Building evidence for conservation globally

Journal of Threatened Taxa

10.11609/jott.2026.18.9.29559-29790
www.threatenedtaxa.org

26 September 2026 (Online & Print)
18(9): 29559-29790
ISSN 0974-7907 (Online)
ISSN 0974-7893 (Print)

Open Access

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

Publisher
Wildlife Information Liaison Development Society
www.wild.zooreach.org

Host
Zoo Outreach Organization
www.zooreach.org

Srivari Illam, No. 61, Karthik Nagar, 10th Street, Saravanampatti, Coimbatore, Tamil Nadu 641035, India
Registered Office: 3A2 Varadarajulu Nagar, FCI Road, Ganapathy, Coimbatore, Tamil Nadu 641006, India
Ph: +91 9385339863 | www.threatenedtaxa.org
Email: sanjay@threatenedtaxa.org

For Focus, Scope, Aims, and Policies, visit https://threatenedtaxa.org/index.php/JoTT/aims_scope
For Article Submission Guidelines, visit https://threatenedtaxa.org/index.php/JoTT/about/submissions
For Policies against Scientific Misconduct, visit https://threatenedtaxa.org/index.php/JoTT/policies_various

continued on the back inside cover

Cover: Indian Grey Wolf *Canis lupus pallipes* and Smooth-coated Otter *Lutrogale perspicillata* sharing the territory in Chambal basin. Digital art on Procreate by Aakanksha Komanduri.

Journal of Threatened Taxa | www.threatenedtaxa.org | 26 September 2026 | 18(9): 29776–29780
ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)
https://doi.org/10.11609/jott.10516.18.9.29776-29780
#10516 | Received 08 March 2026 | Final received 21 July 2026 | Finally accepted 09 September 2026
OPEN ACCESS
SHORT COMMUNICATION

New distribution records of two *Lithurgus* bee species (Hymenoptera: Megachilidae) from Jammu & Kashmir, India

P.M. Osman Javid [1] & **Sajad H. Parey** [2]

[1,2] Insect Systematics Research Laboratory, Department of Zoology, Baba Ghulam Shah Badshah University, Rajouri, Jammu & Kashmir 185234, India.
[1] osmanjavid750@gmail.com (corresponding author), [2] sajadzoo@gmail.com

Abstract: The present study provides new distributional record of *Lithurgus* bees of the family Megachilidae. *Lithurgus albofacialis* (Gupta) and *Lithurgus atratus* (Smith) are new records for Jammu & Kashmir region. Detailed notes on diagnostic features, material examined, and precise locality data are provided. These findings extend the known geographical range of both species in the region and contribute to the understanding of Megachilidae diversity in India. The study underscores the importance of continued faunal surveys for documenting the bee fauna of the Himalayan biodiversity hotspot.

Keywords: Habitat, morphology, new records, pollination, sampling Himalaya, solitary bees, systematics, taxonomy, wild bees.

Lithurgus Berthold, 1827 is a genus of solitary bees belonging to the family Megachilidae. Members of this genus are commonly known as wood-borer bees because females excavate nests in dead or decaying wood (Michener 2007). The genus is placed within the tribe Lithurgini and subfamily Lithurginae, which are characterized by the absence of arolia in females and the presence of a pygidial plate, which is situated on T7 in males (Michener 2007; Gonzalez et al. 2013). The genus *Lithurgus* is widely distributed in tropical, subtropical, and America (Michener 2007). Species of *Lithurgus* are important pollinators of various wild and cultivated plants and are generally univoltine in nature (Michener 2007). In India, the genus is poorly represented and remains inadequately studied, only 12 species of genus *Lithurgus* are known (Javid et al. 2023). However, regional faunal surveys suggest that additional undocumented diversity may exist, particularly in underexplored areas such as the northwestern Himalaya. Further taxonomic and distributional studies are therefore essential to understand the diversity and ecological significance of *Lithurgus* in India.

The Jammu & Kashmir region harbours a unique bee fauna exhibiting a striking similarity to the Palaearctic fauna in contrast to the rest of India which is typical of the southeastern Asian tropical fauna. In India, the Megachilidae family is taxonomically the most diverse, comprising about 40% of the country's bee fauna. (Gupta 1993). Based on the biogeographic distribution in India, 102 species are found in the Himalayan region and the genera *Megachilie*, *Osmia*, *Coelioxyus*, & *Anthidium* show widespread distribution both in the Himalaya and southern India (Javid et al. 2023)

Materials and Methods

Study site

Specimens were collected from diverse localities across Jammu & Kashmir, between 2023 and 2024 during April–September, which corresponds to the peak

Editor: Arvind Kumar, Forest Research Institute, Dehradun, India. **Date of publication:** 26 September 2026 (online & print)

Citation: Javid, P.M.O. & S.H. Parey (2026). New distribution records of two *Lithurgus* bee species (Hymenoptera: Megachilidae) from Jammu & Kashmir, India. *Journal of Threatened Taxa* 18(9): 29776–29780. https://doi.org/10.11609/jott.10516.18.9.29776-29780

Funding: This research received no specific grant from any funding agency, commercial, or not-for-profit sectors.

Competing interests: The authors declare no competing interests.

Acknowledgements: The first author sincerely thanks all those who assisted during field surveys in the Kashmir region, especially the local farming community for permitting surveys in their orchards and for their cooperation.

flowering season. Sampling was conducted on sunny days from a wide range of habitats, including agricultural fields, orchards, grasslands, extending from the plains to the higher Himalayan regions. The study area covered an altitudinal range of 1,641–3,200 m. Representative sampling localities included Darhal, Rajouri (33.425^0 N, 74.420^0 E), Aru Valley Pahalgam, Anantnag (**34.091**^{0} N, 75.263^0 E), & Shopian (33.68^0 N, 74.77^0 E).

Methods

Bee specimens were collected from flowering plants, *Hibiscus syriacus*, using a standard sweep insect net. The collected specimens were killed in a glass killing bottle containing ethyl acetate and subsequently pinned, labelled, and preserved following standard entomological procedures. Morphological identification was carried out to the species level using an Olympus SZX10 stereo zoom trinocular microscope. Species identification was done using original description by Smith (1853) & Gupta (1993) and by comparison with relevant taxonomic literature. Photographs were taken using a NIKON DS-Ri2 camera attached to a SMZ25 stereo zoom microscope and processed with NIS-Element's software.

Results

***Lithurgus* (*Lithurgus s. str.*) *atratus* Smith, 1853**

Lithurgus (*Lithurgus*) *atratus* Smith, 1853

(Image 1)

Integuments: Black pubescence on legs, golden yellow on inner side of fore basi tarsi; greyish and white dense pubescence on side and apex of the mesosoma.

Head: Shiny pubescence on face; clypeus roughly punctate and without median longitudinal line, basally produced into a prominent triangular ridge, apically curved fulvous pubescence.

Mesosoma: Disc of the scutum and scutellum convex, transverse rugose with short white and black pubescence along the border; posterior margin of

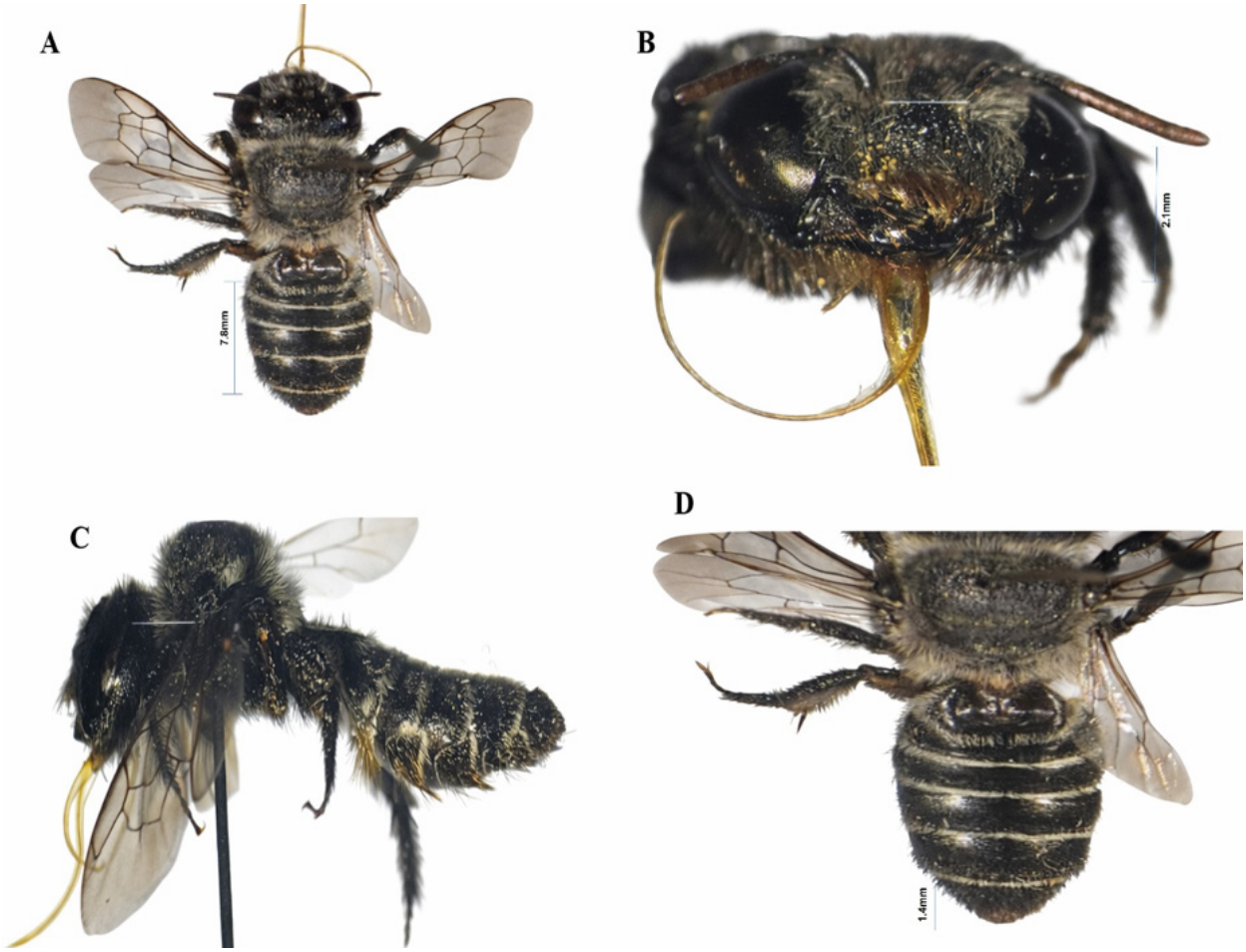

Image 1. *Lithurgus atratus* female: A—Habitus dorsal side | B—Head | C—Lateral view | D—Terga dorsal view and hind tibial spur. © PM Osman Javid

scutellum rounded; wings subhyaline.

Metasoma: T1–T5 apical margin ciliated with white fasciae, interrupted in the middle of T1; on each side of T5 with sparse black erect pubescence; T6 covered with dense suberect pubescence, sub apical spines on either side, with a median apical large spine; scopa brownish-black.

Material examined: 2 females, India: Darhal (Rajouri), 22.vi.2024, sweep net, coll. Osman Javid. Deposited in Dept. of Zoology, BGSB, University, Rajouri. (Accession No. BGSBU/ZOOL/2024/112)

Distribution: India: Jammu & Kashmir (New record); Uttarakhand (Dehradun) (Gupta 1993).

***Lithurgus* (*Lithurgus*) *albofacialis* (Gupta, 1993)**
(Image2)

Male: Total length 11 mm

Integument: Black with rugose surface; tegulae, flagellum, apices of tarsi 2–5.

Pubescence: In general white but all fringes of legs, mese-& mete-pisternites, discal on tergites more greyish or dusty; scopa reddish-brown, darker at apex.

Head: F1 long than F2; Clypeal margin transverse; protuberence little broad, thoroughly punctured (larger at apex).

Mesosoma: vestibule reaching base of hind coxae in repose; scutum and scutellum medio-posteriorly with sooty black bristles; spicules of fore and mid tibiae arranged in rows; hind tibiae slightly bent

Metasosma: Tergum 7 spine acute at apex; terga 6 densely covered with violet-red hairs. T6 covered with dense suberect pubescence, sub apical spines on either side, with a median apical large spine.

Legs: Arolia present supra present on hind tibia, two rows of tubercles on fore and mid tibia; outer surface of tibiae with coarse tubercles that do not end in bristles; Male metatarsus, depicting modification of metabasitarsus.

Material examined: 2 males, India: Kashmir, Aru valley, Pahalgam (Anantnag), 07.vi.2024, sweep net, coll. Osman Javid. Deposited in Dept. of Zoology, BGSB, University, Rajouri (Accession No. BGSBU/ZOOL/2024/114)

Distribution: India: Jammu & Kashmir (New record), Uttarakhand (Dehradun), and Haryana (Gupta 1993).

Discussion

The present study documents two species of the genus *Lithurgus*, *Lithurgus atratus* (Smith) and *Lithurgus albofacialis* (Gupta), as new distributional records for

Image 2. *Lithurgus albofacialis* male: A—Habitus dorsal side | B—Metasoma terga | C—Head front (Clypeus) | D—Antenna | E—Tarsal claws with arolia. © PM Osman Javid.

Image 3. A—Habitat of *Lithurgus* bee | B—Host plant *Hibiscus syriacus* of collected specimen. © PM Osman Javid.

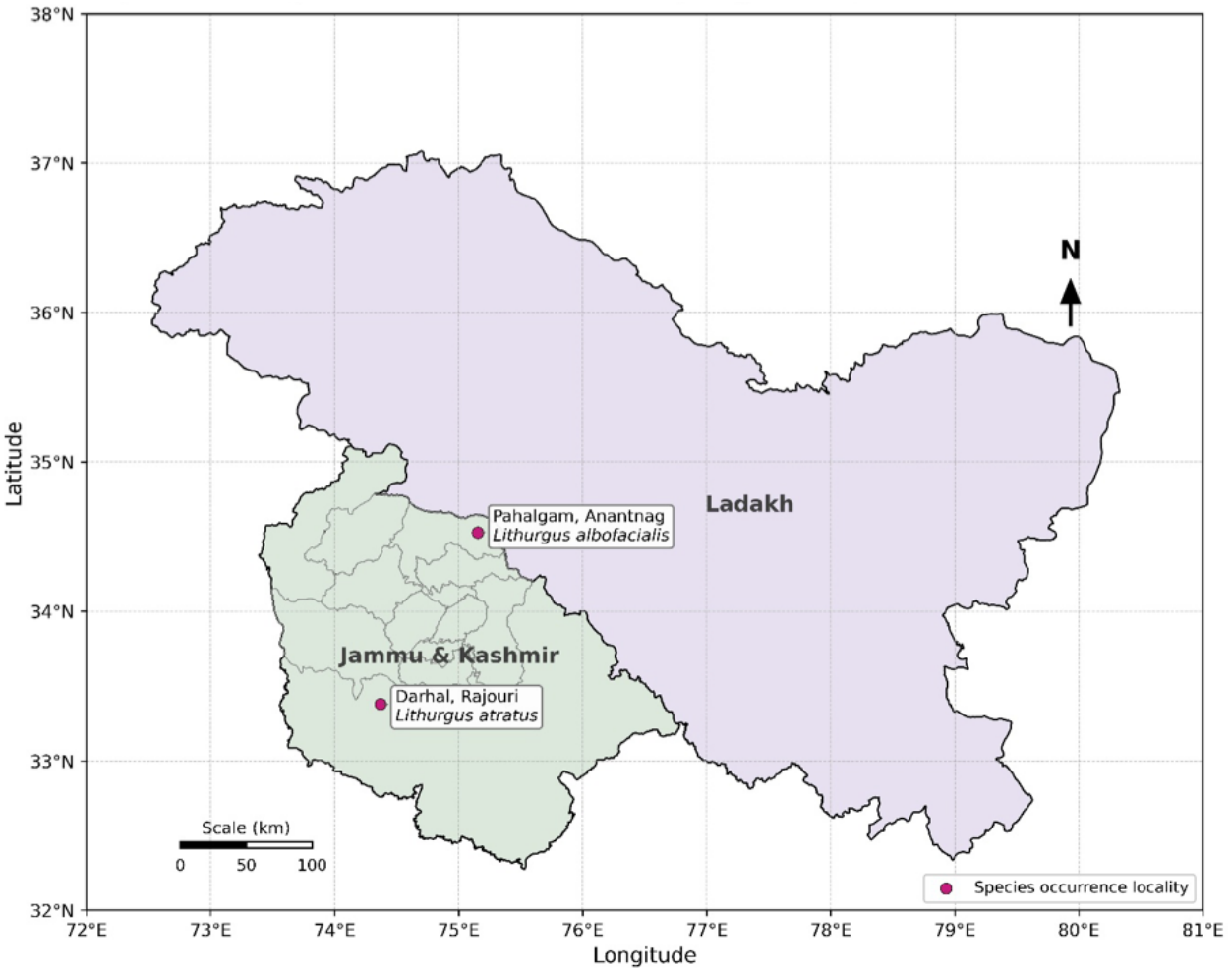

Image 4. Sampling sites in Jammu & Kashmir and new records of *Lithurgus atratus* and *Lithurgus albofacialis*.

the Jammu & Kashmir, India. These records significantly extend the known distribution of both species into the northwestern Himalaya and contribute to the growing knowledge of the bee fauna of this biogeographically important region. The occurrence of these species suggests that the megachilid diversity of Jammu & Kashmir remains insufficiently explored and that additional systematic surveys are likely to reveal further distributional records and potentially undescribed taxa.

The northwestern Himalaya encompassing the Indian states of Jammu & Kashmir, Himachal Pradesh, and Uttarakhand represent a significant biodiversity hotspot with a rich array of bee species (Dar & Khuroo 2020). Within this ecological landscape, bees of the family Megachilidae, which includes leafcutter, mason, and wood-borer bees, play a crucial role in ecosystems they contribute to the health and sustainability of plant communities by supporting plant reproduction and genetic diversity (Ollerton et al. 2011). The Himalayan region is recognized as a global biodiversity hotspot characterized by remarkable habitat heterogeneity and high levels of endemism. Nevertheless, information on the diversity and distribution of solitary bees in this region remains fragmentary. As emphasized by Michener (2007), solitary bees are key pollinators in natural ecosystems and contribute substantially to the reproduction of alpine and temperate flowering plants. The addition of *L. atratus* and *L. albofacialis* to the bee fauna of Jammu & Kashmir highlights the importance of continued taxonomic exploration, biodiversity documentation, and long-term monitoring of native pollinator communities. Such studies are essential for understanding species distributions, assessing the impacts of environmental change, and developing effective conservation strategies for pollinators in the fragile Himalayan ecosystems.

References

Berthold, A.A. (1827). Latreille's Naturliche Familien des Thierreichs. Aus dem Französischen. Mit Anmerkungen und Zusatzen. Landes-Industrie-Comptoirs, Weimar. x + 606 pp.

Dar, G.H. & A.A. Khuroo (2020). Biodiversity of the Himalaya: Jammu and Kashmir State. Topics in Biodiversity and Conservation, Vol. 18. Springer Nature Singapore. https://doi.org/10.1007/978-981-32-9174

Engel, M.S. (2005). Family-group names for bees (Hymenoptera: Apoidea). American Museum Novitates 3476: 1–33. https://doi.org/10.1206/0003

Gonzalez, V.H. et al. (2013). The lithurgine bees of Australia (Hymenoptera: Megachilidae), with a note on *Megachile rotundipennis*. Journal of Melittology 11: 1–19.

Gupta, R.K. (1993). Taxonomic Studies on the Megachilidae of North-Western India. Scientific Publishers India, 294 pp.

Javid, P.M.O. et al. (2023). New distributional record of Anthidiine bee (Apoidea: Megachilidae) from Ladakh, India and a checklist of the family Megachilidae Latreille, 1802 (Hymenoptera: Insecta) of India. Records of Zoological Survey of India 123 (i2S): 95–108.

Michener, C.D. (2007). The Bees of the World, 2nd edition. The Johns Hopkins University Press, Baltimore, Maryland, 953 pp.

Ollerton, J. et al. (2011). How many flowering plants are pollinated by animals? Oikos 120(3): 321–326. https://doi.org/10.1111/j.1600-0706.2010.18644.x

Smith, F. (1853). Catalogue of Hymenopterous Insects in the Collection of the British Museum. Part I. Andrenidae and Apidae. British Museum, London, 197 pp.

Journal of Threatened Taxa is indexed/abstracted in Bibliography of Systematic Mycology, Biological Abstracts, BIOSIS Previews, CAB Abstracts, EBSCO, Google Scholar, Index Copernicus, Index Fungorum, JournalSeek, National Academy of Agricultural Sciences, NewJour, OCLC WorldCat, SCOPUS, Stanford University Libraries, Virtual Library of Biology, Zoological Records.

NAAS rating (India) 5.64

Print copies of the Journal are available at cost. Write to:
The Managing Editor, JoTT,
c/o Wildlife Information Liaison Development Society,
3A2 Varadarajulu Nagar, FCI Road, Ganapathy, Coimbatore,
Tamil Nadu 641006, India
ravi@threatenedtaxa.org & ravi@zooreach.org

Journal of Threatened Taxa

www.threatenedtaxa.org

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

September 2026 | Vol. 18 | No. 9 | Pages: 29559–29790
Date of Publication: 26 September 2026 (Online & Print)
DOI: 10.11609/jott.2026.18.9.29559-29790

Publisher & Host

WILD zoo reach
Zoo Outreach Organisation

Threatened Taxa