

Reassessment of the Nepalese species of the genus *Lepthyphantes* MENGE s. l. with descriptions of new Micronetinae genera and species

(Araneae, Linyphiidae, Micronetinae)¹

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Abstract

More micronetine spiders from Nepalese Himalaya are recorded, and the taxonomic position of the Nepalese *Lepthyphantes* species are reviewed. Descriptions are given of four new genera, namely *Asctophantes* gen. n. (*Lepthyphantes asceticus* TANASEVITCH 1987 as the type species), *Claviphantes* gen. n. (*Lepthyphantes bifurcatus* TANASEVITCH 1987 as the type species), *Fistulaphantes* gen. n. (*Fistulaphantes canalis* sp. n. as the type species), and *Spiralophantes* gen. n. (*Spiralophantes mirabilis* sp. n. as the type species), as well as 12 new species (all holotype males in SMF, Frankfurt am Main), namely *Fistulaphantes canalis* sp. n., *Indophantes agamus* sp. n., *Mughiphantes bicornis* sp. n., *M. cuspidatus* sp. n., *M. falkus* sp. n., *M. inermus* sp. n., *M. longiproper* sp. n., *M. restrictus* sp. n., *M. setosus* sp. n., *Spiralophantes mirabilis* sp. n., *Tenuiphantes altimontanus* sp. n., and *T. crassus* sp. n. The following new combinations are also presented: *Anguliphantes nepalensis* (TANASEVITCH 1987) comb. n., *Asctophantes asceticus* (TANASEVITCH 1987) comb. n., *Claviphantes bifurcatus* (TANASEVITCH 1987) comb. n., *C. bifurcatoides* (TANASEVITCH 1987) comb. n., *Mughiphantes alticola* (TANASEVITCH 1987) comb. n., *M. anachoretus* (TANASEVITCH 1987) comb. n., *M. ancoriformis* (TANASEVITCH 1987) comb. n., *M. faustus* (TANASEVITCH 1987) comb. n., *M. numilonis* (TANASEVITCH 1987) comb. n., *M. occultus* (TANASEVITCH 1987) comb. n., *M. rotundatus* (TANASEVITCH 1987) comb. n., *M. setifer* (TANASEVITCH 1987) comb. n., *M. sherpa* (TANASEVITCH 1987) comb. n., *M. yeti* (TANASEVITCH 1987) comb. n., and *Palliduphantes theosophicus* (TANASEVITCH 1987), all ex *Lepthyphantes*. Further, *Indophantes bengalensis* SAARISTO & TANASEVITCH 2003 is recorded from the Nepalese Himalaya for the first time. In addition, a table of distribution of the Nepalese Micronetinae is presented.

Key words: Spiders, taxonomy, new species, new genera, Himalaya, Nepal, mountains.

Introduction

About two decades have passed since a paper devoted to the study of Nepalese species of the genus *Lepthyphantes* MENGE 1866 was published by TANASEVITCH

(1987). That study was based solely on the substantial material collected during expeditions arranged by J. MARTENS in Nepal in the years 1969 to 1974, 1980

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and 1983. In that paper 22 *Leptyphantes* species were recorded from Nepal and 19 of them were described as new to science and only three species of that genus were known earlier from adjacent areas, i.e. *Leptyphantes digitulus* THALER 1987, *Leptyphantes martensi* THALER 1987, both from Kashmir (THALER 1987), and *Leptyphantes nebulosoides* WUNDERLICH 1977 from Middle Asia (WUNDERLICH 1977).

At the time of publication of the above mentioned paper the genus *Leptyphantes* was very broadly diagnosed and it was common practice to assign every possible species to that genus. However, in 1993 we emphasized that this, at that time the largest linyphiid genus, was an extremely heterogeneous and polyphyletic taxon (SAARISTO & TANASEVITCH 1993). At the same time we started the reclassification of *Leptyphantes* based mainly on the structure of the secondary genital organs. We were soon able to show that only five species really belonged in the genus *Leptyphantes* which at that time consisted of some 450 species (SAARISTO & TANASEVITCH 1996). During the last ten years we have created many new genera sharing about 300 former *Leptyphantes* species between them (SAARISTO & TANASEVITCH 1996, 1999, 2000, 2001, 2003a, b, c, TANASEVITCH 2001).

The reassessment of the Nepalese *Leptyphantes* species was started by TANASEVITCH (1992) creating the genus *Himalaphantes* TANASEVITCH 1992 and transferring three Nepalese *Leptyphantes* species to that genus. Somewhat later one species was transferred to *Megaleptyphantes* WUNDERLICH 1994 by SAARISTO (1997), one to *Piniphantes* SAARISTO & TANASEVITCH 1996, another one to *Tenuiphantes* SAARISTO & TANASEVITCH 1996 by SAARISTO & TANASEVITCH (1996), and finally one Himalayan species (*L. digitulus*) was included in the genus *Indophantes* SAARISTO & TANASEVITCH 2003 by SAARISTO & TANASEVITCH (2003c). Thus 15 Nepalese micronetine species are still formally assigned to the genus *Leptyphantes*. The aim of this paper is a reassessment of the taxonomic position of these 15 species which unavoidably has also involved the creation of two new genera. In addition twelve new micronetine species and two new genera are described in this paper.

Material and methods

This paper is based exclusively on Prof. J. MARTENS' collections from Nepal (1969–1988), which have already been partly studied by TANASEVITCH (1987), but so far only the species of the subfamily Micronetinae HULL 1920. Localities are shown in the itinerary of the MARTENS & SCHAWALLER expedition to East Nepal in 1988 (Fig. 103).

For this investigation some comparative material and types have been obtained from the Senckenberg-Museum, Frankfurt am Main (Germany), and the Zoological Museum of Moscow State University (Moscow, Russia).

The holotypes and the majority of paratypes described this paper have been sent to the Senckenberg-Museum; some duplicate paratypes are preserved in the Zoological Museum of Turku University, Turku, Finland.

Abbreviations

The following abbreviations are used in the text and figures:

AX	apex of embolus
BC	bursa copulatrix
Ca	carina
EG	entrance groove
EP	embolus proper
LE	lateral extension (= "thumb")
LL	lateral lobes
Mt	metatarsus
PS	proscape (= proscapus)
RA	radical apophysis
St	stretcher
TA	terminal apophysis
Ti	tibia
TmI	position of metatarsal trichobothrium of leg I

Collections:

MZT	Museum of Zoology, Turku University
SMF	Senckenberg Museum, Frankfurt a. M., Germany
ZMMU	Zoological Museum Moscow State University, Moscow, Russia

In the descriptions, chaetotaxy is given by the following formula: Ti I: 2-1-1-2(1). This stands for: tibia I has two dorsal, one pro- and one retrolateral spine, and two or one ventral spines (the apical spines are herewith disregarded). The sequence of leg segments in measurement data is as follows: femur + patella + tibia + metatarsus + tarsus. All measurements are in mm. Scale line in figures = 0.1 mm, unless stated otherwise.

Previous nomenclatural changes in the Nepalese *Leptyphantes* and new localities

Himalaphantes grandiculus (TANASEVITCH 1987)

Leptyphantes grandiculus TANASEVITCH 1987(: 47 [♂, ♀], Nepal)

Himalaphantes grandiculus — TANASEVITCH (1992: 44 [comb. n.])

This species was described from Nepal by TANASEVITCH (1987). Some later for this species a new genus

Himalaphantes TANASEVITCH 1992 jointly with some other congeners has been erected (TANASEVITCH 1992).

H. grandiculus have been recorded from many localities from Nepalese Himalaya, i.e. Ramechap Distr., Jiri & Thodung; Sindhu Palchok Distr., Ting Sang La Pass; Mustang Distr., Thakkola; Parbat Distr., Gorapani Pass & between Chitre and Ghandrung; Myagdi Distr., Dhorpatan, Thankur & Tarakot; Rasuwa Distr., Dunche, Gosainkund;

Dolpo Distr., Gompa; Gorkha Distr., Chu-ling Khola; Ilam Distr., Mai Pokhari; Taplejung Distr., ridge Lasse Dhara and pasture Lasse Tham (TANASEVITCH 1987).

New localities: 2 ♀♀ (SMF), 2 ♀♀ (SMF), Nepal (#319), Ilam Distr., Mai Pokhlari, 2100–2200 m, *Castanopsis* forest remains, 9.–10. iv. 1988, leg. J. MARTENS & W. SCHAWALLER; 1 ♂, 2 ♀♀ (SMF), Nepal (#324), Panchthar Distr., Dhorpar Kharka, *Rhododendron* & *Lathocarpus* forest, 2700 m, 13.–16. iv. 1988, leg. J. MARTENS & W. SCHAWALLER; 4 ♂♂, 5 ♀♀ (SMF), Nepal (#404), Sankhua Sabha Distr., above Pahakhola, 2600–2800 m, *Quercus semicarpifolia*, *Rhododendron*, 31. v. 1988, leg. J. MARTENS & W. SCHAWALLER; 1 ♂, 2 ♀♀ (SMF), Nepal (#369), Taplejung Distr., descent from Pass Deorali to Helllok, 2800–2600 m, mature mixed forest, 17. v. 1988, leg. J. MARTENS & W. SCHAWALLER; 2 ♂♂ (SMF), Nepal (#359), Taplejung Distr., pasture Lassetham NW Yamputhin, 3300–3500 m, mature *Abies-Rhododendron* forest, 6.–9. v. 1988, leg. J. MARTENS & W. SCHAWALLER; 1 ♂ (ZMT), Nepal (#387), Sankhua Sabha Distr., Kangla Khola E Thudam, dwarf *Rhododendron*, rock debris, 4100–4200 m, 24.–25. v. 1988, leg. J. MARTENS & W. SCHAWALLER; 2 ♂♂, 1 ♀ (SMF), Nepal (#364), Taplejung Distr., upper Simbuia Khola, ascent to pasture Lassetham, 3000–3150 m, mature mixed *Tsuga-Rhododendron* broadleaved forest, 15. v. 1988, leg. J. MARTENS & W. SCHAWALLER; 1 ♂, 3 ♀♀ (ZMT), Nepal (#379), Taplejung Distr., above Walungchung Gola, bush-rich pastures, 3000–3400 m, 21. v. 1988, leg. J. MARTENS & W. SCHAWALLER; 1 ♂ (ZMT), Nepal (#381), Taplejung Distr., above Walungchung Gola, open *Abies* forest, *Rhododendron* bush, 3600–3800 m, 21. v. 1988, leg. J. MARTENS & W. SCHAWALLER.

Distribution: Widespread in Nepalese Himalaya. Occurs from 2000 up to 4200 m.

Himalaphantes magnus (TANASEVITCH 1987)

Leptophyphantes magnus TANASEVITCH 1987(: 48 [♂, ♀], Nepal)
Himalaphantes magnus — TANASEVITCH (1992: 44 [comb. n.])

This species was described from Nepal by TANASEVITCH (1987) and some later has been transferred to the genus *Himalaphantes* by the same author (TANASEVITCH 1992).

Distribution: Known only from Nepal: Rasuwa Distr., Gosainkund and Sindhu Palchok Distr., Ting Sang La Pass. Occurs from 2700 up to 3300 m.

Himalaphantes martensi (THALER 1987)

Leptophyphantes martensi THALER 1987(: 39 [♂, ♀], Kashmir)
Leptophyphantes martensi — TANASEVITCH (1987: 46 [♂, ♀], Nepal)
Himalaphantes martensi — TANASEVITCH (1992: 44 [comb. n.])

This species was originally described from Kashmir (Pahalgam) by THALER (1987), but at the same time also recorded in numerous places in Nepal: Mustang Distr., Thakkhola; Myagdi Distr., Dhorpatan & Thankur; Dolpo Distr., Gompa; Rasuwa Distr., Gosainkund; Ramechap Distr., Thodung; Sindhu Palchok Distr., Ting Sang La Pass & Barabise; Gorkha Distr., Chuling Khola, Djinshi Kharka & NW-Rupina La (TANASEVITCH 1987).

New localities: 1 ♂, 3 ♀♀ (SMF), Nepal (#379), Taplejung Distr., above Walungchung Gola, bush-rich pastures, 3000–3400 m, 21. v. 1988, leg. J. MARTENS & W. SCHAWALLER.

Distribution: Kashmir and Nepalese Himalaya, from 2400–4000 m.

Indophantes bengalensis SAARISTO & TANASEVITCH 2003

Indophantes bengalensis SAARISTO & TANASEVITCH 2003(: 325 [♂, ♀], India)

This species was described from West Bengal and East Khasi Hills (India) by SAARISTO & TANASEVITCH (2003c).

New locality: 1 ♂ (SMF), Nepal (#414), Sankhua Sabha Distr., Arun Valley, Chichila, 1900–2000 m, *Quercus* forest, bushes near village, 18.–20. vi. 1988, leg. J. MARTENS & W. SCHAWALLER.

Distribution: North-eastern India, 1500–2150 m, and Nepalese Himalaya, 1900–2000 m.

Indophantes digitulus (THALER 1987)

Leptophyphantes digitulus THALER 1987(: 38 [♂, ♀], Kashmir)
Leptophyphantes digitulus — TANASEVITCH (1987: 49 [♂, ♀], Nepal)
Indophantes digitulus — SAARISTO & TANASEVITCH (2003c: 329 [comb. n.])

This species was originally described by THALER (1987) from Kashmir: Sonamarg, Pahalgam & Tangmarg and at the same time also recorded from Nepal: Mustang Distr., Thakkhola & Gompa; Ilam Distr., Mai Pokhlari, Makwanpur Distr., Daman (TANASEVITCH 1987).

New locality: 1 ♂ (SMF), Nepal [#414], Sankhua Sabha Distr., Arun Valley, Chichila, 1900–2000 m, *Quercus* forest, bushes near village, 18.–20. vi. 1988, leg. J. MARTENS & W. SCHAWALLER.

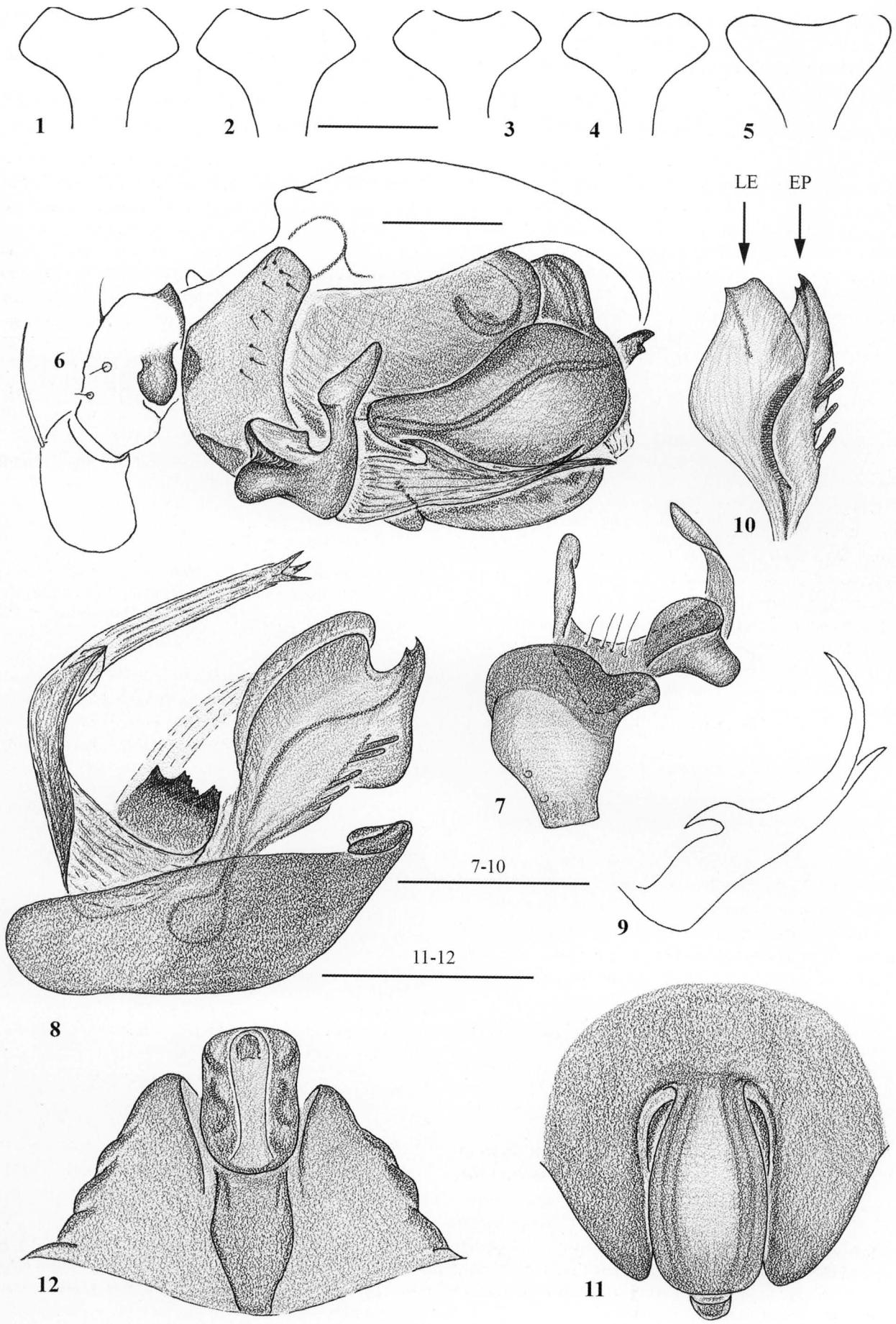
Distribution: Kashmir and Nepalese Himalaya from 1900 up to 3400 m.

Megalephyphantes nebulosoides (WUNDERLICH 1977)

Figs. 1–4.

Leptophyphantes nebulosoides WUNDERLICH 1977(: 59 [♂, ♀], “Turkestan”)
Leptophyphantes nebulosoides — TANASEVITCH (1987: 50, Nepal)
Megalephyphantes nebulosoides — SAARISTO (1997: 257 [comb. n.])

This species was described by WUNDERLICH (1977) from “Turkestan” without exact location, but later it has been found in many parts of so-called “Middle Asia” (the term including the territories of the former Soviet Union covered by Turkmenistan, Uzbekistan, Tadzhikistan, Kyrgyzstan and the southeastern part of Kazakhstan). *M. nebulosoides* was considered as a Central Asian vicariant



of *Megalephyphantes nebulosus* (SUNDEVAL 1830) (see TANASEVITCH 1989).

When establishing the new genus *Megalephyphantes*, WUNDERLICH (1994) did not formally change the combination of *Lepthyphantes nebulosoides*. That was done by SAARISTO three years later (SAARISTO 1997).

In Nepal only ♀♀ of *Megalephyphantes nebulosoides* (WUNDERLICH 1977) have been found in two localities (TANASEVITCH 1987). Samples from different locations show a small amount of variability in the body size and shape of the posterior median plate (this has been already mentioned by TANASEVITCH (1987) for a Middle Asian population of this species); compare Figs. 1–4 and for identification compare with the posterior median plate of *M. nebulosus* from Finland (Turku) (Fig. 5).

Material examined: 1 ♀ (SMF 34718), Nepal, Mustang Distr., Thakkhola, Thini near Jomosom, 2800 m, coniferous forest, 22. III. 1974, leg. J. MARTENS; 1 ♀ (ZMMU), Nepal, Mustang Distr., Thakkhola, Thaksang above Tukche, 3150–3400 m, mainly *Pinus excelsa* forest, 2.–4. VII. 1973, leg. J. MARTENS.

Distribution: Widespread in Central Asia: from east coast of the Caspian Sea eastward to Tarbagatai Mts.; from Balkhash Lake in north to Himalaya (Kashmir, Nepal) in south. The records of *M. nebulosus* from South Siberia and the Far East are dubious and must be checked. *M. nebulosus* occurs in Central Asia in plains and in mountains up to 2000 m, and in Nepalese Himalaya from 2800 up to 3000 m.

***Piniphantes himalayensis* (TANASEVITCH 1987)**

Lepthyphantes prope pinicola SIMON 1884 — THALER (1987: 37 [♂, ♀], Kashmir)

Lepthyphantes uzbekistanicus himalayensis TANASEVITCH

1987(: 60 [♂♀])

Lepthyphantes himalayensis — TANASEVITCH (1993: 60 [n. stat. — elevated to species level])

Piniphantes himalayensis — SAARISTO & TANASEVITCH (1996: 180 [comb. n.])

This species was first recorded from Kashmir (Sonamarg) by THALER (1987) as *Lepthyphantes* “prope” *pinicola* SIMON, 1884. In the same year it has been described as *Lepthyphantes uzbekistanicus himalayensis* TANASEVITCH 1987 (subspecies of the Middle Asian *Lepthyphantes uzbekistanicus* TANASEVITCH 1983) by TANASEVITCH (1983), who found it in MARTENS’ Nepal collection (Mustang Distr., Thakkhola). Somewhat later *Lepthyphantes uzbekistanicus himalayensis* TANASEVITCH 1987 was elevated to species status (TANASEVITCH 1993). Finally nine years after its description SAARISTO & TANASEVITCH (1996) transferred the species to their newly erected genus *Piniphantes* SAARISTO & TANASEVITCH 1996.

Distribution: Kashmir and Nepalese Himalaya from 2600 up to 3600 m.

***Tenuiphantes plumipes* (TANASEVITCH 1987)**

Lepthyphantes plumipes TANASEVITCH 1987(: 50 [♂, ♀], Nepal)

Tenuiphantes plumipes — SAARISTO & TANASEVITCH (1996: 182 [comb. n.])

This species was described from Nepal, Gorkha Distr. by TANASEVITCH (1987), and was transferred to *Tenuiphantes* by SAARISTO & TANASEVITCH (1996).

Distribution: Nepalese Himalaya, type locality only, 4400–4500 m.

Reassessment of the taxonomic position of the further Nepalese *Lepthyphantes*

The improvements in our knowledge of the taxonomy of the subfamily Micronetinae now allow us to reassess the taxonomic position of all known Nepalese species of the genus *Lepthyphantes*. The transfer of a species to a certain genus is supported by the following supposed synapomorphies.

Synapomorphies:

***Anguliphantes* SAARISTO & TANASEVITCH 1996**

- Embolus somewhat elongated with relatively large lateral extension (= thumb), sharp pointed embolus

proper, and small carina (SAARISTO & TANASEVITCH 1996: Figs. 15C–I).

- Proscape narrow and long (Fig. 13).

***Mughiphantes* SAARISTO & TANASEVITCH 1999**

- Presence of disc-like or pear-shaped, more or less thickened proscapus (SAARISTO & TANASEVITCH 1996: Figs. 1A–H) combined with gradual reduction of rest of scape.
- Middle part of scape extremely short or absent and scape as a whole has also become more or less rigid.

Figs. 1–4: *Megalephyphantes nebulosoides* (WUNDERLICH 1977). Fig. 5: *M. nebulosus* (SUNDEVAL 1930). Figs. 6–12: *Anguliphantes nepalensis* (TANASEVITCH 1987), ♂♀ paratypes. — 1–5) posterior median plate: 1, 2 specimen from Thakkhola, Thaksang (different views); 3, 4 specimen from Thakkhola, Thini (different views); 5 specimen from Finland, Turku. — 6) right palp; 7) patella and paracymbium, dorsal view; 8) embolic division; 9) lamella characteristic; 10) embolus; 11, 12) epigyne: ventral and dorsal view, respectively.

- Scape moves only at its base and even then only very slightly.

Palliduphantes SAARISTO & TANASEVITCH 2001

- Side walls of epigyne drawn into transverse, plate-like extensions between which lies long and narrow scape; apical part of proscapus repeatedly dilated. In dorsal view epigyne has very characteristic appearance (SAARISTO & TANASEVITCH 2001: Figs. 1A–C).
- Main body of lamella characteristic long and narrow, S-shaped. Its apex truncate or more or less deeply bi- or trifurcate. At its middle one or two anteriorly directed sharp pointed branches of variable length (SAARISTO & TANASEVITCH 2001: Figs. 5A–H).
- Paracymbium large, tub-like, appreciably transformed from its basic pattern within Micronetinae (SAARISTO & TANASEVITCH 2001: Figs. 3A–I).

For new genera see their diagnoses.

Species with new combinations:

Anguliphantes nepalensis (TANASEVITCH 1987) comb. n.
Figs. 6–12, 18.

Lepthyphantes nepalensis TANASEVITCH 1987(: 50 [♂, ♀], Nepal)

This species has previously been recorded from numerous localities in Nepal: Solukhumbu Distr., Khumbu; Mustang Distr., Chadziou-Khola & Thaksang; Parbat Distr., Gorapani Pass (S-Annapurna); Myagdi Distr., Thankur, Gustung Khola & Sheng Khola; Dolpo Distr., Gompa; Gorkha Distr., Buri Gandaki Valley, Nyak & Chuling Khola (TANASEVITCH 1987).

M a t e r i a l e x a m i n e d : 2 ♂♂, 3 ♀♀ (ZMMU, paratypes), Nepal (#108), Khumbu, Mt. Everest region, confluence of Imja and Phunki-Drangka, *Betula* forest, 3250–3300 m, 30. ix.–2. x. 1970, leg. J. MARTENS; 1 ♂ (ZMMU, paratype), Nepal (# lacking) Mustang Distr., Thakkhola, Chadziou-Khola, monsoon-influenced, dense, primary broadleaved forest in canyon, bamboo growth, 2700–2900 m, x. 1969, leg. J. MARTENS.; 1 ♂ (SMF 34737), Nepal (#110), Solukhumbu Distr., Khumbu, Pare, Nangpa La Pass Valley, 3350 m, subalpine mixed forest, 14.–16. x. 1970, leg. J. MARTENS.

N e w l o c a l i t i e s : 1 ♂ (SMF), Nepal (#378), Taplejung Distr., upper Tamur Valley, Walungchung Gola, *Tsuga* forest, mainly open river terraces, 3000–3200 m, 20. v. 1988, leg. J. MARTENS & W. SCHAWALLER; 2 ♀♀ (SMF), 1 ♀ (ZMT), Nepal (#324), Panchthar Distr., Dhorpatan Kharka, *Rhododendron* & *Lathocarpus* forest, 2700 m, 13.–16. iv. 1988, leg. J. MARTENS & W. SCHAWALLER; 1 ♀ (SMF), Nepal (#328), Panchthar Distr., Paniporua, 2300 m, mixed broadleaved forest, 16.–20. iv. 1988, leg. J. MARTENS & W. SCHAWALLER.

T a x o n o m i c r e m a r k s : This species shows some variability in certain genital structures, such as the size of

the rounded swelling on the paracymbium as well as the shape and density of the fringed margin of the embolus.

D i s t r i b u t i o n : Widespread in Nepalese Himalaya. Occurs from 2300 up to 3600 m.

Mughiphantes alticola (TANASEVITCH 1987) comb. n.

Lepthyphantes alticola TANASEVITCH 1987(: 60 [♂], Nepal)

This species was described from a single ♂ from Nepal, Tukche (TANASEVITCH 1987).

M a t e r i a l e x a m i n e d : holotype ♂ (SMF 34780), Nepal, Mustang Distr., Dapa-Col above Tukche, among rocky debris, 5030–5100 m, 14.–17. vii. 1970, leg. J. MARTENS.

♀ unknown.

D i s t r i b u t i o n : Nepalese Himalaya, type locality only, 5030–5100 m.

Mughiphantes anachoretus (TANASEVITCH 1987)
comb. n.

Lepthyphantes anachoretus TANASEVITCH 1987(: 60 [♂], Nepal)

This species was described from a single ♂ from Nepal, Thakkhola (TANASEVITCH 1987).

M a t e r i a l e x a m i n e d : holotype ♂ (SMF 34781), Nepal, Mustang Distr., Thakkhola, from Tukche to Dapa-Col, 3900–4200 m, alpine belt, 12./17. vii. 1970, leg. J. MARTENS.

♀ unknown.

D i s t r i b u t i o n : Nepalese Himalaya, type locality only, from 3900 up to 4200 m.

Mughiphantes ancoriformis (TANASEVITCH 1987) comb. n.

Figs. 13, 14.

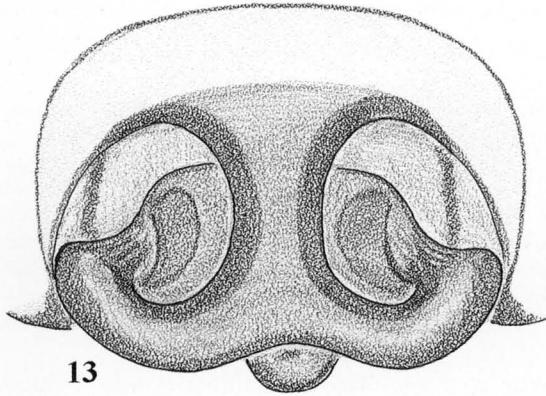
Lepthyphantes ancoriformis TANASEVITCH 1987(: 55 [♂, ♀], Nepal)

This species known from different parts of Nepal: Rasuwa Distr., Gosainkund, Mustang Distr., Thakkhola; Parbat Distr., Gorapani Pass (S-Annapurna) & between Chitre and Ghadrung; Myagdi Distr., Dhorpatan & Thankur, Gustung Khola; Dolpo Distr., Gompa.

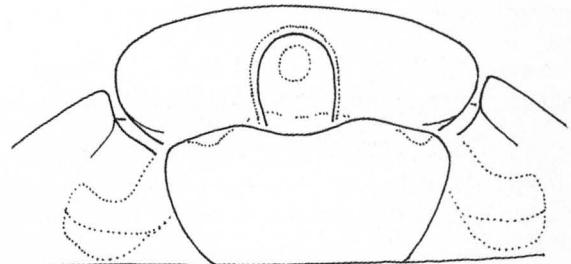
M a t e r i a l e x a m i n e d : ♂ (SMF 34750, holotype), Nepal: Rasuwa Distr., Trisuli Valley, Gosainkund, Syng Gyang, 3200 m, *Abies* forest, 25. iv. 1973, leg. J. MARTENS; 3 ♀♀ (SMF 34751, paratypes), together with holotype.

T a x o n o m i c r e m a r k s : The shape of the epigyne (Fig. 13) resembles those of *Mughiphantes bicornis* sp. n. (Fig. 15) and *Lepthyphantes hamifer* SIMON 1884 (Fig. 16).

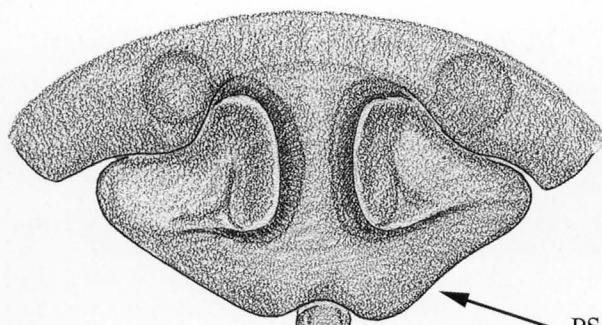
D i s t r i b u t i o n : Nepalese Himalaya, 2700–4100 m.



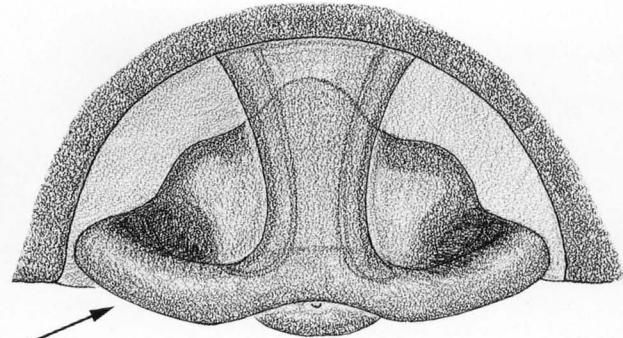
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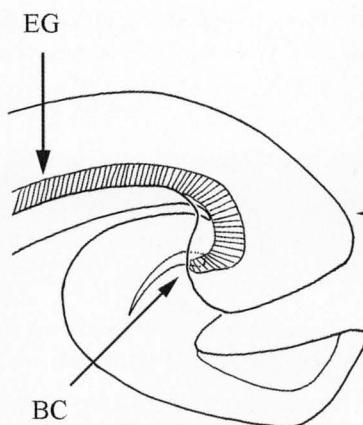
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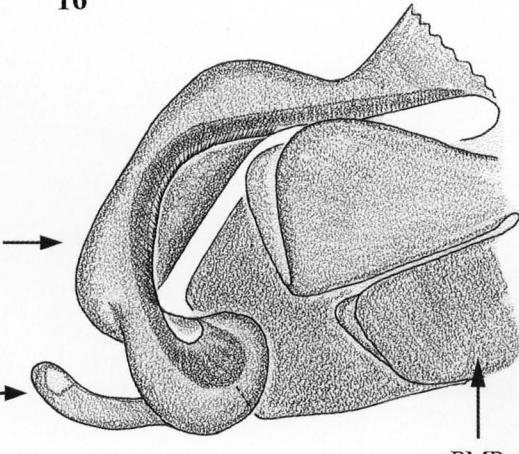


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13-18



18

Figs. 13–14: *Mughiphantes ancoriformis* (TANASEVITCH 1987), ♀ paratype. Fig. 15: *M. bicornis* sp. n., ♀ paratype. Fig. 16: *Lepthyphantes hamifer* SIMON 1884, ♀ from Beijing, China. Fig. 17: *M. restrictus* sp. n., ♀ paratype. Fig. 18: *Anguliphantes nepalensis* (TANASEVITCH 1987), ♀ from Taplejung Distr., Walungchung Gola. — Epigyne: 13, 15, 16) ventral view; 14) dorsal view; 17, 18) lateral view.

Mughiphantes faustus (TANASEVITCH 1987) comb. n.

Lepthyphantes faustus TANASEVITCH 1987(: 52 [♂, ♀], Nepal)

This species was described from Nepal: Ramechap Distr., Thodung; Lalitpur Distr., Kathmandu Valley, Phulchoki Mt; Ramechap Distr., Jiri; Taplejung Distr., S of Gunsa.

Material examined: 3 ♂♂ (SMF 34726, paratypes), 2 ♀♀ (ZMMU, paratypes), Nepal (# lacking), Ramechap Dis-

tr., Thodung near Those, E of Jiri, *Rhododendron-Abies-Tsuga* forest, humid litter, 3100–3200 m, 7.–8. iv. 1973 (together with holotype), leg. J. MARTENS; 4 ♀♀ (SMF 34728, paratypes), Nepal (# lacking), Lalitpur Distr., Kathmandu Valley, Phulchoki Mt., summit region, *Quercus* forest, 2600–2700 m, 25.–30. i. 1970, leg. J. MARTENS; 2 ♀♀ (ZMMU, paratypes), Nepal (# lacking), Ramechap Distr., Jiri, Chordung Mt., 2330–2500 m, degraded scrub, i. 1970, leg. J. MARTENS.

Distribution: Nepalese Himalaya, 2300–4300 m.

Mughiphantes numilionis (TANASEVITCH 1987) comb. n.*Lepthyphantes numilionis* TANASEVITCH 1987(: 51 [♂, ♀], Nepal)

Known only from Mustang District in Nepal: Thakkola, Dambush Khola & Kali Gandaki Valley.

Material examined: 1 ♂, 1 ♀ (SMF 34722, paratypes), Nepal (# lacking), Mustang Distr., Thakkola, upper Dambush Khola, 3770–4100 m, alpine belt, 7.–13. x. 1969, leg. J. MARTENS.

Distribution: Nepalese Himalaya, 2550–4100 m.

Mughiphantes occultus (TANASEVITCH 1987) comb. n.*Lepthyphantes occultus* TANASEVITCH 1987(: 58 [♂, ♀], Nepal)

This species was described from a single locality, Nepal: Solukhumbu Distr., Khumbu.

Material examined: 2 ♂♂, 2 ♀♀ (SMF 34777, paratypes), Nepal (# lacking), Solukhumbu Distr., Khumbu, Pare, Nangpa La Pass Valley, 3350 m, subalpine mixed forest, 14.–16. x. 1970, leg. J. MARTENS.

Distribution: Nepal, type locality only, 3350 m.

Mughiphantes rotundatus (TANASEVITCH 1987) comb. n.*Lepthyphantes rotundatus* TANASEVITCH 1987(: 57 [♂, ♀], Nepal)

Known only from Myagdi District in Nepal: Dhaulagiri, Dhorpatan and Thankur.

Material examined: 3 ♂♂, 1 ♀ (SMF 34775, paratypes), 1 ♂, 1 ♀ (ZMMU, paratypes), Nepal (# lacking), Myagdi Distr., Thankur, N of Dhorpatan, humid Quercus forest, 3350 m, 26.–27. v. 1973, leg. J. MARTENS.

Distribution: Nepalese Himalaya, from 3000 up to 4000 m.

Mughiphantes setifer (TANASEVITCH 1987) comb. n.*Lepthyphantes setifer* TANASEVITCH 1987(: 56 [♂, ♀], Nepal)

This species was described from a single locality in Nepal: Dolpo Distr., Dolpo.

Material examined: 1 ♂ (SMF 34765, holotype), Nepal (# lacking), Dolpo Distr., Dolpo, between Passes Zo La and Buko La, 4900–4800 m, 19. vi. 1973, leg. J. MARTENS; 2 ♀♀ (SMF 34766, paratypes), together with holotype, 19. vi. 1973, leg. J. MARTENS.

Distribution: Nepalese Himalaya, type locality only, 4800–4900 m.

Mughiphantes sherpa (TANASEVITCH 1987) comb. n.*Lepthyphantes sherpa* TANASEVITCH 1987(: 60 [♂, ♀], Nepal)

Known only from two localities in Nepal: Dolpo Distr., Dolpo and Ringmo.

Material examined: 1 ♂ (SMF 34782, holotype), Nepal (# lacking), Dolpo Distr., Dolpo, between Passes Zo La and Buko La, under stones, bare slope, 4800–4900 m, 19. vi. 1973, leg. J. MARTENS; 2 ♀♀ (SMF 34784, paratypes), Ringmo on Phoksumdo Lake, pebbles, *Salix* stand, 4000–4100 m, 3.–14. vi. 1970, leg. J. MARTENS.

Distribution: Nepalese Himalaya, from 4000 up to 4900 m.

Mughiphantes yeti (TANASEVITCH 1987) comb. n.*Lepthyphantes yeti* TANASEVITCH 1987(: 57 [♂, ♀], Nepal)

This species was described from Mt. Everest, Nepal: Solukhumbu Distr., Khumbu.

Material examined: 1 ♂ (SMF 34767, holotype), Nepal (# lacking), Solukhumbu Distr., Khumbu, foot of Mt. Everest, Kalar Pattar Mt., 5500–5545 m, 26. ix. 1970, leg. J. MARTENS; 2 ♀♀ (SMF 34768, paratypes), together with holotype, 26. ix. 1970, leg. J. MARTENS.

Distribution: Nepalese Himalaya, Mt. Everest, 5500–5545 m. This is the highest record among linyphiid spiders.

Palliduphantes theosophicus (TANASEVITCH 1987) comb. n.

Figs. 19–21.

Lepthyphantes theosophicus TANASEVITCH 1987(: 57 [♂, ♀], Nepal)

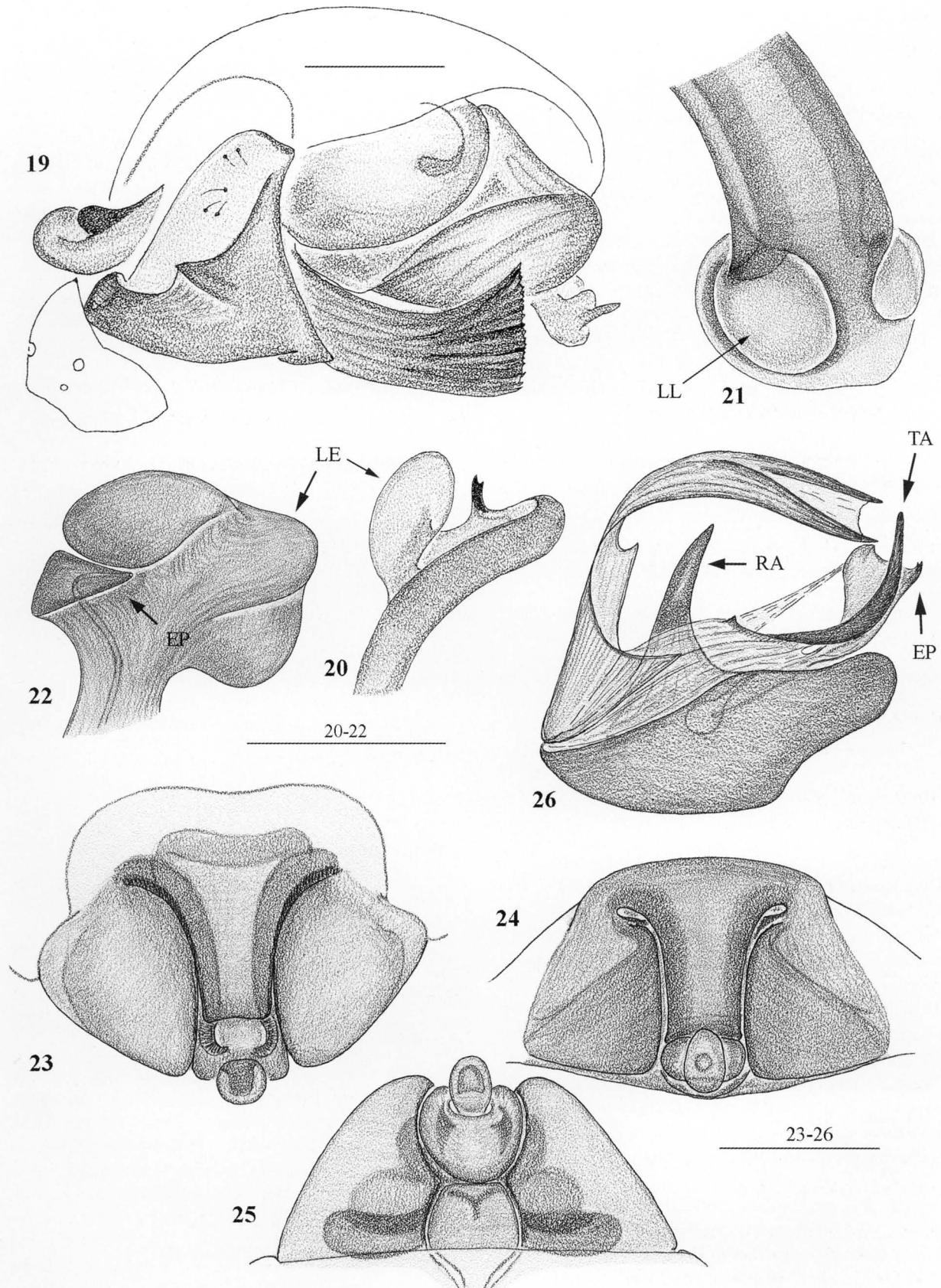
This species was described from two localities in Kathmandu Valley, Lalitpur Distr., Nepal.

Material examined: 1 ♂, 4 ♀♀ (SMF 34770, paratypes), Nepal (# lacking), Lalitpur Distr., Kathmandu Valley, Phulchoki Mt., summit region, *Quercus* forest, 2600–2700 m, 25.–30. i. 1970, leg. J. MARTENS.; 1 ♀ (ZMMU), Nepal (#106), Kathmandu-Tal, Phulchoki Mt., 2500–2700 m, 25.–30. i. 1970.

New locality: 1 ♂, 1 ♀ (SMF), Nepal (#306), Kathmandu Distr., Sheopuri Mt., *Quercus semicarpifolia* forest, 2100–2300 m, 25. vi. 1988, leg. J. MARTENS & W. SCHAWALLER.

Taxonomic remarks: This species is tentatively placed in *Palliduphantes* as the epigyne of *P. theosophicus* resembles that of the *Palliduphantes* species, the main difference being the large lateral lobes in the epigyne of *P. theosophicus* (Fig. 21). Also the ♂ has a wide lamella characteristic, and compared with the other *Palliduphantes* species the shape of the embolus is different, apparently corresponding to the large lateral lobes of the epigyne (Figs. 20, 21).

Distribution: Nepalese Himalaya. Occurs from 2000 up to 2700 m.



Figs. 19–21: *Palliduphantes theosophicus* (TANASEVITCH 1987), ♂♀ paratypes. Fig. 22: *Ascetophantes asceticus* (TANASEVITCH 1987), ♂ holotype. Figs. 23–26: *Claviphantes bifurcatus* (TANASEVITCH 1987). — 19) right palp; 20, 22) embolus; 21) distal part of scapus, ventro-lateral view; 23–25) epigyne: 23, 24) ventral, 25) dorsal view, respectively; 26) embolic division.

Description of new taxa

Aschetophantes gen. n.

Type species: *Lepthyphantes asceticus* TANASEVITCH 1987.

Etymology: The generic name is derived from the name of the type species and the generic name *Lepthyphantes*. Gender masculine.

Diagnosis: *Aschetophantes* ♀ can be recognized by the relatively short scape with a large cup-like distal part; there is no stretcher and the pit as well as bursae copulatrices are situated on the inner edges of the distal cup (see TANASEVITCH 1987: Figs. 73, 74). The ♂ is characterized by the peculiar structure of the embolus which has a narrow basal part and a compact, knob-like distal part with a large, hooked embolus proper (Fig. 22).

Species included: only the type species.

Distribution: Nepalese Himalaya.

Aschetophantes asceticus (TANASEVITCH 1987) comb. n.

Fig. 22.

Lepthyphantes asceticus TANASEVITCH 1987(: 59 [♂, ♀], Nepal)

Described from a single locality in Nepal: Ilam Distr., Mai Pokhari.

Material examined: 2 ♂♂, 2 ♀♀ (SMF 34779, paratypes), Nepal, Ilam Distr., Mai Pokhari, 2100–2200 m, forest, 25. & 27. III. 1980, leg. J. MARTENS & A. AUSOBISKY.

Distribution: Nepalese Himalaya, type locality only, 2100–2200 m.

Claviphantes gen. n.

Type species: *Lepthyphantes bifurcatus* TANASEVITCH 1987.

Etymology: The generic name is derived from the shape of the radical apophysis and the generic name *Lepthyphantes*. Gender masculine.

Diagnosis: *Claviphantes* ♂♂ are characterized by the large, sharp-pointed radical apophysis on the ventral side of the radix (Fig. 26). The ♀♀ can be recognized by having a long, posteriorly narrowing proscapus lying between the elongated side walls of the epigyne; median part of the scape very short; distal part with a prominent stretcher while lateral lobes are much reduced (Figs. 23–25).

Species included: *Claviphantes bifurcatus* (TANASEVITCH 1987) and *C. bifurcatoides* (TANASEVITCH 1987), both comb. n. ex *Lepthyphantes*.

Distribution: Nepalese Himalaya.

Claviphantes bifurcatus (TANASEVITCH 1987) comb. n.

Figs. 23–26.

Lepthyphantes bifurcatus TANASEVITCH 1987(: 52 [♂, ♀], Nepal)

This species was described from Nepal: Parbat Distr., between Chitre and Ghandrung; between Sikha and Gorapani Pass.

Material examined: 1 ♂ (SMF 34733, holotype), Nepal, Parbat Distr., between Chitre and Ghandrung, Ghandrung side of pass, 2700–3100 m, *Rhododendron-Tsuga-Acer* forest, 7. v. 1980, leg. J. MARTENS & A. AUSOBISKY; 2 ♀♀ (SMF 34735, paratypes), between Chitre and Ghandrung, 2800–2900 m, Chitre side of pass, *Alnus-Quercus-Rhododendron* forest, 6. v. 1980, leg. J. MARTENS & A. AUSOBISKY; 1 ♀ (ZMMU, paratype), between Sikha and Gorapani Pass, 2300–2700 m, *Rhododendron* forest, 11. vii. 1973, leg. J. MARTENS.

Distribution: Nepalese Himalaya. Occurs from 2300 up to 3100 m.

Claviphantes bifurcatoides (TANASEVITCH 1987) comb. n.

Lepthyphantes bifurcatoides TANASEVITCH 1987(: 53 [♂], Nepal)

This species was described from a single ♂ from Nepal, Kaski Distr.

Material: 1 ♂ (SMF 34736, holotype), Nepal, Kaski Distr., above Dhumpus, broadleaved forest, 2100 m, 8. & 10. v. 1980, leg. J. MARTENS & A. AUSOBISKY. Not examined.

Distribution: Nepalese Himalaya, type locality only, 2100 m.

Spiralophantes gen. n.

Type species: *Spiralophantes mirabilis* sp. n.

Etymology: The generic name is derived from the shape of the embolus and the generic name *Lepthyphantes*. Gender masculine.

Diagnosis: The genus is characterized by the huge, spiral-shaped terminal apophysis and the very small and simple lamella characteristic (Fig. 28), as well as by the considerably expanded epigynal cavity (Fig. 30).

Taxonomic position: Judging from the general layout of the embolus (Figs. 29, 32). *Spiralophantes* gen. n. is closely related to *Lepthyphantes*. Also the basic construction of the epigyne is as in that genus.

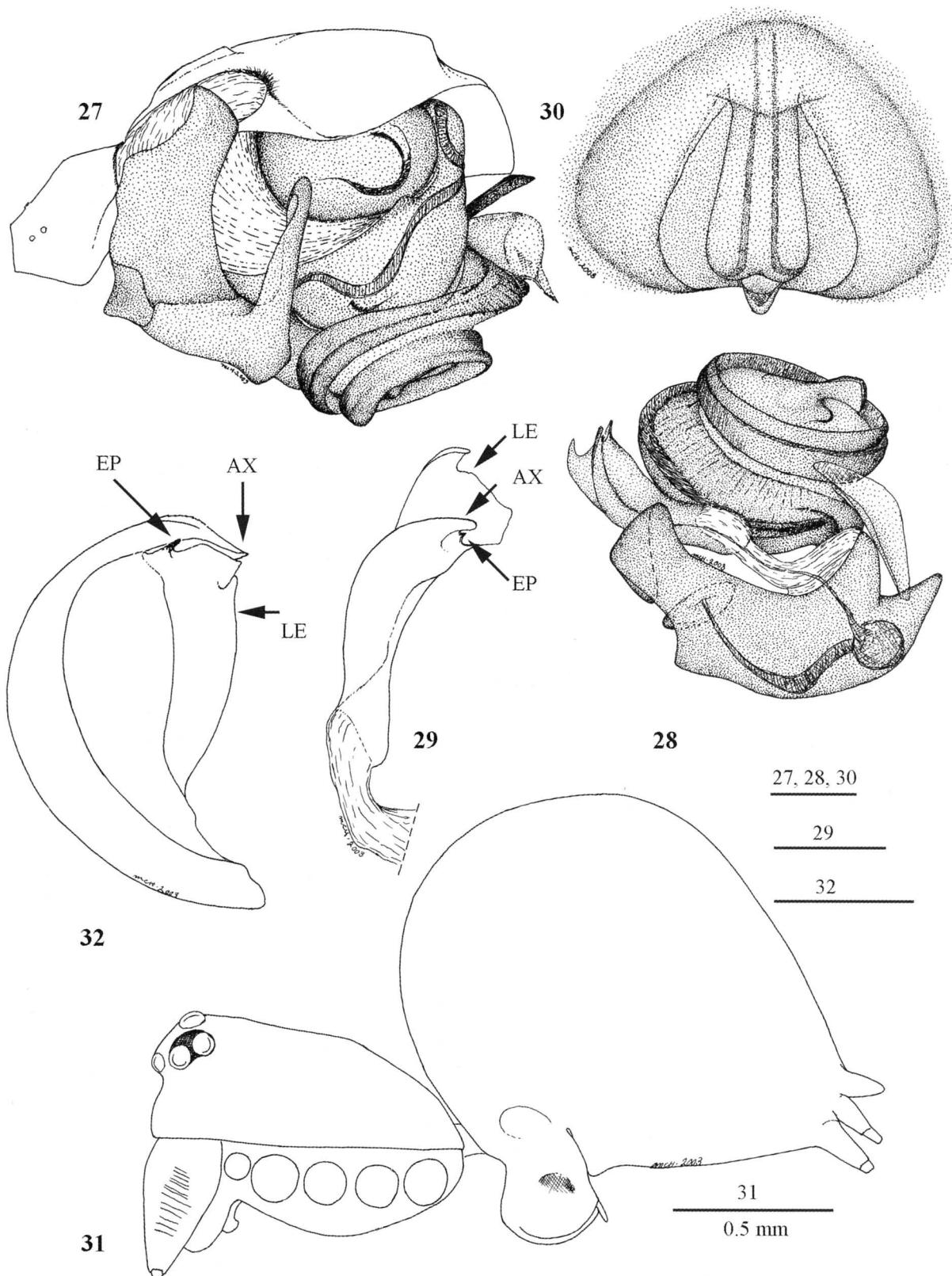
Species included: only the type species.

Distribution: Nepalese Himalaya.

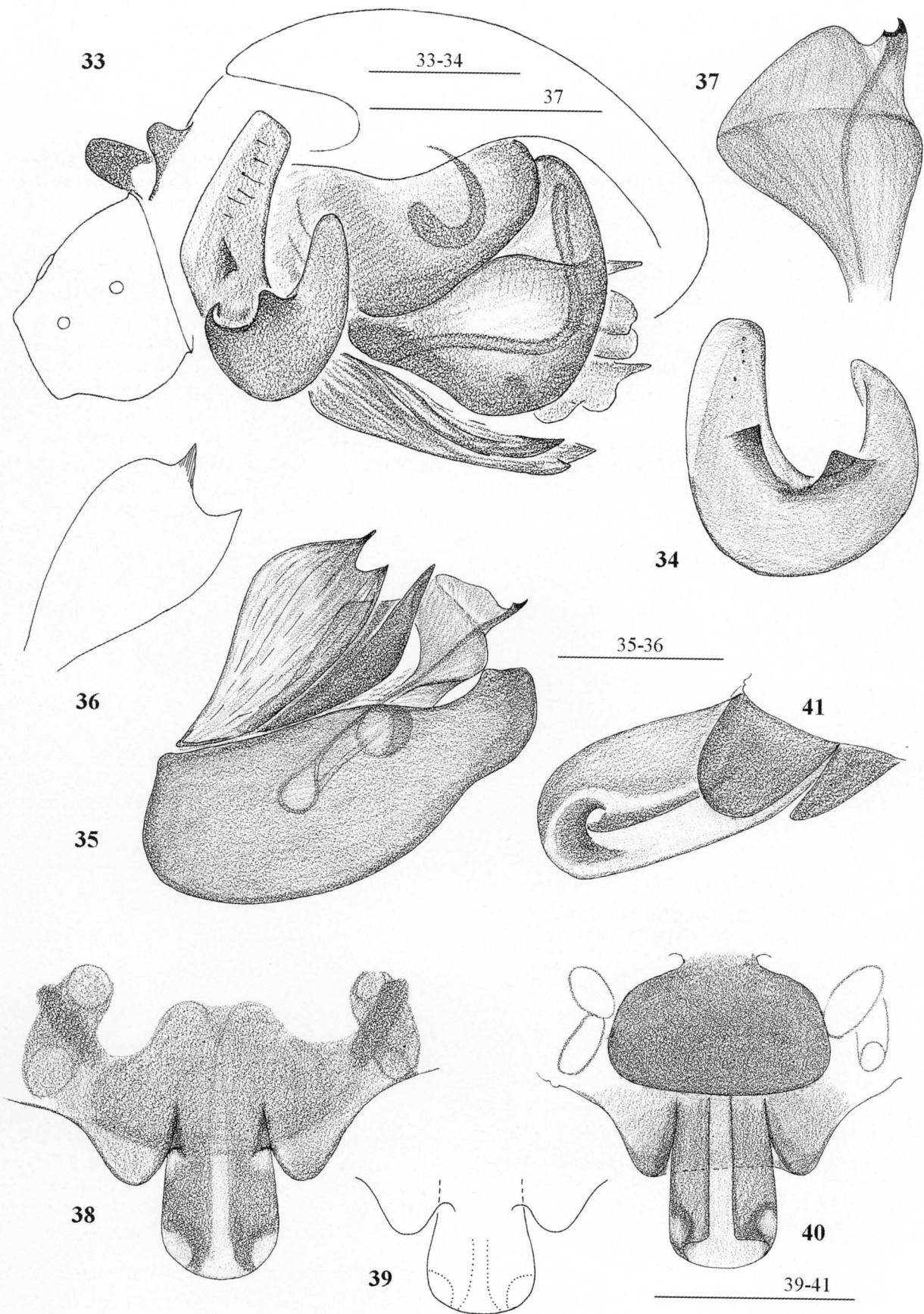
Spiralophantes mirabilis sp. n.

Figs. 27–31.

Holotype: ♂ (SMF), Nepal (#412), Nepal, Sankhua Sabha Distr., Arun Valley between Mure & Hurure, mixed broadleaved forest, 2050–2150 m, 9.–17. vi. 1988, leg. J. MARTENS & W. SCHAWALLER.



Figs. 27–31: *Spiralophantes mirabilis* sp. n., ♂ holotype, ♀ paratype. Fig. 32: *Leptyphantes minutus* (BLACKWALL 1833), specimen from Finland, Turku. — 27) right palp; 28) embolic division, dorsal view; 29, 32) embolus; 30) epigyne, ventral view; 31) ♀ body, lateral view.



Figs. 33-41: *Fistulaphantes canalis* sp. n. — 33) right palp; 34) paracymbium; 35) embolic division; 36) lamella characteristic; 37) embolus; 38-41) epigyne: 38, 39 ventral view, 40 dorsal view, 41 lateral view.

Paratypes (in total 3 ♀♀): 2 ♀♀ (SMF), 1 ♀ (ZMT), together with holotype.

Etymology: The specific name refers to the extraordinary shape of the terminal apophysis. The name is herewith defined as a noun in apposition.

Diagnosis: The ♂ of this species is easily distinguished from all other Micronetinae by the huge, spiral-shaped terminal apophysis (Fig. 28) and the ♀ by the considerably expanded epigynal cavity.

Description: ♂. Total length 2.08 mm. Carapace 0.93 mm long, 0.78 mm wide, blackish-brown. Chelicerae 0.38 mm long. Legs pale yellow, with grey median bands. Leg I 4.41 mm long (1.18+0.25+1.15+1.15+0.68), IV 2.73 mm long (0.90+0.20+0.63+0.55+0.45). Chaetotaxy: spines mostly lost. TmI 0.26 mm. Palp as in Figs. 27–29. Cymbium without basal process. Paracymbium relatively large, toothless. Terminal apophysis exceptionally large, spiral-shaped; embolus narrow, embolus proper very small, covered by apex of embolus; lamella characteristic small, narrow and short. Abdomen 1.15 mm long, 0.68 mm wide, dorsally dark with grey transverse stripes.

♀. Total length 2.25 mm (Fig. 31). Carapace 0.78 mm long, 0.68 mm wide, dark brown, with radial stripes. Chelicerae 0.40 mm long. Legs pale yellow, with grey median bands. Leg I 3.45 mm long (0.95+0.23+0.88+0.85+0.60), IV 3.53 mm long (1.00+0.25+0.85+0.88+0.55). Chaetotaxy: spines mostly lost. TmI 0.17 mm. Abdomen 1.50 mm long, 0.95 mm wide. Epigyne as in Fig. 30.

Distribution: Nepalese Himalaya, type locality only, 2050–2150 m.

Fistulaphantes gen. n.

Type species: *Fistulaphantes canalis* sp. n.

Etymology: The generic name refers to the shape of the epigyne: "fistula" meaning in Latin "a tube". Gender masculine.

Diagnosis: The ♀ of the new genus is characterized by the much transformed scape which apparently consists mainly of proscapus; both stretcher and lateral lobes have been lost and bursae copulatrices are situated both on either side of the apex of the scape (Figs. 38–41). Diagnostic for the ♂ is the relatively simple but large embolus in relation to the size of the terminal apophysis and lamella characteristic (Figs. 35, 37).

Species included: only the type species.

Distribution: Nepalese Himalaya.

Fistulaphantes canalis sp. n.

Figs. 33–41.

Holotype: ♂ (SMF), Nepal (#390), Sankhua Sabha Distr., Thudam mixed forest mainly *Betula/Rhododendron*, 3550–3650 m, 25.–27. v. 1988, leg. J. MARTENS & W. SCHAWALLER.

Paratypes (in total 2 ♂♂, 10 ♀♀): 1 ♂, 5 ♀♀ (SMF), 2 ♀♀ (ZMT), together with holotype; 3 ♀♀ (SMF), Nepal (#412), Sankhua Sabha Distr., Arun Valley between Mure & Hurure, mixed broadleaved forest, 2050–2150 m, 9.–17. vi. 1988, leg. J. MARTENS & W. SCHAWALLER; 1 ♂, 1 ♀ (ZMT), Nepal (#404), Sankhua Sabha Distr., above Pahakhola, 2600–2800 m, *Quercus semicarpifolia*, *Rhododendron*, 31. v. 1988, leg. J. MARTENS & W. SCHAWALLER; 1 ♀ (SMF), Nepal (#412), Sankhua Sabha Distr., Arun Valley between Mure and Hurure, mixed broadleaved forest, 2050–2150 m, 9.–17. vi. 1988, leg. J. MARTENS & W. SCHAWALLER.

Etymology: The specific name refers to the shape of the epigyne: "canalis" means in Latin "a tube". The name is herewith defined as a noun in apposition.

Diagnosis: See diagnosis of the genus.

Description: ♂. Total length 0.68 mm. Carapace 0.65 mm long, 0.60 mm wide, brown. Chelicerae 0.28 mm long. Legs pale brown without median bands. Leg I 2.63 mm long (0.68+0.20+0.65+0.60+0.50), IV 2.53 mm long (0.65+0.20+0.63+0.60+0.45). Chaetotaxy. Ti I: 2-1-1-0, II: 2-0-1-0, III-IV: 2-0-0-0; Mt I-IV: 1-0-0-0. TmI 0.25 mm. Palp as in Figs. 33–37. Cymbium with two small outgrowths basally. Paracymbium sickle-shaped, with rather large basal and well-sclerotized tooth-shaped anterior pocket. Lamella characteristic wide, bifid apically. Abdomen 1.15 mm long, 0.68 mm wide, grey.

♀. Total length 1.78 mm. Carapace 0.78 mm long, 0.60 mm wide, pale brown. Chelicerae 0.38 mm long. Leg I 2.63 mm long (0.70+0.25+0.63+0.55+0.50), IV 2.49 mm long (0.65+0.23+0.63+0.53+0.45). Chaetotaxy as in ♂. TmI 0.25 mm. Abdomen 1.15 mm long, 0.75 mm wide, pale grey. Epigyne as in Figs. 38–41. Scapus is slightly variable in shape: sometimes broadening distally (cf. Figs. 38–39).

Distribution: Nepalese Himalaya, from 2050 up to 3650 m.

Mughiphantes bicornis sp. n.

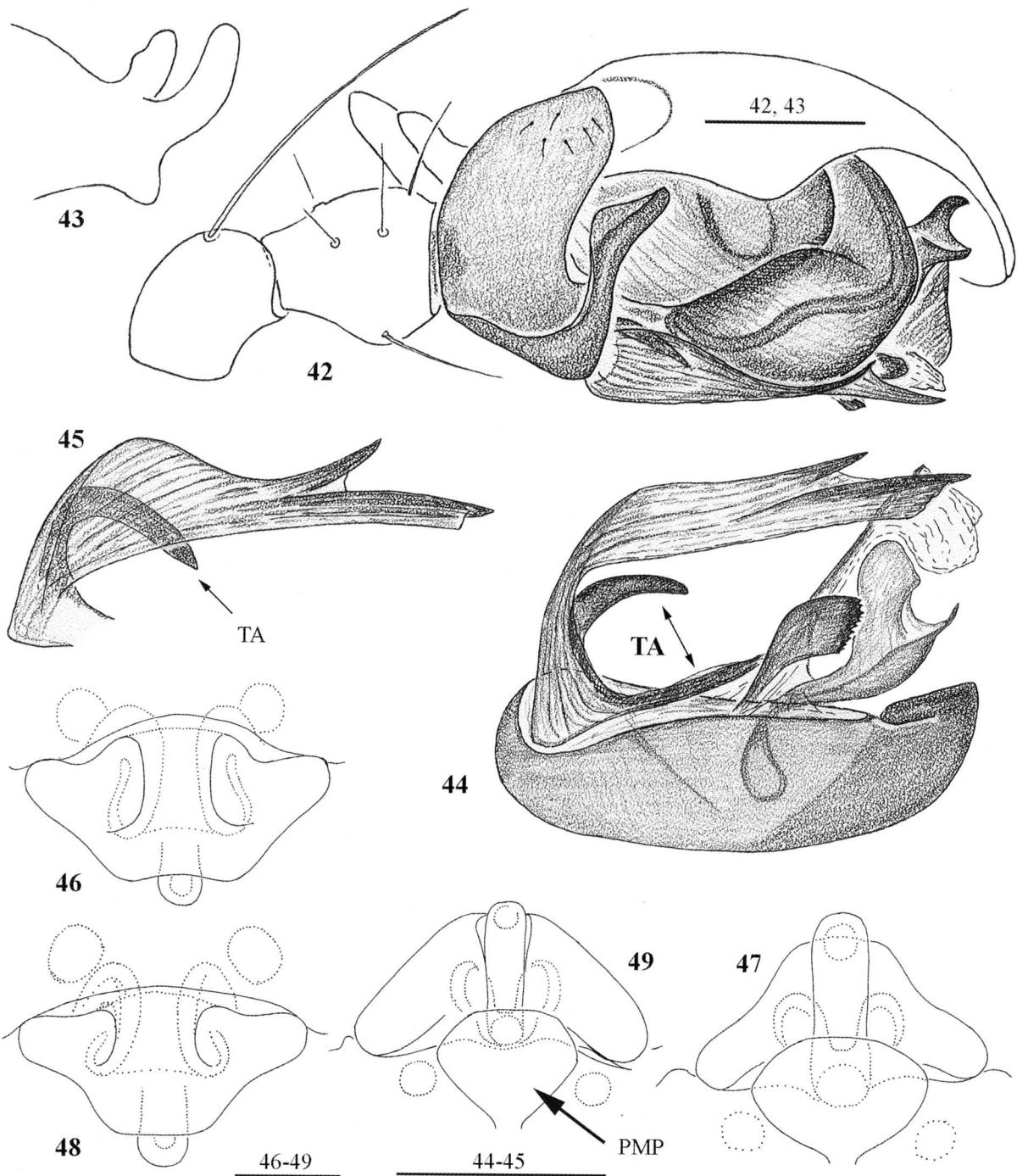
Figs. 15, 42–49.

Holotype: ♂ (SMF), Nepal (#359), Nepal Taplejung Distr., pasture Lassetham NW Yamputhin, 3300–3500 m, mature *Abies-Rhododendron* forest, 6.–9. v. 1988, leg. J. MARTENS & W. SCHAWALLER.

Paratypes (in total 7 ♀♀): 2 ♀♀ (SMF), together with holotype; 3 ♀♀ (SMF), Nepal (#367), Taplejung Distr., pass Deorali W Yamputhin, 3400 m, *Abies* & *Rhododendron* forest, 17. v. 1988, leg. J. MARTENS & W. SCHAWALLER; 2 ♀♀ (SMF) Nepal (#362), Taplejung Distr., upper Simbuia Khola Valley, near Yalung, 3450–3700 m, *Abies-Rhododendron-Juniperus* forest, 13. v. 1988, leg. J. MARTENS & W. SCHAWALLER.

Etymology: The specific name refers to the two posterodorsal outgrowths on the cymbium. The name is herewith defined as a noun in apposition.

Diagnosis: The epigyne of the new species closely resembles those of *Mughiphantes ancoriformis* (TAN-

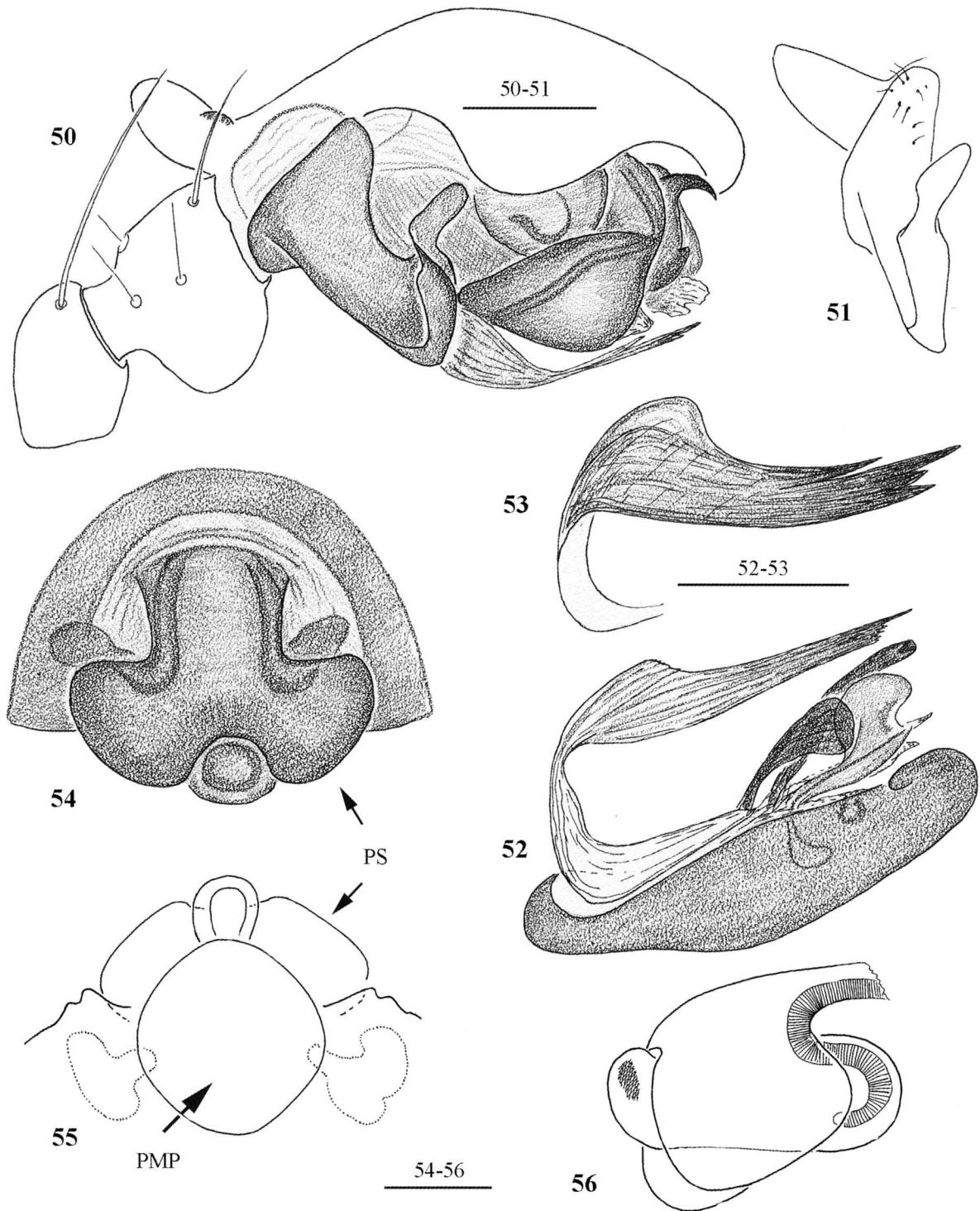


Figs. 42–49: *Mugiphantes bicornis* sp. n., ♂ holotype, ♀ paratypes. — 42) right palp; 43) proximal part of cymbium, prolateral view; 44) embolic division; 45) lamella characteristic with part of terminal apophysis; 46–49) epigyne: 46, 48) ventral view; 47, 49) dorsal view.

ASEVITCH 1987) comb. n. from Nepal and *Leptyphantes hamifer* SIMON 1884 from China (cf. Figs. 13, 15, 16). The ♂♂ can be easily distinguished by the shape of the proximal outgrowth(s) on the cymbium: *M. ancoriformis* has two small tubercles, *M. bicornis* two long ones, and *L. hamifer* one long and curved process.

Description: ♂. Total length 2.00 mm. Carapace 0.88 mm long, 0.73 mm wide, brown. Chelicerae

0.38 mm long. Legs pale brown, without median bands. Leg I 3.13 mm long (0.80+0.28+0.75+0.75+0.55), IV 3.04 mm long (0.83+0.25+0.75+0.73+0.48). Chaetotaxy: Ti I: 2-1-1-0, II: 2-0-1-0, III-IV: 2-0-0-0; Mt I-IV: 1-0-0-0. TmI 0.29 mm. Palp as in Figs. 42–45. Cymbium with two adjacent posterodorsal outgrowths of different length. Paracymbium comparatively large, toothless. Embolus with large lateral extension. Abdomen 1.10 mm



Figs. 50–56: *Mughiphantes cuspidatus* sp. n., ♂♀ paratypes. — 50) right palp; 51) paracymbium, frontal view; 52) embolic division; 53) lamella characteristicata; 54–56) epigyne: ventral, dorsal & lateral view, respectively.

long, 0.65 mm wide, dorsally pale with dark grey spot in anterior part, and several wavy transverse stripes in posterior part.

♀. Total length 2.25 mm. Carapace 1.03 mm long, 0.70 mm wide, brown with a narrow black margin. Chelicerae 0.48 mm long. Legs pale brown, without median

bands. Leg I 3.08 mm long (0.80+0.28+0.70+0.70+0.60), IV 2.98 mm long (0.80+0.25+0.75+0.70+0.48). Chaetotaxy as in ♂. TmI 0.25 mm. Abdomen 1.38 mm long, 0.90 mm wide, dorsal pattern consisting of a grey fir-tree-shaped figure on dark background. Epigyne variable in shape: cf. Figs. 15, 46–49.

Distribution: Nepalese Himalaya. Type locality only, 3300–3700 m.

***Mughiphantes cuspidatus* sp. n.**

Figs. 50–56.

Holotype: ♂ (SMF), Nepal (#383), Taplejung Distr., Ladza Kharka in Ladza Khola NW Walungchung Gola, 4100–4200 m, dwarf *Rhododendron*, creeping *Juniperus*, 21.–23.V.1988, leg. J. MARTENS & W. SCHAWALLER.

Paratypes (in total 2 ♂♂, 5 ♀♀): 2 ♂♂, 2 ♀♀ (SMF), 1 ♀ (MZT), together with holotype; 2 ♀♀ (SMF), Nepal (#362), Taplejung Distr., upper Simbuwa Khola Valley, near Yalung, 3450–3700 m, *Abies-Rhododendron-Juniperus* forest, 13. v. 1988, leg. J. MARTENS & W. SCHAWALLER.

Etymology: The specific name refers to the distal part of the lamella characteristic: in Latin “CUSPIDATUS” means “pointed”. The name is herewith defined as a noun in apposition.

Diagnosis: The ♂ of *M. cuspidatus* sp. n. can be easily recognized by the long posterodorsal process of the cymbium, and the shape of the lamella characteristic (Figs. 50, 53). The ♀ is distinguished by the inverted T-shaped proscape with a relatively deep median notch (Fig. 54).

Description: ♂. Total length 2.03 mm. Carapace 1.03 mm long, 0.80 mm wide, dark brown, with narrow black margin. Chelicerae 0.45 mm long. Legs reddish-brown without median bands. Leg I 3.74 mm long (0.93+0.30+0.93+0.93+0.65), IV 3.59 mm long (1.00+0.25+0.88+0.88+0.58). Chaetotaxy. Ti I: 2-1-1-0, II: 2-0-1-0, III-IV: 2-0-0-0; Mt I-IV: 1-0-0-0. TmI 0.22 mm. Palp as in Figs. 50–53. Cymbium with long posterodorsal process wearing small basodorsal tubercle. Lamella characteristic relatively wide and long, distally dentated. Terminal apophysis consisting of two distinct, dark-coloured section. Abdomen 1.10 mm long, 0.78 mm wide, almost black, sometimes with unclear dorsal grey pattern.

♀. Total length 2.25 mm. Carapace 0.93 mm long, 0.75 mm wide, dark brown, with narrow black margin. Chelicerae 0.45 mm long. Leg I 3.41 mm long (0.88+0.30+0.85+0.78+0.60), IV 3.18 mm long (0.90+0.28+0.75+0.75+0.50). Chaetotaxy and leg coloration as in ♂. TmI 0.25 mm. Abdomen 1.55 mm long, 1.05 mm wide, dorsally dark, almost black, sometimes with grey fir-tree-shaped figure dorsally and a row of small white spots on sides. Epigyne as in Figs. 54–56. Proscape with narrow base. Stretcher thick and short. Posterior median plate rounded-shaped.

Distribution: Nepalese Himalaya. Occurs from 3450 up to 4200 m.

***Mughiphantes restrictus* sp. n.**

Figs. 17, 57–64.

Holotype: ♂ (SMF), Nepal (#399), Sankhua Sabha Distr., descent from Pomri La, S slope, pastures, 4400–4100 m, 29.V.1988, leg. J. MARTENS & W. SCHAWALLER.

Paratypes (in total 18 ♀♀): 3 ♀♀ (SMF), together with holotype; 1 ♀ (SMF), Nepal (#398), Sankhua Sabha Distr., descent from Pomri La, S slope, 4450–4550 m, on snow cover, 29. v. 1988, leg. J. MARTENS & W. SCHAWALLER; 1 ♀ (ZMT), Nepal (#393), Sankhua Sabha Distr., ascent to Meropapa La from Gabri Khola S Thudam, 4300–4600 m, meadows dwarf *Rhododendron*, 26. v. 1988, leg. J. MARTENS & W. SCHAWALLER; 1 ♀ (SMF), Nepal (#391), Sankhua Sabha Distr., from Thudam to Gabri Khola, 3600–4000 m, *Abies-Betula-Rhododendron* forest, 27. v. 1988, leg. J. MARTENS & W. SCHAWALLER; 3 ♀♀ (SMF), Nepal (#390), Sankhua Sabha Distr., Thudam mixed forest mainly *Betula/Rhododendron*, 3550–3650 m, 25.–27. v. 1988, leg. J. MARTENS & W. SCHAWALLER; 3 ♀♀ (SMF), 3 ♀♀ (ZMT), Nepal (#392), Sankhua Sabha Distr., from Thudam to Gabri Khola, 4000–4250 m, dwarf *Rhododendron*, 27. v. 1988, leg. J. MARTENS & W. SCHAWALLER; 2 ♀♀ (SMF), Nepal (#387), Sankhua Sabha Distr., Kangla Khola E Thudam, dwarf *Rhododendron*, rock debris, 4100–4200 m, 24.–25. v. 1988, leg. J. MARTENS & W. SCHAWALLER; 1 ♀ (SMF), Nepal (#394), Sankhua Sabha Distr., Meropapa La S Thudam, 4700 m, 28. v. 1988, leg. J. MARTENS & W. SCHAWALLER.

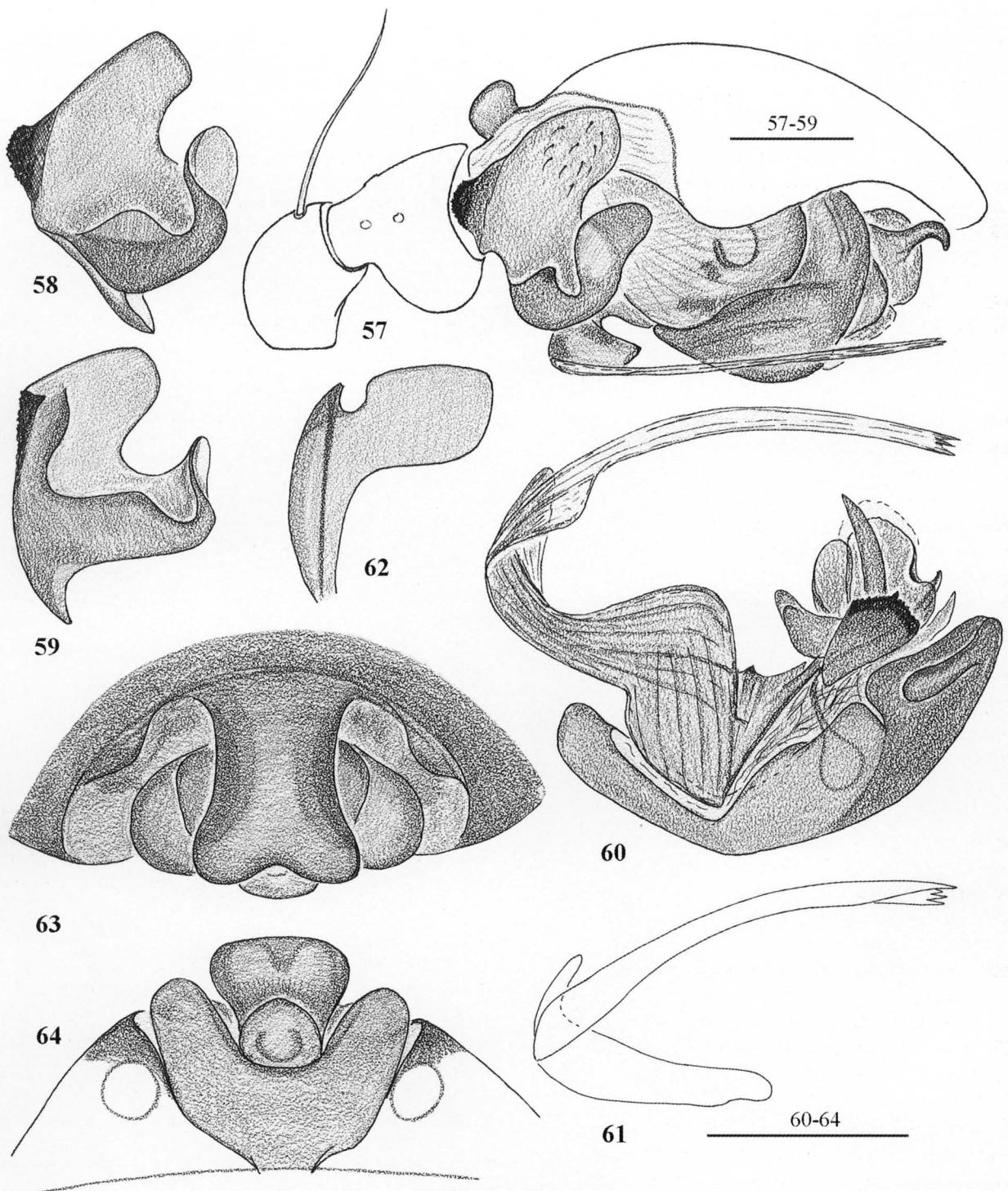
Etymology: The specific name refers to the shape of the lamella characteristic: in Latin “restrictus” means “narrow”. The name is herewith defined as a noun in apposition.

Diagnosis: The ♂ of this species can be easily recognized by the shape of the paracymbium with a dark serrated ridge on the basal edge (Figs. 58, 59) and by the very long and narrow lamella characteristic (Fig. 61). The ♀ is diagnosed by the dark, well-sclerotized narrow proscape and the forked posterior median plate (Figs. 63, 64).

Description: ♂. Total length 2.10 mm. Carapace 1.15 mm long, 0.88 mm wide, brown with narrow black margin. Chelicerae 0.53 mm long. Legs pale brown without median bands. Leg I 3.76 mm long (1.00+0.33+0.90+0.88+0.65), legs IV absent. Chaetotaxy: see ♀ description. TmI 0.22 mm. Palp as in Figs. 57–62. Cymbium with small posterodorsal tubercle. Proximal part of paracymbium with heavily-sclerotized serrated edge, medial part with downward pointing keel-shaped outgrowth. Proximal part of lamella characteristic broad, distal part long, narrow, ribbon-like. Terminal apophysis very complicated in shape and well-sclerotized. Abdomen 1.05 mm long, 0.63 mm wide, dorsal pattern as in ♀, but less distinct.

♀. Total length 0.25 mm. Carapace 1.08 mm long, 0.75 mm wide, brown, with grey radial stripes and narrow black margin. Chelicerae 0.60 mm long. Legs pale brown. Leg I 3.37 mm long (0.88+0.28+0.88+0.83+0.50), IV 3.41 mm long (0.95+0.25+0.85+0.78+0.58). Chaetotaxy: Ti I: 2-1-1-0, II: 2-0-1-0, III-IV: 2-0-0-0; Mt I-IV: 1-0-0-0. TmI 0.27 mm. Abdomen 1.40 mm long, 0.93 mm wide, dorsally dark with grey wavy transverse stripes, often with several white spots. Epigyne (Figs. 17, 63–64) with a narrow dark well-sclerotized proscape and forked posterior median plate.

Distribution: Nepalese Himalaya. Occurs from 3550 up to 4700 m.



Figs. 57–64. *Mughiphantes restrictus* sp. n., ♂ holotype, ♀ paratype. — 57) right palp; 58, 59) paracymbium, different views; 60) embolic division; 61) lamella characteristic; 62) embolus; 63–64) epigyne: ventral & dorsal view, respectively.

Mughiphantes longiproper sp. n.

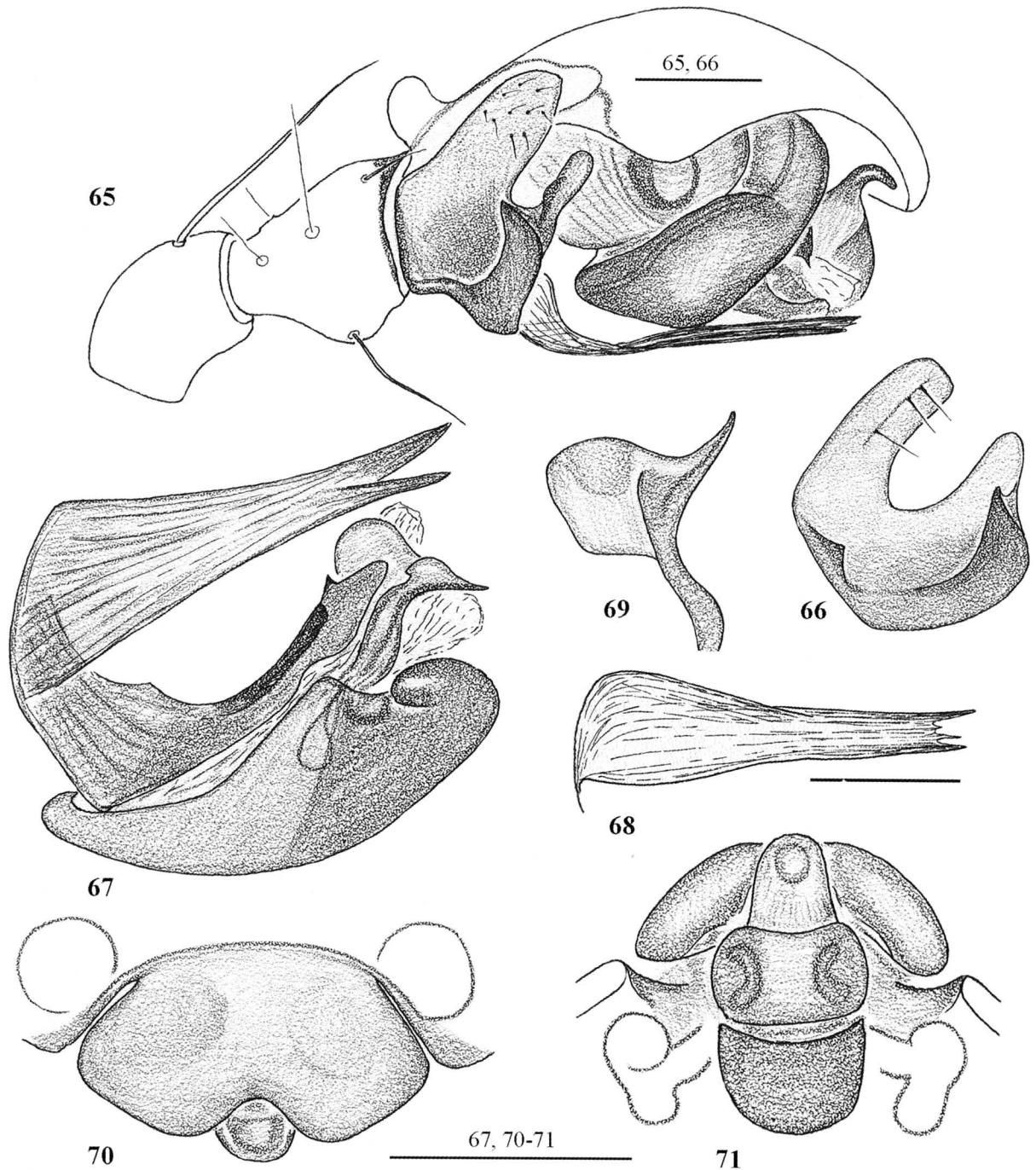
Figs. 65–71.

Holotype: ♂ (SMF), Nepal (#383), Taplejung Distr., Ladza Kharka in Ladza Khola NW Walungchung Gola, 4100–4200 m, dwarf *Rhododendron*, creeping *Juniperus*, 21.–23. v. 1988, leg. J. MARTENS & W. SCHAWALLER.

Paratypes: 2 ♀♀ (SMF), together with holotype.

Etymology: The specific name refers to the elongated embolus proper of the ♂ palp. The name is here-with defined as a noun in apposition.

Diagnosis: The ♂ of *M. longiproper* sp. n. is characterized by the weakly developed terminal apophy-



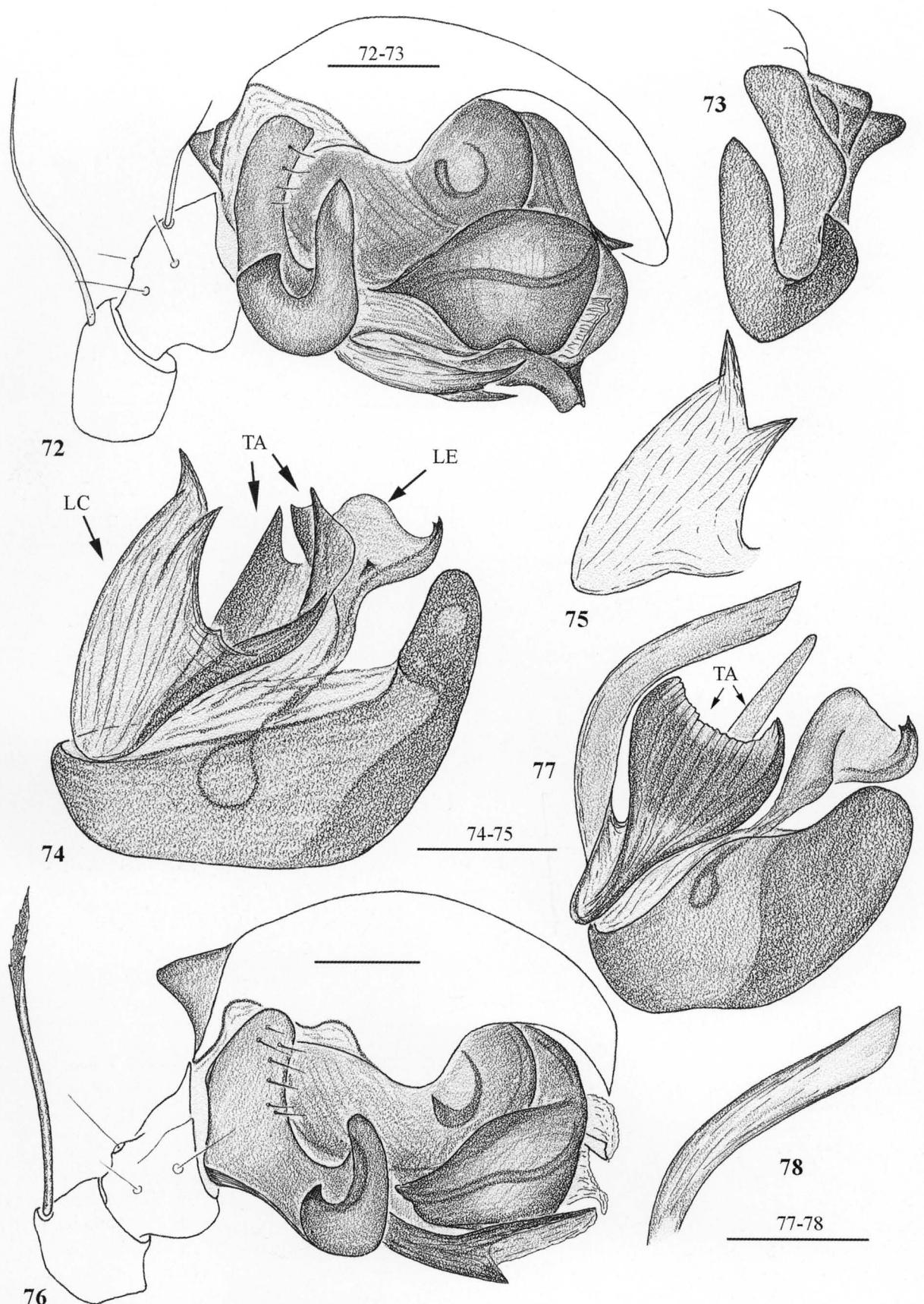
Figs. 65–71. *Mughiphantes longiproper* sp. n., ♂ holotype, ♀ paratype. — 65) right palp; 66) paracymbium; 67) embolic division; 68) lamella characteristic; 69) embolus; 70, 71) epigyne: ventral and dorsal view, respectively.

sis and the elongated embolus proper (Figs. 67, 69); the ♀ by the semilunar shape of the posterior median plate (Fig. 71).

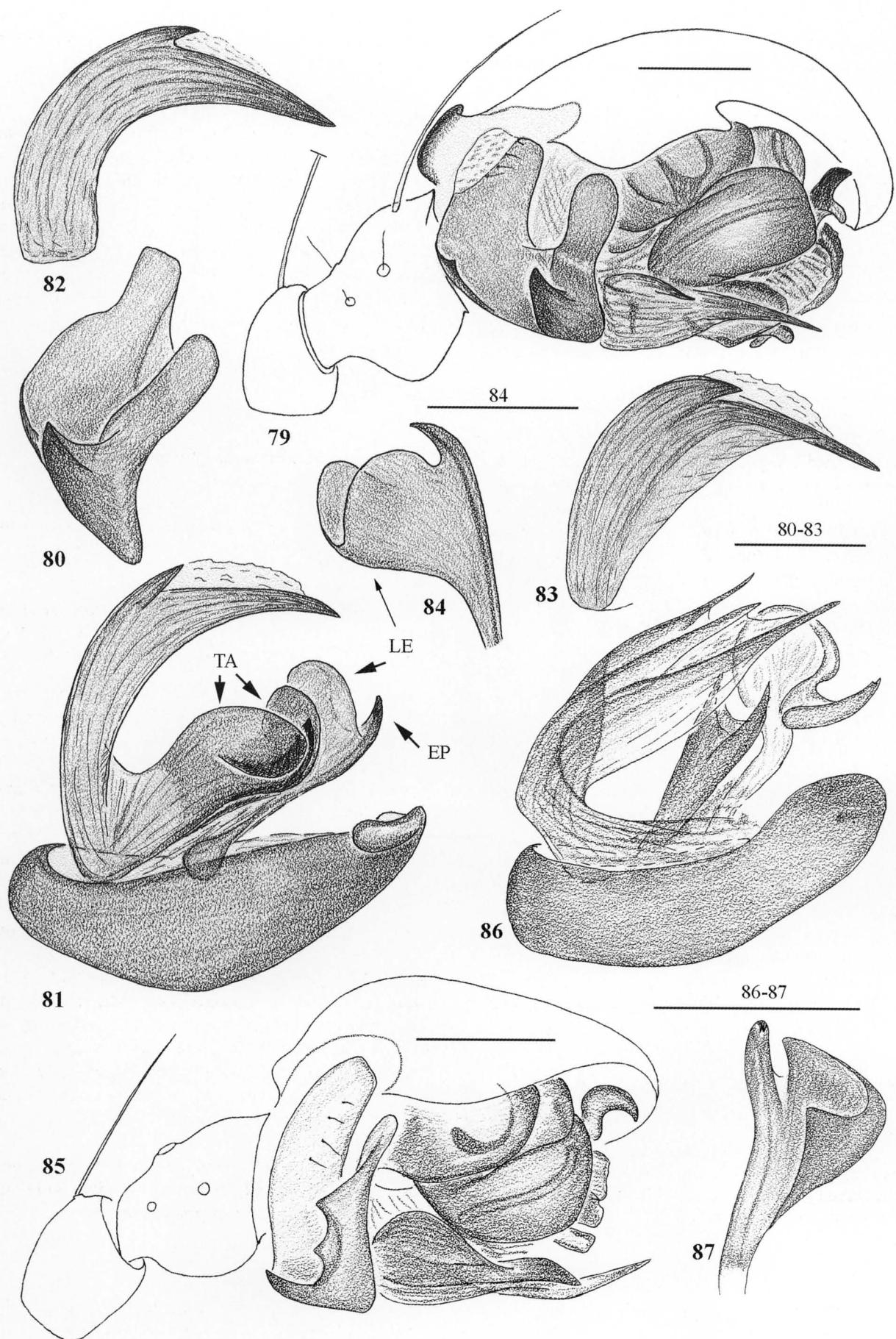
Description: ♂. Total length 2.35 mm. Carapace 1.18 mm long, 0.88 mm wide, dark brown with dark radiating stripes and narrow black margin. Chelicerae 0.48 mm long. Legs pale brown. Leg I 4.28 mm long ($1.13+0.35+1.10+1.00+0.70$), IV 3.99 mm long ($1.13+0.33+1.00+0.95+0.58$). Chaetotaxy: Ti I: 2-1-1-0, II: 2-0-1-0, III-IV: 2-0-0-0; Mt I-IV: 1-0-0-0. TmI

0.23 mm. Palp as in Figs. 65–69. Cymbium with small posterodorsal, slightly anteriorly curved process. Lamella characteristic long, distally narrowing with bifid apex. Embolus very simple with long embolus proper. Abdomen 1.20 mm long, 0.75 mm wide, dorsally dark with unclear grey pattern of transverse stripes, and rarely with small white spots.

♀. Total length 2.40 mm. Carapace 1.00 mm long, 0.80 mm wide, Chelicerae 0.50 mm long. Leg I 3.67 mm long ($0.98+0.33+0.93+0.83+0.60$), IV 3.36 mm long



Figs. 72–75: *Mughiphantes inermus* sp. n., ♂ holotype. Figs. 76–78: *M. setosus* sp. n., ♂ holotype. — 72, 76) right palp; 73) para-cymbium, frontal view; 74, 77) embolic division; 75, 78) lamella characteristic.



(0.95+0.28+0.83+0.75+0.55). Leg coloration and chaetotaxy as in ♂. TmI 0.24 mm. Abdomen 1.50 mm long, 0.93 mm wide, dorsally dark with grey field on anterior part and several grey wavy transverse stripes on posterior part. Epigyne (Figs. 70, 71), with broad proscape; stretcher short and thick. Posterior median plate semilunar in shape.

Distribution: Nepalese Himalaya, type locality only, 4100–4200 m.

Mughiphantes inermus sp. n.

Figs. 72–75.

Holotype: ♂ (SMF), Nepal (#412), Sankhua Sabha Distr., Arun Valley between Mure & Hurure, mixed broad-leaved forest, 2050–2150 m, 9.–17. vi. 1988, leg. J. MARTENS & W. SCHAWALLER. — No paratypes.

Etymology: Latin “*inermus*” can be translated as “unarmed”, suggesting that leg spines of the single specimen have been lost. The name is herewith defined as a noun in apposition.

Diagnosis: The new species is close to *M. setosus*, but easily distinguished from it by the absence of the strong serrated seta on the palpal patella and by the shape of the lamella *characteristica*: short and wide in *M. inermus*, long and narrow in *M. setosus* (cf. Figs. 72 & 76, 75 & 78).

Description: ♂. Total length 1.93 mm. Carapace 0.88 mm long, 0.68 mm wide, pale brown. Chelicerae 0.38 mm long. Legs yellow. Leg I 3.76 mm long (0.98+0.25+0.98+0.90+0.65), IV 3.38 mm long (1.0+0.25+0.75+0.83+0.55). Chaetotaxy is unclear: spines mostly lost, it is only possible to say that tibiae have no ventral spines. TmI 0.23 mm. Palp as in Figs. 72–75. Patella with relatively strong and curved spine, corresponding spine on palpal tibia half its length. Cymbium basally with two tubercles different in size. Lamella *characteristica* broad and relatively short, terminal apophysis well-developed and coloured. Abdomen 1.03 mm long, 0.63 mm wide, grey, dorsal pattern absent.

♀. Unknown.

Distribution: Nepalese Himalaya, type locality only, 2050–2150 m.

Mughiphantes setosus sp. n.

Figs. 76–78.

Holotype: ♂ (SMF), Nepal (#344), Taplejung Distr., confluence of Kabeli Khola and Tada Khola, 1000 m, mixed broadleaved forest, 23.–25. iv. 1988, leg. J. MARTENS & W. SCHAWALLER. — No paratypes.

Etymology: The specific name refers to the strong serrated seta on the ♂ palpal patella. The name is herewith defined as a noun in apposition.

Diagnosis: The new species seems to be close to *M. inermus* (see above).

Description: ♂. Total length 1.88 mm. Carapace 0.88 mm long, 0.65 mm wide, brown. Chelicerae 0.40 mm long. Legs mostly lost, pale brown. Chaetotaxy unknown. Palp as in Figs. 76–78. Patella with a strong serrated seta. Cymbium with a conical posterodorsal outgrowth. Terminal apophysis large and well-sclerotized; lamella *characteristica* long and narrow. Abdomen 1.03 mm long, 0.58 mm wide, dorsally dark with indistinct wavy grey transverse stripes.

♀. Unknown.

Distribution: Nepalese Himalaya, type locality only, 1000 m.

Mughiphantes falxus sp. n.

Figs. 79–84.

Holotype: ♂ (SMF), Nepal (#383), Taplejung Distr., Ladza Kharka in Ladza Khola NW Walungchung Gola, 4100–4200 m, dwarf *Rhododendron*, creeping *Juniperus*, 21.–23. v. 1988, leg. J. MARTENS & W. SCHAWALLER.

Paratype: 1 ♂ (SMF), Nepal (#384), Taplejung Distr., ascent to Tangje La NW Walungchung Gola, 4400–4600 m, alpine steppe, 23. v. 1988, leg. J. MARTENS & W. SCHAWALLER.

Etymology: The name of the new species refers to the sickle-shaped lamella *characteristica* of the ♂ palp. The name is herewith defined as a noun in apposition.

Diagnosis: The species is characterized by the sickle-shaped lamella *characteristica* (Figs. 82, 83) and the cup-shaped lateral extension on the embolus (Fig. 84).

Description: ♂. Total length 1.75 mm. Carapace 0.88 mm long, 0.63 mm wide, reddish-grey brown. Chelicerae 0.38 mm long. Legs pale yellow, almost white. Leg I 3.12 mm long (0.73+0.23+0.75+0.83+0.58), IV lack. Chaetotaxy. Ti I: 2-1-1-0, II: 2-0-1-0, III: 2-0-0-0, IV: ?; Mt I–III: 1-0-0-0, IV: ? TmI 0.21 mm. Palp as in Figs. 79–84. Cymbium with a small keel-like posterodorsal tubercle. Lamella *characteristica* wide, arched, with two sharply pointed branches; one long, one very short. Embolus relatively large, its lateral extension cup-shaped. Abdomen 1.10 mm long, 0.73 mm wide, dorsally pale, with large grey spot on anterior part, several wavy transverse stripes on posterior part.

♀. Unknown.

Variability: The paratype is a little bigger and darker; abdomen dorsally almost black, with poorly visible grey wavy transverse stripes posteriorly.

Distribution: Nepalese Himalaya. Occurs from 4100 up to 4600 m.

***Indophantes agamus* sp. n.**

Figs. 85–87.

Holotype: ♂ (SMF) Nepal (#328), Panchthar Distr., Panipura, 2300 m, mixed broadleaved forest, 16.–20. iv. 1988, leg. J. MARTENS & W. SCHAWALLER.

Paratype: 1 ♂ (SMF) Nepal (#369), Taplejung Distr., descent from Pass Deorali to Hellok, 2300–2600 m, mature mixed forest, 17. v. 1988, leg. J. MARTENS & W. SCHAWALLER.

Etymology: In Latin “agamus” means “unmarried” which refers to the fact that only the ♂ of this species is known. The name is herewith defined as a noun in apposition.

Diagnosis: This species seems to be close to another Himalayan congener, *I. digitulus*, but is easily distinguishable by having only a small posterodorsal tubercle on the cymbium instead of the long, horn-like extension of *I. digitulus* (cf. Fig. 85 and THALER 1987: Fig. 29.)

Description: ♂. Total length 1.85 mm. Carapace 0.80 mm long, 0.70 mm wide, pale greyish-brown. Chelicerae 0.35 mm long. Legs yellow without median bands. Leg I 3.37 mm long (0.88+0.23+0.83+0.8+0.63), IV 3.03 mm long (0.8+0.2+0.78+0.75+0.5). Chaetotaxy. Ti I: 2-1-1-0, II: 2-0-1-0, III-IV: 1-0-0-0; Mt I-IV: 1-0-0-0. TmI 0.20 mm. Palp as in Figs. 85–87. Abdomen 1.03 mm long, 0.55 mm wide; abdomen of holotype dorsally pale with grey pattern consisting of large wine-glass-shaped spot on anterior part and wavy grey transverse stripes on posterior part, that of paratype grey, with poorly visible pale narrow transverse stripes on its posterior part.

♀. Unknown.

Distribution: Nepalese Himalaya. Occurs from 2300 up to 2600 m.

***Tenuiphantes crassus* sp. n.**

Figs. 88–96.

Holotype: ♂ (SMF), Nepal (#361), Taplejung Distr., upper Simbua Khola Valley, near Tseram, 3250–3350 m, mature *Abies-Rhododendron* forest, 10.–15. v. 1988, leg. J. MARTENS & W. SCHAWALLER.

Paratypes (in total 3 ♂♂, 10 ♀♀): 2 ♀♀ (SMF), together with holotype; 1 ♂ (SMF), Nepal (#363), Taplejung Distr., upper Simbua Khola Valley, 2900–3100 m, *Abies-Tsuga* forest, 15. v. 1988, leg. J. MARTENS & W. SCHAWALLER; 1 ♂ (ZMT), Nepal (#383), Taplejung Distr., Ladza Kharka in Ladza Khola HW Walungchung Gola, 4100–4200 m, dwarf *Rhododendron* creeping *Juniperus*, 21.–23. v. 1988, leg. J. MARTENS & W. SCHAWALLER; 1 ♀ (ZMT), Nepal (#367), Taplejung Distr., pass Deorali W Yamputhin, 3400 m, *Abies* & *Rhododendron* forest, 17. v. 1988, leg. J. MARTENS & W. SCHAWALLER; 1 ♀ (SMF), Nepal (#232), Gorkha Distr., Chuling Khola, Djongshi Kharka, 3050–3400 m, mixed forest, 5. v. 1983, leg. J. MARTENS & W. SCHAWALLER; 1 ♀ (SMF), Nepal (#364), Taplejung Distr., upper

Simbua Khola, ascent to pasture Lassetham, 3000–3150 m, mature mixed *Tsuga-Rhododendron* broadleaved forest, 15. v. 1988, leg. J. MARTENS & W. SCHAWALLER; 1 ♂, 1 ♀ (SMF), Nepal (#361), Taplejung Distr., upper Simbua Khola Valley, near Tseram, 3250–3350 m, mature *Abies-Rhododendron* forest, 10.–15. v. 1988, leg. J. MARTENS & W. SCHAWALLER; 1 ♀ (ZMT), Nepal (#379), Taplejung Distr., above Walungchung Gola, bush-rich pastures, 3000–3400 m, 21. v. 1988, leg. J. MARTENS & W. SCHAWALLER; 3 ♀♀ (SMF) Nepal (#362), Taplejung Distr., upper Simbua Khola Valley, near Yalung, 3450–3700 m, *Abies-Rhododendron-Juniperus* forest, 13. v. 1988, leg. J. MARTENS & W. SCHAWALLER.

Etymology: The specific name in Latin means “thick” which refers to the shape of the embolus. The name is herewith defined as a noun in apposition.

Diagnosis: The ♂ of this species is closely related to *Tenuiphantes altimontanus* sp. n., but differs by the slightly curved posterodorsal cymbial process, and the presence of a small tooth on the proximal part of the paracymbium, as well as by the shape of the lamella characteristic (Fig. 91). The ♀ epigyne is characterized by the lateral wings-like extensions being barely visible (Fig. 94).

Description: ♂. Total length 2.78 mm. Carapace 1.45 mm long, 1.03 mm wide, pale brown, almost yellow, with darker margin. Chelicerae 0.75 mm long. Legs yellow without median bands. Leg I 6.81 mm long (1.73+0.45+1.78+1.75+1.10), IV 5.92 mm long (1.63+0.38+1.48+1.53+0.90). Chaetotaxy. All femora with one dorsal spine (!), Ti I-II: 2-1-1-2, II-IV: 2-1-1-1; Mt I-IV: 1-0-0-0. TmI 0.17 mm. Palp as in Figs. 88–93. Palpal tibia elongated. Cymbium with a slightly curved proximal apophysis. Paracymbium with a small tooth on proximal part. Lamella characteristic curved at right angle, narrow, apical part membranous. Embolus large and thick. Abdomen 1.45 mm long, 0.85 mm wide, dorsally dark, with pattern of grey transverse stripes.

♀. Total length 2.40 mm. Carapace 1.20 mm long, 0.90 mm wide. Chelicerae 0.53 mm long. Leg I 5.31 mm long (1.38+0.40+1.30+1.23+1.00), legs IV lost. Carapace, leg coloration, and chaetotaxy as in ♂. TmI 0.19 mm. Abdomen 1.35 mm long, 0.85 mm wide, dorsally with a large longitudinal grey spot in anterior part, and several transverse grey stripes in posterior part. Epigyne as in Figs. 94–96. Scape narrow in proximal part. Proscape is large and wide, ancoriformis. Stretcher very short. Posterior median plate semilunar in shape.

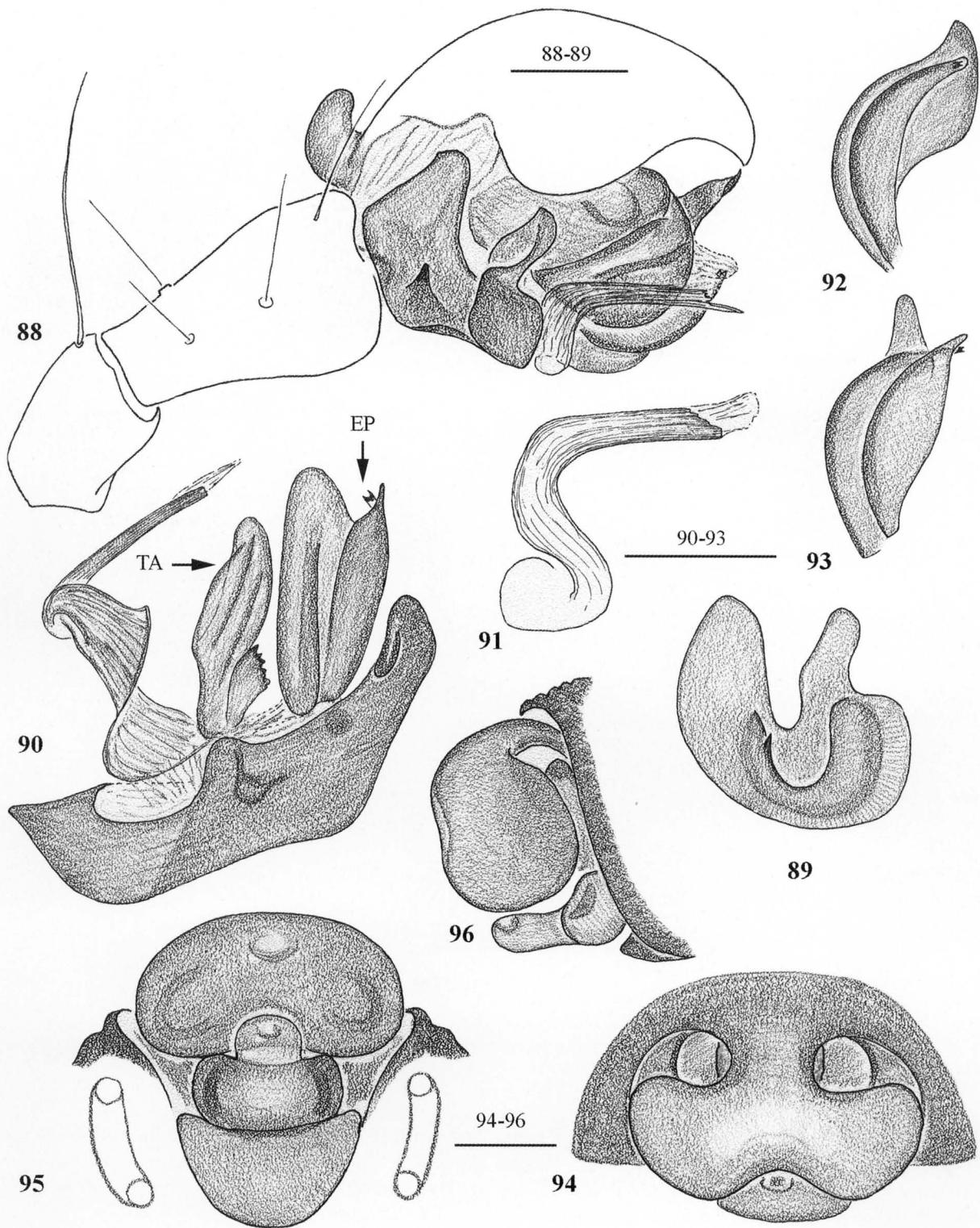
Distribution: Nepalese Himalaya, from 2900 up to 4200 m.

***Tenuiphantes altimontanus* sp. n.**

Figs. 97–102.

Holotype: ♂ (SMF), Nepal (#392), Sankhua Sabha Distr., from Thudam to Gabri Khola, 4000–4250 m, dwarf *Rhododendron*, 27. v. 1988, leg. J. MARTENS & W. SCHAWALLER.

Paratype: 1 ♂ (SMF), together with holotype.

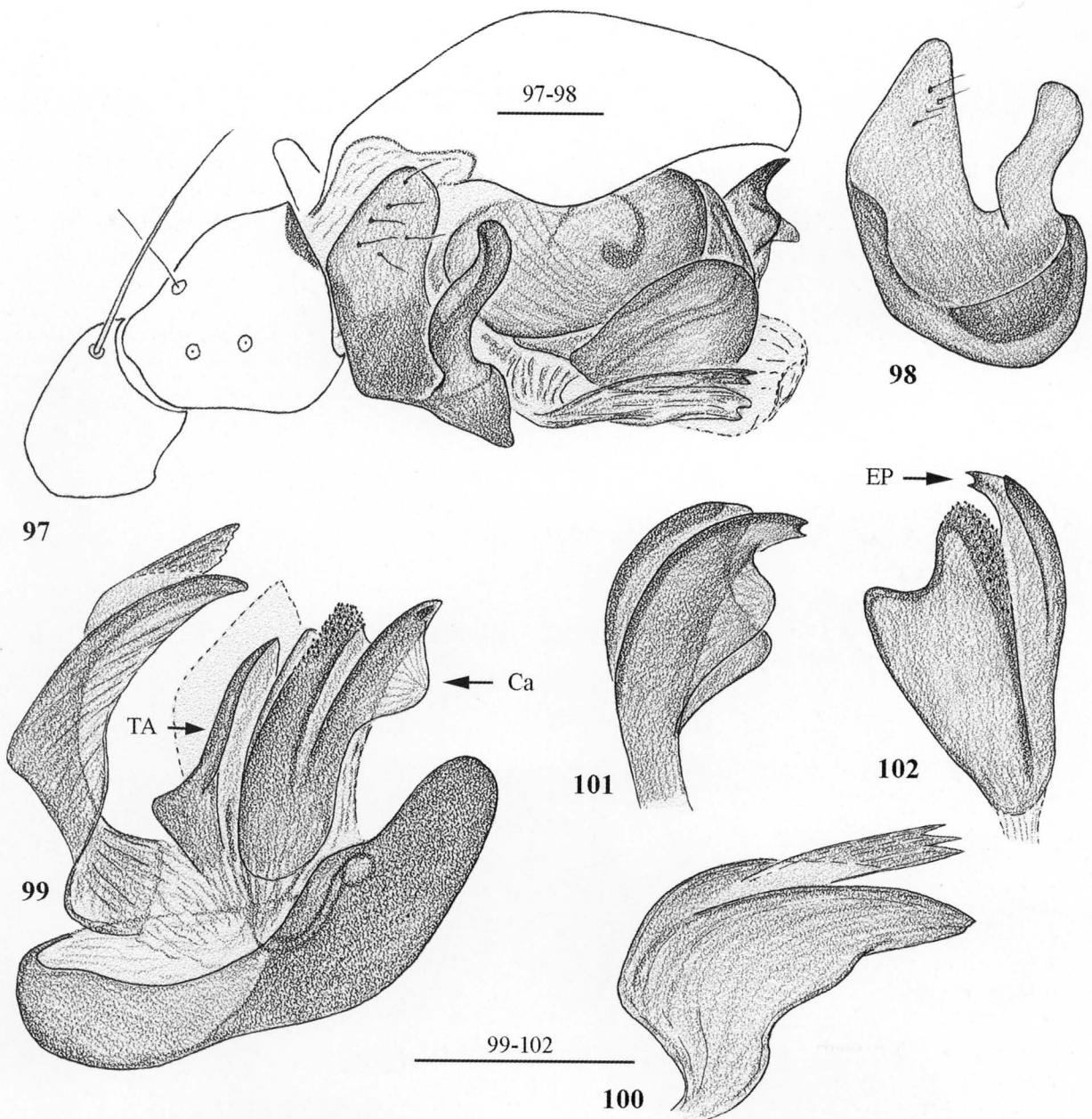


Figs. 88–96. *Tenuiphantes crassus* sp. n., ♂ holotype and ♀ paratype. — 88) right palp; 89) paracymbium; 90) embolic division; 92, 93) embolus, different views; 91) lamella characteristica; 94–96) epigyne: ventral, dorsal and lateral view, respectively.

Etymology: In Latin “*altimontanus*” means “high-altitude dweller”. The name is herewith defined as a noun in apposition.

Diagnosis: The new species is closely related to *Tenuiphantes crassus* sp. n. (see above).

Description: ♂. Total length 2.01 mm. Carapace 1.03 mm long, 0.83 mm wide, greyish-yellow, with darker margin. Chelicerae 0.48 mm long. Legs yellow without median bands. Leg I 5.49 mm long (1.40+0.33+1.43+1.38+0.95), IV 4.88 mm long (1.33+0.30+1.20+



Figs. 97–102. *Tenuiphantes altimontanus* sp. n., ♂ paratype. — 97) right palp; 98) paracymbium; 99) embolic division; 100) lamella characteristic; 101, 102) embolus.

1.25+0.80). Chaetotaxy. All femora with one or two dorsal spines (!); Ti I: 2-1-1-2(1), II-IV: 2-1-1-1; Mt I-IV: 1-0-0-0. TmI 0.20 mm. Palp as in Figs. 97–102. Cymbium with a small proximal process. Paracymbium toothless. Lamella characteristic not long, wide, divided into two unequal parts. Embolus large, thick, with ser-

rated surface on one of its parts; carina well-developed. Abdomen 1.23 mm long, 0.75 mm wide, dorsally pale with grey transverse stripes.

♀. Unknown.

Distribution: Nepalese Himalaya, type locality only, 4000–4250 m.

Distributional pattern of the Nepalese spiders of the family Micronetinae

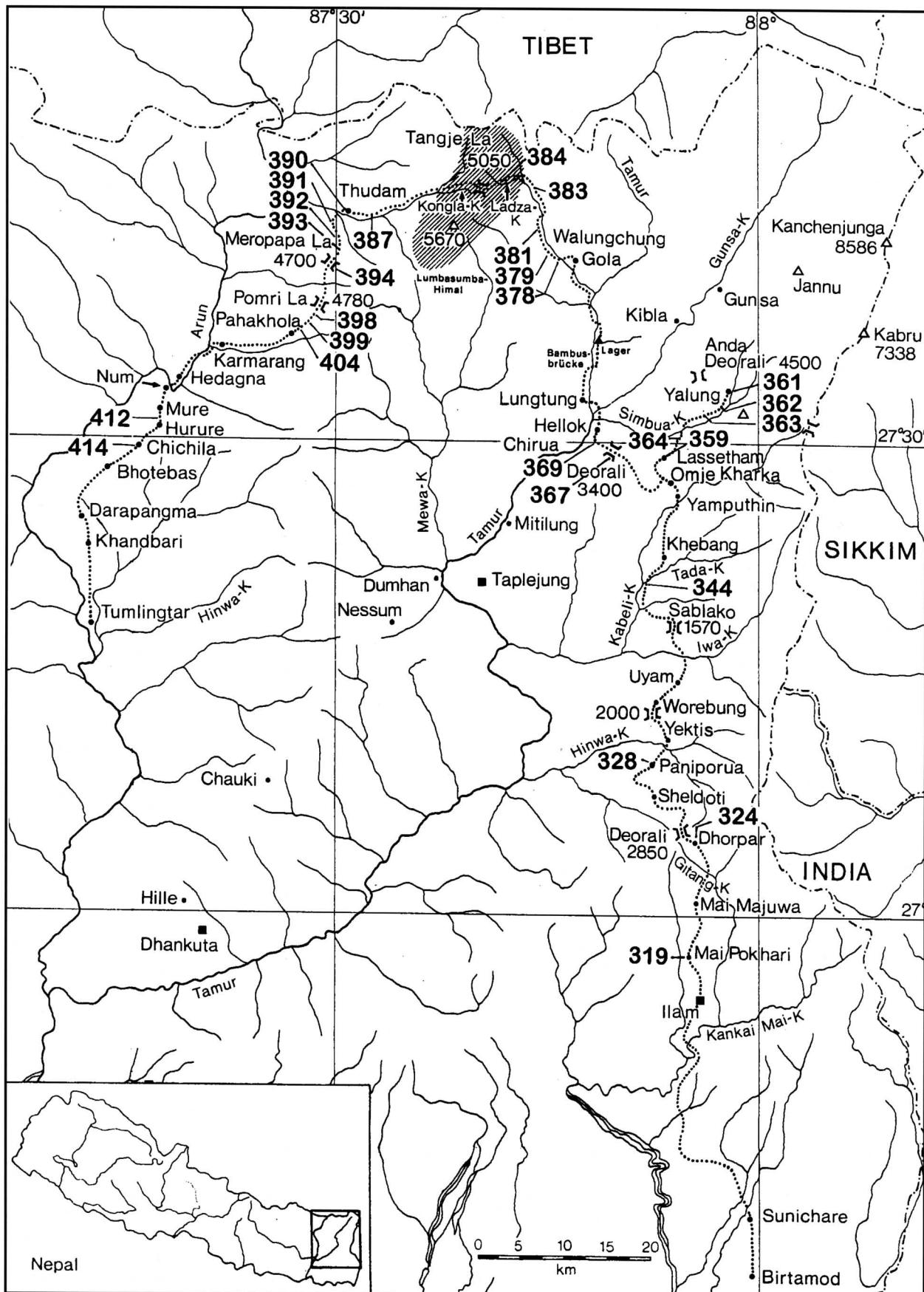
The distributional pattern of the Nepalese micronetine spiders is shown in Table I. In addition to the species treated in this paper only seven other micronetine spiders have ever been recorded from Nepal, viz. five species of the genus *Agyneta* HULL 1911 and two of the genus

Martensinus WUNDERLICH 1973 (WUNDERLICH 1973 and 1983); they are also included in this table.

It is obvious that the majority of the micronetine species collected in Nepal are probably endemics for the Himalaya. Of course this is not surprising as the same

Table 1. Distributional pattern of the Nepalese micronetine spiders. — * = Altitudinal distribution in West Bengal and East Khasi Hills (India). ** = Altitudinal distribution in Turkmenistan, Tadzhikistan, Uzbekistan, Kyrgyzstan and SE-Kazakhstan (Central Asia).

Species	Distribution (altitudes in m a.s.l.)		
	Nepal	Kashmir	Other
1. <i>Agyneta buetko</i> WUNDERLICH 1983	4300–4500	—	—
2. <i>A. jiriensis</i> WUNDERLICH 1983	1800–2000	—	—
3. <i>A. muriensis</i> WUNDERLICH 1983	2100–2200	—	—
4. <i>A. pseudofuscipalpa</i> WUNDERLICH 1983	4300–4500	—	—
5. <i>A. yulungiensis</i> WUNDERLICH 1983	4300–4900	—	—
6. <i>Anguliphantes nepalensis</i> (TANASEVITCH 1987)	2270–3600	—	—
7. <i>Ascetophantes asceticus</i> (TANASEVITCH 1987)	2100–2200	—	—
8. <i>Claviphantes bifurcatoides</i> (TANASEVITCH 1987)	2100–2100	—	—
9. <i>C. bifurcatus</i> (TANASEVITCH 1987)	2300–3100	—	—
10. <i>Fistulaphantes canalis</i> sp. n.	2050–3650	—	—
11. <i>Himalaphantes grandiculus</i> (TANASEVITCH 1987)	2000–4200	—	—
12. <i>H. magnus</i> (TANASEVITCH 1987)	2700–3300	—	—
13. <i>H. martensi</i> (THALER 1987)	2400–4200	2400–2600	—
14. <i>Indophantes agamus</i> sp. n.	2300–2600	—	—
15. <i>I. bengalensis</i> SAARISTO & TANASEVITCH 2003	1900–2000	—	1500–2150*
16. <i>I. digitulus</i> (THALER 1987)	1900–3400	2400–3200	—
17. <i>Martensinus annulatus</i> WUNDERLICH 1973	3000–3200	—	—
18. <i>M. micronetiformis</i> WUNDERLICH 1973	2700–3930	—	—
19. <i>Megalephyphantes nebulosoides</i> (WUNDERLICH 1977)	2800–3400	—	0–2000**
20. <i>Mughiphantes alticola</i> (TANASEVITCH 1987)	5030–5100	—	—
21. <i>M. anachoreetus</i> (TANASEVITCH 1987)	3900–4200	—	—
22. <i>M. ancoriformis</i> (TANASEVITCH 1987)	2700–4100	—	—
23. <i>M. bicornis</i> sp. n.	3300–3700	—	—
24. <i>M. cuspidatus</i> sp. n.	3450–4200	—	—
25. <i>M. falxus</i> sp. n.	4100–4600	—	—
26. <i>M. faustus</i> (TANASEVITCH 1987)	2330–4270	—	—
27. <i>M. inermus</i> sp. n.	2050–2150	—	—
28. <i>M. longiproper</i> sp. n.	4100–4200	—	—
29. <i>M. numilionis</i> (TANASEVITCH 1987)	2550–4100	—	—
30. <i>M. occultus</i> (TANASEVITCH 1987)	3350–3350	—	—
31. <i>M. restrictus</i> sp. n.	3550–4600	—	—
32. <i>M. rotundatus</i> (TANASEVITCH 1987)	3000–4000	—	—
33. <i>M. setifer</i> (TANASEVITCH 1987)	4800–4900	—	—
34. <i>M. setosus</i> sp. n.	1000–1000	—	—
35. <i>M. sherpa</i> (TANASEVITCH 1987)	4000–4900	—	—
36. <i>M. yeti</i> (TANASEVITCH 1987)	5500–5545	—	—
37. <i>Palliduphantes theosophicus</i> (TANASEVITCH 1987)	2000–2700	—	—
38. <i>Piniphantes himalayensis</i> (TANASEVITCH 1987)	2600–3600	3000–3200	—
39. <i>Spiralophantes mirabilis</i> sp. n.	2050–2150	—	—
40. <i>Tenuiphantes altimontanus</i> sp. n.	4000–4250	—	—
41. <i>T. crassus</i> sp. n.	2900–4200	—	—
42. <i>T. plumipes</i> (TANASEVITCH 1987)	4400–4500	—	—



picture can be found among groups of organisms living on the mountains. On the other hand, at the present stage of our knowledge it is not possible to say anything about the distributional pattern of the non-endemic species of other linyphiid subfamilies found in the Himalaya or about the degree of endemism in those subfamilies. Unfortunately, only the Micronetinae and some erigonine genera, e.g. *Oedothorax* BERTKAU 1883 (see WUNDERLICH 1974, TANASEVITCH 1998) have been investigated fairly well, but in the collections of Prof. J. MARTENS' expeditions there is still plenty of undetermined material of

Linyphiinae s.l. and Erigoninae. The work on this material is being continued.

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Fig. 103. Itinerary of the MARTENS & SCHAWALLER expedition to East Nepal in 1988. Locality numbers refer to the material section of the species accounts. Map altered from MARTENS & ECK (1995). 319: *Himalaphantes grandiculus*. — 324: *Himalaphantes grandiculus*, *Anguliphantes nepalensis*. — 328: *Anguliphantes nepalensis*, *Indophantes agamus* sp. n. — 344: *Mughiphantes setosus* sp. n. — 359: *Himalaphantes grandiculus*, *Mughiphantes bicornis* sp. n. — 361: *Tenuiphantes crassus* sp. n. — 362: *Mughiphantes bicornis* sp. n., *M. cuspidatus* sp. n., *Tenuiphantes crassus* sp. n. — 363: *Tenuiphantes crassus* sp. n. — 364: *Himalaphantes grandiculus*, *Tenuiphantes crassus* sp. n. — 367: *Mughiphantes bicornis* sp. n., *Tenuiphantes crassus* sp. n. — 369: *Himalaphantes grandiculus*, *Indophantes agamus* sp. n. — 378: *Anguliphantes nepalensis*. — 379: *Himalaphantes grandiculus*, *Tenuiphantes crassus* sp. n. — 381: *Himalaphantes grandiculus*. — 383: *Mughiphantes cuspidatus* sp. n., *M. falkus* sp. n., *Tenuiphantes crassus* sp. n. — 384: *Mughiphantes falkus* sp. n. — 387: *Himalaphantes grandiculus*, *Mughiphantes restrictus* sp. n. — 390: *Fistulaphantes canalis* sp. n., *Mughiphantes restrictus* sp. n. — 391: *Mughiphantes restrictus* sp. n. — 392: *Mughiphantes restrictus* sp. n., *Tenuiphantes altimontanus* sp. n. — 393: *Mughiphantes restrictus* sp. n., *M. longiproper* sp. n. — 394: *Mughiphantes restrictus* sp. n. — 398: *Mughiphantes restrictus* sp. n. — 399: *Mughiphantes restrictus* sp. n. — 404: *Himalaphantes grandiculus*, *Fistulaphantes canalis* sp. n., *Mughiphantes inermus* sp. n. — 414: *Indophantes bengalenis*, *I. digitulus*.

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