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Journal of Threatened Taxa

Building evidence for conservation globally

www.threatenedtaxa.org

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

NOTE

A NEW SPECIES OF THE GENUS *OPIUS* WESMAEL, 1835 (HYMENOPTERA: BRACONIDAE: OPIINAE) FROM KASHMIR HIMALAYA, INDIA

Zaheer Ahmed, Ahmad Samiuddin, Altaf Hussain Mir & Mohammad Shamim

26 December 2020 | Vol. 12 | No. 17 | Pages: 17370–17373

DOI: 10.11609/jott.6141.12.17.17370-17373



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A new species of the genus *Opius* Wesmael, 1835 (Hymenoptera: Braconidae: Opiinae) from Kashmir Himalaya, India

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Abbreviations: AOL—Anterior ocellar line | POL—Posterior ocellar line | OOL—Ocello ocular line | OOD—Ocellus diameter | F—Flagellomere | T₁—First metasomal tergite | MDZUK—Museum Department of Zoology, University of Kashmir.

Opiinae is one of the largest subfamily of Braconidae (Hymenoptera: Ichneumonoidea) with 39 genera and 2,061 described species worldwide. Species of the subfamily Opiinae are solitary koinobiont endoparasitoids of larvae of cyclorhaphous Diptera, but oviposition may take place in the egg of the hosts (egg-larval parasitoids). They play significant role in the control of dipterous pests such as fruit flies (Tephritidae) and leaf-miner flies (Agromyzidae) (Wharton 1984, 1997; Schuster & Wharton 1993). The parasitoid larvae complete their development within the host larvae, pupate and emerge as adults (Li et al. 2013). *Opius* Wesmael is the largest genus of subfamily Opiinae and also one of the largest in the family Braconidae, with 33 subgenera and 1,202 described species (Yu et al. 2019). Some species of *Opius* have great potential in biological control of Agromyzid leaf miners. *O. tirolensis* is recorded as a biological control agent against *Phytomyza*

flavicornis, *O. (G) caucasi* against *Chromatomyia horticola*, and *O. (A) nowakowskii* against *Phytomyza thysseini* (Yu et al. 2012). The genus is represented by 51 species spread over 11 subgenera (including four species of subgenera *Utetes* from India, i.e., *Opius (Utetes) mudigerensis*; *Opius (Utetes) poonchicola*; *Opius (Utetes) parempiformis*; *Opius (Utetes) minicorpus* (Fischer, 1966, 1980, 1987, 1996, 2005, 2012; Samiuddin et al. 2009). In the present work a new species *Opius (Utetes) hazratbalensis* sp. nov. from Kashmir, Himalaya has been described and illustrated.

The specimens were collected by using sweeping net. Slides and card mount specimens were examined under the binocular microscope. The ocular micrometer was used to measure (linear side of 100 divisions) fitted in one of the two eye pieces of the binocular. The ocular micrometer was calibrated with the help of stage micrometer under 8x, 10x magnifications. Photographs were taken at different magnifications (4–16x) by the camera attached to Stereozoom binocular (SMZ1500) and Nikon SMZ 25. The terminology and the venation were followed by Achterberg (1993) and for surface sculpture Eady (1968) has been followed.

ZooBank: urn:lsid:zoobank.org:pub:5E270366-48B8-40A9-88F2-48B172B070F8

Editor: Anonymity requested.

Date of publication: 26 December 2020 (online & print)

Citation: Ahmed, Z., A. Samiuddin, A.H. Mir & M. Shamim (2020). A new species of the genus *Opius* Wesmael, 1835 (Hymenoptera: Braconidae: Opiinae) from Kashmir Himalaya, India. *Journal of Threatened Taxa* 12(17): 17370–17373. <https://doi.org/10.11609/jott.6141.12.17.17370-17373>

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Funding: None.

Competing interests: The authors declare no competing interests.

Acknowledgements: We thank Dr. Mohd Kamil Usmani, professor and head, Entomology section, Department of Zoology, Aligarh Muslim University for providing laboratory facilities.

***Opilus (Utetes) hazratbalensis* sp. nov.**
(Image 1 A–G)

urn:lsid:zoobank.org:act:DBDA5D24-0C95-47DD-B8DB-DAF7DAAD65AE

Material examined: Holotype: MDZUK ZoKU Art/06180, 15.v.2019, female, University campus, Hazratbal, Jammu & Kashmir, India; coll. Zaheer Ahmed. In near future it will be deposited in the Department of Zoology, Aligarh Muslim University, Aligarh.

Paratype: 1 female, same data as holotype.

Female: Body length 5.95mm; forewing 6.07mm.

Head: The width of head in dorsal view 1.7x its length and 1.3x its height; occipital carina complete; length of eye in lateral view 1.3x its width and 2.7x its temple; temple smooth, OOL:POL:AOL:OOD=3:3:14:3; vertex antero-medially smooth, remaining rugose and sparsely setose, width of vertex 2.7x its length; frons smooth, shiny and densely setose near antennal sockets, width of frons 4.3x its length; face punctate reticulate with median longitudinal groove and densely setose, width of face 1.6x its length; tentorial pits deep and wide; intertentorial line 2.6x tentorio-ocular line; malar suture present, length of malar space 1.7x basal width of

mandible; clypeus concave, rugose and densely setose, length of clypeus 2x its width; antennae 47-segmented, length of scape 1.3x its width, length of pedicel 1.16x its width, basal flagellar segments relatively long, first segment (F_1) 3.2x as long as wide, length of F_2 5.3x: F_3 - F_4 5x: F_5 - F_6 4.3x: F_7 - F_{12} 4x: F_{13} - F_{22} 3.3x: F_{23} - F_{26} 3x: F_{27} - F_{34} 4.5x: F_{35} - F_{44} 4x: and F_{45} 4.5x their widths respectively.

Mesosoma: Length of mesosoma 1.8x its width and 2.2x, 2.7x as high as head (95:30) and 1.15x wide as head (52:60), mesonotum 2.3x as long medially, as wide between tegulae; dorsal surface of scutellum punctate, laterally striate; median lobe of mesoscutum reticulate, lateral lobe smooth, polished; notauli deep, crenulate antero-medially, remaining rugose; mesopleuron antero-medially granulate remaining smooth, metapleuron reticulate rugose; mid pit present; precoxal sulcus absent; scutellar sulcus deep and broad with two median carinae; metanotum concave, smooth; propodeum coriaceous entirely without five sided areola.

Wings: Length of forewing 2.7x its width; pterostigma long cylindrical, length of pterostigma 10.2x its width (72:7), length of vein 1-R1, 1.1x length of pterostigma; vein r arising 1/3rd of pterostigma; m-cu and cu-a

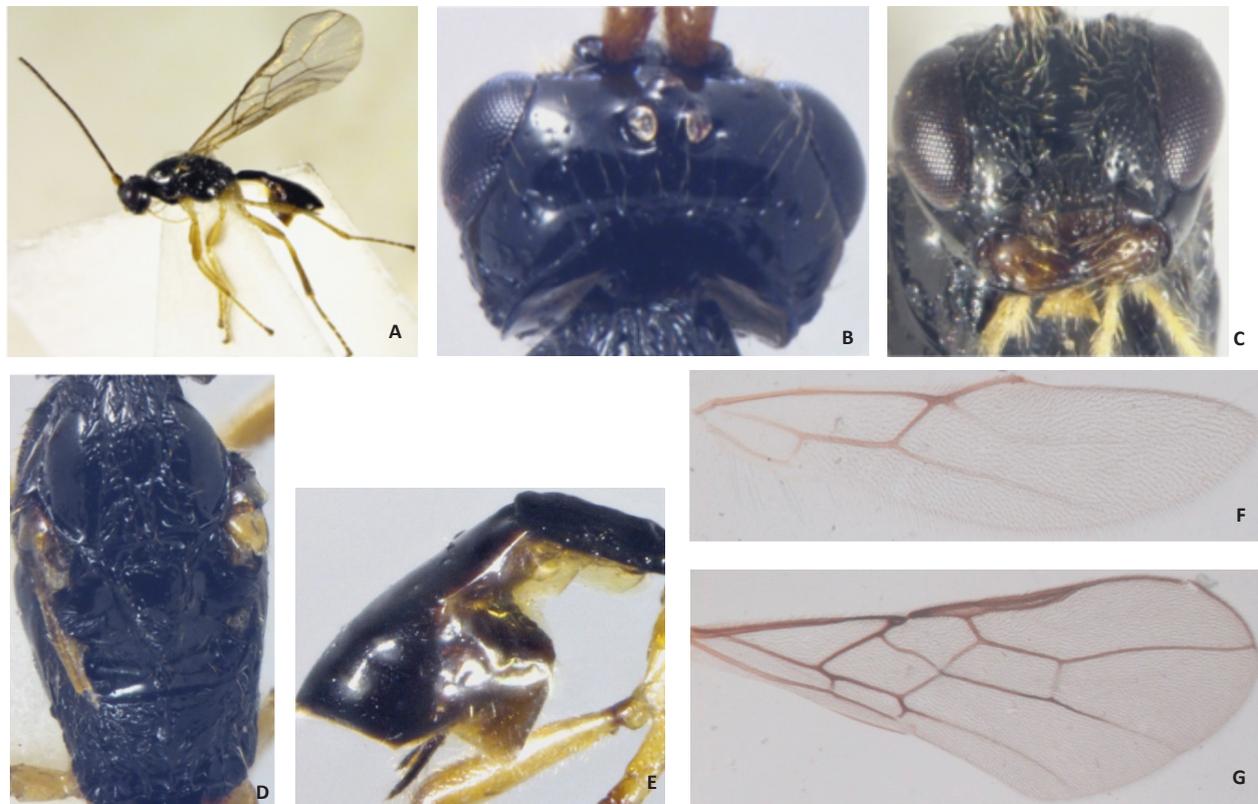


Image 1. Female *Opilus (Utetes) hazratbalensis* sp. nov. (magnifications 4–16x): A—adult female | B—dorsal head | C—frontal head | D—mesosoma dorsal | E—metasoma lateral | F—hindwing | G—forewing. © Zaheer Ahmed

<i>Opius (Utetes) hazratbalensis</i> sp. nov.	<i>Opius (Utetes) mudigerensis</i> , Fischer
1. Body length 5.95mm	1. Body length 4mm
2. Basal flagellar segments relatively long, first segment (F ₁) 3.2x as long as wide	2. Basal flagellar segments relatively short, first segment (F ₁) 2x as long as wide
3. Mesonotum 2.3x as long medially as wide between tegulae	3. Mesonotum 1.2x wider between tegulae than longitudinally
4. First tergite 1.75x longer than wide at hind (posteriorly)	4. First tergite 1.25x longer than wide at hind (posteriorly)
5. Propodeum without five-sided areola	5. Propodeum with five-sided areola
6. Hind tibia 3.4x as long as ovipositor sheath	6. Hind tibia as long as ovipositor sheath

Key to the Indian species of the subgenus *Utetes*

- 1 Antennae 24–28 segmented; T₁ 1.2x–1.5x as long as wide; ovipositor sheaths as long as T1 in lateral view (12:12); body length 1.9–4 mm 2
- 2 Antennae 47 segmented; T₁ 1.7x as long as wide; ovipositor sheaths short as compared to T1 in lateral view (8:12); body length 5.95mm *Opius (Utetes) hazratbalensis* sp. nov. female
- 3 F₁ 2x as long as wide *Opius (Utetes) mudigerensis* Fischer, 1980, female
- 3 F₁ 4–6x as long as wide 3
- 3 F₁ 6x as long as wide; clypeus 3x as wide as high; sternaulus with some notches.....*Opius (Utetes) parempiformis* Fischer, 2012, female
- 3 F₁ 4–5x as long as wide; clypeus 1.5x–2x as wide as high; sternaulus densely crenulated 4
- 4 Face as wide as high; propodeum with a broad pentagonal area *Opius (Utetes) minicorpus* Fischer, 2012, female
- 4 Face 1.25x as wide as high; propodeum with basal carina, pentagonal area and costulae, irregularly sculptured *Opius (Utetes) poonchicola* Fischer, 2012, female

postfurcal; SR1+3-SR slightly curved; r: 2-SR:S-R1+3-SR = 11:20:115; vein 3-SR 1.7x as long as 2-SR; 1-CU1: 2-CU1: 3-CU1 = 5:27:3; length of hind wing 4.2x its width; 1M: 1-r-m: 2-SC+R= 26:4:5

Legs: Hind coxa rugose, 1.5x as long as wide; length of hind femur, tibia and basitarsus 5.5x, 9.3x and 7.5x their width respectively; length of hind tibial spurs 0.06x hind basitarsus.

Metasoma: Length of metasoma 2.4x its width and 4.4x its height; first metasomal tergite 1.75x longer than wide at hind (posteriorly); length of first metasomal tergite 2.6x its apical width, apical width 1.5x its basal width, its surface longitudinally striate throughout the length; dorsope present; spiracles present medially; ovipositor short and pointed, ovipositor sheaths short as compared to T1 in lateral view (8:12); hind tibia 3.4x as long as ovipositor sheaths.

Colour: Head, face, mesosoma brownish to blackish except tegula brown, wings membranous with brown venation except pterostigma dark brown, antennae uniformly dark brown, legs brownish-yellow, mandibles dark brown with black teeth, eyes blackish, ocelli transparent, ocellar area black, maxillary and labial palpi yellowish, metasoma blackish, ovipositor reddish, ovipositor sheaths dark brown.

Male: Unknown

Host: Unknown

Etymology: The new species name refers to its type locality.

Discussion: *Opius (Utetes) hazratbalensis* sp. nov. closely resembles with Indian species *Opius (Utetes) mudigerensis* Fischer, 1980. However, it differs from *mudigerensis* in having body length 5.95mm; basal flagellar segments relatively long, first segment (F₁) 3.2x as long as wide; mesonotum 2.3x as long medially as wide between tegulae; first tergite 1.75x longer than wide at hind (posteriorly); propodeum without five sided areola and ovipositor sheath short in lateral view, hind tibia 3.4x as long as ovipositor sheath.

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ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

December 2020 | Vol. 12 | No. 17 | Pages: 17263–17386

Date of Publication: 26 December 2020 (Online & Print)

DOI: 10.11609/jott.2020.12.17.17263-17386

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