

A new erigonine genus from the Nepal Himalayas (Araneae, Linyphiidae)*

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Abstract: A new genus, *Parbatthorax* **gen. nov.**, with *P. unicornis* **sp. nov.** as type species, is described from the Nepal Himalayas. The genus is characterized by the highly modified palpal tibia and the paracymbium, as well as by the peculiar structure of the embolic division, which contains a convector.

Key words: Arachnida, Erigoninae, Asia, new taxa, new species

More than 150 valid species of linyphiid spiders are known to occur in the Himalayas (<http://wsc.nmbe.ch>), and this list is far from complete. A huge contribution to the study of arthropods of these mountains was made by Professor Jochen Martens. During numerous expeditions, together with his collaborators, organized to Nepal and some other parts of the Himalayas, an enormous amount of material has been collected, including that of the spider family Linyphiidae. A great number of new taxa from those collections have already been described (e.g., Wunderlich, 1973, 1974, 1979, 1983; Tanasevitch, 1987, 1998a, 1998b; Thaler, 1987; Tanasevitch and Saaristo, 2006), but a significant part still awaits treatment. This note provides a description of a new genus and species of linyphiid spider obtained in Nepal during Martens' expedition in 1980.

This paper is based of the spider material taken by Martens and Ausobsky in Nepal, now kept in the Senckenberg Museum, Frankfurt am Main, Germany (SME, curator Dr Peter Jäger). The sample number is given in square brackets. All specimens are preserved in 70% ethanol and were studied using an MBS-9 stereomicroscope. A Levenhuk C-800 digital camera was used for executing some drawings. Images taken at multiple focal planes were combined using 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., 2.2.1.1, 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 Merrett (1963), Hormiga (2000), and Tanasevitch (2014, 2015).

Abbreviations: C – Convector sensu Tanasevitch (1998, 2014) = lamella sensu Merrett (1963); DAC – distal apophysis of convector sensu Tanasevitch (2015); DSA – distal suprategular apophysis sensu Hormiga (2000); E – embolus; HS – horn-shaped spine; Mt – metatarsus; P – paracymbium; R – radix; Ti – tibia; TmI – position of trichobothrium on metatarsus I.

Parbatthorax **gen. nov.**

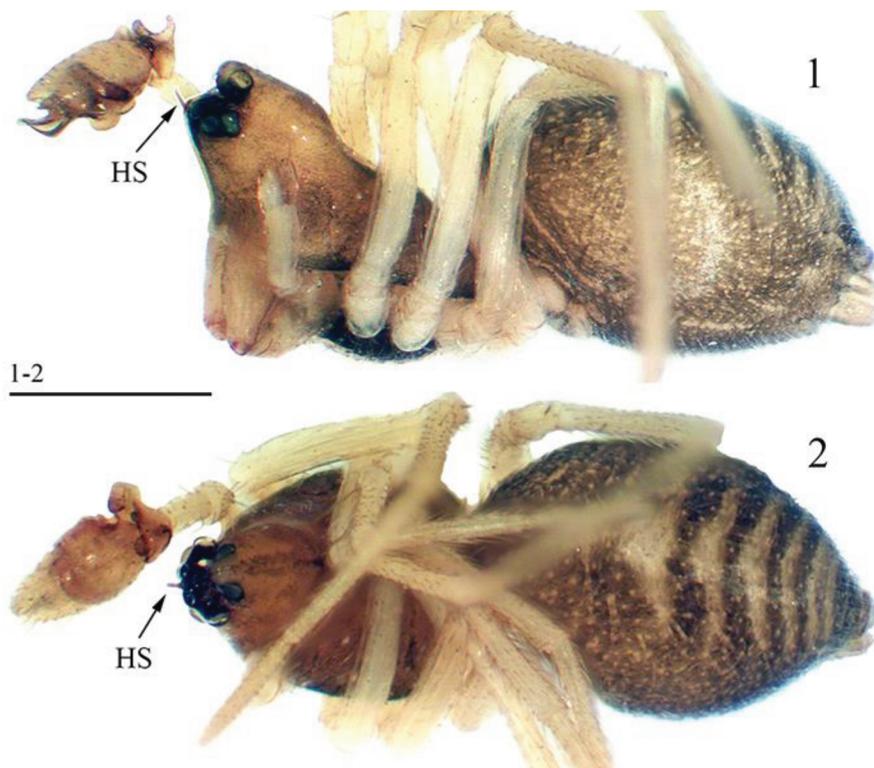
Type species: *Parbatthorax unicornis* **sp. nov.**

Etymology. The genus name consists of the combination of two words: “Parbat”, meaning the district of origin in Nepal, and “thorax”, referring to the peculiar shape of the carapace in the type species. The genus is masculine in gender.

Diagnosis. Among the genera of the subfamily Erigoninae that show the same chaeto- and trichobothriotaxy formulae, i.e. 2.2.1.1, and the presence of a trichobothrium on MtIV, *Parbatthorax* **gen. nov.** resembles *Gongylidioides* Oi, 1960 and *Glebala* Zhao & Li, 2014. From the former taxon, the new genus differs by a peculiar shape of the carapace as shown in Figures 1 and 2, highly developed distal suprategular apophysis, the peculiar shape and arrangement of the embolic division (Figures 3–6), and the remarkably modified palpal tibia and paracymbium (Figures 7 and 8). From the latter genus, *Parbatthorax* **gen. nov.** can easily be distinguished by the presence of both a paracymbium (vs. reduced) and, in the embolic division, a convector, an additional sclerite in the embolic division connected through a membranous tissue

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Figures 1 and 2. Male body of *Parbatthorax unicornis* sp. nov., holotype. 1- Lateral view; 2- Dorsal view. Scale bar = 0.5 mm.

with the embolus, but lacking a duct. This sclerite seems to support and protect the embolus. The highly developed distal suprategular apophysis in *Parbatthorax* gen. nov. resembles that in the palp of the Oriental genus *Nasoonaria* Wunderlich & Song, 1995, but this similarity seems to be superficial and the palps of *N. sinensis* Wunderlich & Song, 1995 and *N. magna* Tanasevitch, 2014 show significant differences in the arrangement of the embolic division, e.g., the absence of a convector and the peculiar structure of the column.

Description. Medium-sized erigonine: total length 1.75. Carapace modified as shown in Figures 1 and 2: posterior median eyes situated on cephalic elevation, the latter separated from anterior cephalic part by a shallow slit. A short and stout spine situated between anterior median eyes. Sulci absent. Chelicerae unmodified. Chaetotaxy 2.2.1.1. TmI 0.78. Each metatarsus with a trichobothrium. Palp as shown in Figures 3–8: Tibia and paracymbium highly modified. Distal suprategular apophysis very large, S-shaped. Median membrane completely reduced. Radix relatively small and oval, embolus flat, bent and directed forward near its base. Convector present, elongated. Abdomen with a dorsal pattern. For more details, see description of the type species below.

Species included. Only one species, *Parbatthorax unicornis* sp. nov.

Distribution. Known from the Himalayas of Nepal.

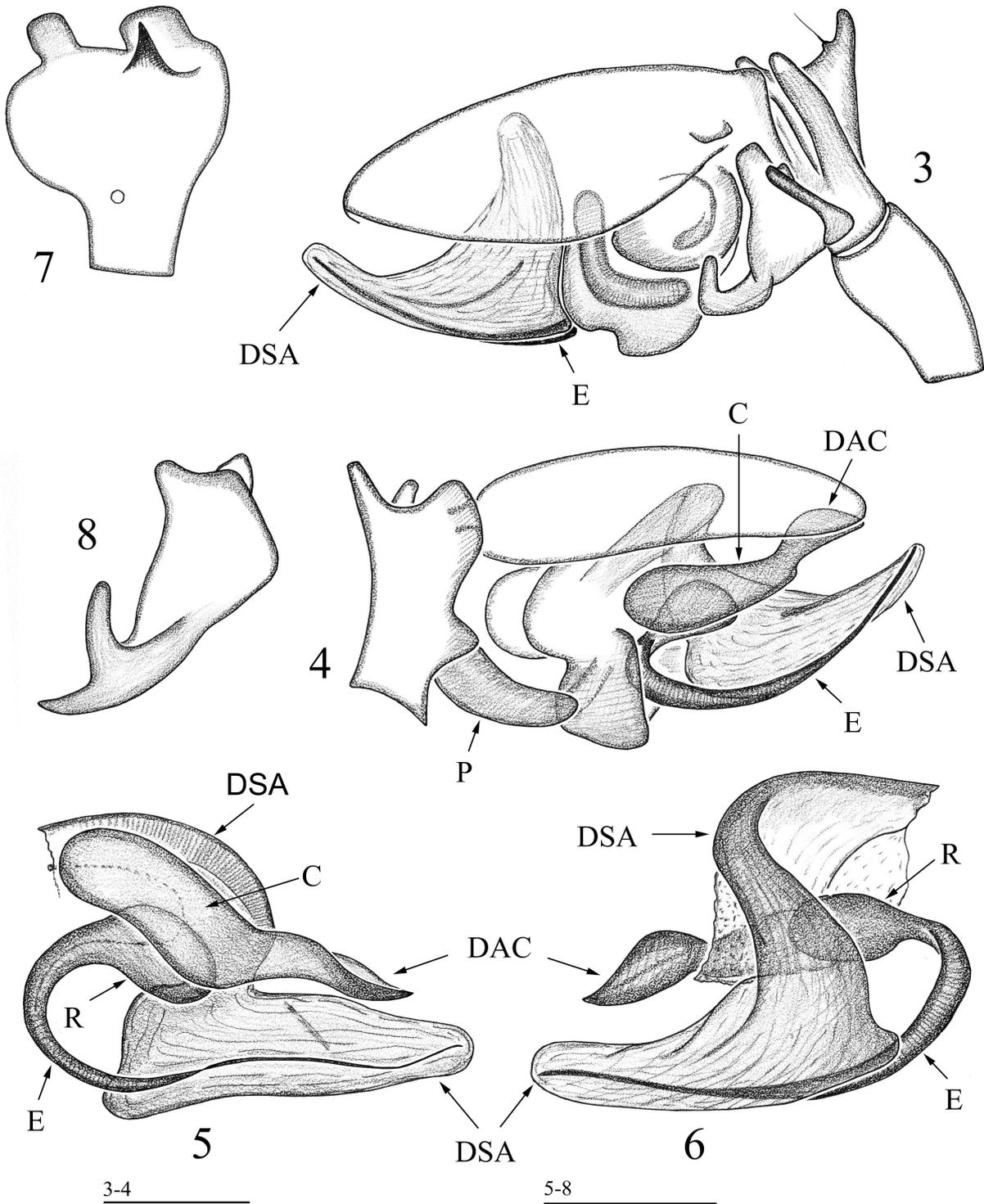
***Parbatthorax unicornis* sp. nov.** (Figures 1–8)

Etymology. The specific name in Latin is an adjective referring to the presence of a horn-shaped spine on the frontal surface of the male carapace.

Holotype. Male (SMF), Nepal, Parbat District, between Chitre and Ghandrung, from Chitre to passes, rich deciduous forest, 4.V.1980, J. Martens and A. Ausobsky leg. [#170].

Diagnosis. See above under the generic description.

Description. Male holotype. Total length 1.75. Carapace 0.88 long, 0.65 wide, dirty pale brown, modified as shown in Figures 1 and 2. A short, stout, apically slightly curved spine between anterior median eyes. Chelicerae 0.25 long, unmodified. Legs yellow to pale brown. Leg I, 2.31 long (0.65+0.18+0.53+0.55+0.40), IV, 2.41 long (0.70+0.20+0.55+0.63+0.33). Chaetotaxy 2.2.1.1, spines about 1.5–2 as long as segment's diameter. TmI 0.78. Each metatarsus with a trichobothrium. Palp as shown in Figures 3–8: Tibia highly modified, in addition to two apical outgrowths, with a sharp anterodorsal tooth. Distal part of paracymbium bifurcate, one process narrow,



Figures 3–8. Left palp details of *Parbatthorax unicornis* sp. nov., holotype. 3, 4- Palp, retrolateral and prolateral views, respectively; 5, 6- Embolic division and distal suprategular apophysis, prolateral and retrolateral views, respectively; 7- Palpal tibia, dorsal view; 8- Paracymbium, lateral view. Scale bar = 0.1 mm.

hook-shaped, the other slightly curved, tooth-like. Distal suprategular apophysis highly developed, S-shaped, conducting the distal part of embolus. Median membrane completely reduced. Radical part of embolus relatively small, rounded; embolus flat, bent near its base and directed forward. Convector present, elongated, stretched along palp axis, its distal apophysis (DAC in Figures 4–6) sharpened in lateral aspect. Abdomen 1.00 long, 0.70 wide, dark gray dorsally, with a white herring-bone pattern as shown in Figure 2.

Female unknown.

Distribution. Known only from the type locality in Himalayas of Nepal.

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