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A new genus for the *tropicalis* species-group of *Lepthyphantes* Menge, 1866 *sensu lato* (Linyphiidae: Micronetinae)

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ABSTRACT: A new genus, *Afrophantes* gen.n., is established for the *tropicalis* species-group of *Lepthyphantes* Menge, 1866 *sensu lato*. The new genus comprises at least 14 Afrotropical species, being characterised by certain structural details of the genitalia of both sexes. The taxonomic history of the genus *Lepthyphantes* is briefly reiterated, the composition of *Lepthyphantes sensu stricto* is defined as presently comprising seven species. The number of species still cited in *Lepthyphantes sensu lato* is at least 150.
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KEY WORDS: taxonomy, Arachnida, Afrotropics, mountain fauna.

Новый род для группы видов *tropicalis* рода *Lepthyphantes* Menge, 1866 *sensu lato* (Linyphiidae: Micronetinae)

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РЕЗЮМЕ: Новый род, *Afrophantes* gen.n., установлен для группы видов *tropicalis* рода *Lepthyphantes* Menge 1866 *sensu lato*. Род насчитывает не менее 14 видов, распространённых в Афротропической области, и характеризуется особенностями структуры гениталий обоих полов. Приведена краткая история рода *Lepthyphantes*, определён состав *Lepthyphantes sensu stricto*, насчитывающий 7 видов. Число видов всё ещё цитируемых в *Lepthyphantes sensu lato* составляет не менее 150.
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КЛЮЧЕВЫЕ СЛОВА: таксономия, паукообразные, Афротропическая область, горная фауна.

Introduction

Some recent phylogenetic studies have demonstrated that the subfamily Micronetinae Hull, 1920 is not monophyletic, but rather a paraphyletic group, hence to be treated as the "micronetine" lineage within the clade including both the "micronetines" and the Erigoninae Emerton, 1882 (Arnedo *et al.*, 2009; Tu, Hormiga, 2010; Wang *et al.*, 2015; Arnedo, Hormiga, 2021; etc). However, as I am inclined to follow the traditional subfamily classification of the Linyphiidae Blackwall, 1859, I treat the Micronetinae in the sense of Saaristo & Tanasevitch (1996). Such an approach seems to me feasible until the newly proposed clades, subclades and other phylogenetic lineages have not undergone a procedure of taxonomic formalization. For more details, see Tanasevitch (2025).

At the end of the last century, the micronetine genus *Lepthyphantes* Menge, 1866 was considered as the largest in Linyphiidae, consisting of at least 440 species. Its representatives are found in all natural zones in all continents, except for the Antarctic (Saaristo, Tanasevitch, 1993). Reorganization of this heterogeneous taxon has started with the work of Saaristo & Tanasevitch (1996). During the next 30 years, about 30 genera have been separated from *Lepthyphantes*, for more details see Tanasevitch (2025). The bulk of the remaining species formed two unequal groups: *Lepthyphantes sensu stricto* and *Lepthyphantes sensu lato*. At present, the former group includes only seven species that correspond to the diagnosis of the genus: *Lepthyphantes buensis* Bosmans et Jocqué, 1983; *L. cruentatus* Tanasevitch, 1987; *L. iranicus* Saaristo et Tanasevitch, 1996; *L. leprosus* (Ohlert, 1867); *L. minutus* (Blackwall, 1833); *L. rossitsae* Dimitrov, 2018, and *L. simiensis* Bosmans, 1978. The heterogeneous group *Lepthyphantes* (*s. lato*) comprises the remaining, approximately 170 species that clearly do not belong in *Lepthyphantes*, yet are still being listed therein.

Currently, several species groups are known among *Lepthyphantes* (*s. lato*), e.g, the *afer*- (Brignoli, 1971), the *alpinus*-, the *notabilis*- etc. (Saaristo, Tanasevitch, 1993), all still awaiting their generic reallocation. The *tropicalis* species-group was established by Bosmans (1978) within *Lepthyphantes* (*s. lato*) for five species: *L. acuminifrons* Bosmans, 1978, *L. biseriatus* Simon et Fage, 1922, *L. bituberculatus* Bosmans, 1978, *L. tropicalis* Tullgren, 1910, and *L. tullgreni* Bosmans, 1978. Three species from Ethiopia have recently been added to this group, and its diagnosis has been supplemented by characters of the female (Tanasevitch, 2025).

An analysis of the African fauna of *Lepthyphantes* reveals at least further nine species of this group. The entire complex of somatic and genital characters of the *tropicalis* group allows for it to be allotted a generic rank.

Material and methods

This paper is based in part on the spider material kept at the Zoological Museum of the Moscow State University, Moscow, Russia. Spiders preserved in 75% ethanol were studied using an MBS-9 stereo microscope. Drawings were executed with utilizing a drawing tube. Most figures used in this paper were reproduced from Bosmans (1978, 1979), and Tanasevitch (2025).

Abbreviations: dsa — distal suprategular apophysis *sensu* Hormiga (2000), = median apophysis *sensu* Merrett (1963) and van Helsdingen (1969), = suprategular apophysis *sensu* Millidge (1977); ep — embolus proper *sensu* Saaristo (1971); lb — lateral branches of posterior median plate *sensu* Tanasevitch, 2025; lc — lamella characteristica *sensu* Kulczyński (1898); ph — pit-hook *sensu* Saaristo (1973); pmp — posterior median plate *sensu* van Helsdingen *et al.* (1977); po — posterodorsal outgrowth(s); re — receptacle; sd — seminal duct; st — stem of embolus; sc — scape (= scapus); th — thumb, lateral extension of embolus *sensu* Saaristo, Tanasevitch (1996); TmI — position of trichobothrium on metatarsus I; vh — ventral hook of distal suprategular apophysis *sensu* Tanasevitch (2025), = sabre-shaped process of distal suprategular apophysis (Tanasevitch, 2022); ZMMU — Zoological Museum of the Moscow State University, Russia.

References to the distribution of certain species in the text are given using World Spider Catalog (2025).

Results

Class Arachnida Cuvier, 1812
Order Aranei Clerck, 1758
Family Linyphiidae Blackwall, 1859
Subfamily Micronetinae Hull, 1920

Afrophantes **gen.n.**
Figs 1–3.

TYPE SPECIES: *Lepthyphantes bituberculatus* Bosmans, 1978 (Fig. 1).

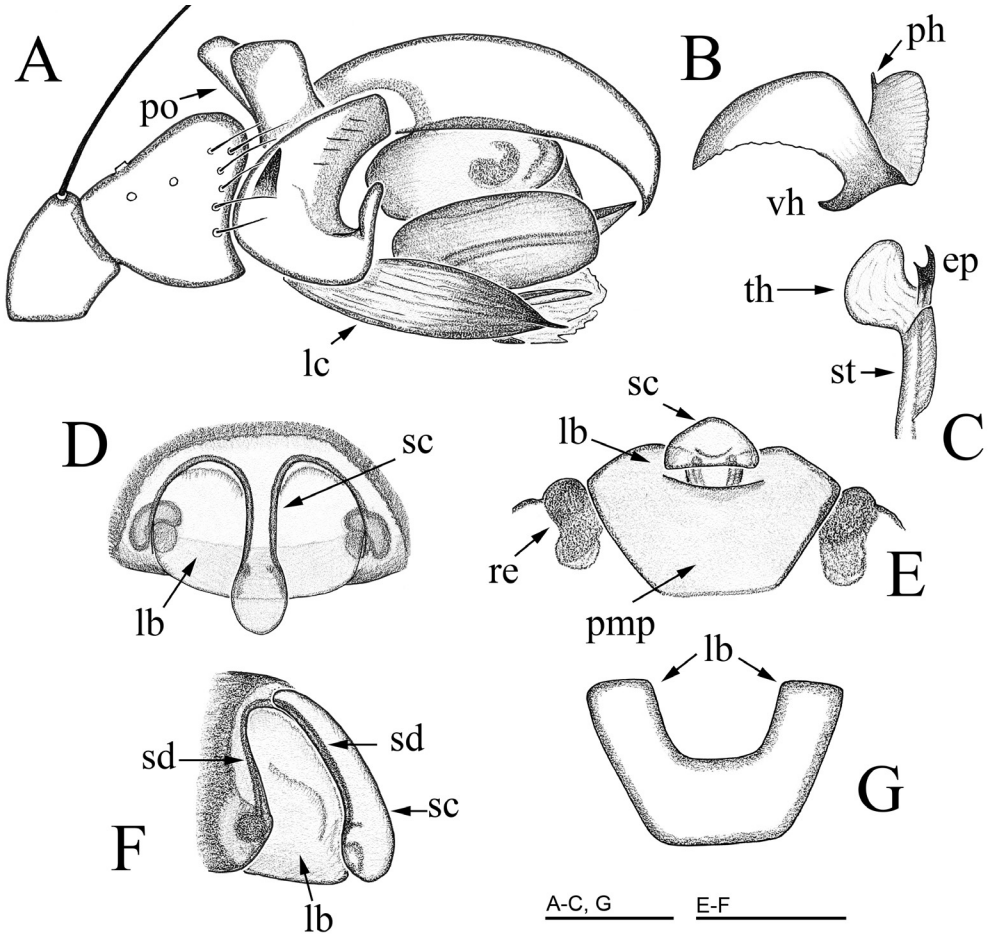

Fig. 1. *Afrophantes bituberculatus* (Bosmans, 1978), ♂ (A–C), ♀ (D–G), specimens from Addis-Ababa, Russian Embassy campus, Ethiopia: A — right palp, retrolateral view; B — distal suprategular apophysis, lateral view; C — embolus, lateral view; D–F — epigyne, ventral, dorsal and lateral views, respectively; G — posterior median plate, postero-ventral view. Figures A–F, after Tanasevitch (2025). Scale bars: 0.1 mm.
Рис. 1. *Afrophantes bituberculatus* (Bosmans, 1978), ♂ (A–C), ♀ (D–G), экземпляры из Аддис-Абеба, территория посольства РФ, Эфиопия: A — правая пальпа, вид сбоку; B — дистальный супратегулярный отросток, вид сбоку; C — эмболюс, вид сбоку; D–F — эпигина, соответственно вид снизу, сверху и сбоку; G — задняя срединная пластинка, вид сзади и снизу. Рисунки A–F по Tanasevitch (2025). Масштабная линейка: 0,1 мм.

NAME. The generic name is a combination of two words: “Afro”, referring to the Afrotropics, the “terra typica”, and the generic name *Lepthyphantes*. The gender is masculine.

DIAGNOSIS. The genus contains medium- to large-sized micronetines, with a total length of 1.70–3.40 mm, which are characterized by the following combination of somatic and genitalic characters:

(1) Carapace unmodified (except for *L. acuminifrons*), eyes somewhat enlarged.

(2) Legs relatively long and slender. Metatarsi I–III each with a trichobothrium.

(3) Cymbium with posterodorsal outgrowth(s) (Figs 1A; 2A–D; 3A–C).

(4) Paracymbium relatively large, often armed with teeth (Figs 1A; 2A–D; 3A–C).

(5) Distal suprategular apophysis moderately developed, with a pit-hook and a ventral hook (Fig. 1B).

(6) Lamella characteristica large, with several branches, usually strongly sclerotized (Figs 1A; 2A–D; 3A–C).

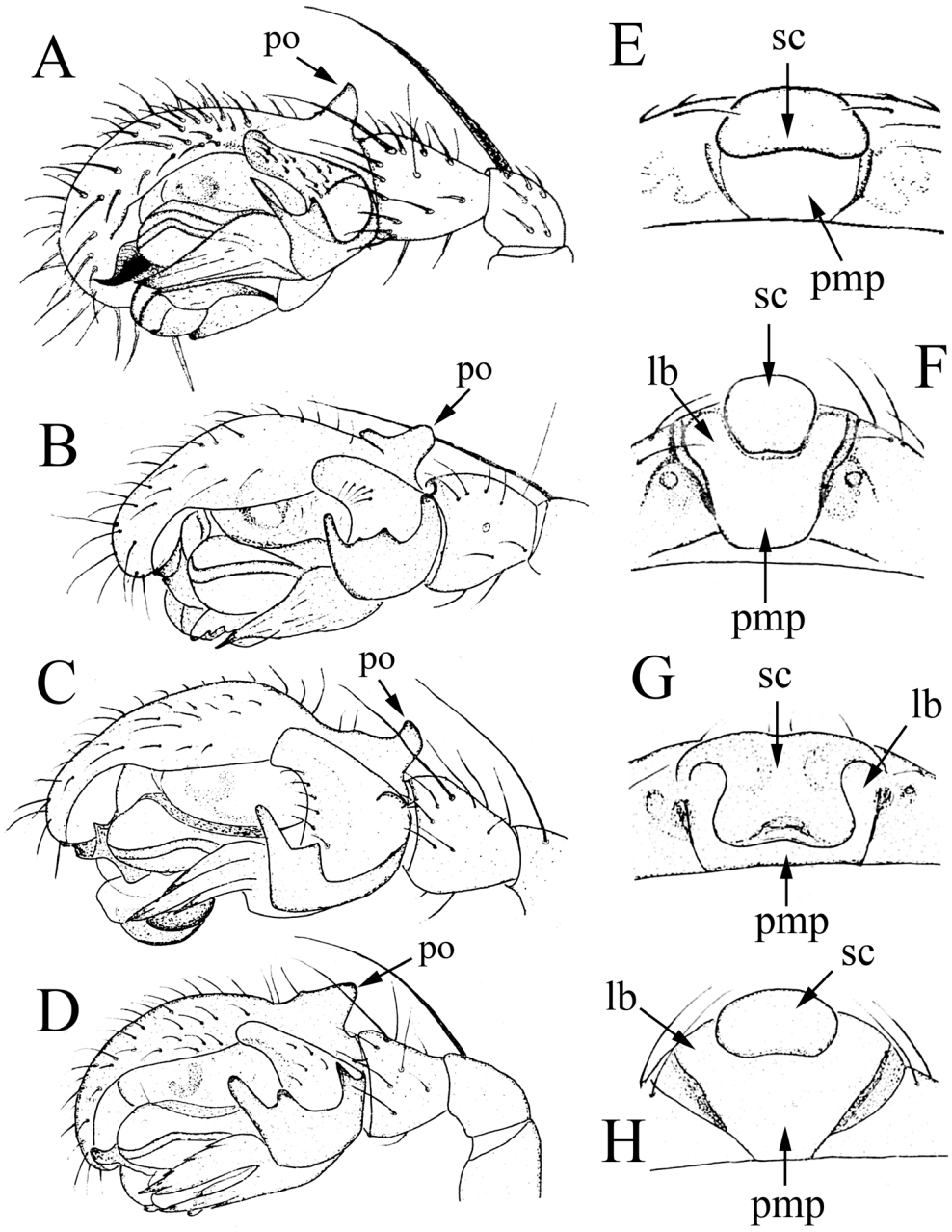

Fig. 2. *Afrophantes biseriatus* (Simon et Fage, 1922), ♂, ♀ (A, E); *A. coomansi* (Bosmans, 1979), ♂, ♀ (B, F); *A. kekenboschi* (Bosmans, 1979), ♂, ♀ (C, G), and *A. obtusicornis* (Bosmans, 1979), ♂, ♀ (D, H): A–D — left palp, retrolateral view; E–H — epigyne, ventral view. A, E — after Bosmans (1978), B–D, F–H — after Bosmans (1979), not to scale.

Рис. 2. *Afrophantes biseriatus* (Simon et Fage, 1922), ♂, ♀ (A, E); *A. coomansi* (Bosmans, 1979), ♂, ♀ (B, F); *A. kekenboschi* (Bosmans, 1979), ♂, ♀ (C, G); *A. obtusicornis* (Bosmans, 1979), ♂, ♀ (D, H): A–D — левая пальпа, ретролатерально; E–H — эпигина, вид снизу. A, E — по Bosmans (1978), B–D, F–H — по Bosmans (1979); не в масштабе.

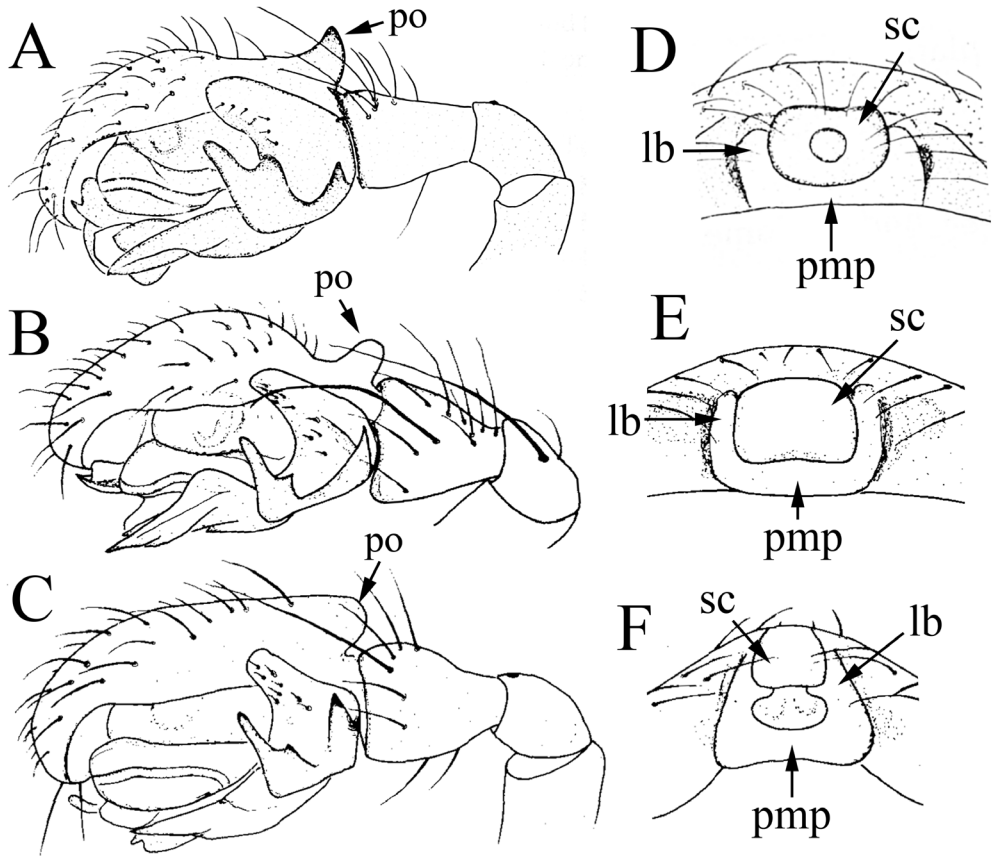

Fig. 3. *Afrophantes kenyensis* (Bosmans, 1979), ♂, ♀ (A, D); *A. tropicalis* (Tullgren, 1910), ♂, ♀ (B, E); *A. tullgreni* (Bosmans, 1978), ♂, ♀ (C, F): A–C — left palp, retrolateral views; D–F — epigyne, ventral views. A, D — after Bosmans (1979), B, C, E, F — after Bosmans (1978); not to scale.
Рис. 3. *Afrophantes kenyensis* (Bosmans, 1979), ♂, ♀ (A, D); *A. tropicalis* (Tullgren, 1910), ♂, ♀ (B, E); *A. tullgreni* (Bosmans, 1978), ♂, ♀ (C, F): A–C — левая пальпа, ретролатерально; D–F — эпигина, вид снизу. A, D — по Bosmans (1979); B, C, E, F — по Bosmans (1978); не в масштабе.

(7) Embolus relatively large, a thumb present, embolus proper bifid (Fig. 1C).

(8) Scape strongly modified: its median and distal parts either reduced to varying degrees or merged to each other and/or to proscape (Fig. 1D–G).

(9) Posterior median plate large and showing well-developed lateral branches, these embracing the scape and covering the entire aperture of the epigyne (Figs 1D–G; 2E–H; 3D–F).

DIFFERENTIAL DIAGNOSIS. The genus *Afrophantes* gen.n. is clearly a member of the subfamily Micronetinae, and it seems to be most similar to *Mughiphantes* Saaristo et Tanasevitch, 1999. The main differences lie in the structure of the scape, parts of which are reduced to varying degrees or fused to each other, as well as in the well-developed lateral branches of the posterior median plate. This type of the posterior median plate with long lateral branches is far from unique, and it can be found in several micronetines, e.g., *Bolyphantes* C.L. Koch, 1837; *Incestophantes* Tanasevitch, 1992, etc.

SPECIES INCLUDED: *Afrophantes acuminifrons* (Bosmans, 1978) (♂, ♀), Ethiopia; *A. biseriatus* (Simon et Fage, 1922) (♂, ♀), Kenya; *A. biseriatus infans* (Simon et Fage, 1922) (♂, ♀), East Africa; *A. bituberculatus* (Bosmans, 1978), Ethiopia (♂, ♀); *A. bryocola* (Tanasevitch, 2025) (♀), Ethiopia; *A. chilalo* (Tanasevitch, 2025) (♂, ♀), Ethiopia; *A. coomansi* (Bosmans, 1979) (♂, ♀), Kenya; *A. kekenboschi* (Bosmans, 1979) (♂, ♀), Kenya; *A. kenyensis* (Bosmans, 1979) (♂, ♀), Kenya; *A. legatus* (Tanasevitch, 2025) (♂, ♀), Ethiopia; *A. maesi* (Bosmans, 1986)

(♀), Cameroon; *A. obtusicornis* (Bosmans, 1979) (♂, ♀), Kenya; *A. tropicalis* (Tullgren, 1910) (♂, ♀), Tanzania; *A. tullgreni* (Bosmans, 1978) (♂, ♀), Tanzania, all **comb.n.** ex *Lepthyphantes*.

DISTRIBUTION. The genus is distributed in such tropical or subtropical countries of Africa as Cameroon, Ethiopia, Kenya and Tanzania.

HABITAT. The known representatives of *Afrophantes* seem to be inclined to living in the mountains, where they mainly occur in forests and prefer humid plant communities, being found in litter, mosses, tussocks of plant, among rocks, etc.

CHOROTYPE. Afrotropical, montane.

Discussion

The genus *Afrophantes* gen.n. presently comprises 14 species. However, such species as *A. acuminifrons* and *A. chilalo* are assigned to the genus but provisionally, as both species lack lateral branches of the posterior median plate. In addition, *A. acuminifrons* is characterized by an elongated head part of the male carapace, this not being typical of representatives of the genus. At the same time, the structure of the male palp of these two species is quite consistent with the other members of *Afrophantes* gen.n.

An analysis of the Afrotropical fauna of *Lepthyphantes* (*s. lato*) reveals a few species, in which the copulatory organs resemble those of some Palaearctic and Holarctic genera. For example, *L. mbaboensis* Bosmans, 1986 and *L. natalis* Bosmans, 1986, both from Cameroon, *L. phialoides* Scharff, 1990 and *L. bakeri* Scharff, 1990, both from Tanzania, appear to be similar to *Tenuiphantes* Saaristo et Tanasevitch, 1996; *L. okuensis* Bosmans, 1986, from Cameroon, to *Anguliphantes* Saaristo et Tanasevitch, 1996; *L. minusculus* Locket, 1968, from Congo, to *Palliduphantes* Saaristo et Tanasevitch, 2001; *L. locketi* Helsdingen, 1977, from Angola and Kenya, to *Improphantes* Saaristo et Tanasevitch, 1996, etc. Of course, as similarities in the genital organs may be superficial, this problem requires further study.

The *Lepthyphantes* (*s. lato*) group still comprises about 150 species of "*Lepthyphantes*" (WSC, 2025) that are still awaiting generic reassignment. However, this task is quite difficult since, due to some features overlapping, it is often very hard to clearly distinguish between taxa. In addition, the available descriptions and illustrations of many species often fail to provide a clear understanding of the structure of certain genital structures.

Conflict of interest.

The author declare that they have no conflict of interest.

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