

## Two new *Tapinocyba* Simon, 1884 from the highlands of Nepal (Aranei: Linyphiidae)

### Два новых вида рода *Tapinocyba* Simon, 1884 из высокогорий Непала (Aranei: Linyphiidae)

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КЛЮЧЕВЫЕ СЛОВА: таксономия, пауки, Erigoninae, новые виды, Гималаи.

ABSTRACT. Two new species, *Tapinocyba montivaga* sp.n. and *T. altimontana* sp.n., are described from the highlands of the Nepal Himalayas. Both species clearly differ from each other, as well as from the known congeners, by certain structural details of their genitalia.

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РЕЗЮМЕ. Два новых вида, *Tapinocyba montivaga* sp.n. и *T. altimontana* sp.n., описаны из высокогорий Гималаев, Непал. Оба вида хорошо отличаются как друг от друга, так и остальных представителей рода деталями строения гениталий.

### Introduction

The genus *Tapinocyba* Simon, 1884 is considered as Holarctic (see Tanasevitch [2018]), containing only two known species which occur near the border of the Palaearctic and Oriental regions, i.e., *Tapinocyba emei* Tanasevitch, 2018 (Sichuan, China) and *T. formosa* Tanasevitch, 2011 (Taiwan). Another two species from near the border of these realms were revealed in the spider material collected by Prof. J. Martens in the Himalayas during his numerous expeditions to Nepal. No representatives of *Tapinocyba* have hitherto been recorded from the Himalayas. Descriptions of these two new species are given below.

### Material and methods

This paper is based on the spider material taken by J. Martens and W. Schawaller in Nepal, kept in the Sencken-

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berg Museum, Frankfurt am Main, Germany (SMF). The sample number is given in square brackets. All specimens are preserved in 70% ethanol and studied using a MBS-9 stereo microscope. A Levenhuk C-800 digital camera was applied for taking some photographs. Images taken at multiple focal planes were combined with the help of Helicon Focus image stacking software, version 5.1. The sequence of leg segment measurements is as follows: femur + patella + tibia + metatarsus + tarsus. All measurements are given in millimeters. The chaetotaxy is given in a formula, e.g., 1.1.1.1, which refers to the number of dorsal spines on tibiae I–IV. Scale lines in the figures correspond to 0.1 mm unless indicated otherwise. The terminology of copulatory organs mainly follows that of Merrett [1963], Hormiga [2000] and Holm [1979].

The following abbreviations are used in the text and figures: a.s.l. — above sea-level; DSA — distal suprategular apophysis sensu Hormiga [2000]; E — embolus; MM — median membrane sensu van Helsdingen [1965] = embolic membrane sensu van Helsdingen [1986] and Hormiga [1994]; P — paracymbium; Pr — protegulum sensu Holm [1979]; R — radix; RA — radical apophysis; TmI — position of trichobothrium on metatarsus I; TP — tailpiece (a proximal part of the radix) sensu Crosby, Bishop [1925].

### Description

#### *Tapinocyba montivaga* sp.n.

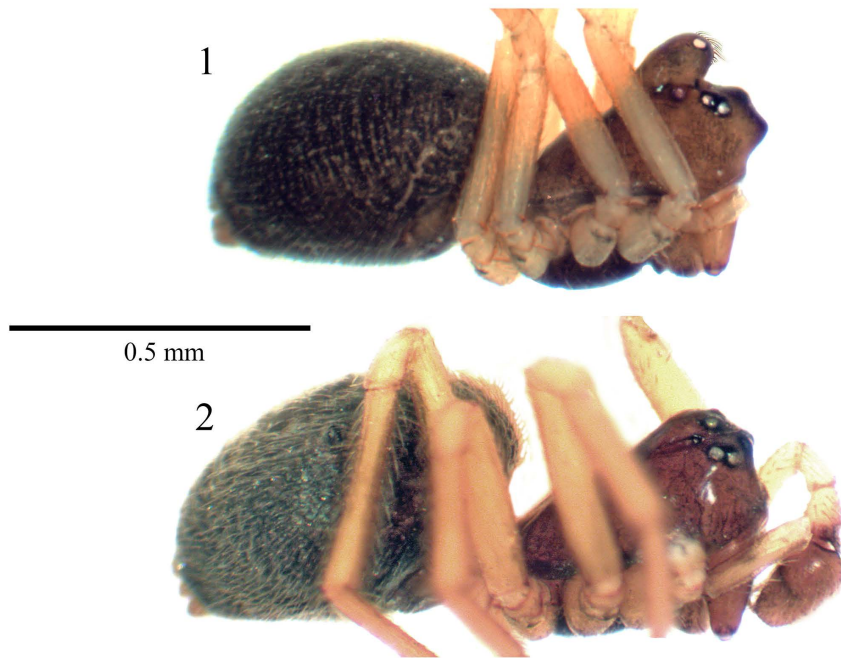
Figs 1, 3–6.

HOLOTYPE ♂ (SMF), NEPAL, Sankhua Sabha District, between passes Meropapa La and Pomri La, 4300–4400 m a.s.l., alpine meadows, dwarf *Rhododendron*, 28.V.1988, leg. J. Martens & W. Schawaller [No. 396].

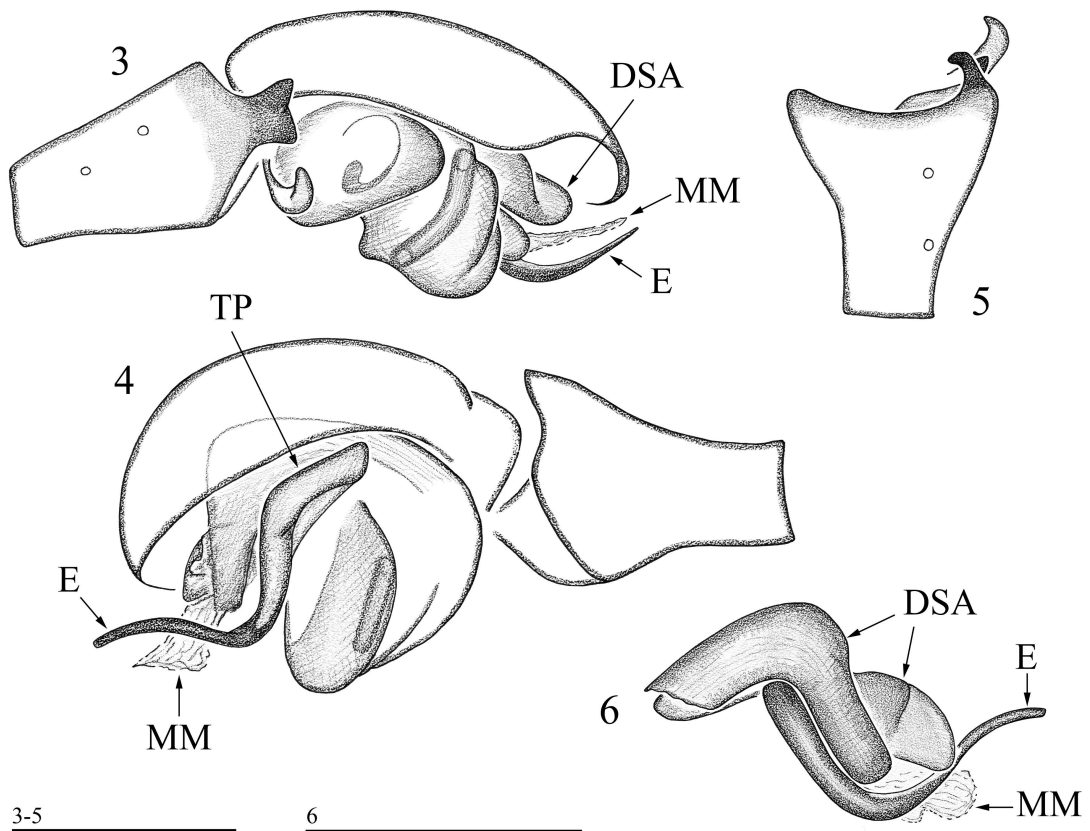
PARATYPE ♂ (SMF), Sankhua Sabha District, descent from Pomri La, S slope, pastures, 4100–4400 m a.s.l., 29.V.1988, leg. J. Martens & W. Schawaller [No. 399].

NAME. The specific name is a Latin adjective meaning “wandering in the mountains”.

DIAGNOSIS. The new species differs from the known congeners by the relatively long embolus, the well-developed tailpiece of the radix, as well as by the shape of the retrolateral tibial outgrowth. From the other Himalayan species described below, *T. montivaga* sp.n. is distinguished by

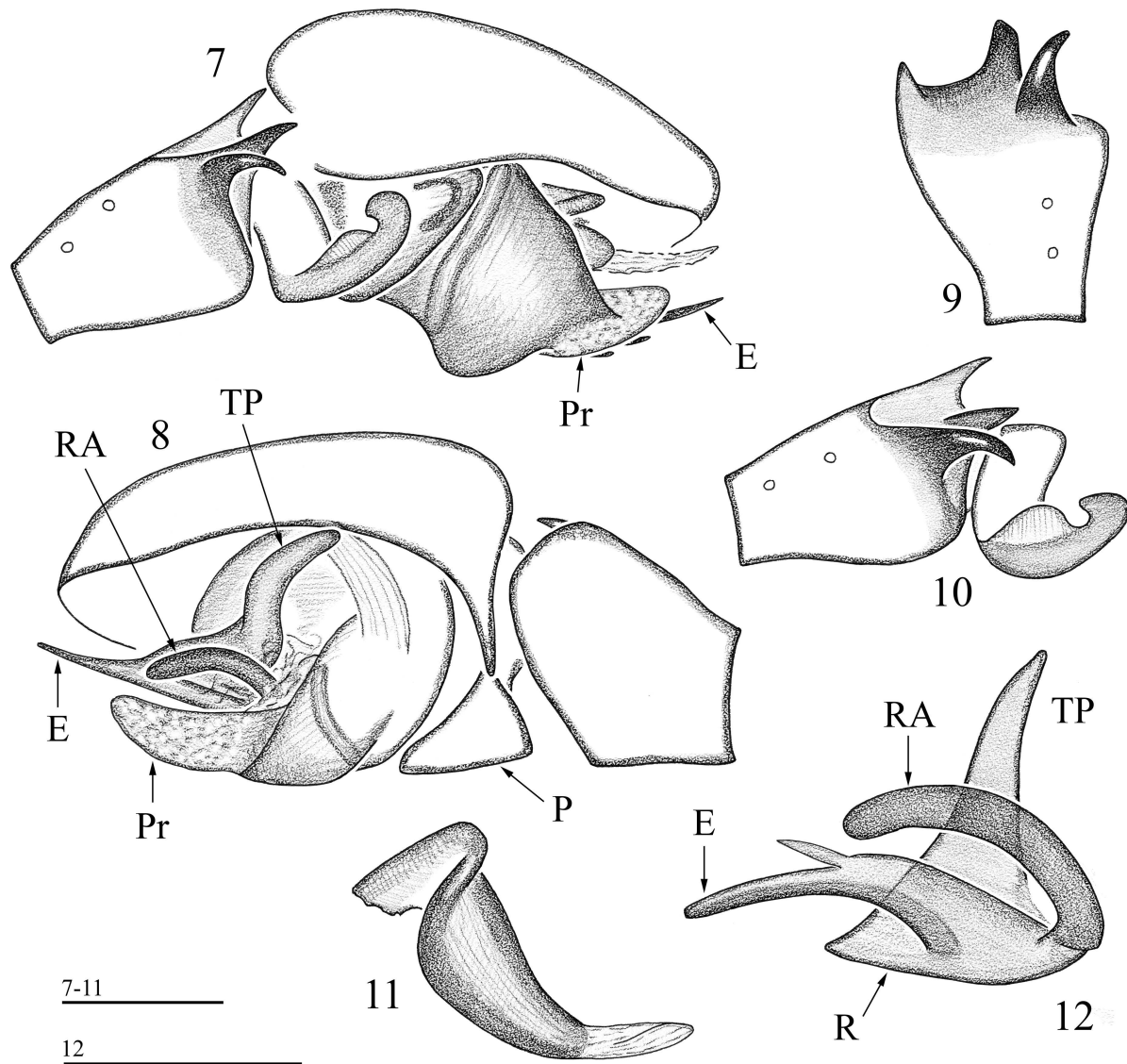


Figs 1, 2. Pictures of *Tapinocyba montivaga* sp.n. (1), ♂ paratype, and *T. altimontana* sp.n. (2), ♂ paratype. 1, 2 — body, lateral view.  
Рис. 1, 2. Фотографии *Tapinocyba montivaga* sp.n. (1), паратип ♂ и *T. altimontana* sp.n. (2), паратип ♂. 1, 2 — тело, вид с боку.



Figs 3–6. Details of palpal structure of *Tapinocyba montivaga* sp.n., ♂ paratype. 3, 4 — right palp, retrolateral and prolateral views, respectively; 5 — palpal tibia, dorsal view; 6 — distal suprategular apophysis and embolus.

Рис. 3–6. Детали строения пальпы *Tapinocyba montivaga* sp.n., паратип ♂. 3, 4 — правая пальпа, ретро- и пролатерально, соответственно; 5 — голень пальпы, вид сверху; 6 — дистальная супратегулярная апофиза и эмболос.



Figs 7–12. Details of palpal structure of *Tapinocyba altimontana* sp.n., ♂ paratype. 7, 8 — right palp, retrolateral and prolateral views, respectively; 9 — palpal tibia, dorsal view; 10 — palpal tibia and paracymbium, retrolateral view; 11 — distal suprategular apophysis; 12 — embolic division.

Рис. 7–12. Детали строения пальпы *Tapinocyba altimontana* sp.n., паратип ♂. 7, 8 — правая пальпа, ретро- и пролатерально, соответственно; 9 — голень пальпы, вид сверху; 10 — голень пальпы и парацимбиум, вид сбоку; 11 — дистальная супратегулярная апофиза; 12 — эмболиусный отдел.

the shape of both the carapace and palpal tibia, the absence of a protegulum, as well as by the lack of a radical apophysis in the embolic division.

**DESCRIPTION.** Male paratype. Total length 1.69. Carapace 0.70 long, 0.55 wide, dark brown, modified as shown in Fig. 1. Head part of carapace with a slightly bipartite elevation, each part carrying a posterior median eye. Eyes not enlarged, normal. Sulci present, small. Chelicerae 0.23 long, a mastidion absent. Legs pale brown. Leg I, 1.89 long (0.55 + 0.18 + 0.43 + 0.40 + 0.33), IV, 1.91 long (0.55 + 0.18 + 0.48 + 0.40 + 0.30). Chaetotaxy 1.1.1.1, spines very short, poorly visible. Metatarsi I–III each with a trichobothrium. TmI, 0.57. Palp (Figs 3–6): Patella short. Tibia elongated, with a retrolateral, wide, somewhat bifid out-

growth. Paracymbium very small, hook-shaped. Distal suprategular apophysis relatively large, complex. Median membrane short and wide. Radix elongated, slightly bent; tail-piece well-developed, narrow. Embolus relatively long, curved. Abdomen 0.88 long, 0.60 wide, black.

Female unknown.

**DISTRIBUTION.** Known only from two localities in the highlands of Nepal, at 4100–4400 m a.s.l.

*Tapinocyba altimontana* sp.n.

Figs 2, 7–12.

**HOLOTYPE** ♂ (SMF), NEPAL, Sankhua Sabha District, descent from Pomri La, S slope, 4550–4450 m a.s.l., on snow cover, 29.V.1988, leg. J. Martens & W. Schawaller [No. 398].

PARATYPE ♂ (SMF), Sankhua Sabha District, ascent to Mero-papa La from Gabri Kholo, S of Thudam, 4300–4600 m a.s.l., meadows with dwarf *Rhododendron*, 26.V.1988, leg. J. Martens & W. Schawaller [No. 393].

NAME. The specific name is a Latin adjective meaning a “high-mountain dweller”.

DIAGNOSIS. The new species is distinguished from the known congeners by very characteristic apophyses on the palpal tibia that resemble those in some Nepalese *Oedothorax* Bertkau, 1883, e.g., *O. lucidus* Wunderlich, 1974 or *O. unicolor* Wunderlich, 1974. *Tapinocyba altimontana* sp.n. is also diagnosed by the presence of a peculiar radical apophysis at the base on the embolus. The differences from *T. montivaga* sp.n. see above.

DESCRIPTION. Male paratype. Total length 1.95. Carapace 0.88 long, 0.75 wide, dark brown, modified as shown in Fig. 2. Head part of carapace slightly elevated. Eyes not enlarged, normal. Sulci present, small. Chelicerae 0.33 long, a mastidion absent. Legs pale brown. Leg I, 2.51 long (0.70 + 0.25 + 0.63 + 0.55 + 0.38), IV, 2.81 long (0.75 + 0.28 + 0.70 + 0.65 + 0.43). Chaetotaxy 1.1.1.1, length of spines 0.5–1 diameter of leg segment. Metatarsi I–III each with a trichobothrium. TmI 0.61. Palp (Figs 7–12): Patella short. Tibia distally with three apophyses, a retrolateral one claw-shaped. Paracymbium relatively large, with a rounded ridge in the middle. Tegulum ending up in a well-protruded and membranous protégulum. Distal supratégular apophysis relatively large, gradually narrowing distad, ending up in an elongated membrane. Median membrane probably reduced. Tailpiece well-developed, distal part of radix with a gradually bent apophysis at base of embolus. Embolus equipped with a short and sharp process in the middle. Abdomen 1.13 long, 0.90 wide, black.

Female unknown.

DISTRIBUTION. Known only from two localities in the highlands of Nepal, at 4300–4600 m a.s.l.

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