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New data on linyphiid spiders of Nepal (Arachnida: Araneae), with the description of a new genus and two species

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Abstract: A new genus, *Himalafurca* gen. nov., with two new species, *Himalafurca martensi* sp. nov., the type species, and *H. schawalleri* sp. nov., are described from the Nepal Himalayas. The genus resembles *Ketambea* Millidge & Russell-Smith, 1992 and some other genera of unclear subfamily affiliation, but strongly differs by a few important structural features in the palp. All records of *Collinsia japonica* (Oi, 1964) from Nepal actually refer to *Halorates crassipalpis* (Caporiacco, 1935) comb. nov., here transferred from *Collinsia*. New localities for 21 species known from Nepal are given and six additional species are reported for the fauna of Nepal for the first time: *Agyneta pakistanica* Tanasevitch, 2011, *Bathyphantes paracymbialis* Tanasevitch, 2014a, *Gnathonarium gibberum* Oi, 1960, *Nematogmus dentimanus* Simon, 1886, *Tiso aestivus* (L. Koch, 1872) and *T. indianus* Tanasevitch, 2011. All mentioned species, except the last one, are also new to the fauna of the Himalayas. Taking into account the new data, the spider fauna of Nepal is currently known to include at least 107 linyphiid species, 90% of which presently can be considered as Himalayan endemics.

Keywords: Taxonomy - faunistics - Himalayas - mountain fauna.

INTRODUCTION

The study of linyphiid spiders of Nepal began with publications of Wunderlich (1973, 1974, 1979, 1983) and later continued with papers by Georgescu (1977), Tanasevitch (1987, 1998a, b) and Tanasevitch & Saaristo (2006). After several years of interruption, the study of Nepalese linyphiids was resumed by numerous contributions by Tanasevitch (2018, 2019a, b, c, 2020a, 2021). The basis for the majority of these publications is the spider material collected during numerous expeditions to Nepal organized by Prof. Jochen Martens, kept at the Senckenberg Museum, Frankfurt am Main, Germany (SMF). A quite rich material from Nepal was also found in the spider collection of the Muséum d'histoire naturelle de Genève, Switzerland (MHNG). Specimens from both of these museums were examined for this paper.

At present, 99 linyphiid species are recorded for the fauna of Nepal, 87 of which are known only from this country and from adjacent territories in the Himalayas. This paper describes a new genus of linyphiid spiders which currently includes two new species. It also provides new records of linyphiids for the Nepalese fauna.

MATERIAL AND METHODS

This paper is based on spider material kept in the MHNG and the SMF. In addition, some type specimens were loaned from the Museo civico di Storia naturale, Milano, Italy (MCSNM) and from the National Science Museum, Tokyo, Japan (NSMT). Sample numbers are given in square brackets. Specimens preserved in 70% ethanol were studied using a MBS-9 stereomicroscope. A Levenhuk C-800 digital camera was used for taking photos. The chaetotaxy is given in a formula, e.g., Ti I: 2-1-1-2(1), which means that tibia I has two dorsal, one prolateral, one retrolateral, and two or one ventral spines (the apical spines are disregarded). The sequence of leg segment measurements is as follows: femur + patella + tibia + metatarsus + tarsus. All measurements are given in mm. Scale lines in the figures correspond to 0.1 mm unless indicated otherwise. Figure numbers are given above the corresponding scale lines, the length they represent is given below them. The terminology of copulatory organs mainly follows that of Merrett (1963) and that of authors mentioned in the abbreviations below.

Abbreviations

C	convector <i>sensu</i> Tanasevitch (1998a)
CM	convector membrane
D	duct (spermophor)
E	embolus
Fe	femur
Mt	metatarsus
TeA	tegular apophysis <i>sensu</i> Millidge (1995)
TeP	tegular prominence <i>sensu</i> Blest (1979)
Ti	tibia
TmI	position of trichobothrium on metatarsus I

TAXONOMY

Himalafurca gen. nov.

Type species: *Himalafurca martensi* sp. nov.

Etymology: The generic name is a combination of two words: part of the name “Himalayas”, the “terra typica”, and the Latin noun “furca”, referring to the fork-shaped convector of the male palp. The gender is feminine.

Diagnosis: The genus contains medium-sized linyphiid spiders, with a total length of 2.21-2.43, which are characterized by the following combination of somatic and genitalic characters:

- 1) Carapace unmodified; eyes normal, not enlarged; cephalic pits (= sulci) absent (Figs 1-3, 5-6).
- 2) Legs relatively long and slender, with a distinct colour pattern (Fig. 1).
- 3) Metatarsi I-III each with a trichobothrium; TmI 0.23-0.25.
- 4) Paracymbium strongly reduced, poorly sclerotized, almost transparent (Figs 8, 10, 12, 14).
- 5) Suprategulum and distal suprategular apophysis absent.
- 6) Tegular apophysis and tegular prominence present (Figs 8, 12-13, 15).
- 7) Median membrane reduced.
- 8) Convector present, massive, strongly sclerotized, supplied with a membrane (Figs 8-9, 11-13, 16).
- 9) Embolus small, of the join-type (= Anschluss-Embolus *sensu* Wiehle, 1960) (Figs 11, 16).

Species included: *Himalafurca martensi* sp. nov. and *H. schawalleri* sp. nov.

Taxonomic remarks: In its habitus and especially in its male palpal structure the new genus resembles *Ketambea* Millidge & Russell-Smith, 1992, *Prosoponoides* Millidge & Russell-Smith, 1992 and *Plectembolus* Millidge & Russell-Smith, 1992, which are distributed mainly in the Oriental Region. These genera of unclear subfamily affiliation possess some characters of the subfamilies Linyphiinae and Dubiaraneinae. The main character that brings these genera (including the new one) closer to representatives of the Dubiaraneinae is that the function of the radix is taken on by a convector (for details see Tanasevitch,

2019e, 2020b). *Himalafurca* gen. nov. differs by a very short, join-type embolus (= Anschluss-Embolus *sensu* Wiehle, 1960), contra an insertion-type (= Einführungs-Embolus, op.cit.) in the genera mentioned above. Besides that, the new genus differs by the absence of the suprategulum and of the distal suprategular apophysis, and by the presence of a tegular apophysis (*sensu* Millidge, 1995). This apophysis, erroneously called the distal suprategular apophysis in Tanasevitch (2019e), arises from the internal, median part of the tegulum and is also known from *Racata* Millidge, 1995, a genus of equally obscure affiliation. The tegular apophysis ends with a small hook and obviously has the same engaging function as the distal suprategular apophysis (*sensu* Hormiga, 2000) by interlocking the male and female genitals during copulation. A similar outgrowth on the tegulum, the “mynoglenine tegular apophysis” (*sensu* Hormiga, 1994), is present in mynoglenine genera (see Blest, 1979). In contrast to *Himalafurca* gen. nov. and *Racata*, the mynoglenine tegular apophysis is situated on the edge of the tegulum, at the same position as the suprategulum, but it probably is not homological (for details see Hormiga, 1994). In addition, there is a prominence on the tegulum of *Himalafurca* gen. nov. which resembles the tegular prominence (*sensu* Blest, 1979) known in Mynogleninae. The new genus combines Dubiaraneinae and Mynogleninae characters and thus its position within the family Linyphiidae is unclear at the moment.

Distribution: The Nepal Himalayas.

Himalafurca martensi sp. nov.

Figs 1-4, 8-11

Holotype: SMF; male [sample #390]; NEPAL, Sankhua Sabha District, Thudam, mixed forest, mainly *Betula* & *Rhododendron* forest, 3550-3650 m a.s.l.; 25-27.V.1988; leg. J. Martens & W. Schawaller.

Etymology: The specific epithet is a patronym honouring the renowned German arachnologist and ornithologist Jochen Martens who collected the type specimen of this species.

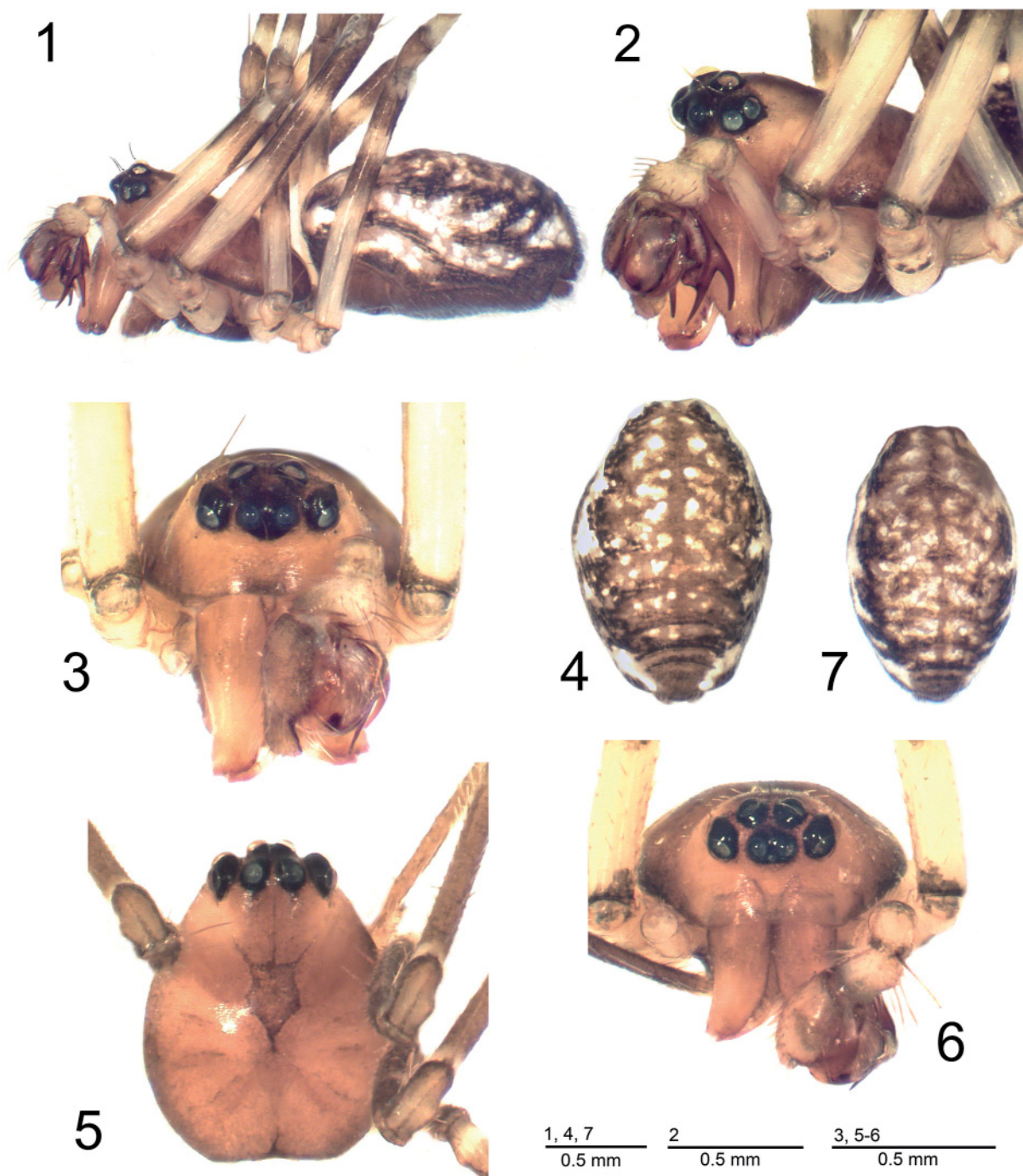
Diagnosis: The new species is very closely related to its single known congener, *Himalafurca schawalleri* sp. nov., clearly distinguished by a less massive convector with thinner branches, by the two times longer tegular apophysis, as well as by the shape of the paracymbium.

Description: *Male holotype.* Total length 2.43. Carapace unmodified (Figs 1-3), 1.13 long, 0.95 wide, greyish pale brown, with a grey polygonal spot in its centre, and with a narrow, dark grey margin. Eyes normal, not enlarged. Chelicerae 0.53 long; mastidion absent. Legs yellow, with wide, dark brown or almost black rings. Leg I 6.79 long (1.68 + 0.38 + 1.63 + 1.95 + 1.15), IV 4.66 long (1.25 + 0.30 + 1.10 + 1.33

+ 0.68). Chaetotaxy. FeI: 1-2-0-0, II: 1-0-0-0, III-IV: 0-0-0-0; TiI: 2-1-1-1, II: 2-0-1-1, III: 2-0-1-1; IV: 2-1-1(0)-0; MtI: 0-0-1-0, II: 1-1-0-0, III: 1-0-0-0, IV: 0-0-1-0. Length of tibial spines 2-3 times diameter of corresponding leg segment. TmI 0.23. Metatarsus IV without trichobothrium.

Palp (Figs 8-11): Patella short, without conical projecting, bearing a weak spine dorsally. Tibia rounded,

unmodified. Paracymbium small and narrow, L-shaped, almost transparent, paracymbial pockets (*sensu* Saaristo & Tanasevitch, 1996) absent. Tegulum with a prominence on its lower edge. Tegular apophysis very long, straight, narrow, arising from internal, median part of tegulum, ending with a small hook. Convector huge, heavily sclerotized, distally bifurcated into long, strong branches. Convector membrane arising from proximal



Figs 1-7. Photographs of the male holotype of *Himalafurca martensi* sp. nov. (1-4) and of the male holotype of *H. schawalleri* sp. nov. (5-7). (1) Habitus, lateral view. (2) Prosoma, fronto-lateral view. (3, 6) Same, frontal view. (5) Same, dorsal view. (4, 7) Abdomen, dorsal view.

part of sclerite near base of embolus, proximally bent. Embolus small, of join-type, with unclear but complex shape. Abdomen 1.40 long, 0.85 wide, dorsal pattern as in Fig. 4.

Female. Unknown.

Distribution: Known only from the type locality, Thudam in Eastern Nepal.

***Himalafurca schawalleri* sp. nov.**

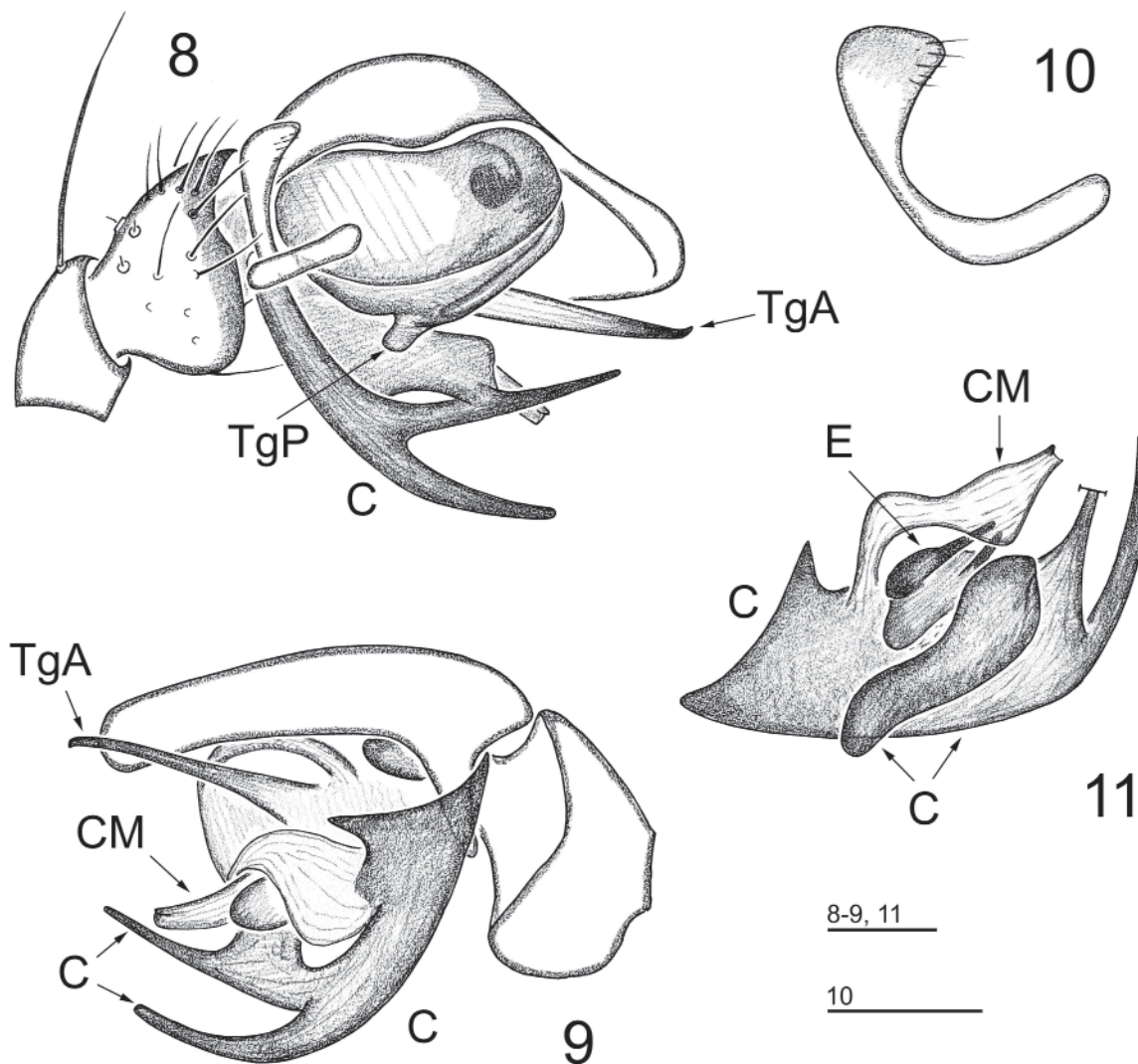
Figs 5-7, 12-16

Holotype: SMF; male [sample #383]; NEPAL, Taplejung District, Ladza Kharka in Ladza Khola, NW of Walungchung (= Olangchung) Gola, 4100-4200 m a.s.l., dwarf *Rhododendron*, creeping *Juniperus*; 21-23.V.1988; leg. J. Martens & W. Schawaller.

Etymology: The new species is named for the German arachnologist and coleopterologist Wolfgang Schawaller who, together with Jochen Martens, collected the type specimen.

Diagnosis: The new species is very closely related to the type species, *H. martensi* sp. nov.; see its diagnosis for details.

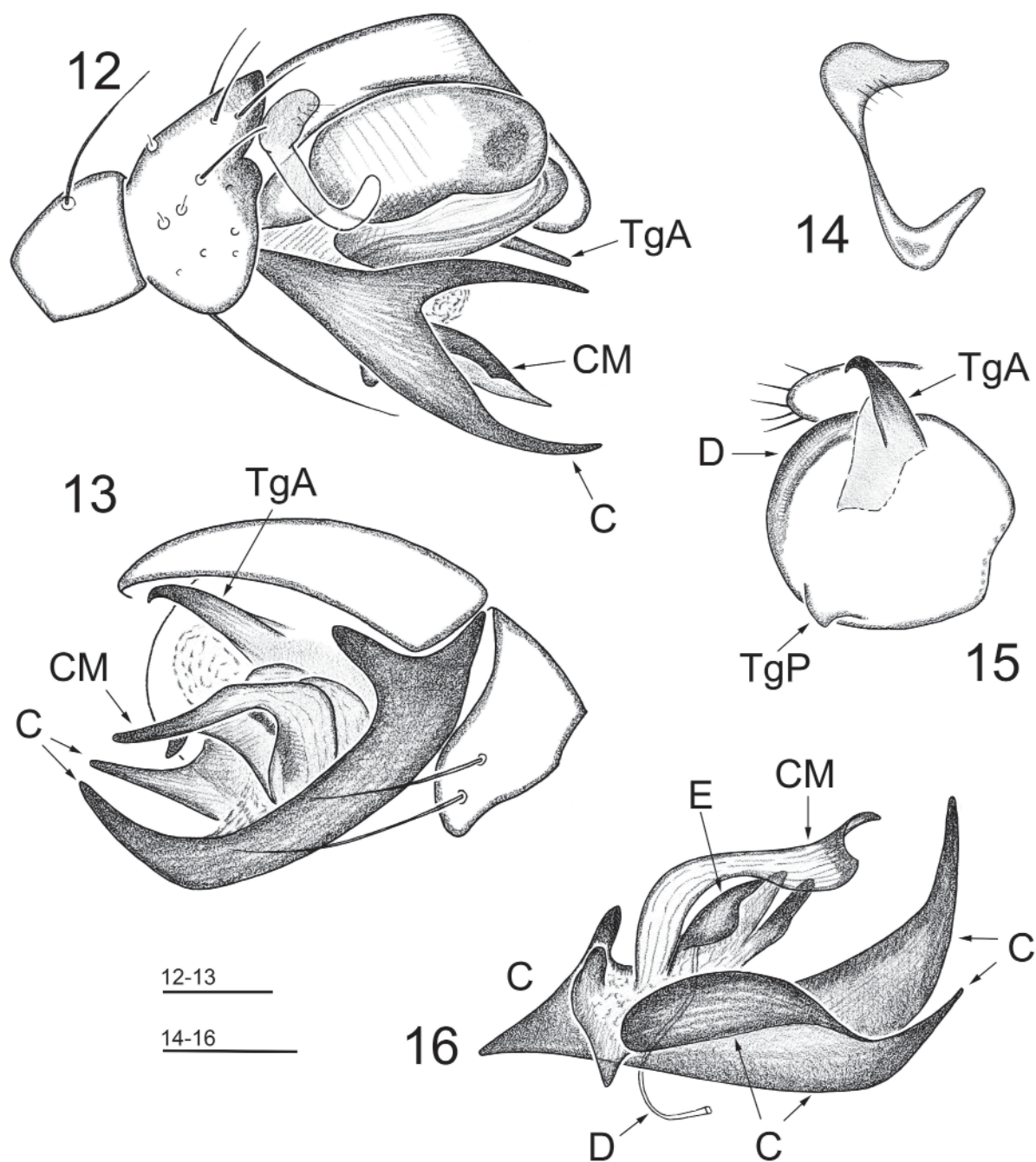
Description: *Male holotype.* Total length 2.21. Carapace unmodified (Figs 5-6), 1.00 long, 0.80 wide, greyish pale brown, with a dark polygonal spot in its centre, and with a narrow, dark grey margin. Eyes normal, not enlarged. Chelicerae 0.38 long; mastidion absent. Legs yellow, with wide, dark brown or almost black rings. Leg I 6.13 long (1.49 + 0.33 + 1.48 + 1.83 + 1.00), IV 4.14 long (1.13 + 0.25 + 0.93 + 1.15 + 0.68). Chaetotaxy. FeI: 1-2-0-0, II: 1-0-0-0, III-IV: 0-0-0-0; TiI: 2-1-1-1, II: 2-0-1-0(1), III: 2-0-1-



Figs 8-11. Details of the right palp of the male holotype of *Himalafurca martensi* sp. nov. (8-9) Distal part of palp, retrolateral and prolateral view, respectively. (10) Paracymbium, prolateral view. (11) Embolic division, mesal view.

1; IV: 2-1-0-0; Mtl: 1-1-0-0, II: 1-0-1-0, III: 1-1-0-0, IV: 1-1-0-0. Length of tibial spines 2-3 times diameter of corresponding leg segment. Tml 0.25. Metatarsus IV without trichobothrium. Palp (Figs 12-16): Patella short, without conical projecting, bearing a weak spine dorsally. Tibia unmodified, its retrolateral edge with a small invagination. Paracymbium small and narrow, [-shaped, almost transparent, paracymbial pockets

(*sensu* Saaristo & Tanasevitch, 1996) absent. Tegular prominence small (hidden by convector in Fig. 12). Tegular apophysis relatively short and wide, arising from internal, median part of tegulum, ending with a small hook. Convector huge, heavily sclerotized, distally bifurcated into long, strong branches. Convector membrane arising from proximal part of sclerite near base of embolus, bent in middle and sclerotized distally.



Figs 12-16. Details of the right palp of the male holotype of *Himalafurca schawalleri* sp. nov. (12-13) Distal part of palp, retrolateral and prolateral view, respectively. (14) Paracymbium, prolateral view. (15) Tegulum, prolateral view (embolic division removed). (16) Embolic division, mesal view.

Embolus small, of join-type, with unclear but complex shape. Abdomen 1.25 long, 0.80 wide, dorsal pattern as in Fig. 7.

Female. Unknown.

Distribution: Known only from the type locality, Olangchung Gola in Eastern Nepal.

FAUNISTICS

Agyneta pakistanica Tanasevitch, 2011

Material examined: MHNG; 1 male; NEPAL, Dailekh District, Dailekh, champs (= in fields), 650 m a.s.l., pitfall traps; 27.III.1980; leg. P. Galland.

Remarks: This species was originally described from two male specimens from the environs of Islamabad, Pakistan, at an altitude of about 550 m a.s.l. (Tanasevitch, 2011). In the Nepal Himalayas this species has also been found in the lowlands. *Agyneta pakistanica* is here reported for Nepal and the Himalayas for the first time.

Anguliphantes nepalensis (Tanasevitch, 1987)

Material examined: MHNG; 1 female [sample #27]; NEPAL, Goropani, between Kali Gandaki Valley and Pokhara, north face, 2750 m a.s.l., clearing in forest, sifting rotten wood and leaves along dead oak trunk; 5.X.1983; leg. I. Löbl & A. Smetana. – MHNG; 1 male [sample #31]; Punhill near Goropani, forest between the Kali Gandaki Valley and Pokhara, 3050-3100 m a.s.l., edge of *Rhododendron* and fir forest, sifting mosses and dead leaves; 8.X.1983; leg. I. Löbl & A. Smetana. – MHNG; 1 female [sample #5]; Sankhuwasawa District, Kosi Province, forest northeast of Kuwapani, 2350 m a.s.l., sifting dead leaves and humus near spring; 5.IV.1984; leg. I. Löbl & A. Smetana.

Remarks: This species is widespread in Nepal, at 1450-3600 m a.s.l. (Tanasevitch, 1987 and new data). It was recorded from the Pakistani Himalayas, at 1450 m a.s.l., as well as from Uttar Pradesh, at 1900 m a.s.l., and from West Bengal in India, at 2500-2600 m a.s.l. (Tanasevitch, 2011).

Bathyphantes paracymbialis Tanasevitch, 2014a

Material examined: SMF; 1 male, 3 females [sample #408]; NEPAL, Sankhua Sabha District, Arun Valley bottom between Hedangna and Num, subtropical forest, 950-1000 m a.s.l.; 6-8.VI.1988; leg. J. Martens & W. Schawaller. – SMF; 3 males, 4 females [sample #351]; Taplejung District, Yamputhin, cultivated land, open forest, 1650-1800 m a.s.l.; 26.IV.-1.V.1988; leg. J. Martens & W. Schawaller.

Remarks: This species is widespread in continental and insular parts of the Oriental Region (Tanasevitch, 2019d). In Nepal and Xishuangbanna, Yunnan Province, China (Zhao & Li, 2014) the northern limit of its geographical range is close to the Palaearctic Region. *Bathyphantes paracymbialis* is here reported for Nepal and the Himalayas for the first time.

Caviphantes pseudosaxetorum Wunderlich, 1979

Material examined: MHNG; 2 females [sample #5]; NEPAL, Kosi Province, Sankhuwasawa District, forest northeast of Kuwapani, 2350 m a.s.l., sifting dead leaves and humus near source; 5.IV.1984; leg. I. Löbl & A. Smetana. – MHNG; 3 males [sample #9]; ridge south of Mangsingma, 2800 m a.s.l., sifting bamboo leaves and rhododendrons; 7.IV.1984; leg. I. Löbl & A. Smetana. – MHNG; 2 males [sample #22]; Induwa Kola Valley, 2800 m a.s.l., sifting dead leaves of rhododendrons and bamboo at foot of rocks; 15.IV.1984; leg. I. Löbl & A. Smetana. – MHNG; 1 female [sample #24a]; Induwa Kola Valley, 2000 m a.s.l., sifting moss and dead leaves on swampy terrain; 16.IV.1984; leg. I. Löbl & A. Smetana. – MHNG; 1 male [sample #27]; same locality, sifting mosses and dead leaves at foot of cliff, 2100 m a.s.l.; 17.IV.1984; leg. I. Löbl & A. Smetana. – MHNG; 1 male [sample #30b]; Goropani, forest between Kali Gandaki Valley and Pokhara, ridge east of Goropani, 3100 m a.s.l., sifting at foot of huge fir tree at edge of small swamp; 7.X.1983; leg. I. Löbl & A. Smetana. – SMF; 1 female [sample #142]; NEPAL, Manang District, Marsyandi Valley, between Thanjok and Chame, 2550 m a.s.l., close to a rivulet; 17.IV.1980; leg. J. Martens & A. Ausobsky. – SMF; 2 males, 8 females [sample #328]; Panchthar District, Paniporua, 2300 m a.s.l., mixed broad-leaved forest; 16-20.IV.1988; leg. J. Martens & W. Schawaller. – SMF; 4 females [sample #404]; above Pahakhola, 2600-2800 m a.s.l., *Quercus semecarpifolia*, *Rhododendron*; 31.V.1988; leg. J. Martens & W. Schawaller. – SMF; 2 males [sample #412]; Sankhuassabha District, Arun Valley between Mure and Hurure, 2050-2150 m a.s.l., mixed broad-leaved forest; 9-17.VI.1988; leg. J. Martens & W. Schawaller.

Remarks: This species is widely distributed in the southern Palaearctic eastward of the Mediterranean Sea, as well as in continental and insular parts of the Oriental Region (World Spider Catalog, 2020). In Nepal *C. pseudosaxetorum* occurs at 550-3100 m a.s.l. (Wunderlich, 1979 and new data).

Claviphantes bifurcatus (Tanasevitch, 1987)

Material examined: MHNG; 1 male, 1 female [sample #33]; NEPAL, Kosi Province, Sankhuwasawa District,

Goropani, Nandanda, northeast of Pokhara, forest between the Kali Gandaki Valley and Pokhara, 1300-1400 m, on vegetation; 11.X.1983; leg. I. Löbl & A. Smetana.

Remarks: This species known only from Nepal where it occurs at 1300-3100 m a.s.l. (Tanasevitch, 1987; Tanasevitch & Saaristo, 2006 and new data).

Erigone prominens Bösenberg & Strand, 1906

Material examined: MHNG; 3 males (specimens dried up), NEPAL, Dailekh District, Dailekh, champs (= in fields), 650 m a.s.l., pitfall traps; 27.III.1980; leg. P. Galland. – SMF; 1 male [sample #119]; NEPAL, Ilam District, Gitang Khola, 1900 m a.s.l., Bachaue l' Bach; 27.III.1980; leg. J. Martens & A. Ausobsky. – SMF; 1 male [sample #140a]; Manang District, Marsyandi, Thimang, 2550 m a.s.l., *Tsuga*, *Acer* and *Rhododendron* forest, Berlese extraction; 14-17.IV.1980; leg. J. Martens & A. Ausobsky.

Remarks: This species is widespread in southern Asia, introduced to Africa, Australia and New Zealand (World Spider Catalog, 2020). In Nepal it has been reported under *Erigone* cf. *ourania* Crosby & Bishop, 1928 by Wunderlich (1983). Taking into account the new data, it occurs there at 1900-3200 m a.s.l.

Fistulaphantes canalis Tanasevitch & Saaristo, 2006

Material examined: MHNG; 3 females [sample #8b]; NEPAL, Sankhuwasawa District, Kosi Province, ridge northeast of Mangmaya, 2800 m a.s.l., northwest face, sifting bamboo leaves and rhododendrons near source; 7.IV.1984; leg. I. Löbl & A. Smetana. – MHNG; 1 male, 1 female [sample #24a]; Induwa Kola Valley, 2000 m a.s.l., sifting mosses and dead leaves on marshland; 16.IV.1984; leg. I. Löbl & A. Smetana. – SMF; 1 male, 5 females [sample #404]; NEPAL, Sankhuasabha District, above Pahakhola, 2600-2800 m a.s.l., *Quercus semecarpifolia* and *Rhododendron* forest; 31.V.1988; leg. J. Martens & W. Schawaller. – SMF; 1 female [sample #412]; Arun Valley between Mure and Hurure, 2050-2150 m a.s.l., mixed broad-leaved forest; 9-17.VI.1988; leg. J. Martens & W. Schawaller.

Remarks: This species is known only from Nepal, at altitudes of 2000-3650 m a.s.l. (Tanasevitch & Saaristo, 2006 and new data).

Gnathonarium gibberum Oi, 1960

Material examined: SMF; 1 male [sample #338]; NEPAL, Taplejung District, from Iwa Khola Bridge to Sablako Pass, 940-1200 m a.s.l., stream bank; 22.IV.1988; leg. J. Martens & W. Schawaller. – SMF;

1 male [sample #200]; Kathmandu-Tal, Ganabahal and Baneshwar, cultural land, 1350 m a.s.l.; 17-20.VII.1980; leg. J. Martens & W. Schawaller.

Remarks: This species is known from South Siberia, Russia, China, Korea, Japan (World Spider Catalog, 2020). *Gnathonarium gibberum* is here reported for Nepal and the Himalayas for the first time.

Gongylidiellum nepalense Wunderlich, 1983

Material examined: SMF; 6 males, 4 females [sample #324]; NEPAL, Panchthar District, Dhorpar Kharka, *Rhododendron* and *Lathocarpus* forest, 2700 m a.s.l.; 13-16.IV.1988; leg. J. Martens & W. Schawaller.

Remarks: This species is widespread in the Nepal Himalayas, at 2500-3400 m a.s.l. (Wunderlich, 1983), and it was reported from West Bengal, India, at 2700-3100 m a.s.l. (Tanasevitch, 2011 and new data).

Halorates crassipalpis (Caporiacco, 1935) comb. nov.

Gongylidium crassipalpe Caporiacco, 1935: 171, pl. III, fig. 3a-b; male lectotype examined.

Collinsia japonica (Oi, 1964). – Wunderlich, 1983: 231, misidentification; male and female syntypes examined.

For a full synonymy list see World Spider Catalog (2020).

Type material examined: MCSNM; male lectotype of *Gongylidium crassipalpe* Caporiacco, 1935, designated by K. Thaler in 1987; Pakistan, Mts Karakorum, Olthingthang, 2600 m a.s.l.; 13.IV.1929. – NSMT; 1 female syntype (Ar. 2725), 1 male and 1 female syntypes (Ar. 2726) of *Scotargus japonicus* Oi, 1964; Japan, Ishikawa Prefecture, Mt Hakusan; 2.VIII.1961; leg. H. Tokumoto, det. R. Oi.

New material examined: SMF, No. 31674; 4 females; NEPAL, S of Annapurna-Massif, Pass Goropani, 2700-2800 m a.s.l.; 23.II.1974; leg. J. Martens. – SMF, No. 31670; 2 males; S of Dhaulagiri-Massif, Dhorpatan, 3000 m a.s.l.; 24.V.1973; leg. J. Martens. – SMF, No. 31671; 1 female; W of Dhaulagiri-Massif, road from Dhorpatan to Tarakot, via resting place Dhule and Sheng Khola, 3100-3600 m a.s.l.; 30.V.1973; leg. J. Martens. – SMF, No. 31672; 2 females; northern Dhaulagiri Massif, Dolpo, valley of the upper Barbung Khola, Charka, 4300 m a.s.l.; 24-29.VI.1973; leg. J. Martens. – SMF, No. 31673; 1 female; Thakkhola, Breakthrough Valley of the Kali-Gandaki through Himalayan main chain, valley of Chadziou-Khola close to Ghasa, 2600 m a.s.l.; IX.1969; leg. J. Martens. All specimens labeled as *Collinsia japonica*, det. Wunderlich, 1979. – SMF; 1 male [sample #235]; Gorkha District, Chuling Khola, S of Kalo Pokhlari, 3600 m a.s.l., *Betula* forest on moraine; 7.VIII.1983; leg. J. Martens & W. Schawaller. – SMF; 1 female

[sample #319]; Ilam District, Mai Pokhlari, *Castanopsis* forest remains, 2100-2200 m a.s.l.; 9-10.IV.1988; leg. J. Martens & W. Schawaller. – SMF; 1 male, 1 female [sample #377]; Taplejung District, upper Tamur Valley, below Walungchung Gola, mixed forest, open river bank, 2400-2700 m a.s.l.; 20.V.1988; leg. J. Martens & W. Schawaller. – SMF; 1 male [sample #378]; upper Tamur Valley, Walungchung Gola, *Tsuga* forest, mainly open river terraces, 3000-3200 m a.s.l.; 20.V.1988; leg. J. Martens & W. Schawaller. All specimens labeled as *Halorates japonicus*, det. A. Tanasevitch, 2016. – SMF; 1 male, 1 female [sample #377]; Taplejung District, below Walungchung (= Olangchung) Gola, mixed forest, open river bank, 2400-2700 m a.s.l.; 20.V.1988; leg. J. Martens & W. Schawaller. – SMF; 1 male [sample #169]; Parbat District, Chitre, 2400 m a.s.l., streambed with bushes; 4.V.1980; leg. J. Martens & A. Ausobsky. – SMF; 1 female [sample #319a]; Ilam District, Worebung Pass, degraded broad-leaved forest, 2000 m a.s.l.; 21.IV.1988; leg. J. Martens & W. Schawaller. – SMF; 1 male [sample #378]; upper Tamur Valley, Walungchung (= Olangchung) Gola, *Tsuga* forest, mainly open river terraces, 3000-3200 m a.s.l.; 20.V.1988; leg. J. Martens & W. Schawaller. – SMF; 1 male [sample #274]; ascent to the ridge Lasse Dhara, mixed forest, 2500-2800 m a.s.l.; 6.IX.1983; leg. J. Martens & B. Daams.

Remarks: This species was originally described under *Gongylidium* Menge, 1868 from the Karakorum by Caporiacco (1935). Later a lectotype was designated for *G. crassipalpe*, and the species was revised and transferred to *Milleriana* Denis, 1966 (see Thaler, 1987). Subsequently the genus *Milleriana* was synonymized with *Collinsia* (see Eskov, 1990) and the species name began to be cited as *Collinsia crassipalpis*. In spider material from Nepal, collected during Prof. Jochen Martens' expeditions, Wunderlich (1983) identified several specimens of *Scotargus japonicus* Oi, 1960, a species which was previously known only from Japan, and he quite rightly at that moment transferred it to *Collinsia*. My examination of the type specimens of *Collinsia japonica* and *C. crassipalpis*, however, showed that all specimens from Nepal identified as *C. japonica* (see above) in fact belong to *C. crassipalpis*.

I agree with Buckle *et al.* (2001) that the genus *Collinsia* O. Pickard-Cambridge, 1913 is a junior synonym of *Halorates* Hull, 1911 (for details see Tanasevitch, 2009), thus *Halorates crassipalpis* comb. nov. is here transferred from *Collinsia*.

This species is presently known from the Karakorum, at 2400-2600 m a.s.l. (Caporiacco, 1935, under *Gongylidium*), and it is widespread in Nepal, where it occurs at 2000-4300 m a.s.l. (Wunderlich, 1983, under *Collinsia japonica*, and new data).

***“Hilaira” dapaensis* Wunderlich, 1983**

Material examined: SMF; 1 male, 1 female [sample #385]; NEPAL, Taplejung District, ascent to Tangje La, NW Walungchung (= Olangchung) Gola, 4800-5000 m a.s.l., below stones under snow, alpine steppe; 23.V.1988; leg. J. Martens & W. Schawaller.

Remarks: This species is still of unclear generic affiliation, reported only from Nepal, at 4800-5100 m a.s.l. (Wunderlich, 1983 and new data).

***Himalaphantes grandiculus* (Tanasevitch, 1987)**

Material examined: SMF; 1 male, 1 female [sample #324]; NEPAL, Panchthar District, Dhorpar Kharka, *Rhododendron* and *Lathocarpus* forest, 2700 m a.s.l.; 13-16.IV.1988; leg. J. Martens & W. Schawaller.

Remarks: This species is known only from Nepal, at 2000-4200 m a.s.l. (Tanasevitch, 1987 and new data).

***Hubertella montana* Tanasevitch, 2019b**

Material examined: MHNG; 1 male [sample #9]; NEPAL, Bagmati Province, above Gul Bhanjyang, 2600 m a.s.l., old oak grove on the north slope, steep slope, sifting dead leaves, moss and rotten wood, at foot of trees; 6.IV.1981; leg. I. Löbl & A. Smetana.

Remarks: This species is known only from Nepal, at 2450-2700 m a.s.l. (Tanasevitch, 2019b and new data).

***Mughiphantes ancoriformis* (Tanasevitch, 1987)**

Material examined: SMF; 2 females [sample #361]; NEPAL, Taplejung District, upper Simbua Khola Valley, near Tseram, 3250-3350 m a.s.l., mature *Abies-Rhododendron* forest; 10-15.V.1988; leg. J. Martens & W. Schawaller.

Remarks: This species is known only from Nepal, at 3200-3350 m a.s.l. (Tanasevitch, 1987 and new data).

***Nasoona asocialis* (Wunderlich, 1974)**

Material examined: MHNG; 1 male [sample #1c]; NEPAL, Kathmandu District, Godawari, 1600 m a.s.l., sifting mosses and dead leaves at foot of shrubs, fairly dry; 31.III.1984; leg. I. Löbl & A. Smetana. – SMF; 5 females [sample #116]; NEPAL, Ilam District, Mai Pokhari, 2100-2200 m a.s.l., forest; 25-27.III.1980; leg. J. Martens & A. Ausobsky. – SMF; 1 male [sample #185]; between Mai Pokhari and Ilam, 1330 m a.s.l., slope with spring, cultural land; 1.IV.1980; leg. J. Martens & A. Ausobsky. – SMF; 1 male, 2 females [sample #135]; Lamjung District, Marsyand, Jagat,

1200 m a.s.l., Berlese extraction, mixed broad-leaved forest; 11.IV.1980; leg. J. Martens & A. Ausobsky. – SMF; 1 male [sample # 203a]; Kathmandu Valley, Nagarjun, Jamacok, secondary forest, Berlese extraction, 1400-1600 m a.s.l.; 18.VIII.1983; leg. J. Martens & W. Schawaller. – SMF; 1 male [sample #204]; same locality, 1900-2100 m a.s.l., secondary forest; 18.VIII.1983; leg. J. Martens & W. Schawaller. – SMF; 3 females [sample #206]; Nuwakot District, forest between Kathmandu and Trishuli; 21.VII.1983; leg. J. Martens & W. Schawaller. – SMF; 1 male [sample #308]; Ilam District, Sanishare, 5 km N, foot of Siwalik Mts, 270-300 m a.s.l., mixed *Shorea* forest; 3-5.IV.1988; leg. J. Martens & W. Schawaller. – SMF; 4 females [sample #356]; Taplejung District, Omje Kharka NW Yamputhin, natural mixed broad-leaved forest, 2300-2500 m a.s.l.; 1-6.V.1988; leg. J. Martens & W. Schawaller. – SMF; 1 male [sample #408]; Sankhua Sabha District, Arun Valley bottom between Hedangna and Num, subtropical forest, 950-1000 m a.s.l.; 6-8.VI.1988; leg. J. Martens & W. Schawaller. – SMF; 3 females [sample #344]; Taplejung District, confluence of Kabeli Khola and Tada Khola, 1000 m a.s.l., mixed broad-leaved forest; 23-25.IV.1988; leg. J. Martens & W. Schawaller.

Remarks: *Nasoona asocialis* was described from a female from the Nepal Himalayas, and originally placed in *Oedothorax* Bertkau in Förster & Bertkau, 1883 by Wunderlich (1974). Later this species was described for a second time as *Gorbothorax ungibbus* Tanasevitch, 1998a based on a single male from the same mountain territory (Tanasevitch, 1998a). The species is widely distributed in the Oriental Region: Nepal, India (Wunderlich, 1974; Tanasevitch, 1998a, 2011), Laos, Thailand, West Malaysia (Tanasevitch, 2014a, b), Myanmar, Indonesia (Bali, Java; Tanasevitch, 2017), northern Vietnam (Tu & Li, 2004, under *Walckenaeria caobangensis* Tu & Li, 2004), and in Xishuangbanna, southern China (Zhao & Li, 2014). In Nepal *N. asocialis* occurs in lowlands and midlands, at 270-2500 m a.s.l. (Wunderlich, 1974; Tanasevitch, 1998a and new data).

Nematogmus dentimanus Simon, 1886

Material examined: SMF; 1 male, 1 female [sample #406]; NEPAL, Sankhua Sabha District, between Pahakhola and Karmarang, 1800-1500 m a.s.l., cultural land, bushes; 4.VI.1988; leg. J. Martens & W. Schawaller.

Remarks: This species is widely distributed in the Oriental Region, from Sri Lanka to Malaysia, Indonesia (Java, Krakatau) (World Spider Catalog, 2020). *Nematogmus dentimanus* is here reported for Nepal and the Himalayas for the first time.

Neriene oidedicata Helsdingen, 1969

Material examined: SMF; 1 male [sample #329]; NEPAL, Panchthar District, between Paniporua and Hinwa Khola Valley, 1850-2300 m a.s.l., cultivated land, tree-rich; 20.IV.1988; leg. J. Martens & W. Schawaller. – SMF; 1 male [sample #351]; Taplejung District, Yamputhin, cultivated land, open forest, 1650-1800 m a.s.l.; 26.IV.-1.V.1988; leg. J. Martens & W. Schawaller. – SMF; 1 male [sample # 352]; above Yamputhin, left bank of Kabeli Khola, bushes, open forest, 1800-2000 m a.s.l.; 27-29.IV.1988; leg. J. Martens & W. Schawaller.

Remarks: This species is distributed in the south-eastern part of the Palaearctic: Russian Far East, China, Korea, Japan (World Spider Catalog, 2020). In Nepal *N. oidedicata* was reported from 1600 to 2300 m a.s.l. (Wunderlich, 1983 and new data).

Oedothorax dismodicoides Wunderlich, 1974

Material examined: MHNG; 1 male [sample #27]; NEPAL, Myagdi District, Ghodepani, Goropani forest, between Kali Gandaki Valley and Pokhara, north face, 2750 m a.s.l., clearing in forest, sifting of rotten wood and leaves along dead trunk of *Quercus*; 5.X.1983; leg. I. Löbl & A. Smetana. – MHNG; 1 male [sample #30b]; Goropani Forest, between Kali Gandaki Valley and Pokhara, ridge east of Goropani, 3100 m a.s.l., sifting at foot of huge fir tree, on edge of small swamp; 7.X.1983; leg. I. Löbl & A. Smetana.

Remarks: This species is known only from Nepal, at 2460-3350 m a.s.l. (Wunderlich, 1974 and new data).

Oedothorax elongatus Wunderlich, 1974

Material examined: MHNG; 1 male [sample #5]; NEPAL, Bagmati Province, above Chaubas, 2500 m a.s.l., *Rhododendron* forest, sifting dead leaves and ferns in small ravine; 4.IV.1981; leg. I. Löbl & A. Smetana.

Remarks: This species is known only from Nepal, at 2000-2500 m a.s.l. (Wunderlich, 1974 and new data).

Oia sororia Wunderlich, 1973

Material examined: MHNG; 1 male, 3 females [sample #27]; NEPAL, Myagdi District, Ghodepani, Goropani, forest between Kali Gandaki Valley and Pokhara, north face, 2750 m a.s.l., clearing in forest, sifting of rotten wood and leaves along dead trunk of *Quercus*; 5.X.1983; leg. I. Löbl & A. Smetana. – SMF; 1 female [sample #140a]; NEPAL, Manang District, Marsyandi, 2550 m a.s.l., Thimang, Berlese extraction, *Tsuga-Acer-Rhododendron* forest; 14-17.IV.1980; leg.

J. Martens & A. Ausobsky. – SMF; 5 females [sample # 142]; Marsyandi Valley, between Thanjok and Chame, 2550 m a.s.l., close to a rivulet; 17.IV.1980; leg. J. Martens & A. Ausobsky. – SMF; 2 females [sample #161a]; S of Lethe, 2450-2600 m a.s.l., Berlese extraction, abundant mixed broad-leaved forest; 30.IV.-1.V.1980; leg. J. Martens & A. Ausobsky.

Remarks: This species is known from Nepal, at 2000-2750 m a.s.l. (Wunderlich, 1974 and new data) and from West Bengal, India, at 2000 m a.s.l. (Tanasevitch, 2011).

Oia kathmandu Tanasevitch, 2019b

Material examined: MHNG; 6 females [sample #54]; NEPAL, Bagmati Province, Dobate Ridge northeast of Barabhise, 2700 m a.s.l., sifting of dead leaves and mosses in oak grove; 2.V.1981; leg. I. Löbl & A. Smetana. – MHNG; 7 females [sample #55d]; same locality, 2800 m a.s.l., sifting rotten wood, dead leaves and moss in oak grove with *Rhododendron*; 2.V.1981; leg. I. Löbl & A. Smetana. – MHNG; 3 females [sample #63]; same locality, 2700 m a.s.l., sifting of mosses and dead leaves at edge of oak grove; 7.V.1981; leg. I. Löbl & A. Smetana. – MHNG; 3 males, 3 females [sample #356]; Taplejung District, Omje Kharka NW Yamputhin, natural mixed broad-leaved forest, 2300-2500 m a.s.l.; 1-6.V.1988; leg. J. Martens & W. Schawaller.

Remarks: This species is known only from Nepal, at 1800-2800 m a.s.l. (Tanasevitch, 2019b and new data).

Paragongylidiellum caliginosum Wunderlich, 1973

Material examined: SMF; 14 males, 29 females [sample #161a]; NEPAL, Mustang District, S of Lethe, 2450-2600 m a.s.l., rich mixed deciduous forest, Berlese extraction; 30.IV.-1.V.1980; leg. J. Martens & A. Ausobsky. – SMF; 3 males, 14 females [sample #412]; Sankhua Sabha District, Arun Valley between Mure and Hurure, 2050-2150 m a.s.l., mixed broad-leaved forest; 9-17.VI.1988; leg. J. Martens & W. Schawaller. – MHNG; 1 female [sample #7b]; NEPAL, Bagmati Province, Burlung Bhanjyang, 2600 m a.s.l., sifting mosses and dead leaves near source; 5.IV.1981; leg. I. Löbl & A. Smetana. – MHNG; 1 male [sample #23]; Malemchi, 2900 m a.s.l., steep slope near river, sifting dead leaves of rhododendrons, oaks and chestnuts; 14.IV.1981; leg. I. Löbl & A. Smetana. – MHNG; 2 females [sample #25]; Mustang and Kali Gandaki valley, forest above Lethe, 2550 m a.s.l., sifting rotten wood, dead leaves and moss; 2.X.1983; leg. I. Löbl & A. Smetana. – MHNG; 1 male [sample # 27]; Myagdi District, Ghodepani, Goropani forest, between Kali Gandaki Valley and Pokhara, north face, 2750 m a.s.l., clearing in forest, sifting of rotten wood and leaves along dead trunk of *Quercus*; 5.X.1983; leg. I. Löbl &

A. Smetana. – MHNG; 1 female [sample #37]; Yangri Ridge, 4200 m a.s.l., sifting dead leaves of *Juniperus*, *Lonicera* and *Rhododendron*; 21.IV.1981; leg. I. Löbl & A. Smetana. – MHNG; 5 females [sample #47b]; above Shermathang, 2900 m a.s.l., in excrements; 26.IV.1981; leg. I. Löbl & A. Smetana. – MHNG; 1 male, 2 females [sample #59]; Jangtang Ridge northeast of Barabhise, 3250 m a.s.l., sifting in fir-*Rhododendron* forest; 5.V.1981; leg. I. Löbl & A. Smetana. – MHNG; 1 male [sample #7]; Sankhuwasawa District, Kosi Province, pass northeast of Mangmaya, 2300 m a.s.l., north face, dry forest, sifting wood and leaves; 6.IV.1984; leg. I. Löbl & A. Smetana.

Remarks: This species is known from Nepal, at 1800-4200 m a.s.l. (Wunderlich, 1973, 1983 and new data) and from Tamil Nadu, India, at 700-1250 m a.s.l. (Tanasevitch, 2011, 2019d).

Saloca khumbuensis Wunderlich, 1983

Material examined: SMF; 1 male, 1 female [sample #108]; NEPAL, Kathmandu District, Phulchoki, 2600-2650 m a.s.l., *Quercus semecarpifolia* forest; 21-22.III.1980; leg. J. Martens & A. Ausobsky. – MHNG; 1 male [sample #29a]; Myagdi District, Ghodepani, Ghodepani, forest between Kali Gandaki Valley and Pokhara, 2700 m a.s.l., under stones; 6.X.1983; leg. I. Löbl & A. Smetana. – MHNG; 1 male [sample #35]; Kathmandu District, Phulchoki, 2650 m a.s.l., fairly dry forest, sifting mushrooms on dead oak trunks, leaves and rotten wood along trunks; 14.X.1983; leg. I. Löbl & A. Smetana. – MHNG; 1 male [sample #36]; Phulchoki, 2600-2700 m a.s.l., fairly dry forest, sifting mushrooms on dead oak trunks, leaves and rotten wood along trunks; 15.X.1983; leg. I. Löbl & A. Smetana.

Remarks: This species is known only from Nepal, at 2600-2950 m a.s.l. (Wunderlich, 1983 and new data).

Tapinocyba montivaga Tanasevitch, 2019c

Material examined: MHNG; 1 male [sample #12]; NEPAL, Kosi Province, Sankhuwasawa District, Goru Dzure Dara, 3350 m a.s.l., east side, sifting mosses, ferns and herbs; 9.IV.1984; leg. I. Löbl & A. Smetana.

Remarks: This species is known only from Nepal, at 3350-4400 m a.s.l. (Tanasevitch, 2019c and new data).

Tiso aestivus (L. Koch, 1872)

Material examined: SMF; 1 male [sample #383]; NEPAL, Taplejung District, Ladza Kharka in Ladza Khola, NW Walungchung (= Olangchung) Gola, 4100-4200 m a.s.l., dwarf *Rhododendron*, creeping *Juniperus*; 21-23.V.1988; leg. J. Martens & W. Schawaller.

Remarks: This Palaearctic-West Nearctic polyzonal species is here reported for Nepal and the Himalayas for the first time.

Tiso indianus Tanasevitch, 2011

Material examined: SMF; 6 males, 9 females [sample #356]; NEPAL, Taplejung District, Omje Kharka NW Yamputhin, natural mixed broad-leaved forest, 2300-2500 m a.s.l.; 1-6.V.1988; leg. J. Martens & W. Schawaller.

Remarks: This species was originally described from West Bengal, India, at 2500-2600 m a.s.l., (Tanasevitch, 2011). *Tiso indianus* is here reported for the fauna of Nepal for the first time.

Walckenaeria martensi Wunderlich, 1972

Material examined: SMF; 2 females [sample #140a]; NEPAL, Manang District, Marsyandi, 2550 m a.s.l., Thimang, Berlese extraction, *Tsuga*, *Acer* and *Rhododendron* forest; 14-17.IV.1980; leg. J. Martens & A. Ausobsky. – SMF; 1 female [sample #324]; Panchthar District, Dhorpar Kharka, *Rhododendron* and *Lathocarpus* forest, 2700 m a.s.l.; 13-16.IV.1988; leg. J. Martens & W. Schawaller. – SMF; 4 females [sample #328]; Paniporua, 2300 m a.s.l., mixed broad-leaved forest; 16-20.IV.1988; leg. J. Martens & W. Schawaller. – SMF; 1 female [sample #334]; Taplejung District, Worebung Pass, degraded broad-leaved forest, 2000 m a.s.l.; 21.IV.1988; leg. J. Martens & W. Schawaller. – SMF; 1 female [sample #356]; Omje Kharka, NW of Yamputhin, natural mixed broad-leaved forest, 2300-2500 m a.s.l.; 1-6.V.1988; leg. J. Martens & W. Schawaller. – SMF; 1 female [sample #365]; Yamputhin, ascent to Deorali Pass, 2100-2600 m a.s.l., cultural land, bushes; 16.V.1988; leg. J. Martens & W. Schawaller. – SMF; 1 female [sample #404]; Sankhua Sabha District, above Pahakhola, 2600-2800 m a.s.l., *Quercus semecarpifolia*, *Rhododendron*; 31.V.1988; leg. J. Martens & W. Schawaller. – SMF; 1 female [sample #412]; Arun Valley between Mure and Hurure, 2050-2150 m a.s.l., mixed broad-leaved forest; 9-17.VI.1988; leg. J. Martens & W. Schawaller.

Remarks: This species is widely distributed in Nepal, at 2000-3500 m a.s.l. (Wunderlich, 1972, under *Walckenaeria nepalensis* Wunderlich, 1972; Tanasevitch, 2011, under *W. martensi*; new data), and it was also recorded from West Bengal, India, at 3100 m a.s.l. (Tanasevitch, 2011).

CONCLUSION

Taking into account the new data, the linyphiid spider fauna of Nepal currently includes no less than 107 species.

The representation of the subfamilies is as follows: Erigoninae (56), Micronetinae (44) and Linyphiinae (7 species). The linyphiid fauna of Nepal is strongly regional. Only 11 of its species (10%) occur outside the Himalayan mountains: *Bathyphantes paracymbialis*, *Caviphantes pseudosaxetorum*, *Erigone atra* Blackwall, 1833, *E. prominens*, *Gnathonarium gibberum*, *Megalophthantes nebulosoides* (Wunderlich, 1977), *Nasoonia asocialis*, *Nematogmus dentimanus*, *Neriene oidedicata*, *Scotargus pilosus* Simon, 1913 and *Tiso aestivus*. The geographical ranges of the remaining 96 species (90%) seem to be restricted to the Himalayas, and presently these can be considered as Himalayan endemics.

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