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# On the rediscovery of *Scrobipalpa griseofusella* (TOLL, 1948) in Iran (Lepidoptera: Gelechiidae)

Peter Huemer

## ABSTRACT

Contrib. Nat. Hist. 12: 699–706.

*Scrobipalpa griseofusella* (TOLL, 1948) is redescribed based on the rediscovered lectotype and additional material collected in north-eastern Iran. The adult is figured in colour for the first time and male and female genitalia are diagnosed and figured in monochrome. The female sex was hitherto misidentified as *S. rezniki turkmenica* PISKUNOV, 1990.

## Introduction

*Scrobipalpa* JANSE, 1951 is one of the taxonomically most difficult genera of Palaearctic Lepidoptera, despite numerous papers including a recently published monographic work by Povolný (2002). The genus includes about 300 described and up to 400 estimated species in the Palaearctic Region (Povolný 2002). The large majority belongs to the subgenus *Euscrobipalpa* POVOLNÝ, 1967, a taxonomic entity which is sometimes considered as a genus. The taxonomical problems within *Scrobipalpa* are related to a high overall similarity of numerous species in morphological characters including genitalia. One of the species with unmistakable genitalia was described from north-eastern Iran by Toll (1948) under the name *Lita griseofusella*. This quite remarkable taxon has been grossly neglected since, and Povolný (2002) only gives a redrawn figure of the male genitalia from the original description.

During an expedition to northern Iran, organized by B. Gutleb (Klagenfurt) (Wieser & al. 2002), a series of additional specimens belonging to both sexes was collected. Based on this material and on the rediscovered type-material the species is here redescribed and both male and the hitherto undescribed female are figured.

## Material and Methods

The study is based on a series of specimens belonging to both sexes. The additional material was collected at light.

Material examined: Lectotype ♂: "Typus" "Hyrcania, Kuhi i Mirabi mont. 2000 m. VII.–VIII." "Präparat No. 956" "*Lita griseofusella* Toll." (coll. Institute of Systematics and Evolution of Animals, Polish Academy of Sciences, Kraków, Poland).

1 ♂, Iran, NP Golestan, Tange Gol, 37° 22.275' N, 55° 56.480' E, 790 m, 18. 5. 2001, leg. P. Huemer; 1 ♂, 1 ♀, ditto, but 19. 5. 2001; 2 ♂, 3 ♀, ditto, but 20. 5. 2001; 1 ♂, 1 ♀, Iran, Khorassan, NP Golestan, 5 km SW Dasht, 37° 17.8' N, 55° 56.8' E, 1100 m, 21. 5. 2001, leg. P. Huemer; 1 ♂, 1 ♀, Iran, Khorassan, NP Golestan, Mirza Boyloo, 1250 m, 37° 21' N, 56° 14' E, 1250 m, 23. 5. 2001, leg. P. Huemer; 2 ♀, Iran, Khorassan, NP Golestan, Almeh Tal, 37° 21' N, 56° 10' E, 1300 m, 23. 5. 2001, leg. P. Huemer (coll. Tiroler Landesmuseum Ferdinandeum, Innsbruck, Austria).

The genitalia of 3 ♂ and 3 ♀ have been dissected.

## Results

### Redescription

#### *Scrobipalpa griseofusella* (TOLL, 1948)

Original description: *Lita griseofusella*; Toll (1948): 113, p. 4, fig. 22 (adult), pl. 6, fig. 40 (male genitalia).

Adult (Fig. 1). Head covered with smooth, dark brown tipped greyish scales, frons lighter greyish-cream; labial palpus dirty white, with dark brown mottling, particularly on ventral surface, third segment with two dark brown rings; antenna greyish-brown, alternately ringed light and darker. Thorax mottled greyish and dark brown. Forewing wingspan 12.5–15.5 mm. Forewing ground colour dark brown with more or less intensive greyish mottling, resulting from light greyish scales with dark tips, lighter colour particularly along dorsum, costa and in distal part; 3 black stigmata well developed, surrounded by ferruginous brown scales; central part of wing more or less densely covered with blackish scales, occasionally merging line-like and extending into apical area; greyish dorsum and radial veins more or less covered by ferruginous brown



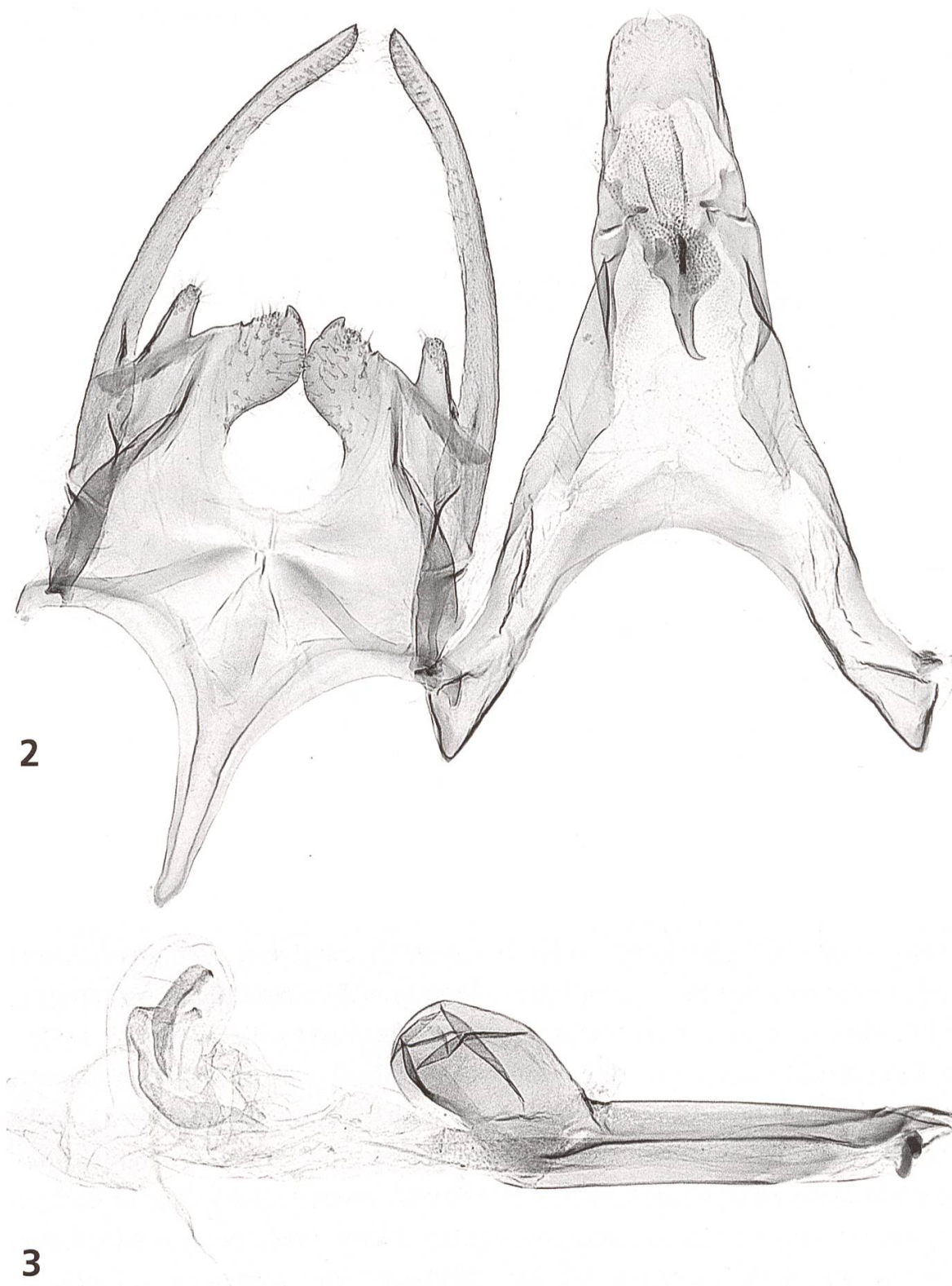


Fig. 1. *Scrobipalpa griseofusella* (TOLL, 1948), adult ♂.

scales; indistinct angled greyish fascia at about four-fifths; fringes greyish-brown with blackish tipped scales in between. Hindwings shining fuscous-grey, brownish towards margin, fringes light greyish-brown. Abdomen dorsally light brown with some darker mottling, ventrally cream with few darker scales.

Genitalia ♂ (Figs. 2–3): Uncus slender, sub-rectangular, slightly narrowing to weakly emarginated posterior margin; culcitula small, gnathos-hook distinct, rather long; tegumen deeply emarginated anteriorly with slightly pointed pedunculi; valva stout, evenly curved, and about same width throughout, shorter than uncus; sacculus a short digitate hump; vincular process extremely enlarged, about three times width and twice length of sacculus, broadly thumb-shaped and almost touching on rounded inner margin, posteroapically weakly pointed; posterior margin of vinculum with characteristic sub-ovate emargination; saccus long and stout, strongly tapered towards apex, anteriorly extending far beyond apex of pedunculus; phallus stout, rather long, with broad distal part and distinctly inflated and delimited coecum, apex with small sclerotized arm.

Pregenital segments: tergite VIII broadly tongue-shaped, with pair of long coremata, sternite VIII shorter and broader than tergite VIII.

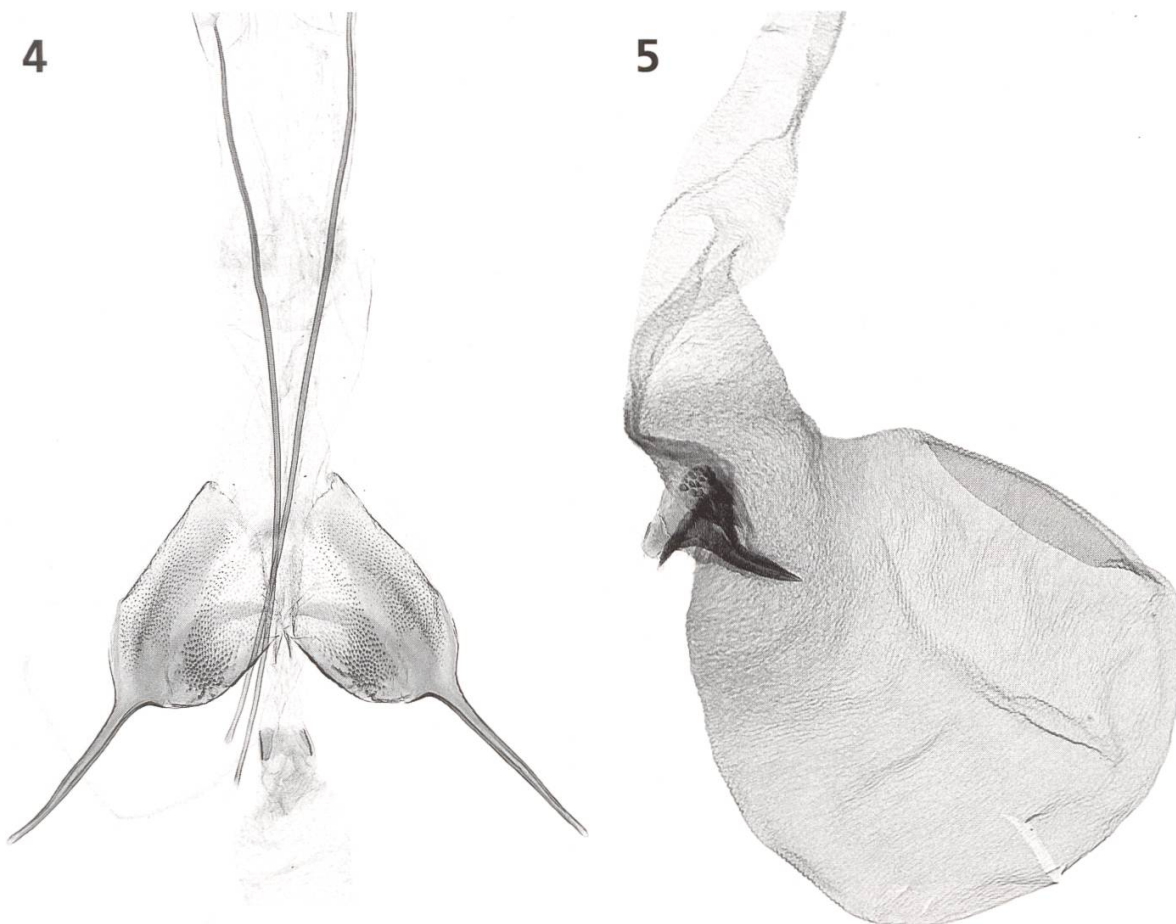


Figs. 2–3. *Scrobipalpa griseofusella* (TOLL, 1948), ♂ genitalia (gen. slide GEL 1018 P. Huemer).

The male genitalia are particularly characterized by the largely reduced saccus, the enlarged vincular process and the peculiar excavation of the posterior margin of the vinculum.

Genitalia ♀ (Figs. 4–5): Apophysis posterior about four times length of apophysis anterior; sternum VIII with well sclerotized, anterior edge sub-ovate,





Figs. 4–5. *Scrobipalpa griseofusella* (TOLL, 1948), ♀ genitalia (gen. slide GEL 1019 P. Huemer).

densely covered with honeycomb structure consisting of minute sclerites, anterior margin and small longitudinal area extending from anterior edge to the central part of the sclerotization smooth, ventromedial zone between sclerotizations membranous; apophysis anterior about length of segment VIII; ring-shaped colliculum distinct; ductus bursae long, about four times length of segment VIII; corpus bursae globular; signum at left-hand side of corpus bursae, a long and strong hook, basal plate and proximal part of hook covered with several additional spines.

The shape and structure of the sclerotized ventral part are unique within *Scrobipalpa*; furthermore, the signum with additional spines is quite characteristic

Distribution: Iran, Turkmenistan, Uzbekistan (Piskunov 1990; Povolný 2002; see Discussion).

Bionomics: Host-plant and early stages are unknown. The adults were collected in May at artificial light. The habitats range from mesophilous *Quercus*-forests to semi-deserts (Fig. 6).

## Remarks

*Lita griseofusella* was firstly collected by Kotzsch at about 2000 m in the Kuh-i-Mirabi mountains in north-eastern Iran, probably in 1938 (Toll, 1948). The original description gives a figure of an adult and the male genitalia without stating the number of examined specimens. The probably only existing syntype was later re-examined, figured in black-and-white and attributed to the genus *Scrobipalpa* but the genitalia slide was only redrawn from the original description and stated to be lost (Povolný 1972). More recently the entire type-material was considered to be lost by the same author (Povolný 2002). However, Prof. J. Razowski kindly sent moth and slide of the lectotype on loan. Contrary to Povolný (2002) who indicated this specimen as holotype, and in his earlier paper as type (Povolný, 1972), it is here considered as lectotype concluded from the ambiguous number of type-specimens in the original description. According to the ICZN (1999) (Art. 74.5) the inferred lectotype designation should be attributed to Povolný (1972).

## Discussion

The taxonomical problems within *Scrobipalpa* are not really surprising. No phylogenetic analysis has ever been undertaken, despite the large number of taxa including hundreds of names, and the traditional systematic treatment mainly follows an alphabetical (!) order. Hence, several unpublished synonymies as well as new taxa are known from the Palaearctic region and some will be published in a forthcoming volume of "Microlepidoptera of Europe".

However, the identity of *S. griseofusella* is well established based on the original description which includes a figure of the rather unique male genitalia. It is somewhat similar in these characters only to *S. optima* POVOLNÝ, 1969, which, however, is a greyish species showing small differences in both sexes (compare Povolný 2002). A single female of *S. optima* was collected together with *S. griseofusella* during our expedition and it fully corresponds with the figures in Povolný (2002).

The hitherto undescribed female of *S. griseofusella* is attributed to the male merely based on external evidence: specimens of both sexes match in wing markings and colour and they have been collected syntopically on the same night on several occasions. In genitalia the female is indistinguishable from female specimens figured under the name *S. rezniki turkmenica* PISKUNOV, 1990 by Piskunov (1990) and Povolný (2002). However, the latter taxon as well as its nominotypical subspecies from Uzbekistan and Mongolia have





Fig. 6. *Scrobipalpa griseofusella* (TOLL, 1948), habitat, Iran, Dasht.

been described from male holotypes (Piskunov 1990), differing from *S. griseofusella* in several characters and hence excluding conspecificity. It seems very unlikely that females of two species which are well differentiated in the male sex correspond in every detail, all the more so as females within the genus *Scrobipalpa* frequently exhibit valuable specific characters. Therefore the assignment of females to males within *S. rezniki turkmenica* is dubious and most probably incorrect. This assumption is supported by the collecting localities of alleged females of *S. rezniki turkmenica* which are not in accordance with the males (see Piskunov 1990). Furthermore, female paratypes of *S. rezniki turkmenica* (females of the nominotypical subspecies are unknown) have been collected already in May, during the documented flight period of *S. griseofusella* at lower altitudes, whereas males of *S. rezniki* are all dating from July. Only the lectotype of *S. griseofusella* was collected in July/August according to its labels but these data are somewhat doubtful since even the collecting year is not documented with certainty (Toll 1948); furthermore, the lectotype was collected at higher altitudes of about 2000 m. Consequently the female of *S. rezniki turkmenica* sensu auctt. is here regarded as misidentification of *S. griseofusella*.



## Acknowledgements

I would like to thank Mag. B. Gutleb (Klagenfurt) for organizing the expedition to Iran and for the photograph of a habitat. Prof. Dr. J. Razowski (Krakow) kindly sent the lectotype of *Lita griseofusella* on loan. Ole Karsholt (Copenhagen) is thanked for comments on a draft manuscript. Finally the technical help by S. Heim (Innsbruck) is gratefully acknowledged.

## References

- ICZN (1999): International Code of Zoological Nomenclature. – Fourth Edition. — 306 pp., The International Trust for Zoological Nomenclature 1999, London.
- Piskunov, V. I. (1990): Second addition to the fauna of the gelechiid moths (Lepidoptera, Gelechiidae) of Mongolia. [In Russian.] — Nasek. Mongolii 11: 286–307.
- Povolný, D. (1972): Zur Fauna der Tribus Gnorimoschemini (Lepidoptera, Gelechiidae) im Iran. — Acta entomologica bohemoslovaca 69: 186–206.
- Povolný, D. (2002): Iconographia tribus Gnorimoschemini (Lepidoptera, Gelechiidae) Regionis Palaearcticae. — 110 pp., 16 + 87 plates, F. Slamka, Bratislava.
- Toll, S. (1948): Beitrag zur Mikrolepidopterenfauna von Nordost-Persien. — Zeitschrift der Wiener entomologischen Gesellschaft 32: 107–116, plates 4–6.
- Wieser, C., Huemer, P. & Stangelmaier, G. (2002): Schmetterlinge (Lepidoptera). — In: Gutleb, B. & Wieser, C., Nordiran. Ergebnisse einer zoologischen Exkursion, 2001. Carinthia II, 192/112: 52–81.

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# A redescription of *Pseudoctenus meneghettii* CAPORACCO, 1949 (Araneae: Zoropsidae), a poorly known Afrotropical spider taxon, with description of a new enigmatic species

Rudy Jocqué

## ABSTRACT

Contrib. Nat. Hist. 12: 707–720.

*Pseudoctenus meneghettii* CAPORACCO, 1949 from the Mau Range in Kenya, is redescribed on the basis of the type series which contains not only females but also an adult male. The species is cribellate and characterized by non aligned AME and PME and the presence of the tibial crack, the abdominal shield and the short apex of the cymbium in the male. Inclusion of the taxon in a phylogenetic analysis demonstrates that it belongs in the Zoropsidae. An unknown, obviously related species, from Mt. Mulanje in Malawi, is described here as *P. thaleri* sp. nov.

## Introduction

During recent fieldwork in the Taita Hills in Kenya (Warui & Jocqué 2000) we collected a high number of a species of litter dwelling nocturnal Ctenidae. These obviously belong to an undescribed species and most likely, as will be clear from the following, to a new supraspecific taxon. The most striking character of these spiders is the series of eight pairs of long ventral spines on the anterior tibiae, a character that is rare in ctenids and so far unrecorded in Africa. However, another putative ctenid from Kenya, *Pseudoctenus meneghettii* CAPORACCO, 1949 of similar size, has an equally extensive series of spines on its frontal tibiae. Unfortunately this spider was very poorly described and according to its author only known from a female. The only drawing in the paper describing the species is that of the epigyne (shown in Fig. 9 of the present paper). It is very uninformative and could be considered to match the epigyne of our Taita specimens with some imagination. The type series of this species was deposited in Verona and apart from the holotype female, we were able to get the type series on loan. To our surprise, *P. meneghettii* is very different from our Kenya ctenids and has some characters that puts it



in a different family: it is cribellate and has two strongly recurved eye rows; the male has a tibial crack. And indeed, that was the second surprise. Caporiacco apparently overlooked the adult male among the specimens in the type series! There are three subadult males and the only adult male was clearly not taken into consideration.

I here redescribe the species which apparently belongs in the Zoropsidae as recently redefined by Raven & Stumkat (2005) and Jocqué & Dippenaar-Schoeman (2006). Conspecific specimens recently collected on Mt Kenya and in the highland of Burundi, appeared to be present in the MRAC collections. A second species in the same collections from Mt Mulanje in Malawi, is apparently closely related and is described here. The Ctenidae from the Taita Hills that initially lead to this study are thus not congeneric with *Pseudoctenus* and will be described in the Ctenidae elsewhere.

## Methods

All specimens were examined in 70% ethanol. Epigynes were cleared in methyl salicylate and examined in a mixture of that clearing agent and cedukol. Scanning electron micrographs were kindly provided by D. Silva from the California Academy of Sciences.

All measurements are in mm.

### Abbreviations:

ALE	anterior lateral eyes
AME	anterior median eyes
d	dorsal
disp	dispersed
Fe	femur
MCSNV	Museo Civico di Storia Naturale, Verona (L. Latella)
MOQ	median ocular quadrangle
MRAC	Musée Royale de l'Afrique Centrale, Tervuren (R. Jocqué)
Mt	metatarsus
P	patella
pl	prolateral
PLE	posterior lateral eyes
PME	posterior median eyes
pventral	proventral
rl	retrolateral
t	tarsus

T	tibia
v	ventral

### Genus *Pseudoctenus* CAPORIAMCO, 1949

*Pseudoctenus*; Caporiamco (1949): 448.

The genus is characterized by the following combination of characters: medium size cribellate spiders with split cribellum and brush shaped calamistrum (in females only); both rows of eyes strongly recurved; tarsi very short, provided with two irregular rows of trichobothria, two claws, dense claw tuft and sparse scopula; anterior tibiae with 8 to 10 pairs of long ventral spines with dentate base (Figs. 21–22 ); metatarsi with 4–5 pairs of long ventral spines; palp with simple RTA; embolus originating on central tegular swelling provided with ventrally concave median apophysis and membranous conductor; epigyne with broad central scape separating lateral lobes, membranous or featureless in front; entrance ducts convoluted, ending in small poorly delimited spermathecae.

### *Pseudoctenus meneghettii* CAPORIAMCO, 1949 (Figs. 1–12, 13, 19, 21)

*P. meneghettii*; Caporiamco (1949): 448, f. 78 (descr. ♀).

#### Material examined:

Type material: 1 ♂, 1 ♀, 3 subadult ♂: Kenya, Mau Range, 150 km NW of Nairobi; I. 1946, (MCSNV).

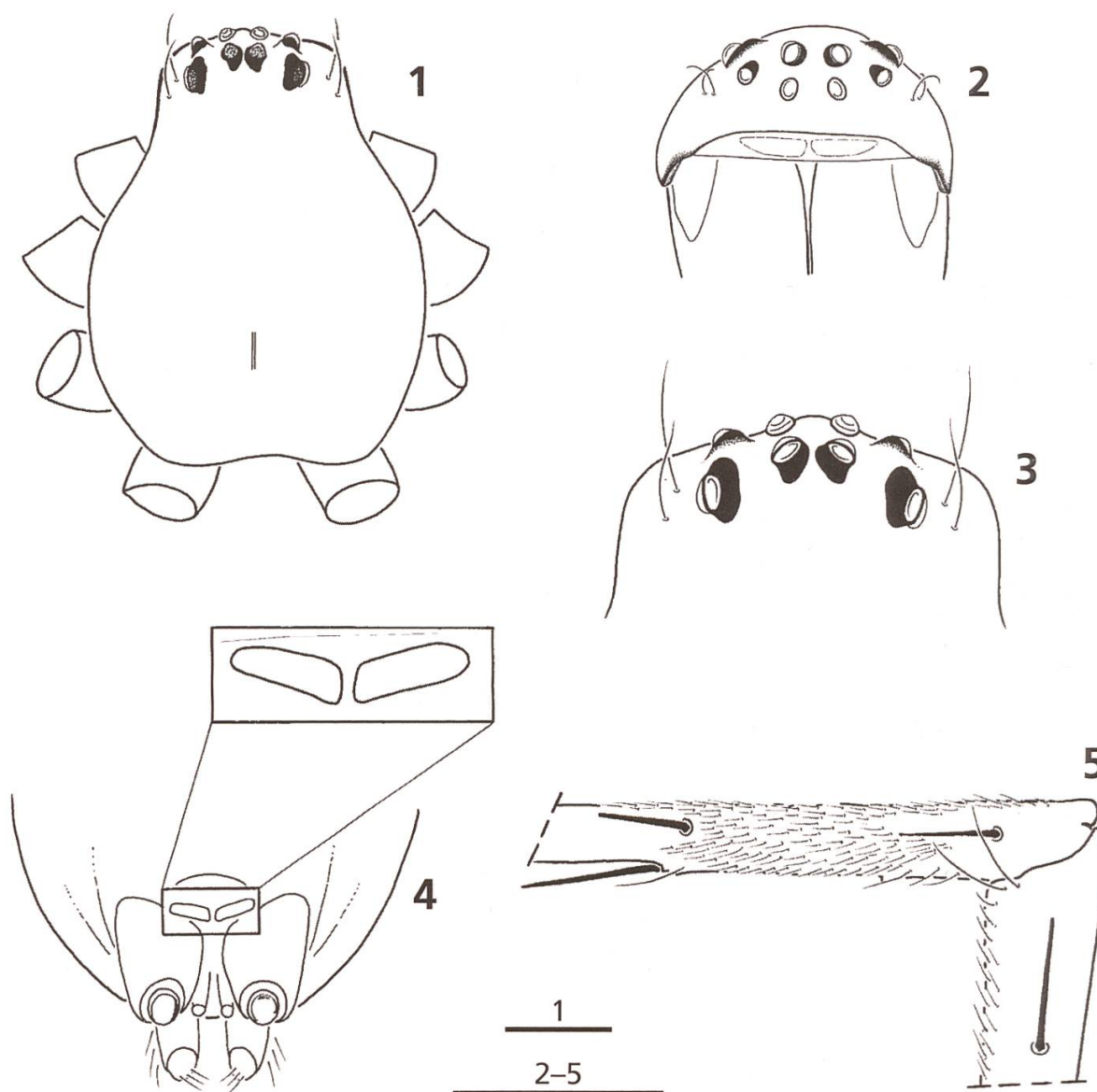
Other material examined: Kenya: 2 ♀: Mt. Kenya, Castle Forest, S 00° 19' E 037° 19', 21. IV. 2004, 2447 m asl, bamboo forest, sieving of hanging soil, Jocqué & Warui & VandenSpiegel (MRAC 215151); Burundi: 1 ♀: Forêt de Rwegura, S 02° 55' E 029° 31', 8. III. 2002, 2200 m asl, eastern slope, by hand, B. Nzigidahera (MRAC 214147).

#### Description:

##### Female paratype:

TL: 11.3; carapace 5.5 long, 4.1 wide, strongly narrowed to 2.4 behind eye region (Figs. 1, 10). Fovea a deep groove with some setae. Sternum (Fig. 19) shield shaped, 2.06 long and as wide; anterior lateral corners slightly protruding. Labium narrowed near base, slightly wider (0.85) than long (0.78); endites parallel; wider near anterior extremity. Chilum consisting of two wide, poorly sclerotized triangles. Chelicerae strongly developed with strong condyle; three small teeth on promargin, three larger ones on retromargin;





Figs. 1–5. *Pseudoctenus meneghettii*. – 1: Female cephalothorax, dorsal view; – 2: Eye pattern, frontal view; – 3: Eye pattern, dorsal view; – 4: Spinnerets with detail of cribellum; – 5: Metatarsus IV, with calamistrum. (Scale bar = 1 mm).

Colour: Entirely fawn with faint darker striae. Abdomen cream with dispersed setae on small dark spots. Legs yellow.

Eyes (Figs. 1–3): AME: 0.19; ALE: 0.16; PME: 0.19; PLE: 0.21; AME-AME: 0.19; AME-ALE: 0.19; PME-PME: 0.11; PME-PL: 0.19; ALE-PL: 0.14. MOQ: AW 0.51; PW: 0.51. L: 0.48.

Legs: 1423; trochanters with wide, shallow notch; tarsi slightly bent and widened towards tip; with dense claw tuft; claws with 6–8 teeth. Thin scopula on t and Mt.

### Measurements:

	F	P	T	Mt	t	total
I	4.96	1.96	5.80	4.96	1.28	18.96
II	4.40	1.92	4.56	4.48	1.20	16.56
III	3.68	1.56	2.92	3.60	1.16	12.92
IV	4.92	1.68	3.92	5.44	1.44	17.40

Spination (left side) (Fig. 21): Fe I pl1 d1-1-2-1 rl1-1-1 pv2 II pl1 d1-1-1 rl1-1-1 III pl1-1 d1-1-1 rl1-1 IV d1-1-2-1 P none T I pl1 d1-1 rl2 v2-2-2-2-2-2-2-2-2-2 (only 9 pairs on right side) TII pl1 d1-1 rl 2 v2-2-2-2-2-2-2-2-2-2 TIII rl1-1d1-1 pl1-1 v1-1 TIV rl1-1 d1-1 pl1-1 v2 Mtl pl1-1 v2-2-2-2-2 rl1-1 MtII d1v2-2-2-2-2-2 MTIII10disp MtIV 11 disp. Metatarsal and tibial spines on front legs 3 to 4 times segment diameter. Ventral spines on raised bases.

Cribellum 0.48 wide, two parts in shallow v-shape (Fig. 4). Calamistrum a poorly delimited brush with short setae in basal half of MtIV (Fig. 5).

Epigyne (Figs. 8–9, 12–13): Membranous in anterior half, sclerified in posterior half; longitudinally divided scape and narrow groove near posterior margin; scape narrow in front, widened towards the middle and narrowed to the back; on either side a short transverse tooth near the middle, overlying the margin of the scape.

### Male paratype:

TL: 7.7; carapace 3.9 long, 2.8 wide, strongly narrowed to 1.6 behind eye region. Sternum shield shaped, 1.49 long and as wide; anterior lateral corners slightly protruding; shape of labium and endites as in female; chelicerae as in female.

Colour: As female.

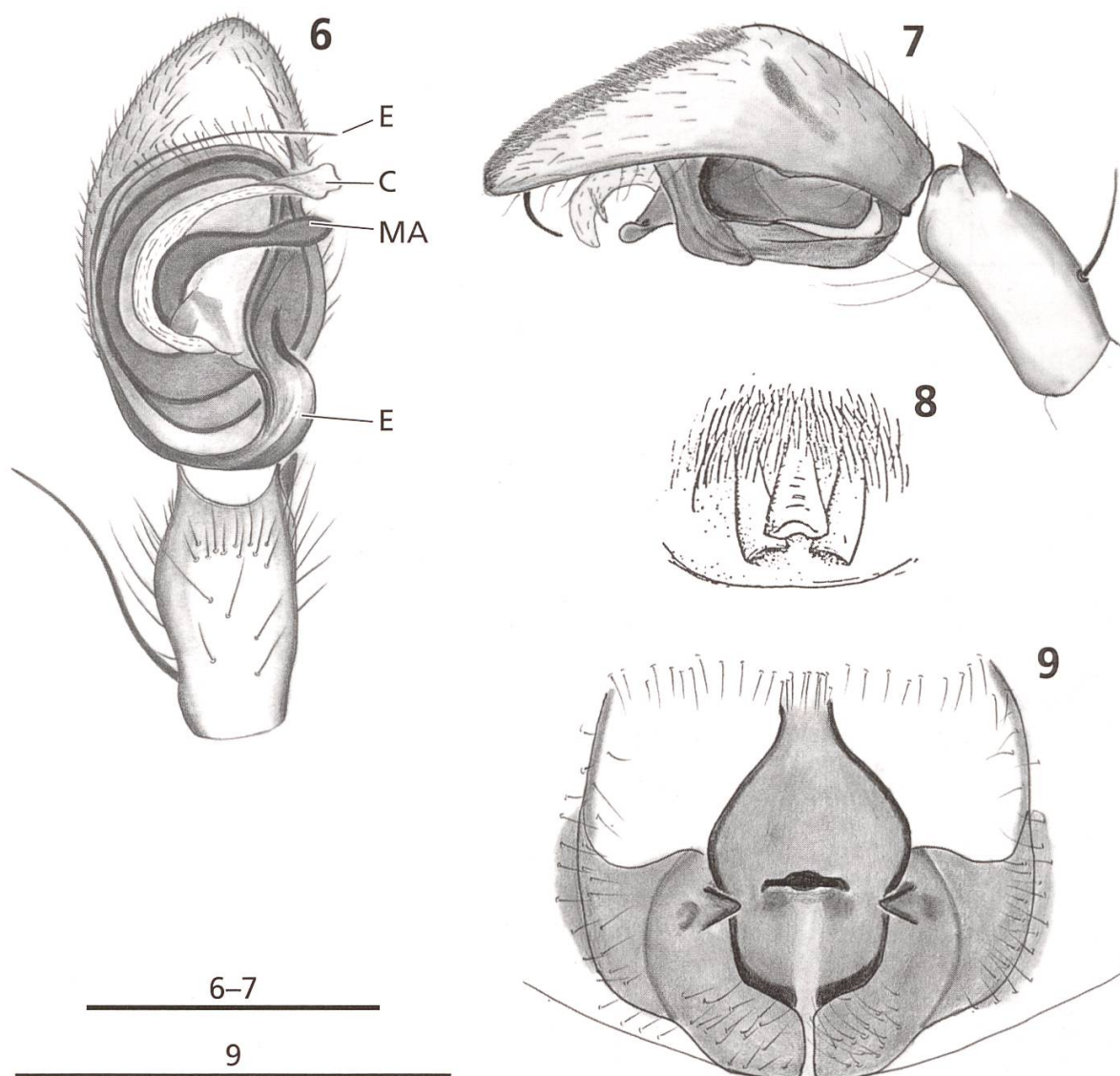
Eyes AME: 0.16; ALE: 0.14; PME: 0.16; PLE: 0.21; AME-AME: 0.14; AME-ALE: 0.11; PME-PME: 0.14; PME-PLE: 0.21; ALE-PLE: 0.06. MOQ: AW 0.43; PW: 0.43. L: 0.48.

Legs: 1243; more slender than in female; trochanters deeply notched; tibiae with proximal crack; tarsi straight, slightly widened towards tip; with dense claw tuft; claws with 6–8 teeth.

### Measurements:

	F	P	T	Mt	t	total
I	5.25	1.40	6.28	6.28	1.88	21.09
II	4.80	1.40	5.08	5.00	1.48	17.76
III	3.56	1.16				
IV	4.08	1.00	4.08	6.00	1.64	16.80





Figs. 6–9. *Pseudoctenus meneghettii*. – 6: Male palp, ventral view; – 7: Male palp, lateral view; – 8: Epigyne, ventral view, according to Caporiacco (1949, fig. 78); – 9: Epigyne, ventral view. (Scale bar = 1 mm).

Spination (left side): Fe I pl1-1-1 d1-1-1 rl1-1 II pl1-1-1 d1-1-1 rl1-1-1-1-1 III pl1-1-1-1 d1-1-1 rl1-1-1-1 IV rl1-1-1 d1-1-1 rl1-1-1 P none T I pl1-1 rl1-1-1-1 v2-2-2-2-2-2-2 TII pl1-1-1 rl 2 v2-2-2-2-2-2-2 TIII 12disp v2dist TIV 14disp v1dist Mtl v2-2-2-2-2 MtlI v2-2-2-2 rl2 MTIII12disp MtlIV 12 disp. Metatarsal and tibial spines on front legs 4 to 5 times segment diameter. Tarsi with two irregular rows of trichobothria.

Abdomen with small frontal shield.

No cribellum, nor calamistrum.

Male palp (Figs. 6–7): Cymbium fairly short with dense dorsolateral patch of chemosensitive setae, ventrally with shallow frontal longitudinal groove; tibia rather long with one dorsal and two prolateral macrosetae. Tegulum with wide sperm duct and large central swelling with membranous prolateral part;

embolus originates from sclerified retrolateral part of swelling, its base directed backwards, narrowed and whip-shaped, describing long loop, tip directed outward, situated in front of tegulum; large median apophysis with unusual concave ventral tip originates just besides embolus; membranous part of swelling provided with long membranous conductor.

## Natural History

All specimens were caught at an altitude of at least 2000 m. The precise habitat of the type specimens is not known. The specimens from Kenya are from a pure bamboo stand. The ground litter layer is very poorly developed in that vegetation but there is a thick layer of "hanging litter" between 4 and 8 m above the ground. This decomposing material was shaken down and then sieved, yielding two *P. meneghettii* females among a high number of other spiders among which many Linyphiidae.

## Affinities

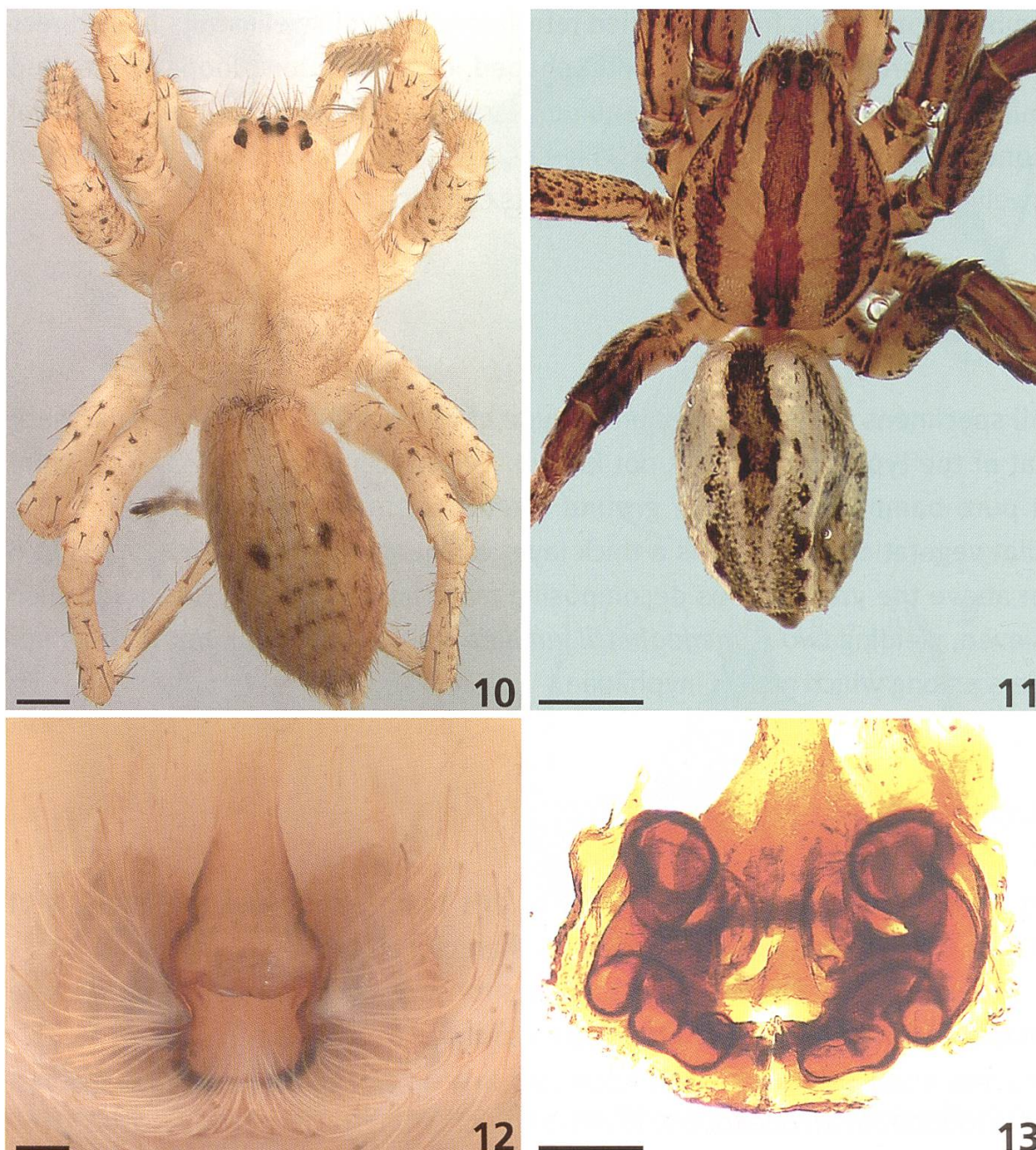
In order to evaluate the placement of this taxon I followed the analysis of Raven & Stumkat (2005) which has 66 characters for 45 taxa.

No new characters were used. Entries for *Pseudoctenus meneghettii* in the matrix of Raven & Stumkat (2005) are as follows:

11111000000010??000100010102001111000001001?001011??001310100?0?01

I used "the ratchet" of Nixon (2002) with 200 iterations, hold 1 tree, 6 characters to sample, all characters non additive. This analysis resulted in 3 equally long trees with length 306, CI: 29 and RI: 65. The tree presented here (Fig. 24) is the majority tree which is almost entirely congruent with the tree presented by Raven & Stumkat (l. c.) apart from some differences at the base but the composition of the ctenoids remains the same. The placement of *Pseudoctenus* is interesting as it sits between *Acanthoctenus* and the Zoropsidae and is sister to that family as defined by the authors mentioned. *Pseudoctenus* should thus be included in the Zoropsidae on behalf of the male tibial crack and the male abdominal shield, two non-homoplasious changes, and the short apex of the cymbium and non aligned AME and PME, which are both reversals.





Figs. 10–13. – 10, 12–13: *Pseudoctenus meneghettii*; – 10: Female, habitus; – 12: Epigyne, ventral view; – 13: Internal structure, dorsal view; – 11: *Pseudoctenus thaleri*, male, habitus. (Scale bar = 1 mm 10–11; 0.1 mm 12–13). Photos 10–12, courtesy D. Silva.

***Pseudoctenus thaleri* sp. nov.** (Figs. 11, 14–18, 20, 22–23)

Type material: Holotype ♂: Malawi, Mt. Mulanje, Lichenya plateau, S 16° 00' E 035° 30', 7–23. XI. 1981, *Philippia* thicket on rocky soil, pitfalls, Jocqué R. (MRAC 155764).

Paratypes: Malawi: 1 ♂: Mt. Mulanje, Lichenya plateau, S 16° 00' E 035° 30', 5.–24. XI. 1981, young *Cupressus* plantation, Pitfalls, Jocqué R. (MRAC 156316); 1 ♂: Mt. Mulanje, Lichenya plateau, S 16° 00' E 035° 30', 4.–20. XI. 1981, woodland with *Selaginella* near CCAP hut, Jocqué R. (MRAC 156407);



1 ♂, 1 ♀: Mt. Mulanje, Thuchila, 1 km E of hut near crossing of Madzeka path and rivulet , S 16° 00' E 035° 30', 11. XI. 1981, Jocqué R. (MRAC 156475); 1 ♂: Mt. Mulanje, Lichenya plateau, near CCAP hut, S 16° 00' E 035° 30', 8. XI. 1981, Jocqué R. (MRAC 156799).

Etymology: The species is called after Konrad Thaler in recognition of his remarkable work on the Araneae.

Description:

Male Holotype:

TL: 7.08, carapace 3.08 long, 2.28 wide strongly narrowed to 1.3 behind eye region (Fig. 11).

Fovea a deep dark groove. Sternum shield shaped, 1.38 long and 1.28 wide; anterior lateral corners slightly protruding. Labium narrowed near base, slightly wider (0.41) than long (0.38); endites parallel; wider near anterior extremity. Chilum consisting of two wide, poorly defined triangles. Chelicerae strongly developed with strong condyle; two teeth on both margins.

Colour: Cephalothorax fawn with broad, medium brown, longitudinal stripes; clothed with pale and dark short setae matching colour of background, some longer pale setae in ocular area; stripes and margins with dark brown pattern; short dark brown stripe behind PLE; chelicerae fawn with broad, dark, frontal stripe; legs: femora fawn with dark dorsal stripes and dark mottling on other surfaces; patellae, tibiae and metatarsi medium brown, tarsi pale brown; sternum and labium pale yellow with broad dark lateral margins; endites dark with pale yellow anterolateral margin; abdomen grey with dark spots.

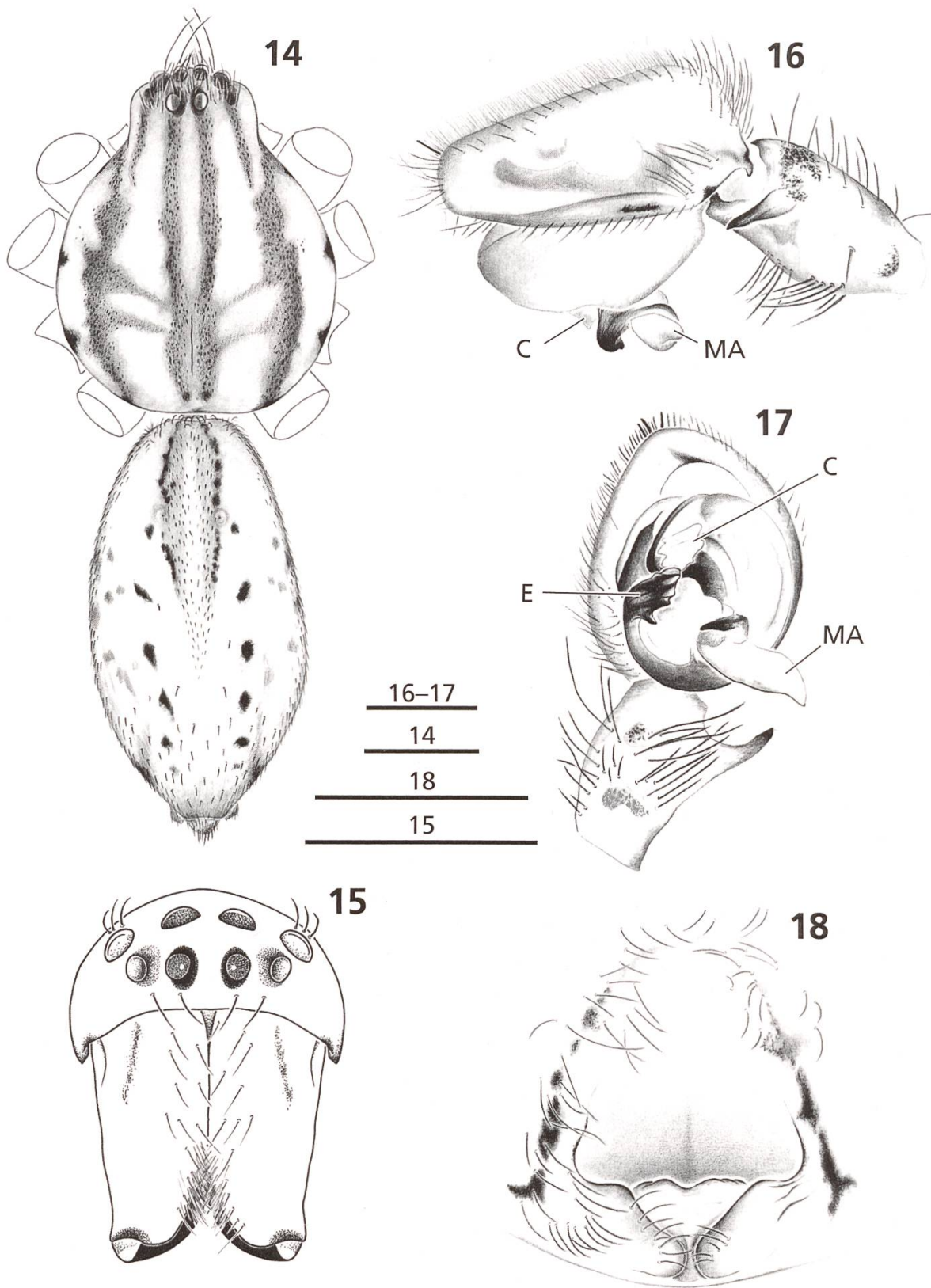
Eyes (Figs. 14–15): AME: 0.13; ALE: 0.16; PME; 0.13; PLE: 0.16; AME-AME: 0.09; AME-ALE: 0.06; PME-PME: 0.08; PME-PLE; 0.16. MOQ: AW 0.3; PW: 0.34. L: 0.41.

Legs: 4123 (on the basis of paratypes); trochanters with wide, shallow notch; tarsi very short, slightly bent and widened towards tip; with dense claw tuft; claws with 6–8 teeth. Thin scopula on t and Mt.

Measurements:

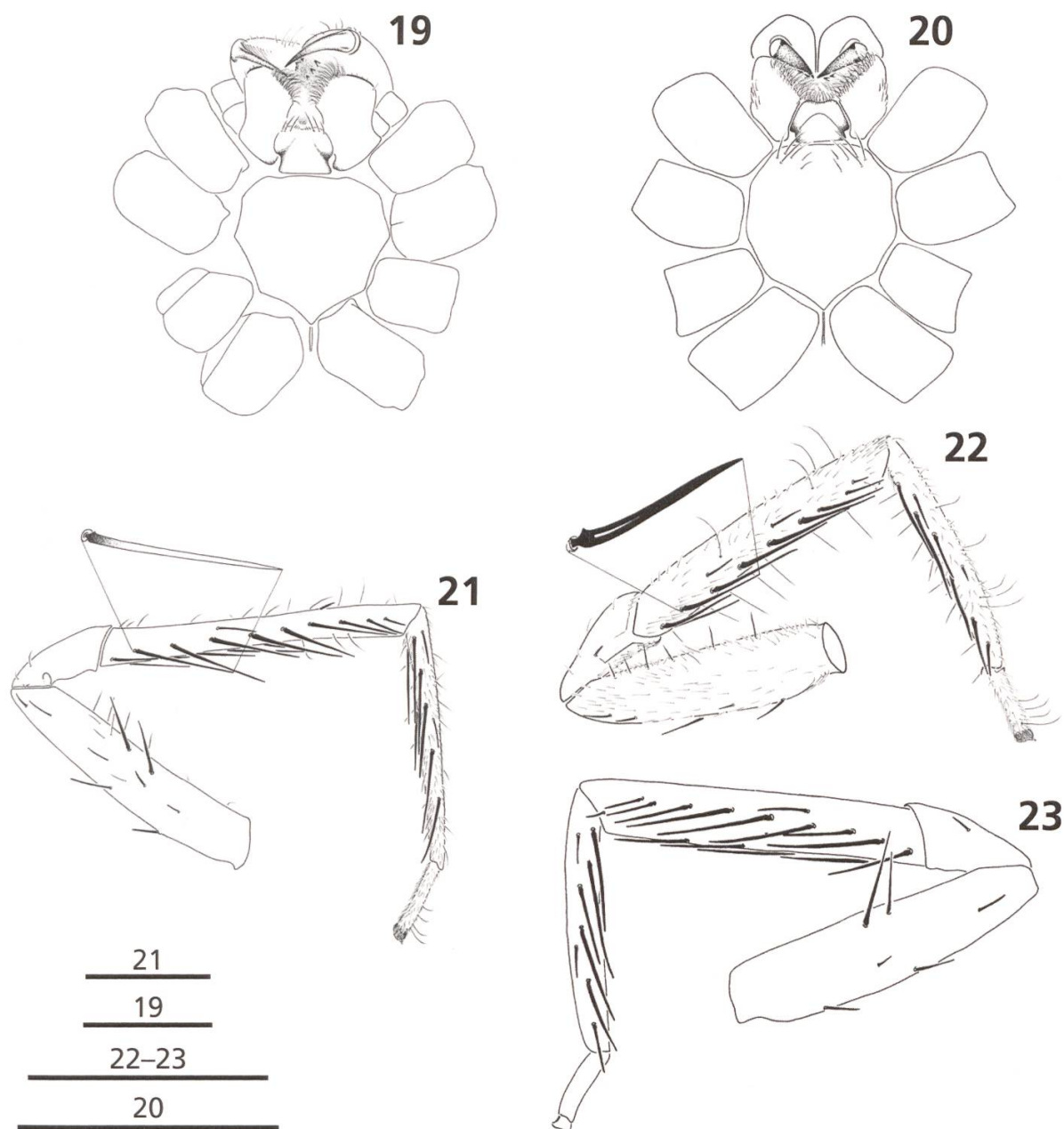
	F	P	T	Mt	t	total
I	2.84	1.08	3.20	2.96	0.88	10.96
II	2.64	1.00	3.16	2.56	0.80	10.16
II	2.32	0.92	1.80	2.00	0.72	7.76
IV	3.16	1.12	2.84			





Figs. 14–18. *Pseudoctenus thaleri* sp. nov. – 14: Habitus; – 15: Cephalothorax, frontal view; – 16: Left male palp, retrolateral view; – 17: idem, ventral view; – 18: epigyne, ventral view. (Scale bar = 0.5 mm 16–18; 1 mm 14, 15).

Spination (left side): Fe I pl2 d1-1-1 rl1-1-1 II pl1-1-1 d1-1-1 rl1-1-1 III pl1-1-1 d1-1-1 rl1-1-1 IV d1-1-1 rl1-1-1 P I pl1 rl1 II pl1 rl1 III pl1 rl1 IV pl1 rl1 T I pl1-1 d1-1-1 rl2 v2-2-2-2-2-2-2-2 TII pl1-1 d1-1-1 rl 2 v2-2-2-2-2-2-2-2 TIII pl1-1 d1-1-1 rl1-1 v2-2-2 TIV pl1-1 d1-1 rl1-1 v2-2 Mtl rl1-1 v2-2-2-2 MtII rl3 v2-2-2-2 MtIII



Figs. 19–23. *Pseudoctenus meneghettii*. – 19: Sternum and mouthparts, ventral view; – 21: Female, leg I, left, showing spination and spines with dentate base. *Pseudoctenus thaleri* sp. nov. – 20: Sternum and mouthparts, ventral view; 22. Female, leg I, right, showing spination and spines with dentate base; – 23: idem; prolateral side, only spines shown. (Scale bar: 1 mm).

13disp MtIV 13disp. Metatarsal and tibial spines on front legs 3 to 4 times segment diameter. Ventral spines on raised bases.

No cribellum, nor calamistrum.

Male palp (Figs. 16–17): Cymbium fairly short, dorsally completely covered by chemosensitive setae, retrolaterally with stretch of ordinary setae; tibia fairly long, with ventral group of macrosetae; apophysis standing off. Distal and caudal parts of tegulum sclerotized, central part membranous; embolus originating from posterior part with backward directed base, very broad with serrated extremity; median apophysis with sclerified hook shaped part and



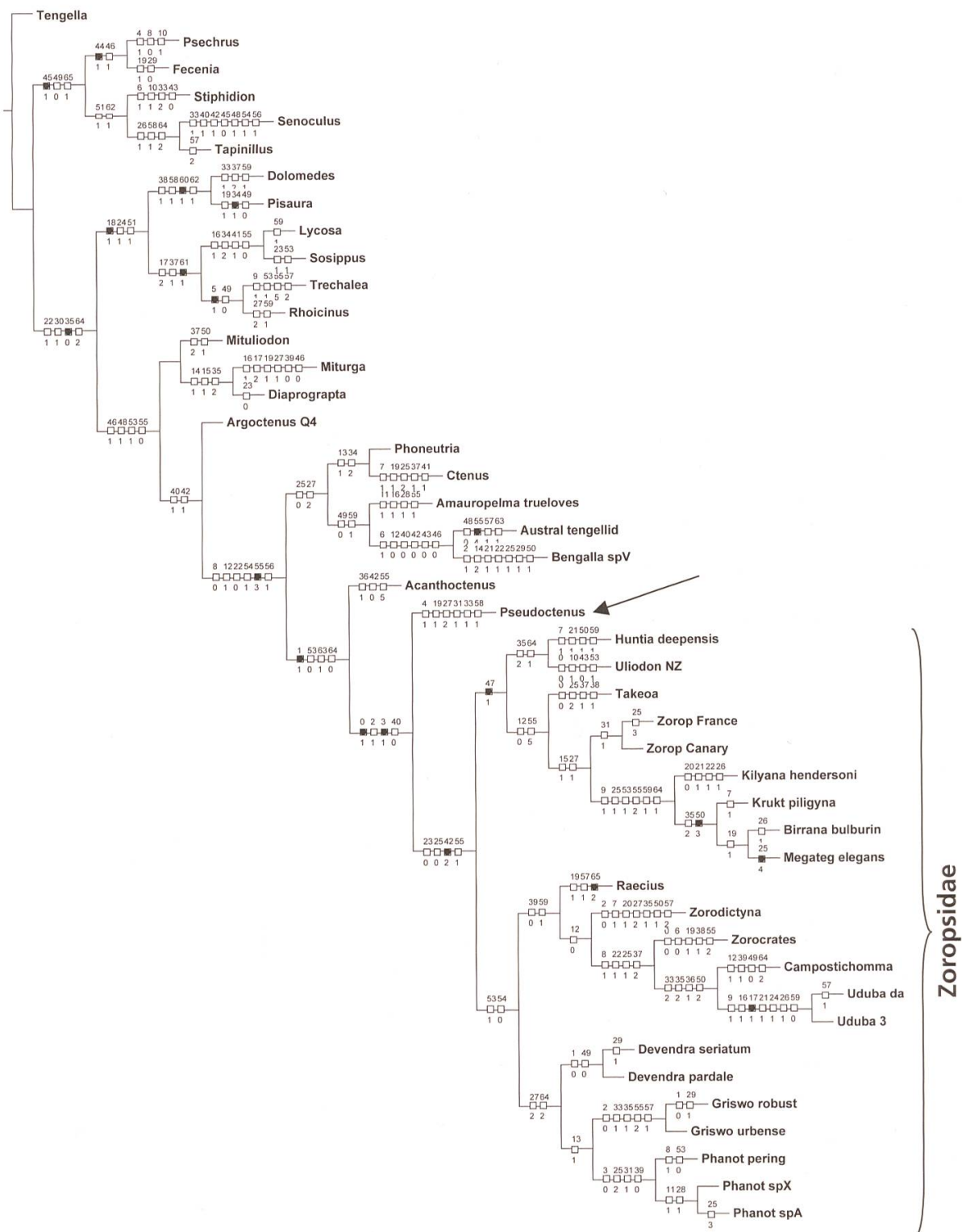


Fig. 24. Phylogenetic analysis of Zoropsidae and outgroups (after Raven & Stumkat 2005) including *Pseudoctenus* (arrow). The cladogram is the majority tree obtained from three equally long trees.

membranous "tail" pointing outward; conductor a short membrane inserted on tegulum just in front of embolus tip.

Female paratype:

TL: 7.7; carapace 3.9 long, 2.8 wide strongly narrowed to 1.6 behind eye

region. Sternum shield shaped (Fig. 20), 1.44 long and 1.36 wide; anterior lateral corners slightly protruding; shape of labium and endites as in male; chelicerae and chilum as in male.

Colour: Pattern much less pronounced than in male. Cephalothorax thinly clothed with short dark setae and a few longer pale ones in ocular area; entirely fawn with three pale brown longitudinal bands and four dark spots on both sides along margin. Chelicerae uniform pale brown; legs yellow, mottled with black; sternum pale yellow, margins mottled with black; labium and endites pale brown with pale distal margin, abdomen cream with scattered small dark spots all over and sparse clothing of short dark brown setae; dorsum with two longitudinal rows of faint dark spots, venter with poorly defined longitudinal median stripe.

Eyes AME: 0.15; ALE: 0.20; PME: 0.16; PLE: 0.15; AME-AME: 0.11; AME-ALE: 0.08; PME-PME: 0.11; PME-PLE: 0.21; ALE-PLE: 0.06. MOQ: AW 0.38; PW: 0.43. L: 0.44.

Legs: 1243; trochanters with wide shallow notch; tibiae without crack; tarsi slightly curved and faintly widened towards tip; with dense claw tuft; claws with 5–6 teeth.

Spination (left side; Figs. 22–23): Fe I pl1-1 d1-1-1 rl1-1 pv1-1 II pl1-1 d1-1-1 rl1-1-1-1 III pl1-1-1 d1-1-1 rl1-1-1 IV d1-1-1rl1 P I pl1 rl1 II pl1 rl1 III pl1rl1 IV pl1 rl1T I pl1-1 d1-1-1 rl1-1 v2-2-2-2-2-2-2-2 TII pl1-1 d1-1-1 rl 1-1 v2-2-2-2-2-2-2-2 TIII 11disp v2dist TIV 8 disp v1dist Mtl pl 1-1-1-1 rl 1-1-1 v2-2-2-2-2 MtlII pl 1-1-1-1 rl 1-1-1 v2-2-2-2 MTIII 16disp MtlIV 16 disp. Metatarsal and tibial spines on front legs 4 to 5 times segment diameter. Tarsi with two irregular rows of trichobothria.

No cribellum nor calamistrum.

Epigyne (Fig. 18): Anterior part poorly sclerified, concave; posterior part with central scape partly hidden by lateral folds.

Natural History: The specimens were caught on the ground at an altitude of approximately 2000 m in open thickets or dense herbaceous vegetation.

Affinities: *P. thaleri* has some striking similarities with *P. meneghettii*. The most remarkable ones are the habitus, the unusually short, slightly bent tarsi and the peculiar spination with long rows of spines with dentate bases. The genitalia are fairly different but can easily be derived from the same basic structure in which different pathways of increasing complexity have been followed. The similar habitat with a preference for thickets at an altitude around 2000 m may be considered another argument for the relationship of these taxa. However, the absence of the tibial crack in the male and of the cribellum and calamistrum in the female are at least puzzling, the more since the former character has been used to define the family Zorocratidae (see Raven



& Stumkat 2005, Jocqué & Dippenaar-Schoeman 2006). There is little doubt though that these species are closely related and are part of a clade in which the cribellum and the tibial crack are in the course of becoming ineffective and are subsequently lost. In view of this context, I refrain from erecting a new monospecific genus. More data and more particularly a molecular analysis are awaited to cut the knot but this case may throw light on the reliability of the characters in question.

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## References

- Caporiacco, L. di (1949): Aracnidi della colonia del Kenya raccolti da Toschi e Meneghetti negli anni 1944–1946. — *Commentationes pontificae Academiae Scientiarum* 13: 309–492.
- Jocqué, R. & Dippenaar-Schoeman, A. (2006): Spider families of the World. — 336 pp., Royal Museum for Central Africa, Tervuren.
- Nixon, K. (2002): Winclada 1.00.08. Programme and documentation. Ithaca, NY. Available from <http://www.cladistics.com>.
- Raven, R.J. & Stumkat, K.S. (2005): Revisions of Australian ground-hunting spiders: II. Zoropsidae (Lycosoidea: Araneae). — *Memoirs of the Queensland Museum* 50: 347–423.
- Warui, C. & Jocqué, R. 2000. The first Gallieniellidae (Araneae) from eastern Africa. — *Journal of Arachnology* 30: 307–315.

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