.9. Sternum length 1.0, width 0.8. Carapace dark reddish-brown, suffused with black on striae, rather rugose. Legs yellow-brown, reddish on femora I-II. Eyes: AME small, c. 0.8 diam. apart and c. 1.2 diam. from ALE, PME c. 0.5 diam. apart and c. 0.6 diam. from PLE. Legs: femora spineless. Holm (1968) states that all tibiae have one dorsal spine, but one tibia I clearly shows the base of a second dorsal spine, and in view of the relative positions of the proximal spines on tibiae II-III and that of the single spine on tibia IV, compared with the positions of the

spines on the female of *T. extensa* and both sexes of *T. jocquei*, it seems likely that the distal spines on tibiae II-III have also been knocked off (many hairs are also missing, which makes it difficult to tell which might be the bases of the spines). Probably, therefore, tibiae I-III with 2 dorsal spines and tibia IV with 1 dorsal spine. No ventral or lateral spines or metatarsal spines. TmI 0.38, TmIV absent. Position of dorsal tibial spines: I 0.21/0.68, II 0.22/0.69?, III 0.25?/, IV 0.30. Palp (Figs. 90–92): Tibia with 2 retrolateral trichobothria. Tegular apophysis with narrow, slightly hooked, distal end in lateral view, appearing almost straight proximally. Embolus with broad proximal half, merging smoothly into narrow distal half without pronounced angle; distal part partially enclosed in sclerotised leaf-life conductor.

Female: Total length 2.85. Carapace length 1.3, width 0.9. Abdomen length 1.5. Sternum length 0.8, width 0.6. Carapace reddish brown, faintly streaked with grey anterior to fovea and on striae. Chelicerae reddish brown, rather rugose but lacking anterior knobs of male. Sternum reddish brown, rather rugose. Legs yellow-brown. Abdomen dorsally grey with 4 pairs of faint paler chevrons posteriorly and pale stripe round anterior end, laterally darker grey. Venter dark grey with pair of pale lines laterally. Eyes: AME small, c. 0.2 diam. apart and c. 1 diam. from ALE, PME c. 0.5 diam. apart and c. 0.7 diam. from PLE. Clypeus with pair of sulci below lateral eyes. Chelicerae with 3 promarginal teeth (central longest), and 3 small retromarginal denticles. Legs: no femoral spines. Tibiae I-III with 2 dorsal spines, tibia IV with 1 dorsal spine. No ventral or lateral spines or metatarsal spines. TmI 0.31, TmIV absent. Position of dorsal tibial spines: I 0.16/0.74, II 0.20/0.75, III 0.19/0.70, IV 0.24. Leg measurements:

	Fe	Pa	Ti	Mt	Ta	Total
I	1.10	0.35	0.95	0.85	0.65	3.90
IV	1.10	0.35	0.95	0.85	0.65	3.90



Figs. 95–100: *Trachyneta jocquei* sp. n. **95** Left male palp (holotype), retrolateral view; **96** Ditto, ventral view; **97** Ditto, ventro-mesal view; **98** Epigyne (paratype MT 155.892), ventral view; **99** Epigyne (paratype MT 155.944), ventral view; **100** Vulva (paratype MT 155.944), ventral view. Scale lines=0.1 mm.

Epigyne (Figs. 93–94): Dorsal plate less broad than in *T. jocquei*, sides straighter, with broad central scape. Median ducts long, extending anteriorly well beyond simple spherical spermathecae.

Distribution: Known only from Kivu province, Congo.

Ecology: Male taken in July, at 2200 m altitude, habitat unknown. Female collected in May, at 1800 m, in montane forest. Further material will be needed to confirm their conspecificity.

***Trachyneta jocquei* sp. n. (Figs. 95–100)**

Types: Holotype ♂, Malawi, Nyika plateau, Chosi Hill, 2300 m, marshy grassland with *Lobelia* in vicinity of smelting oven, 16 December 1981, leg. R. Jocqué, 10°40'S, 33°50'E (MT 155.944). Paratypes: same data, 3♀ (MT 155.944). Malawi, Nyika plateau (all leg. R. Jocqué): Chowo forest, riverbank, pitfall, 1♂, 4–18 December 1981, 10°40'S, 33°50'E (MT 156.004); Lake Kaulime, 2200 m, pitfalls on humid banks with *Lobelia*, 3♂, 6–19 December 1981, 10°40'S, 33°50'E (MT 156.023); same locality and dates, on herbaceous banks, 2♂ (MT 156.509); Dambo, 2350 m, long circular drive, 500 m S of turn-off near Dembo bridge, 1♂, 12 December 1981, 10°40'S, 33°50'E (MT 156.848); Chelinda, marshy area at base of dam no. 1, 2300 m, 2♂, 7 December 1981, 10°19'S, 33°48'E (MT 155.827); same data, 1♀ (MT 155.892); same data, 1♂ (MT 156.216); same data, 1♀ (MT 156.827).

Etymology: The specific name is a patronym in honour of Dr Rudy Jocqué, the collector of the type material.

Diagnosis: The species is diagnosed by the chaetotaxy, male palp, and epigyne. Femur I and tibia I both have a prolateral spine, which is lacking in the female of *T. extensa*, but it is not possible to be sure whether it is also lacking in the male of *T. extensa* owing to the condition of the type. The male palp of *T. jocquei* has the tegular apophysis broader at its distal end and more sinuous proximally than in *T. extensa*, and the embolus of *T. jocquei* has a sharper curvature seen in mesal view; the appearance varies greatly according to the precise angle of view, but it is impossible to get the embolus of *T. extensa* into a position where it looks like Fig. 97. The epigyne is similar to that of *T. extensa*, but in *T. jocquei* the dorsal plate is usually broader, with more diagonal sides (width of posterior edge of dorsal plate >0.15, vs. 0.13 in *T. extensa*), but this may not be reliable in all cases. In *T. extensa* the median ducts extend further anterior to the spermathecae, but this also may not be consistent.

Description: *Male* (holotype): Total length 3.4. Carapace length 1.65, width 1.15. Abdomen length 1.65. Sternum length 1.0, width 0.75. Carapace dark reddish brown with black suffusion on striae, rather rugose. Chelicerae and sternum dark reddish brown suffused with black, rather rugose. Legs yellow-brown, femora I–II reddish. Abdomen dorsally grey with 5 pairs of narrow pale transverse lines posteriorly.

Venter darker grey with pair of broad, broken, pale lines laterally. Eyes: AME small, *c.* 0.3 diam. apart and *c.* 1.2 diam. from ALE, PME *c.* 0.5 diam. apart and *c.* 0.5 diam. from PLE. Clypeus with pair of sulci below lateral eyes. Chelicerae anteriorly rugose and with small knobs, each carrying a hair, promargin with 1 large tooth, 1 medium tooth and 3–4 minute denticles, retromargin with one minute denticle. Legs: femur I with 1 prolateral spine, no dorsal femoral spines. Tibiae I–III with 2 dorsal spines, tibia IV with 1 dorsal spine, tibia I also with 1 prolateral spine. No ventral spines or metatarsal spines. TmI 0.39, TmIV absent. Trichobothria long and straight. Position of dorsal tibial spines: I 0.29/0.84, II 0.27/0.81, III 0.30/0.78, IV 0.35. Leg measurements:

	Fe	Pa	Ti	Mt	Ta	Total
I	1.40	0.40	1.15	0.95	0.65	4.55
IV	1.20	0.40	1.15	1.05	0.70	4.50

Palp (Figs. 95–97): Tibia with 2 retrolateral trichobothria. Tegular apophysis rather sinuous proximally in lateral view, with broad blunt distal end, strongly hooked in ventral view. Embolus with broad proximal half and thin distal half, forming a marked angle with proximal part when seen in mesal view; distal part partially enclosed in sclerotised leaf-like conductor.

Variation (*n*=10): Total length 2.2–3.5. Carapace length 1.15–1.65, width 0.85–1.15. Abdomen length 1.1–2.0. Sternum length 0.75–1.0, width 0.6–0.75. Carapace sometimes paler, reddish brown rather than dark reddish brown. Pale dorsal lines on abdomen sometimes obscure, abdomen sometimes with paler mottling laterally. Fewer cheliceral denticles in smaller specimens. TmI 0.34–0.41. Position of dorsal tibial spines on specimen with carapace length 1.55: I 0.18/0.76, II 0.22/0.73, III 0.25/0.80, IV 0.33.

Female (*n*=5): Total length 2.25–3.3. Carapace length 1.15–1.5, width 0.85–1.05. Abdomen length 1.1–2.0. Sternum length 0.75–0.9, width 0.6–0.7. Colour of carapace, sternum and legs similar to male. Abdomen grey with 4 pairs of faint paler chevrons dorsally in posterior half, darker ventrally and laterally. Eyes: AME small, *c.* 0.3 diam. apart and *c.* 1.2 diam. from ALE, PME *c.* 0.5 diam. apart and *c.* 0.5 diam. from PLE. Clypeus with pair of sulci below lateral eyes. Chelicerae without knobs of male, with 3 promarginal teeth (central longest) and 3 minute retromarginal denticles. Legs: femur I with 1 prolateral spine. Tibiae I–III with 2 dorsal spines, tibia IV with 1 dorsal spine, tibia I also with 1 prolateral spine. No ventral spines or metatarsal spines. TmI 0.37–0.44, TmIV absent. Leg measurements of specimen with carapace length 1.5:

	Fe	Pa	Ti	Mt	Ta	Total
I	1.25	0.40	1.00	0.90	0.65	4.20
IV	1.25	0.40	1.05	0.95	0.65	4.30

Position of dorsal tibial spines on same specimen: I 0.23/0.80, II 0.17/0.79, III 0.21/0.76, IV 0.28. Epigyne (Figs. 98–100): Dorsal plate broad, with diagonal sides,

with broad, shallow central scape. Less broad in some specimens (e.g. Fig. 99), then approaching appearance of *T. extensa*. Median ducts long, extending anteriorly slightly beyond simple spherical spermathecae.

Distribution: Known only from the Nyika plateau, Malawi.

Ecology: Both sexes collected in December, in several locations, at 2200–2350 m altitude, mainly in marshy grassland.

Discussion

African mynoglennines have been found at altitudes ranging from 1700–3800 m, but only six species, *Fromynoglenes parkeri*, *Laminafroneta bidentata*, *L. brevistyla*, *Trachyneta extensa*, *T. jocquei* and *Afroneta millidgei* have been recorded from below 2250 m. It is interesting that the first five of these are not *Afroneta* species, and they include the most widespread African mynoglennines. The only other widespread species is *Laminafroneta locketi*, which occurs at slightly higher altitudes in Ethiopia. Of the 25 species currently included in *Afroneta*, 23 are known from only one locality. By far the largest number of these, 12, were found on Ruwenzori, while 2 have been recorded from Mt. Muhi (Congo), 2 on Mt. Kambekulu (Congo), 2 on Mt. Meru (Tanzania) and 2 on Bale Mts. (Ethiopia). Six of the Ruwenzori species, *A. tenuivulva*, *A. lobeliae*, *A. erecta*, *A. annulata*, *A. fulva* and *A. subfuscoides*, were found only at altitudes above 3500 m, whereas previously no mynoglennines had been collected above 3200 m. The large number of species found on Ruwenzori probably reflects, at least to some extent, the greater intensity of collecting done there than at other sites, but it is remarkable that all of the mynoglennines found on Ruwenzori are endemic to that mountain range. Scharff (1992) noted a 100% level of endemism on Ruwenzori among “true forest species” of linyphiids, but this was based upon only four species. It is impossible to make meaningful comparisons between Ruwenzori and other East African mountains, in view of the small number of records from other sites.

The habitats of many African mynoglennines have hitherto been poorly recorded, but most records that exist refer to montane forest or montane grassland. The six species found on Ruwenzori at lower altitudes (2750 m) were all recorded mainly from bamboo litter or inside dead bamboo, while the six species from higher altitudes (3500–3800 m) came from a variety of habitats, among which dead *Lobelia*, moss and litter predominated.

The latitudinal range of African mynoglennines as known at present is between about 9°N and 11°S, and they extend in longitude from about 9°E to 40°E.

Key to species of African mynoglennines

Males (males of *A. immaculoides*, *A. elgonensis*, *A. praticola*, *A. maculata*, *A. picta*, *A. lativulva*, *A. longispinosa*, *A. altivaga*, *A. basilewskyi*, *A. tristis*, *A. blesti* and *A. snazelli* unknown)

1. TmIV absent, 1 dorsal spine on tibia IV (*Trachyneta*)2
- TmIV present, 2 dorsal spines on tibia IV3
2. Prolateral spine on femur I and tibia I.....*T. jocquei*
- No prolateral spines on femora or tibiae.....*T. extensa*
3. Head raised, no spines on femora III-IV.....*Gibbafroneta*
- Head not raised, at least one dorsal spine on all femora.....4
4. Embolus very long, forming almost complete circle
-*Fromynoglenes*
- Embolus shorter, only on one side of bulbus.....5
5. Conductor sclerotised and partially enclosing embolus (*Laminafroneta*).....6
- Conductor membranous, not enclosing embolus (*Afroneta*).....8
6. Tegular apophysis projecting dorsally, conductor with distinct kink.....*L. locketi*
- Tegular apophysis shorter, pointing distally, conductor smoothly curved
-7
7. Metatarsi III-IV with 1 dorsal spine, embolus longer (Fig. 81)....
-*L. bidentata*
- Metatarsus III usually without a spine, embolus shorter (Fig. 86)
-*L. brevistyla*
8. Palpal tibia with 3 retrolateral trichobothria
-9
- Palpal tibia with 2 retrolateral trichobothria.....15
9. Abdomen unicolorous, metatarsi spineless.....*A. immaculata*
- Abdomen with dorsal pattern, metatarsi III or IV with at least one spine
-10
10. Abdomen dorsally dark with 4–6 pairs of whitish spots
-*A. bamilekei*
- Abdomen dorsally pale with dark bars or spots
-11
11. Carapace uniform deep yellow-brown, all femora with at least 3 dorsal spines, palp as in Figs. 36–37.....*A. fulva*
- Carapace yellow-brown with grey or black markings, femora with 1–3 dorsal spines, palp as in Figs. 22–23, 26–27, 30–31, 34–35.....12
12. Legs with only faint annulations
-13
- Legs with dark annulations
-14
13. Palpal tibia length *c.* 0.4 mm, paracymbium with shallow notch, embolus long (Figs. 22–23)
-*A. tenuivulva*
- Palpal tibia length *c.* 0.3 mm, paracymbium with deep notch, embolus short (Figs. 26–27).....*A. lobeliae*
14. Embolus short, tegular apophysis strong (Figs. 30–31)..*A. erecta*
- Embolus long, tegular apophysis weak (Figs. 34–35)..*A. annulata*
15. Tibiae I-II lacking apical ventral spines, tibiae III-IV with only 2 apical spines.....*A. subfuscoides*
- Tibiae I-II with 2 apical spines, tibiae III-IV with 4 apical spines.....16
16. Abdomen unicolorous, pale species, palp as in Figs. 18–19
-*A. pallens*
- Abdomen with distinct pattern.....17
17. Tegular apophysis long and ribbon-like, abdomen pale with dark chevrons.....*A. millidgei*
- Tegular apophysis shorter, abdomen dark with pale spots.....18
18. Femora dark, contrasting with rest of legs, palp as in Figs. 66–70.....*A. fusca*
- Femora similar colour to other leg segments
-19
19. TmI 0.8–0.9, tibia I with 5–6 ventral spines, palp as Figs. 56–57
-*A. guttata*
- TmI 0.67–0.77, tibia I with 3–4 ventral spines, palp as Figs. 61–63.....*A. subfusca*

Females (females of *A. annulata* and *A. fulva* unknown)

1. TmIV absent, 1 dorsal spine on tibia IV (*Trachyneta*)2
- TmIV present, 2 dorsal spines on tibia IV3
2. Prolateral spine on femur I and tibia I.....*T. jocquei*
- No prolateral spines on femora or tibiae.....*T. extensa*

3. No spines on femora III-IV, carapace length *c.* 1.0 mm *Gibbafroneta*
 — At least one dorsal spine on all femora, carapace length usually considerably greater than 1 mm (except *A. subfuscooides*) 4
4. Median ducts of epigyne very long, curving round spermathecae *Fromynoglenes*
 — Median ducts of epigyne much shorter, only between spermathecae 5
5. Dorsal plate of epigyne with clearly defined central scape or lobe.6
 — Scape on dorsal plate absent or obscure 25
6. Abdomen unicolorous 7
 — Abdomen with dorsal pattern 11
7. Metatarsi spineless 8
 — At least metatarsus IV with 1 spine 10
8. Carapace length <1.6 mm *A. elgonensis*
 — Carapace length >1.9 mm 9
9. Epigyne with pronounced central scape with narrow border (Fig. 7) *A. immaculata*
 — Scape smaller, with socket some distance from edge (Fig. 9) *A. immaculoides*
10. Metatarsus IV with 1 dorsal spine only, epigyne as in Figs. 14–16 *A. praticola*
 — Metatarsus IV with 1 dorsal, 1 prolateral and 1 ventral spine, epigyne as in Fig. 20 *A. pallens*
11. Abdomen dorsally pale with dark markings (e.g. Fig. 1) 12
 — Abdomen dorsally dark with pale spots (e.g. Fig. 2) 18
12. Dorsal plate of epigyne *c.* 0.2 mm broad (Figs. 24, 28, 32) 13
 — Dorsal plate narrower, *c.* 0.15 mm broad (Figs. 38, 40, 42) 15
13. Median ducts of epigyne short, close to spermathecae (Figs. 32–33) *A. erecta*
 — Median ducts longer, clearly separated from spermathecae (Figs. 24–25, 28–29) 14
14. Median ducts of epigyne thin, scape oval (Figs. 24–25) *A. tenuivulva*
 — Median ducts broader, scape large, semicircular (Figs. 28–29) *A. lobeliae*
15. Tibiae I-II lacking apical spines *A. snazelli*
 — Tibiae I-II with 2 ventral apical spines 16
16. Epigynal scape broad, filling most of dorsal plate (Fig. 40) *A. picta*
 — Scape narrower, less than half width of dorsal plate (Figs. 38, 42) 17
17. Median ducts long, clearly separated from spermathecae, scape small (Fig. 38) *A. maculata*
 — Median ducts overlapping spermathecae, scape broad (Fig. 42) *A. lativulva*
18. Metatarsi III-IV with at least 3 trichobothria, epigyne as Fig. 50 *A. tristis*
 — Metatarsi III-IV with no more than 2 trichobothria 19
19. TmI <0.65, carapace length *c.* 1.1 m, epigyne as Fig. 73 *A. subfuscooides*
 — TmI >0.65, carapace length >1.25 mm 20
20. Tibia I with 3–4 ventral spines (excluding apical) 21
 — Tibia I with 5–6 ventral spines 23
21. Median ducts very short, small posterior scape in broad dorsal plate (Fig. 54) *A. bamilekei*
 — Median ducts longer, dorsal plate narrower (Figs. 64, 68) 22
22. Femora dark, contrasting with rest of legs, median ducts much longer than spermathecae (Figs. 68–70) *A. fusca*
 — Femora similar colour to other leg segments, median ducts no longer than spermathecae (Figs. 64–65) *A. subfusca*
23. Dorsal plate *c.* 0.12 mm wide, scape narrow (Figs. 58–59) *A. guttata*

- Dorsal plate >0.16 mm wide, scape broad (Figs. 46, 48) 24
24. Scape *c.* 0.12 mm wide, median ducts extending anterior to spermathecae (Fig. 46) *A. altivaga*
 — Scape *c.* 0.09 m wide, median ducts no longer than spermathecae (Fig. 48) *A. basilewskyi*
25. Tibia I with 4 pairs of long ventral spines *A. longispinosa*
 — Tibia I with 1–4 ventral spines 26
26. Ventral surface of epigyne extended into bulbous lobe or “pseudoscape” when viewed anteriorly (Figs. 82, 87) 27
 — Ventral surface of epigyne not forming a large lobe 28
27. Spermathecae bilobed, median ducts relatively long and close together (Figs. 82, 84) *Laminafroneta bidentata*
 — Spermathecae single-lobed, median ducts shorter (Figs. 87, 89) *Laminafroneta brevistyla*
28. Dorsal plate broad relative to depth, with pointed projections on each side *A. blesti*
 — Dorsal plate more or less triangular, without pointed projections 29
29. Median ducts very short relative to spermathecae *Laminafroneta locketi*
 — Median ducts as long as spermathecae *A. millidgei*

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