

## Reclassification of the *mughi*-Group of the Genus *Lepthyphantes* MENGE, 1866 (sensu lato)

(Araneae: Linyphiidae: Micronetinae)

by

Michael I. SAARISTO & Andrei V. TANASEVITCH \*)

**Synopsis:** Based on the so-called *mughi*-group of the genus *Lepthyphantes* MENGE, 1866 (sensu lato) a new genus *Mughiphantes* n. gen. (type species *Linyphia mughi* FICKERT, 1875) is created. Also the *suffusus*- and *sobrius*-groups are incorporated with the new genus resulting in its dividing into the following four subgenera: *Mughiphantes* n. subgen. (type species *Linyphia mughi* FICKERT, 1875), *Aurantiphantes* n. subgen. (type species *Lepthyphantes aurantipes* SIMON, 1929), *Suffusiphantes* n. subgen. (type species *Lepthyphantes suffusus* STRAND, 1901), and *Whymperiphantes* n. subgen. (type species *Lepthyphantes whymperi* F.O. PICKARD-CAMBRIDGE, 1894). All together 34 species currently placed in *Lepthyphantes* are included in the new genus.

### 1. Introduction:

In our previous papers SAARISTO & TANASEVITCH (1996) were presented arguments for the splitting of the genus *Lepthyphantes* MENGE, 1868 and accordingly redelimited it to five species only. We were also able to place further 89 former *Lepthyphantes* species into eleven new or revalidated genera. However, still some 300 species were left without any proper generic affiliation.

This paper continues our reclassification of the genus *Lepthyphantes* MENGE, 1868 (s. l.) and is devoted to the study of the *mughi*-group (WIEHLE 1956, THALER 1984) as well as *suffusus*- and *sobrius*-groups (SAARISTO & TANASEVITCH 1993). Together they include 34 species currently placed in *Lepthyphantes*. They also form a well-discernible entity which is here described as a new genus divided into four subgenera. The most easily recognizable differences between these subgenera lay in the structural organization of the epigyne (fig. 1).

**Abbreviations:** The following abbreviations are used in the text and figures: Fe = femur, Tm I = position of the metatarsal trichobothrium, ta = terminal apophysis, e = embolus, ep = embolus proper, t = thumb, ps = proscapus, ll = lateral lobe, st = stretcher, pmp = posterior median plate.

All measurements are given in mm.

### 2. Description of *Mughiphantes* n. gen. and its subgenera:

#### 2.1. Genus *Mughiphantes* n. gen.:

Type species: *Linyphia mughi* FICKERT, 1875.

**Diagnosis:** Females of *Mughiphantes* are characterized by having a disk-like or pear-shaped, more or less thickened proscapus (SAARISTO & TANASEVITCH 1996) combined with the gradual reduction of the rest of

\*) Author's address: Doc. Dr. M.I. Saaristo, Zoological Museum, University of Turku, FIN-20014 Turku, Finland and Dr. A.V. Tanasevitch, All-Russian Institute on Nature Conservation, P.O. VILAR, 113628 Moscow, Russia.

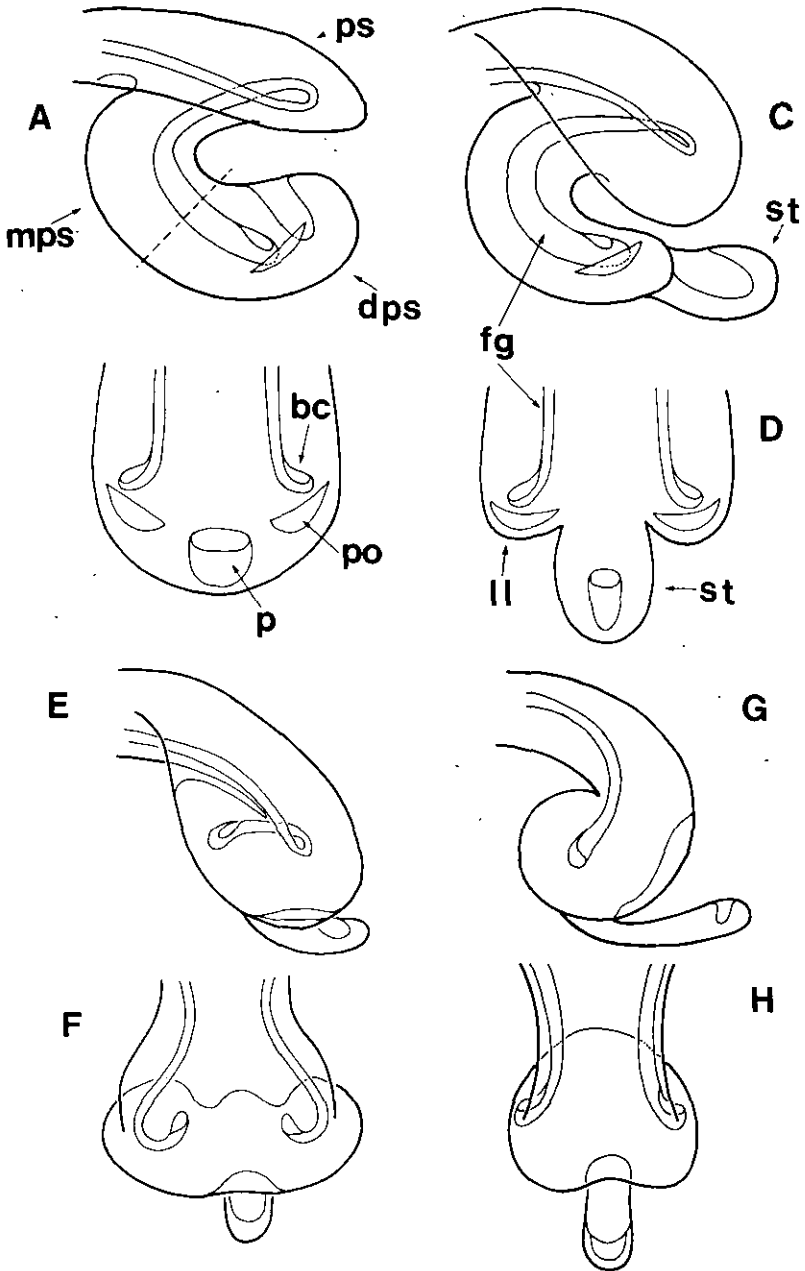


Fig. 1: Generalised drawings of scape. – A, B: *Mughiphantes (M.) mughii* (FICKERT, 1875). – C, D: *Mughiphantes (A.) aurantipes* (SIMON, 1929). – E, F: *Mughiphantes (S.) suffusus* (STRAND, 1901). – G, H: *Mughiphantes (W.) whymperi* (F.O. PICKARD-CAMBRIDGE, 1894).

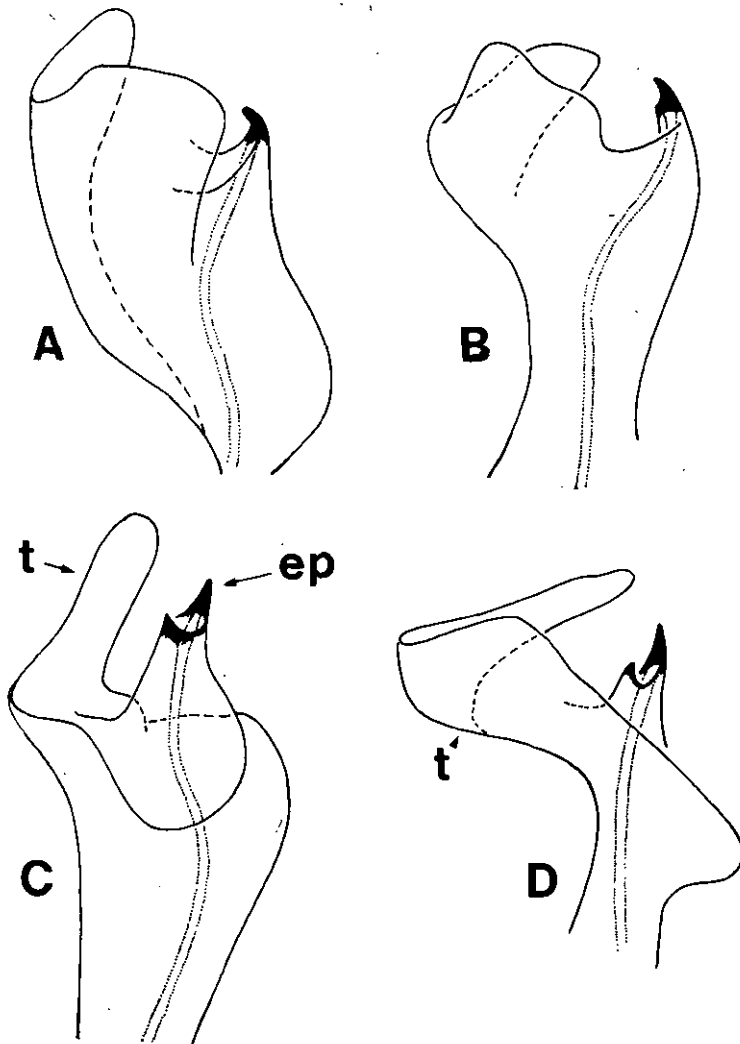


Fig. 2: Embolus. – A: *Mughiphantes (M.) mughii* (FICKERT, 1875). – B: *Mughiphantes (A.) aurantiipes* (SIMON, 1929). – C: *Mughiphantes (S.) suffusus* (STRAND, 1901). – D: *Mughiphantes (W.) whympersi* (F.O. PICKARD-CAMBRIDGE, 1894).

the scape. The middle part of the scape is extremely short or it has totally disappeared and the scape as a whole has also become more or less rigid (fig. 1: A - H). When the epigyne is treated with KOH solution it can be observed that the scape moves only at its base and even then only very slightly. In males the tendency of the reduction of the scape and its immovability is reflected by the simplification of the embolus and the basal fusion of all elements pointing out from the radix and also by the very close association of the embolus and the anterior part of the complicated terminal apophysis (figs. 3 - 5).

Description: Medium-sized microneutins: 1.60 - 2.80. Abdomen usually adorned with very characteristic color pattern (fig. 6: E). Tibiae usually with a ventral spine(s). Metatarsus-IV without a trochobothrium.

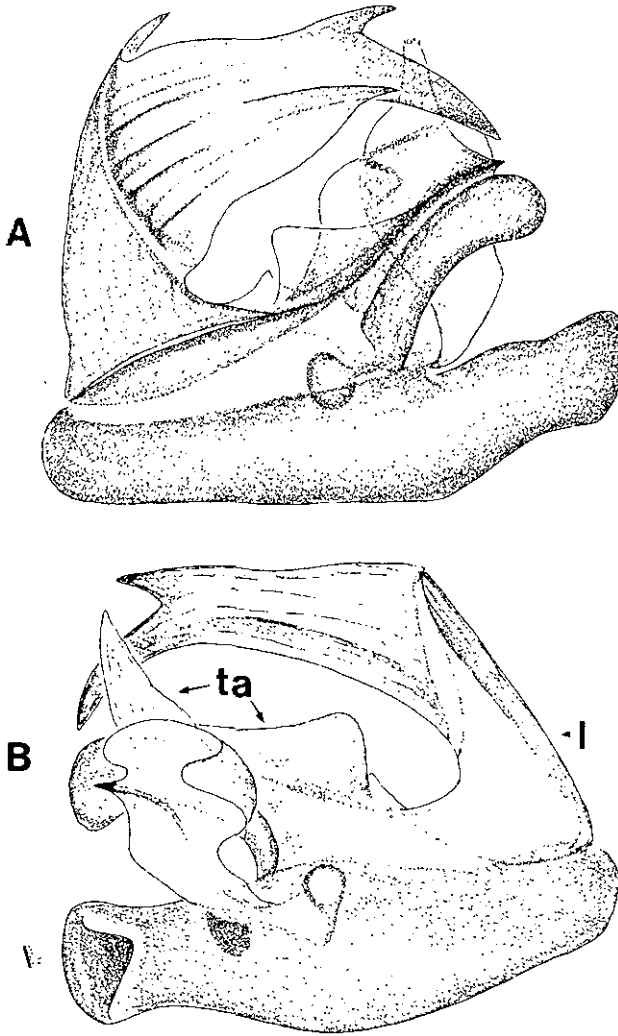


Fig. 3: Embolic division of *Mughiphantes (M.) mughii* (FICKERT, 1875) dorsally A and ventrally B.

Male palp: Cymbium with relatively low, elongated posterodorsal elevation. Patella sometimes with a strong special spine standing on conical elevation. Posterior pocket of paracymbium (SAARISTO & TANASEVITCH 1996) transformed into a tooth-like projection while area of the apical pocket projects more or less markedly laterally forming a V-shaped figure together with the apex of the paracymbium when viewed frontally. Pit-hook well-developed, strongly bent. Radix of the embolic division almost straight, somewhat constricted anteriorly while its apex is turned ventrally to form a thick but shallow ridge. Inside the radix there is a well-developed Fickert's gland. Embolus simplified (fig. 2: A - D), mostly weakly chitinized and consisting mainly of a trunk-like basal part bearing the embolus proper and the large, strongly curved thumb (SAARISTO & TANASEVITCH 1996). Terminal apophysis conspicuously complicated consisting of two basically cup-like divisions lying one on top

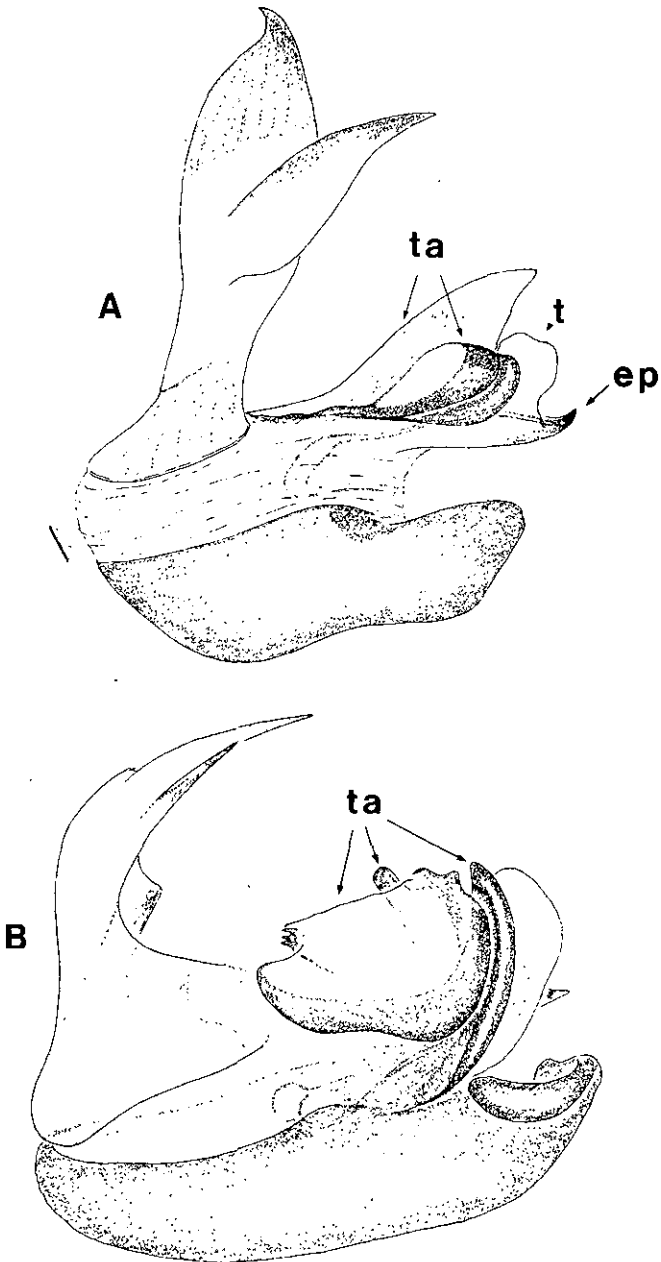


Fig. 4: Embolic division dorsally. - A: *Mughiphantes (A.) aurantiipes* (SIMON, 1929). - B: *Mughiphantes (W.) whymeri* (F.O. PICKARD-CAMBRIDGE, 1894).

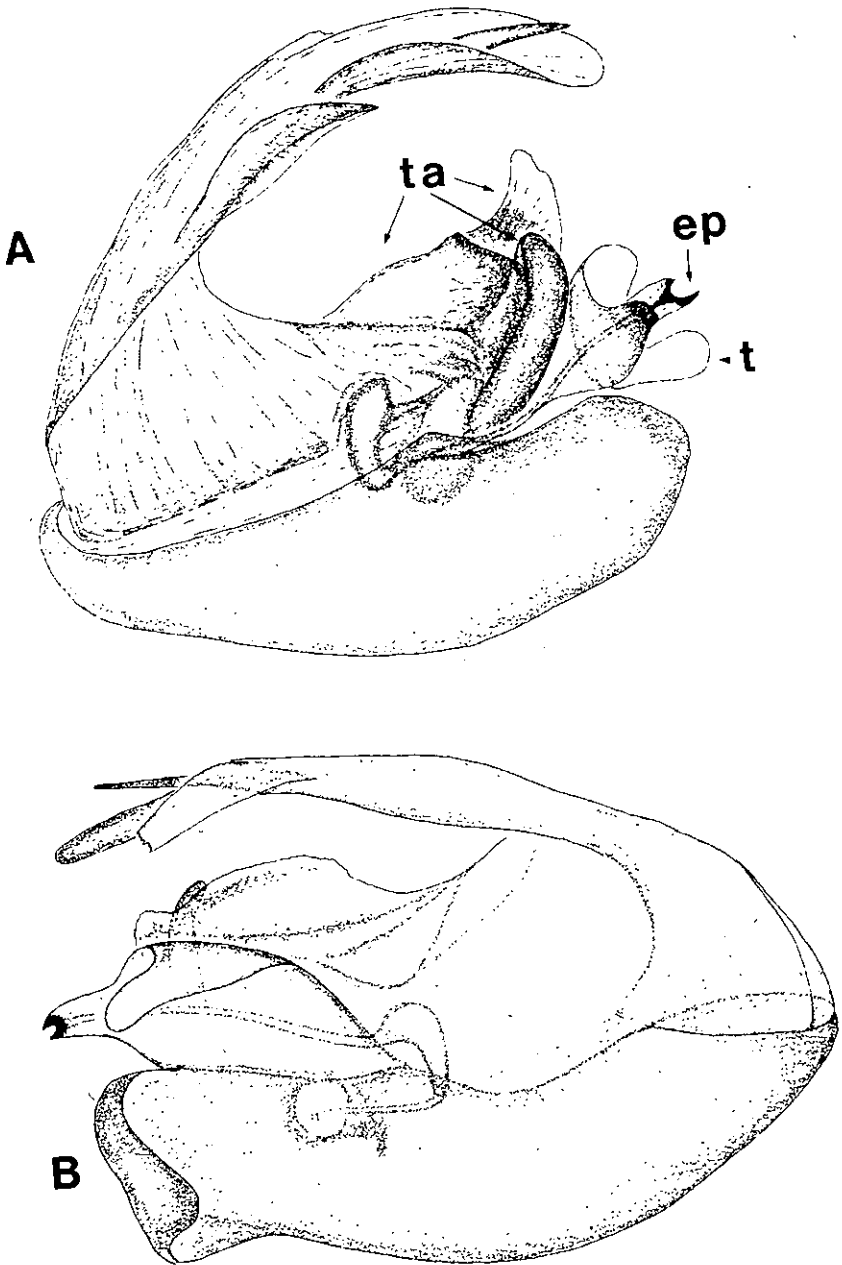


Fig. 5: Embolic division of *Mughiphantes (M.) suffusus* (STRAND, 1901) dorsally A and ventrally B.

of the other (figs. 3 - 5). Lamella characteristic well-developed, quite variable in shape. Epigyne: Proscapus disklike or pear-shaped, more or less thickened. Middle part of the scape very short or totally disappeared (fig.

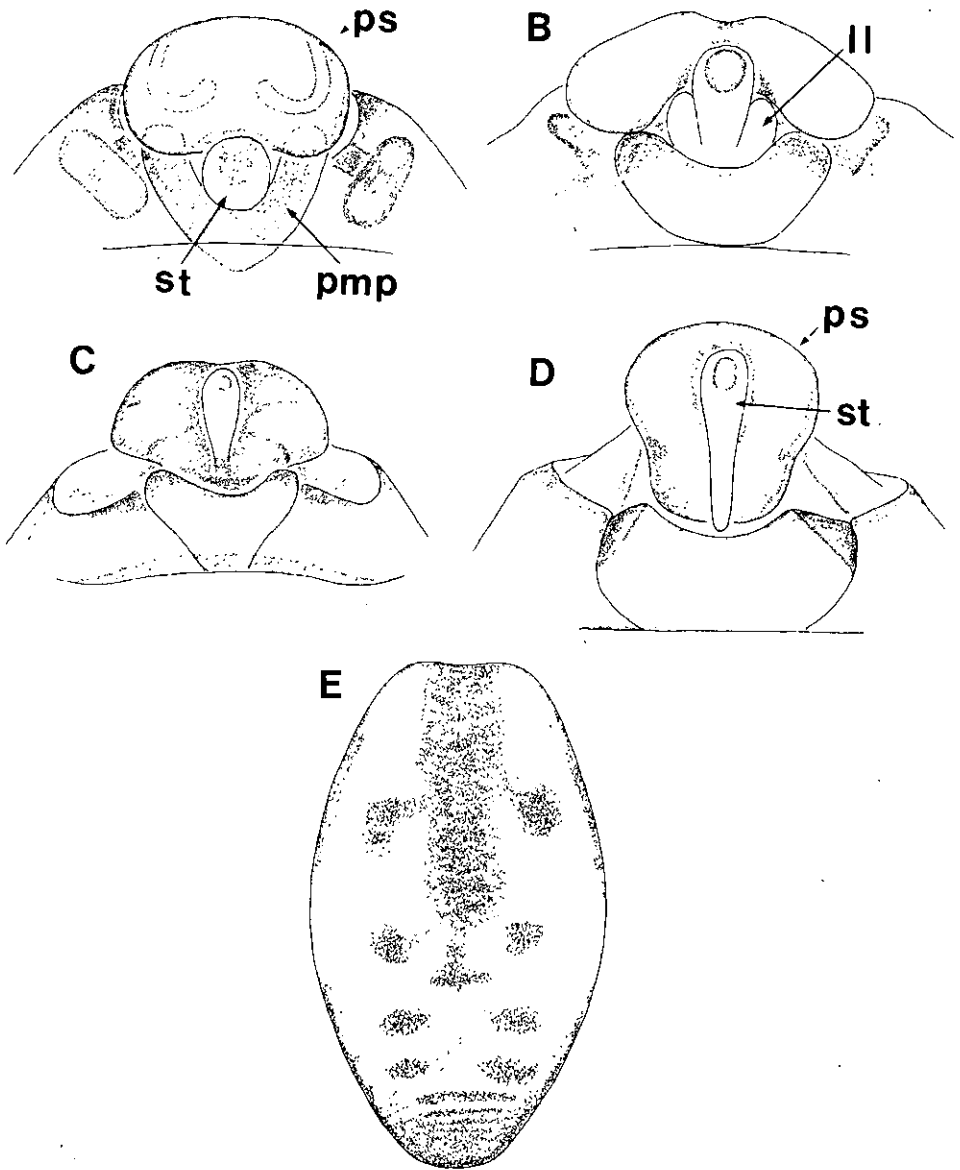


Fig. 6: Epigyne (A - D) and abdomen (E) dorsally. - A, E: *Mughiphantes (M.) mughii* (FICKERT, 1875). - B: *Mughiphantes (A.) aurantiipes* (SIMON, 1929). - C: *Mughiphantes (S.) suffusus* (STRAND, 1901). - D: *Mughiphantes (W.) whymeri* (F.O. PICKARD-CAMBRIDGE, 1894).

1). Distal part usually bearing a well-separated stretcher but in some cases it is merged with it and also lateral pockets may have disappeared (fig. 6: 1 - D).

**2.2. Subgenus *Mughiphantes* n. subgen.** (Fig. 1: A, B; 2: A; 3: A, B; 6: A, E):

Type species: *Linyphia mughii* FICKERT, 1875.

Species included: *M. (M.) armatus* (KULCZYNSKI, 1904) n. comb., *M. (M.) brunneri* (THALER, 1984) n. comb., *M. (M.) carnicus* (VAN HELSDINGEN, 1982) n. comb., *M. (M.) hadzii* (MILLER & POLENEC, 1975) n. comb., *M. (M.) hindukuschensis* (MILLER & BUCAR, 1972) n. comb., *M. (M.) marusiki* (TANASEVITCH, 1987) n. comb., *M. (M.) merretti* (MILLIDGE, 1974) n. comb., *M. (M.) mughii* (FICKERT, 1875) n. comb., *M. (M.) nigromaculatus* (ZHU & WEN, 1983) n. comb., *M. (M.) omega* (DENIS, 1952) n. comb., *M. (M.) pulcher* (KULCZYNSKI, 1881) n. comb., *M. (M.) pulcheroides* (WUNDERLICH, 1985) n. comb., *M. (M.) rupium* (THALER, 1984) n. comb., *M. (M.) triglavensis* (MILLER & POLENEC, 1975) n. comb., *M. (M.) variabilis* (KULCZYNSKI, 1887) n. comb., and *M. (M.) varians* (KULCZYNSKI, 1882) n. comb. All n. comb. ex *Lepthyphantes* except *marusiki* and *nigromaculatus* both ex *Parawubanoides* ESKOV & MARUSIK, 1992).

Diagnosis: Apex of the scape very compact; lateral lobes and stretcher merged with each other (fig. 1: A, B).

**2.3. Subgenus *Aurantiphantes* n. subgen.** (Fig. 1: C, D, 2: B; 4: A; 6: B):

Type species: *Lepthyphantes aurantiipes* SIMON, 1929.

Species included: *M. (A.) arlaudi* (DENIS, 1954) n. comb., *M. (A.) aurantiipes* (SIMON, 1929) n. comb., *M. (A.) baebleri* (DE LESSERT, 1910) n. comb., *M. (A.) handschini* (SCHENKEL, 1919) n. comb., *M. (A.) johannis lupi* (DENIS, 1953) n. comb., *M. (A.) jugorum* (DENIS, 1954) n. comb., *M. (A.) lithoclasticolus* (DELTSHEV, 1993) n. comb., *M. (A.) ovchinnikovi* (TANASEVITCH, 1989) n. comb., *M. (A.) pyrenaicus* (DENIS, 1953) n. comb., *M. (A.) severus* (THALER, 1990) n. comb., *M. (A.) tienschangensis* (TANASEVITCH, 1986) n. comb., and *M. (A.) vittatus* (SPASSKY, 1941) n. comb. All n. comb. ex *Lepthyphantes*.

Diagnosis: Apex of the scape like in the previous subgenus but the stretcher is still visible as a separate, well-defined projection (fig. 1: C, D).

**2.4. Subgenus *Suffusiphantes* n. subgen.** (Fig. 1: E, F; 2: C; 5: A, B; 6: C):

Type species: *Lepthyphantes suffusus* STRAND, 1901.

Species included: *M. (S.) aculifer* (TANASEVITCH, 1988) n. comb., *M. (S.) styriacus* (THALER, 1984) n. comb., and *M. (S.) suffusus* (STRAND, 1901). All n. comb. ex *Lepthyphantes*.

Diagnosis: The epigyne of this subgenus closely resembles that of *Aurantiphantes* but now the middle part of the scape has totally disappeared like also possibly the lateral lobes (fig. 1: E, F). Disappearance of the middle part of the scape has caused the transition of the bursae inside the disk-like proscapus.

**2.5. Subgenus *Whymperiphantes* n. subgen.** (Fig. 1: G, H; 2: D; 4: B; 5: D):

Type species: *Lepthyphantes whymperi* F.O. PICKARD-CAMBRIDGE, 1894.

Species included: *M. (W.) sobrius* (THORELL, 1872) n. comb., *M. (W.) taczanowskii* (F.O. PICKARD-CAMBRIDGE, 1873) n. comb., and *M. (W.) whymperi* (F.O. PICKARD-CAMBRIDGE, 1894) n. comb. All n. comb. ex *Lepthyphantes*.

Diagnosis: The epigyne of this subgenus is much like in *Suffusiphantes* but the bursae are situated on the lateral sides the proscapus (fig. 1: G, H).

Acknowledgements: We are greatly indebted to Mr. Jörg Wunderlich (Germany) who has provided us with some reference material. This work has been supported by the Turku University Foundation and SSTP Biodiversity Project (Russian Academy of science).



### 3. Literature:

- SAARISTO, M.I. & A.V. TANASEVITCH (1993): Notes on the spider genus *Lepthyphantes* Menge (Aranei Linyphiidae Micronetinae). – *Arthropoda Selecta* **2** (2): 55 - 61.
- (1996): Redelimitation of the subfamily Micronetinae HULL, 1920 and the genus *Lepthyphantes* MENGE, 1866 with descriptions of some new genera. – *Ber. nat.-med. Verein Innsbruck* **83**: 163 - 186.
- THALER, K. (1984): Weitere *Lepthyphantes*-Arten der *mughi*-gruppe aus den Alpen (Arachnida: Araneae, Linyphiidae). – *Revue Suisse Zool.* **91** (4): 913 - 924.
- WIEHL, H. (1956): Spinnentiere oder Arachnoidea. X. 28. Familie Linyphiidae. – *Tierw. Dtschl.* **44**: 1 - 337.