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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.

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° N, 74.420° E), Aru Valley Pahalgam, Anantnag (34.091° N, 75.263° E), & Shopian (33.68° N, 74.77° 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

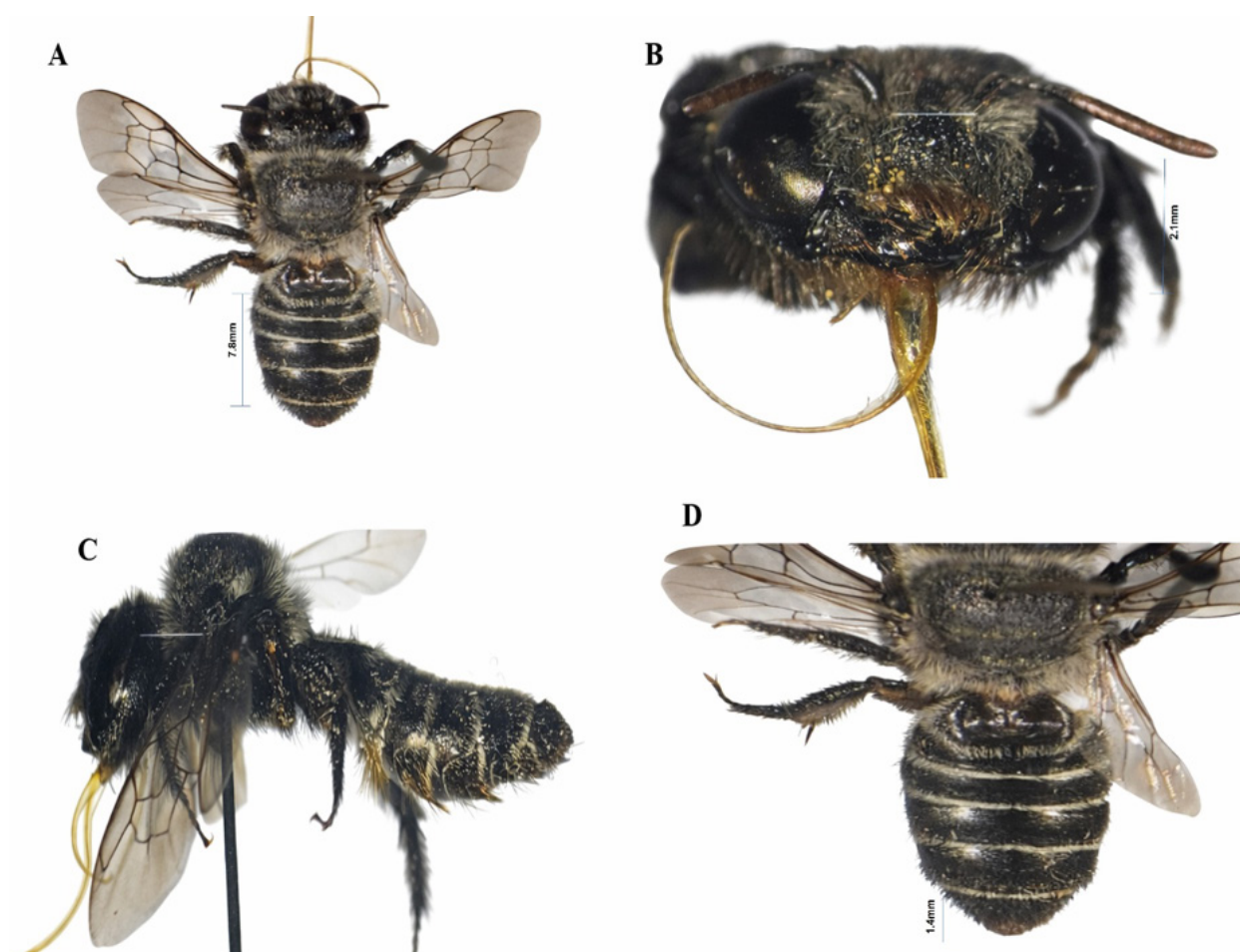


Image 1. *Lithurgus atratus* female: A—Habitus dorsal side | B—Head | C—Lateral view | D—Terga dorsal view and hind tibial spur. © PM Osman Javid

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; protuberance 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

Metasoma: 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.

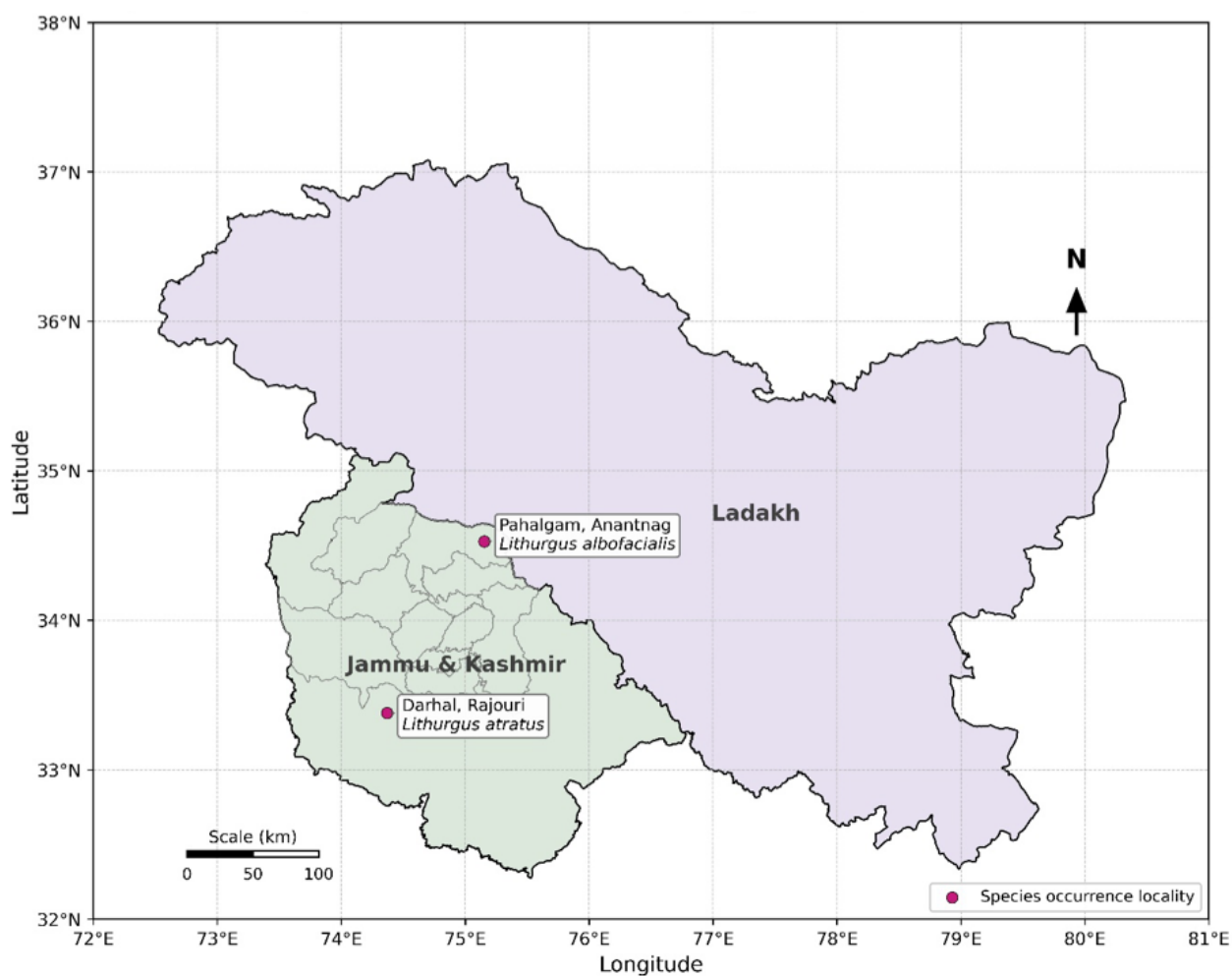


Image 4. Sampling sites in Jammu & Kashmir and new records of *Lithurgus atratus* and *Lithurgus albofacialis*.

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.

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