

New record of the jumping spider *Epeus exdomus* from Nepal (Araneae: Salticidae: Plexippina)

Kiran Thapa Magar¹, Min Bahadur Gurung², David E. Hill³ and Bimal Raj Shrestha⁴

¹ Central Department of Zoology, Tribhuvan University, Kathmandu, Nepal, *email* kiranmaski935@gmail.com

² Central Department of Zoology, Tribhuvan University and Small Mammals Conservation and Research Foundation, Kathmandu, Nepal, *email* tamumin23@gmail.com

³ 213 Wild Horse Creek Drive, Simpsonville, SC 29680-6513, USA, *email* platycryptus@yahoo.com

⁴ Central Department of Zoology, Tribhuvan University, Kathmandu, Nepal, *email* rajsthbimal9@gmail.com

Summary. The jumping spider *Epeus exdomus* Jastrzębski 2010 has been reported only once, from an unspecified location in Nepal. A live male collected in Kathmandu District is figured and described.

Introduction

The jumping spider genus *Epeus* Peckham & Peckham 1885 presently includes 15 species (WSC 2017), mostly recorded from South and Southeast Asia. Only two species are recorded from Nepal: *E. exdomus* Jastrzębski 2010 and *E. indicus* Jastrzębski 2010. The male *Epeus exdomus* is only known from the original description, based on a faded specimen preserved in alcohol (Jastrzębski 2010). The female of this species is not known. Although the type for *E. exdomus* may have been collected with locality and habitat data (Jochen Martens, pers. comm), no label was available when it was described and thus neither habitat nor locality for this species are known. This may account for the species name *exdomus*, meaning *homeless*. Here we document the distinctive appearance of a living male *E. exdomus* from Kathmandu District, Nepal.

Epeus exdomus Jastrzębski 2010

Material examined. 1 ♂, Kathmandu, 27°39'41.1" N, 85°14'2.6" E, 1796 m asl, 5 July 2017, collected by Kiran Thapa Magar (specimen CDZMTU01, Central Department of Zoology Museum of Tribhuvan University). All photographs presented here represent this single specimen.

Diagnosis. This species can be identified by these features of the legs: proximal light colouration increases from leg II to leg IV, whitish bristles present on the patella and tibia of all legs (Figures 1-4). Two pairs of long white spots are present on the dorsal opisthosoma. These can be seen clearly in a photograph of the holotype published by Jastrzębski (2010: Fig. 9), although he erroneously described them as *four longitudinal dark stains* in the text of his description. Embolus elongated and thin. The cymbium is large, flattened, triangular, and cone-shaped at the base, with short sharply-pointed posteriolateral and dorsolateral apophyses (Jastrzębski 2010; Prószyński 2016; Metzner 2016; see also Figures 5-8).

Description from life (♂, Figures 1-4). The carapace is black with a large diamond-shaped patch of white setae along the midline across the eye region. A triangular (pointed down) patch of white setae is present

below the AME at the midline of the clypeus, and the chelicerae are dark brown or black. The PME are much closer to the AME than to the PLE. The opisthosoma, elongated and tapered toward the rear, is black above and below, dorsally bearing two pairs of white stripes. The spinnerets are black. From below the opisthosoma in front of the epigastric groove is translucent green as are the sternum and the coxae and trochanters of legs II-IV. The labium and endites are blackish. The legs are generally dark red-brown or black except for the proximal segments as follows: The coxae and trochanters of legs II, the coxae, trochanters and proximal end of the femora of legs III, and the coxae, trochanters and proximal half of the femora of legs IV are bright, translucent green. Legs I-III, and legs IV to a lesser extent, have fringes of long black setae around the femora to metatarsi. The patellae and tibiae of legs I-III, and legs IV to a lesser extent, are fringed with long white setae. From above the pedipalps are dark red-brown to black.



Figures 1-4. Adult male *Epeus exdomus*. **1-2**, Dorsal views of spider in life. **3-4**, Anterodorsal (3) and ventral (4) views of spider prior to preservation, showing natural colouration. The scale at right is in mm.

Pedipalp (Figures 5-8). The pedipalps are dark brown and triangular except for the elongated tip of each cymbium. The embolus is elongated and thin, originating posterolaterally from the tegulum. The tegulum is oval and the retrolateral tibial apophysis (RTA) is short with a pointed tip. As figured by Jastrzębski (2010), three sharply pointed apophyses extend from the proximal end of each cymbium, two oriented in a proximal direction and one in a ventral direction just behind the RTA.



Figures 5-8. Pedipalps of adult male *Epeus exdomus* preserved in alcohol. Images of the right pedipalp (5-6, 8) are flipped horizontally (mirror image) to support comparison with other published figures based on a *left pedipalp standard*. **5**, Medial view of right pedipalp. **6**, Ventral view of right pedipalp. **7**, Ventral view of detached left pedipalp, showing proximal orientation of two of the three apophyses of the cymbium (arrows). **8**, Lateral view of the right pedipalp. The arrow shows the position of the ventrally-oriented (to the left) apophysis of the cymbium. In front of and below this is the RTA.

Dimensions. For reference the dimensions of this specimen are given in Tables 1 and 2.

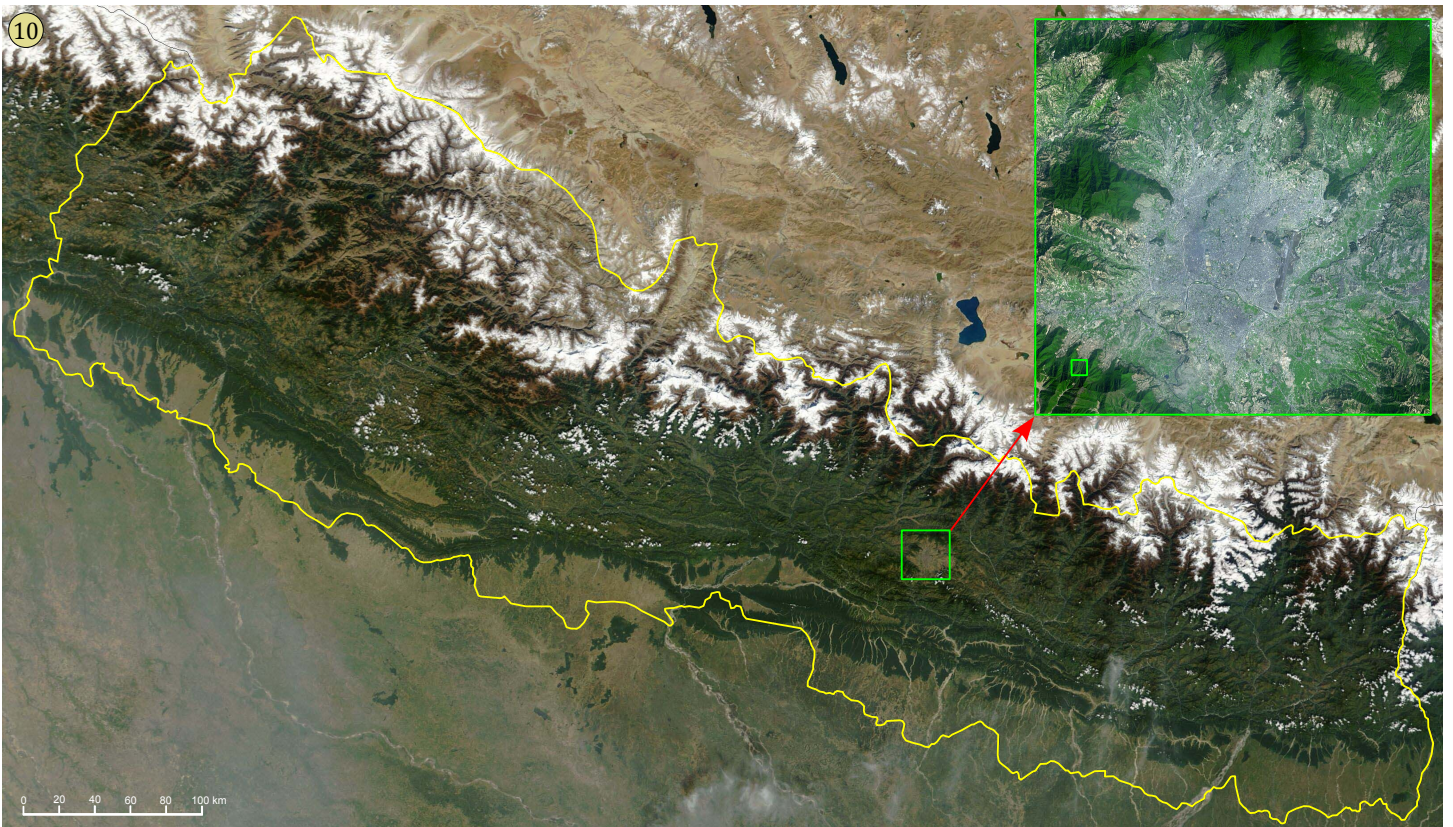
Table 1. Length (in mm) of leg segments of this adult male *Epeus exdomus*.

LEG	femur	patella	tibia	metatarsus	tarsus	total
I	2.65	0.82	2.06	1.59	0.88	8.00
II	2.65	0.97	2.29	1.65	0.85	8.41
III	2.94	1.00	2.32	1.68	0.85	8.79
IV	2.06	0.74	2.12	1.62	0.88	7.42

Table 2. Key dimensions (in mm) of this adult male *Epeus exdomus*.

total body length	5.78	pedipalp length	1.44	PLE diameter	0.29
prosoma length	2.70	pedipalp width	0.79	AME separation	0.06
prosoma width	2.05	AME diameter	0.59	AME-ALE separation	0.09
opisthosoma length	3.08	ALE diameter	0.29	ALE-PME separation	0.12
opisthosoma width	1.47	PME diameter	0.12	PME-PLE separation	0.29

Habitat and locality (Figures 9-10). This spider was found living on dense vegetation in Kathmandu District, Nepal.



Figures 9-10. Locality for *Epeus exdomus* southwest of Kathmandu, Nepal. **9**, This male was found living on dense vegetation in this open area. Note the access path and steps at lower left. **10**, Satellite map of Nepal (October 2002) showing Katmandu area (green rectangle, enlarged in inset at upper right), and collection locality (small rectangle at lower left of inset). Satellite images courtesy of NASA Visible Earth.

Acknowledgements

We highly thank Robert Whyte and Prof. Dr. Jerzy Prószyński for their encouragement, valuable suggestions and identification of the spider. We thank Prof. Dr. Nanda Bahadur Singh, Central Department of Zoology, Tribhuvan University for his kind advice and support. We are also grateful to the Central Department of Zoology, Tribhuvan University for providing a lab facility, and to Ajaya Shree Ratna Bajracharya, Senior Scientist, Entomology Division, Nepal Agricultural Research Council for allowing use of the stereo-microscope. We also appreciate the tireless support of Dipendra Adhikari and Shukra Raj Shrestha. Finally, we thank Jochen Martens for discussion relative to the lack of data on the holotype specimen that he collected from Nepal.

References

- Jastrzębski, P. 2010.** Salticidae from the Himalayas. The genus *Epeus* Peckham & Peckham, 1885 (Araneae: Salticidae). Genus 21: 115-120.
- Metzner, H. 2016.** Jumping spiders (Arachnida: Araneae: Salticidae) of the world, online at: www.jumping-spiders.com (accessed on 15 December 2016).
- Peckham, G. W. and E. G. Peckham. 1885.** Genera of the family Attidae: with a partial synonymy. Transactions of the Wisconsin Academy of Sciences, Arts and Letters 6: 255-342.
- Prószyński, J. 2016.** Monograph of the Salticidae (Araneae) of the World 1995-2015, online at: <http://www.peckhamia.com/salticidae>, version July 1st, 2016 (accessed on 19 August 2017).
- WSC. 2017.** World Spider Catalog. Natural History Museum Bern, online at <http://wsc.nmbe.ch>, version 18.5, (accessed on 19 August 2017).