

Two new species of the subgenus *Lasioglossum* (*Hemihalictus*) (Hymenoptera: Halictidae), with a checklist of the species from India

Два новых вида подрода *Lasioglossum* (*Hemihalictus*) (Hymenoptera: Halictidae) со списком видов из Индии

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Abstract. Two new species of bees of the family Halictidae, *Lasioglossum* (*Hemihalictus*) *rugulosum* **sp. nov.** and *L. (H.) longitudinale* **sp. nov.** from the state of Uttarakhand in northern India, are described and illustrated. An annotated list of Indian species of the subgenus *Hemihalictus* Cockerell, 1897 and map of their distribution are provided.

Резюме. Описаны и проиллюстрированы два новые вида пчел семейства Halictidae, *Lasioglossum* (*Hemihalictus*) *rugulosum* **sp. nov.** и *L. (H.) longitudinale* **sp. nov.**, штата Уттаракханд в Северной Индии. Приведен аннотированный список видов подрода *Hemihalictus* Cockerell, 1897 Индии и карта их распространения.

Key words: sweat bees, taxonomy, India, Oriental Region, Halictidae, *Lasioglossum*, *Hemihalictus*, new species

Ключевые слова: галиктиды, таксономия, Индия, Ориентальный регион, Halictidae, *Lasioglossum*, *Hemihalictus*, новые виды

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Introduction

The genus *Lasioglossum* Curtis, 1833, distributed worldwide, is a highly diverse group of bees with approximately 1880 species. The subgeneric classification of *Lasioglossum* remains controversial. Michener (2007), in his book “Bees of the World”, divided the known species of *Lasio-*

glossum into two series, *viz.*, *Lasioglossum*–series consisting of the subgenera *Australictus* Michener, 1965, *Callalictus* Michener, 1965, *Chilalictus* Michener, 1965, *Ctenonomia* Cameron, 1903, *Glossalictus* Michener, 1965, *Lasioglossum* s. str., *Parasphecodes* Smith, 1853, and *Pseudochilalictus* Michener, 1965, in which the first and second submarginal cross veins are stronger than the third submarginal cross vein. The second, *Hemihalictus*–series, with the subgenera *Acanthalictus*

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Cockerell, 1924, *Austrevylaeus* Michener, 1965, *Dialictus* Robertson, 1902, *Evyllaeus* Robertson, 1902, *Hemihalictus* Cockerell, 1897, *Paradialictus* Pauly, 1984, *Sellalictus* Pauly, 1984, *Sphexcodogastrea* Ashmead, 1899, and *Sudila* Cameron, 1898, all of which have the second and third submarginal cross veins weaker than the first one.

Cameron (1898) erected the genus *Sudila* in the tribe Halictinae with three new species, *S. bidentata* (male), *S. fuscipennis* (male), and *S. ceylonica* (female). Later, the species *S. bidentata* Cameron, 1898 was designated as a type species for the genus *Sudila* by Sandhouse (1943). However, the status of *Sudila* has changed to that of the subgenus of the genus *Lasioglossum*, with six species from South Asia (Sakagami et al., 1996). Among the six species, *Lasioglossum bidentatum*, *L. alphenum* (Cameron, 1897), *L. aulacophorum* (Strand, 1913), *L. kandiense* (Cockerell, 1913), *L. jacobsoni* (Friese, 1914), and *L. paralphenum* Sakagami, Ebmer et Tadauchi, 1996, which were included by Sakagami et al. (1996) in the subgenus *Sudila*, only two species, *L. alphenum* and *L. paralphenum*, were recorded from India.

Zhang et al. (2011) described two new species of the subgenus *Sudila*, i.e., *Lasioglossum genotrigonum* and *L. semiruginosum*, from China. The subgenus *Sudila* was further synonymised with the subgenus *Hemihalictus* Cockerell, 1897 by Gibbs et al. (2013). Now this subgenus is represented worldwide by 259 species, of which only 19 are distributed in India (Ascher & Pickering, 2023).

In this paper, we describe two new species, *Lasioglossum* (*Hemihalictus*) *rugulosum*, **sp. nov.** and *L. (H.) longitudinale* **sp. nov.**, from Dehradun in the state of Uttarakhand, northern India, with illustrations.

Materials and methods

The specimens were collected from the campus or the forest area of the Forest Research Institute (FRI). They were identified with the keys of Michener (2007), Sakagami et al. (1996), Zhang et al. (2011), and Gibbs et al. (2013) and photographed under a Leica DFC 425C digital camera attached to a Leica M205 FA stereo zoom microscope. Photographic plates were finalised by using Adobe Photoshop 7.0. The terminology used follows Michener (2007) and Gibbs et al. (2013).

The distribution map was created using QGIS software.

The specimens used for the present study are deposited in the National Pusa Collection at the Indian Agricultural Research Institute, New Delhi, India (NPC–IARI).

Abbreviations used in the text: BL – body length from clypeus margin to metasomal tip; HL – head length, distance between vertex and clypeus anterior margin; HW – head width, distance between outer margin of compound eyes; EL – eye length; FWL – forewing length excluding tegula; IOD – interocellar distance between lateral ocelli; CL – clypeus length; CW – clypeus width; GL – gena length; GW – gena width.

The density of integumental punctures is described using the following formula: puncture diameter (in μm) / distance between punctures (in μm).

Taxonomic part

Order Hymenoptera

Family Halictidae

Subfamily Halictinae

Tribe Halictini

Genus *Lasioglossum* Curtis, 1833

Subgenus *Hemihalictus* Cockerell, 1897

Hemihalictus Cockerell, 1897 Type species: *Panurgus lustrans* Cockerell, 1897, by original designation.

Sudila Cameron, 1898 Type species: *Sudila bidentata* Cameron, 1898, designated by Sandhouse (1943).

Prosopalictus Strand, 1913 Type species: *Prosopalictus micans* Strand, 1913, by original designation.

Ceylonicola Friese, 1918 Type species: *Ceylonicola atra* Friese, 1918, designated by Sandhouse (1943).

Halictus (*Marghalictus*) Warncke 1975 Type species: *Hylaeus marginellus* Schenck, 1853, by original designation.

Halictus (*Microhalictus*) Warncke, 1975 Type species: *Melitta minutissima* Kirby, 1802, by original designation.

Halictus (*Punthalictus*) Warncke, 1975 Type species: *Hylaeus punctatissimus* Schenck, 1853, by original designation.

Halictus (*Rostrhalictus*) Warncke, 1975 Type species: *Halictus longirostris* Morawitz, 1876, by original designation.

Lasioglossum (*Sellalictus*) Pauly, 1980 Type species: *Halictus latesellatus* Cockerell, 1937, by original designation.

Halictus (*Pauphalictus*) Warncke, 1981 Type species: *Halictus pauperatus* Brullé, 1832, by original designation.

Lasioglossum (*Mediocralictus*) Pauly, 1984 Type species: *Halictus mediocris* Benoist, 1962, by original designation.

Evyllaes (*Crassevyllaes*) Pesenko, 2007 Type species: *Halictus crassepunctatus* Blüthgen, 1923, by original designation.

Evyllaes (*Laevinodilaes*) Pesenko, 2007 Type species: *Halictus laevinodis* Morawitz, 1876, by original designation.

Evyllaes (*Limbevyllaes*) Pesenko, 2007 Type species: *Halictus limbellus* Morawitz, 1876, by original designation.

Evyllaes (*Nitidiusculaes*) Pesenko, 2007 Type species: *Melitta nitidiuscula* Kirby, 1802, by original designation.

Evyllaes (*Pallidevyllaes*) Pesenko, 2007 Type species: *Nomioides pallida* Radoszkowski, 1888, by original designation.

Evyllaes (*Truncevyllaes*) Pesenko, 2007 Type species: *Halictus truncaticollis* Morawitz, 1877, by original designation.

Lasioglossum* (*Hemihalictus*) *rugulosum

Falswal et Dey, **sp. nov.**

(Figs 5–7, 8, 10)

Holotype. Female, **India**, **Uttarakhand**, Dehradun, 30.3438°N, 77.9978°E, 22.I.2020, Jyoti Falswal leg. (NPC–IARI).

Paratypes. 3 females, same data as for holotype.

Description. *Female* (holotype). Medium- to large-sized (BL = 8.47 mm, FWL = 6.41 mm).

Head dull, slightly wider than long (Fig. 5); face shiny, densely punctate; clypeus smooth, sparsely punctate, with shiny interspaces, anterior margin of clypeus truncate, with tooth; supraclipeal area smooth, shiny, raised; vertex smooth, moderately punctate, paraocular areas partially covered with pale white setae; frons bare, densely punctate, frontal carina distinct; lower margins of eyes slightly convergent, upper margins concave, outer eyes contours clearly converging downwards; gena almost triangulate; genal and hypostomal cavity areas with distinct parallel striations; eyes bare. Ratio of width to length of flagellomeres I–X, sequentially: 0.9 : 1.8 : 1.4 : 1.2 : 1.1 : 1.0 : 1.0 : 1.1 : 1.1 : 0.7. HL = 1.78 mm; HW = 1.96 mm; EL =

1.45 mm; CL = 0.41 mm; CW = 0.65 mm; IOD = 0.30 mm; GL = 1.08 mm; GW = 0.41 mm.

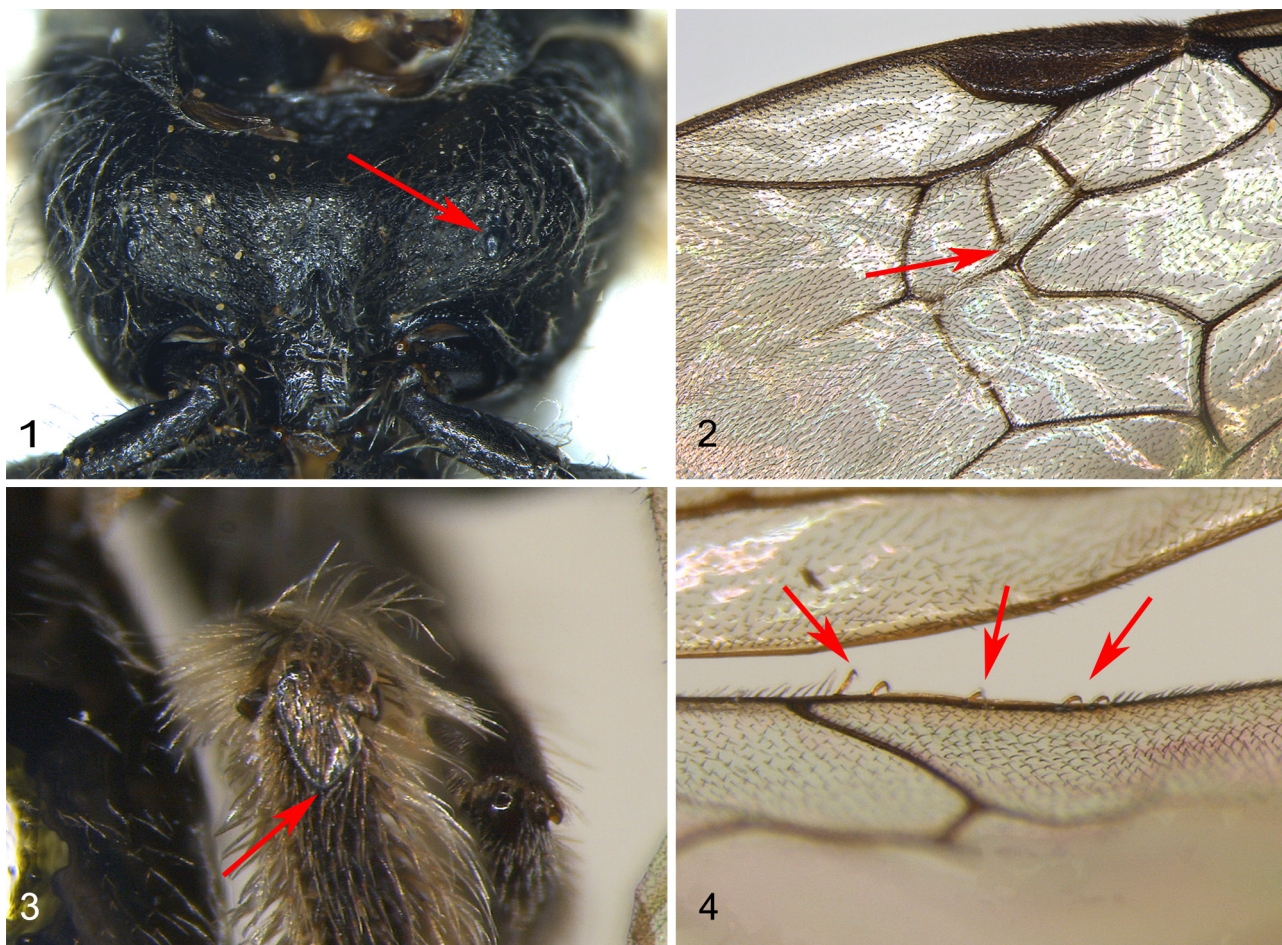
Mesosoma shiny; pronotum not protruding laterally; scutum and scutellum shiny, with fine sparse punctures (15–43 / 40–80 μ m) (Fig. 8); median mesoscutal line and parapsidal lines weak; upper mesepisternum shiny, smooth, lower one with weak wrinkles; tegula punctured anteriorly, with sparse setae; mesoscutum and propodeal dorsum closely sculptured; propodeal dorsum reticulated in middle, with oblique lateral striae; propodeal sides with plumose setae; propodeal end edge and side fields slightly shiny; basitibial plate complete, pointed apically; scopa distinct; hamuli five in number arranged in 2–1–2 pattern (Fig. 4); inner metatibial spur with three teeth (Fig. 7).

Metasoma shiny, elongate oval, with maximum width at level of apical margin of T2; T1 smooth, with very few fine and scattered punctures, lateral patch of setae and apical setae absent; T2 sparsely punctate (4–6 / 30–79 μ m); T3 and T4 moderately punctate (5–7 / 30–100 μ m), T2 to T5 with apical setae, T2 and T3 with sparse setae, T4 with moderate setae, and T5 with dense lateral setae; pygidial plate U-shaped; dorsal surface of T2 to T5 rough compared to T1; basal band of setae at T1 absent, that medially interrupted at T2, complete at T3–T4; sterna with shiny surface, several sparse setae present on apical margins.

Coloration. Body black, mandible apically reddish brown; flagellum ventrally dark brown to black; eyes brown; mesosoma laterally and metasomal terga distinctly brown tinted; legs rather concolorous brown; wing venation, tegula and basitarsus dark brown; wings hyaline; pterostigma dark brown; body pubescence yellowish brown; metasoma shinier compared to head and thorax; apical margins of sterna translucent brown.

Male. Unknown.

Comparison. The new species is included in the subgenus *Hemihalictus* based on the weak second sub-marginal cross vein and the propodeum with weak lateral carina. The new species, however, is closely related to a species group, formerly included in the subgenus *Sudila*, in the following characters: the elevated subpleural signum anterior to the middle coxa as a prominent tubercle (Fig. 1), the second submarginal cross is weak and interrupted at both ends (Fig. 2), the basitibial plate is oval, pointed apically, with dorsal surface cov-



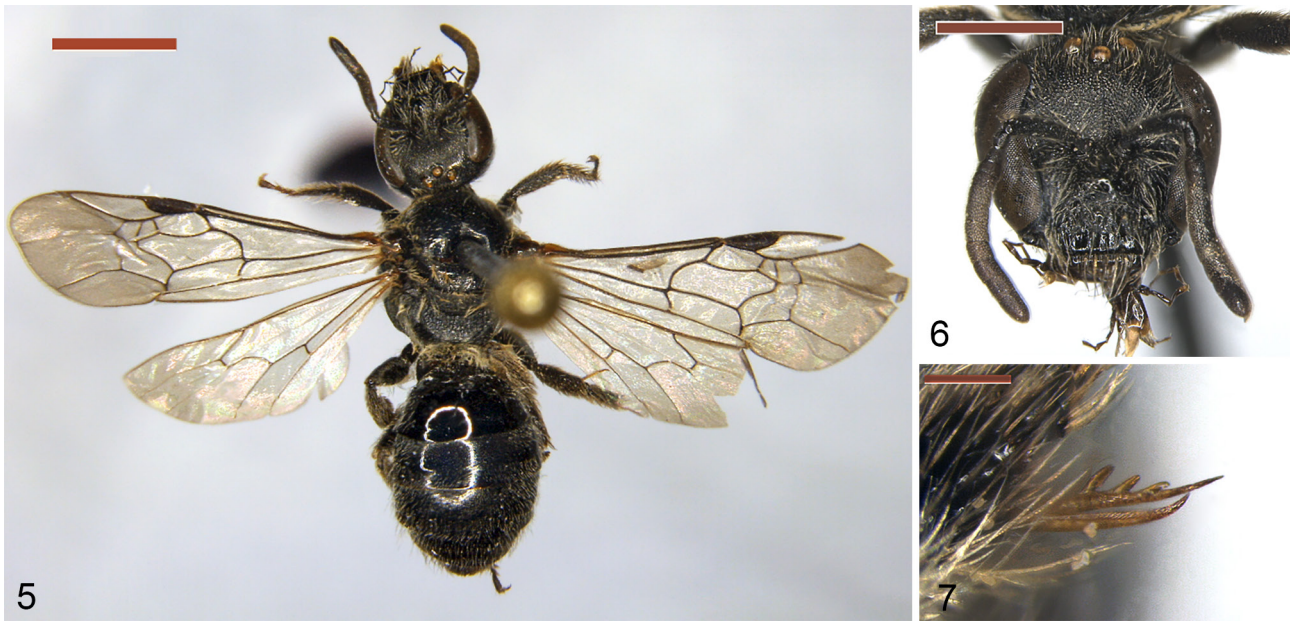
Figs 1–4. Distinguishing characteristics of both *Lasioglossum* (*Hemihalictus*) *rugulosum* sp. nov. and *L. (H.) longitudinale* sp. nov. **1**, sub pleural signum; **2**, fore wing venation in the area of 2nd and 3rd submarginal cells; **3**, basitibial plate; **4**, arrangement of hamuli.

ered with sparse setae (Fig. 3), the presence of the pectinate hind inner tibial spur and five hamuli in 2–1–2 arrangement (Fig. 4). The new species can be distinguished from other species of this group by the following combination of characters: the body is black, without any metallic tint, the head is slightly wider than it is long, the mesoscutum is finely punctured, with a distance between punctures of 40–80 μm , the wide reticulate propodeal dorsum has oblique lateral ridges, and the inner metatibial spur has three teeth.

This species is most closely related to *Lasioglossum jacobsoni* (Friese, 1914) in having a dense reticulation of the propodeal dorsum, similar punctures on the scutum, plumose pubescence on the propodeal lateral sides, a slightly wider head than it is long, and a weakly wrinkled mesepisternal area. *Lasioglossum rugulosum* sp. nov. differs

from *L. jacobsoni* in the following characters: the more raised supraclypeus area; the sculpture of T1 is smooth and shiny, with the absence of a lateral patch of setae (*vs.* T1 has fine punctation and a patch of setae on the lateral sides); fewer punctures on the scutum; a strong wide reticulation on the propodeal dorsum (*vs.* dense narrow reticulated sculpture); and three teeth on the hind metatibial spur (*vs.* five teeth).

Lasioglossum rugulosum sp. nov. can be distinguished from *L. longitudinale* sp. nov. described below by the wide reticulate propodeal dorsum with oblique lateral ridges (*vs.* the propodeal dorsum with longitudinal ridges); larger diameter of punctures on the scutum (15–43 μm) and narrower punctures interspaced distance (40–80 μm) [*vs.* smaller diameter of punctures (5–38 μm) and wider punctures interspaced distance (30–130 μm)];



Figs 5–7. *Lasioglossum (Hemihalictus) rugulosum* sp. nov., holotype (female). **5**, habitus, dorsal view; **6**, head, frontal view; **7**, hind tibial inner spur teeth. Scale bars: 2 mm (5), 1 mm (6), 200 μ m (7).

the less strong medianmesoscutal line and parapsidal lines; uniform punctation on the scutum; a weaker wrinkled sculpture on the lower mesepisternum; the larger body size of; three teeth on the inner metatibial spur (*vs.* four teeth).

Etymology. The species name is a Latin adjective meaning “slightly wrinkled”, in accordance with the diagnostic character of the reticulation and oblique ridges present on the basal propodeum.

Distribution. India (Uttarakhand, Dehradun).

Lasioglossum (Hemihalictus) longitudinale

Falswal et Dey, sp. nov.
(Figs 9, 11, 12–14)

Holotype. Female, **India, Uttarakhand, Dehradun, 30.3438°N, 77.9978°E, 22.I.2020, Jyoti Falswal leg. (NPC–IARI).**

Description. *Female* (holotype). Small-sized. BL = 4.11 mm; FWL = 2.88 mm.

Head shiny, slightly wider than long (Fig. 13); clypeus and paraocular areas with several pale white setae; face shiny, densely punctate; clypeus smooth, sparsely punctate, with shiny interspaces, anterior margin of clypeus truncate, with tooth; supraclypeal area raised, with several scattered punctures and shiny sculpture; vertex smooth, moderately punctate; frons bare, densely punctate,

frontal carina distinct; lower margins of eyes slightly convergent, upper margins concave; gena almost triangulate, curved; genal and hypostomal areas with distinct parallel striations; eyes bare. Ratio of width to length of flagellomeres I–X, sequentially: 1.0 : 1.3 : 1.6 : 1.2 : 1.1 : 1.1 : 1.1 : 1.0 : 1.0 : 0.5. HL = 0.91 mm; HW = 0.93 mm; EL = 0.69 mm; CL = 0.21 mm; CW = 0.29 mm; IOD = 0.13 mm; GL = 0.74 mm; GW = 0.23 mm.

Mesosoma shiny; pronotum not protruding laterally; scutum and scutellum shiny, with fine sparse punctures (5–38 / 30–130 μ m) (Fig. 8); median-mesoscutal line and parapsidal lines strong; mesepisternum shiny, smooth, but with strong wrinkles at lower mesepisternum compared to *L. rugulosum* sp. nov. (Fig. 9); tegula punctated anteriorly, with several sparse setae; propodeal dorsum with longitudinal ridges; propodeal lateral sides with plumose setae; propodeal edge and lateral fields slightly shiny; basitibial plate complete, pointed apically; scopa distinct; hamuli five in number, arranged in 2–1–2 pattern (Fig. 4); hind metatibial spur with four teeth (Fig. 14).

Metasoma shiny, elongate oval, with maximum width at level of apical margin of T2; T1 smooth, with very fine, sparse punctures and several sparsely scattered setae on basal and lateral sides; T2 sparsely punctate (2–6 / 20–30 μ m); T3 and



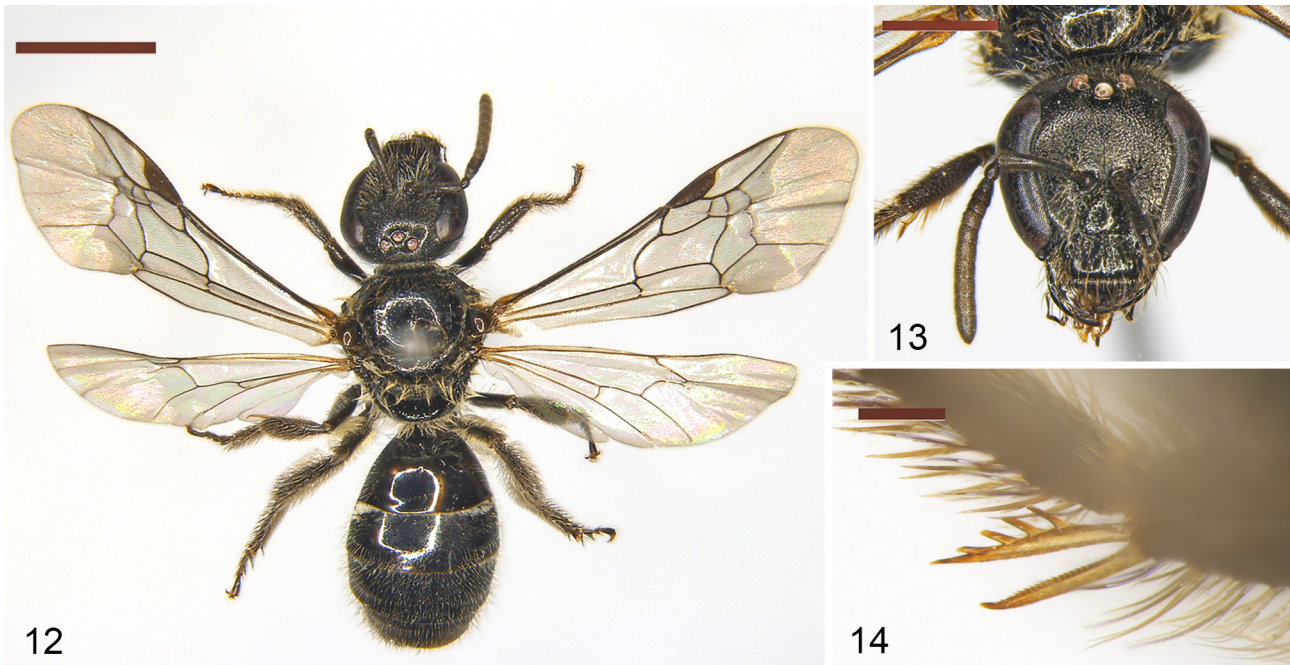
Figs 8–11. *Lasioglossum* (*Hemihalictus*) spp., females (holotypes). **8, 10**, thorax and propodeum of *L. (H.) rugulosum* sp. nov.; **9, 11**, thorax and propodeum of *L. (H.) longitudinale* sp. nov. Scale bars: 500 μ m (8, 10), 100 μ m (9, 11).

T4 moderately punctuate (2–7 / 20–100 μ m), T2 to T5 with apical setae, T2–T3 with sparse setae, T4 with moderate setae, and T5 with dense setae; pygidial plate U-shaped; dorsal surface of T2–T5 rough compared to T1; basal band of setae absent on T1, medially interrupted on T2, not clearly visible on T3, T4 and T5.

Coloration. Black to brown; mandible partially reddish brown; flagellum ventrally dark to light brown; eyes brown; mesosoma laterally and metasomal terga distinctly brown tinted; legs rather concolorous brown; wing venation, tegula and basitarsus dark brown; wings hyaline; pterostigma dark brown; body hair yellowish brown; metasoma shinier compared to head and thorax; apical margins of sterna translucent yellowish brown.

Male. Unknown.

Comparison. The new species shares with the subgenus *Hemihalictus* the weak second sub-marginal cross vein and the propodeum with a weak lateral carina. The new species is closely related to the group of species previously included in the subgenus *Sudila* in the following characters: the elevated subpleural signum anterior to the middle coxa as a prominent tubercle (Fig. 1), the second submarginal cross vein is weak and interrupted at both ends (Fig. 2), the basitibial plate is oval, pointed apically, its dorsal surface has sparse setae (Fig. 3), and the presence of pectinate hind inner tibial spur and five hamuli in 2–1–2 arrangement (Fig. 4). From other species of *Sudila* group, *L. longitudinale* sp. nov. can be distinguished by the following combination of characters: the body is black, without any metallic tint, the head is slightly wid-



Figs 12–14. *Lasioglossum (Hemihalictus) longitudinale* sp. nov., holotype (female). **12**, habitus, dorsal view; **13**, head, frontal view; **14**, hind tibial inner spur teeth. Scale bars: 1 mm (12), 500 μ m (13), 100 μ m (14).

er than long, the mesoscutum is finely punctured, with a distance between punctures of 30–130 μ m, the propodeal dorsum has longitudinal ridges, and the inner metatibial spur has four teeth.

This new species is most closely related to *Lasioglossum semiruginosum* Zhang et Zhu, 2011 in the following characters: the propodeal dorsum has longitudinal ridges, the propodeal lateral sides have sparse plumose setae, the head is slightly wider than long, the mesepisterna has a wrinkled sculpture, and the body has no metallic green tint. The new species differs from *L. semiruginosum* by the following characters: the body size is smaller, the longitudinal ridges on the dorsal propodeal surface are reaching the posterior margin (*vs.* ridges are reaching half way only), the puncture interspaced distance is bigger, a sculpture on the mesoscutum is denser, the upper mesepisternum is smooth and shiny (*vs.* granular and has transverse striation), and the hind inner metatibial spur has four teeth (*vs.* five teeth).

Lasioglossum longitudinale sp. nov. can be distinguished from *L. rugulosum* sp. nov. by the following characters: the propodeal dorsum with longitudinal ridges; punctures on the scutum of smaller diameter (5–38 μ m) and punctures interspaced distance is wider (30–130 μ m) [*vs.* diame-

ter of punctures is larger (15–43 μ m) and a punctures interspaced distance is narrower (40–80 μ m)]; the medianmesoscutal line and parapsidal lines are stronger; a sculpture near the medianmesoscutal line is finer and denser; a stronger wrinkled sculpture on the lower mesepisternum; smaller body size; four teeth on the inner metatibial spur (*vs.* three teeth).

Etymology. The specific name is derived from the Latin noun *longitudo* (length, longness) with the addition of the suffix *-alis*, forming an adjective in relation to the noun; the name reflects the diagnostic character of the species, the complete longitudinal ridges located on the basal propodeum.

Distribution. India (Uttarakhand, Dehradun).

Checklist of the Indian species of *Lasioglossum (Hemihalictus)*

Lasioglossum (Hemihalictus) ablenum (Blüthgen, 1934)

Halictus ablenus Blüthgen, 1934.

Lasioglossum (Dialictus) ablenum (Blüthgen, 1934).

Lasioglossum (Evylaeus) ablenum (Blüthgen, 1934).

Distribution: Rajasthan, Sirohi District, Mount Abu (Ebmer, 2000).

Lasioglossum* (*Hemihalictus*) *alphenum (Cameron, 1897)

Halictus alphenus Cameron, 1897.

Lasioglossum (*Sudila*) *alphenum* (Cameron, 1897).

Halictus ceylonicus Cameron, 1902.

Ceylonicola submicans Friese, 1918.

Distribution: Uttarakhand, Dehradun District, Mussoorie (Blüthgen, 1930; Sakagami et al., 1996).

Lasioglossum* (*Hemihalictus*) *cameronellum (Cockerell, 1911)

Halictus himalayensis Cameron, 1904 [junior homonym].

Halictus cameronellus Cockerell, 1911.

Evylaeus cameronellus (Cockerell, 1911).

Lasioglossum (*Dialictus*) *cameronellum* (Cockerell, 1911).

Lasioglossum (*Evylaeus*) *cameronellum* (Cockerell, 1911).

Halictus matianicus Blüthgen, 1926.

Distribution: Himachal Pradesh, Shimla District, Matiana Village (Blüthgen, 1926).

Lasioglossum* (*Hemihalictus*) *cavillosum (Vachal, 1895)

Halictus lucidiusculus var. *cavillosum* Vachal, 1895.

Halictus lucidiusculus Vachal, 1895.

Lasioglossum (*Dialictus*) *cavillosum* (Vachal, 1895).

Lasioglossum (*Evylaeus*) *cavillosum* (Vachal, 1895).

Halictus darjilingensis Strand, 1910.

Halictus lucidiusculus var. *darjilingensis* Strand, 1910.

Halictus lucidiusculus var. *nitidior* Blüthgen, 1931.

Distribution: Himachal Pradesh, Kullu District; Uttar Pradesh; Uttarakhand, Almora District, Ranikhet and Chaubattia settlement; West Bengal, Kalimpong (Ebmer, 2004).

Lasioglossum* (*Hemihalictus*) *dolus Ebmer, 1974

Lasioglossum (*Dialictus*) *dolus* Ebmer, 1974.

Lasioglossum (*Evylaeus*) *dolus* Ebmer, 1974.

Evylaeus dolus (Ebmer, 1974).

Lasioglossum (*Evylaeus*) *dolus submarginellum* Ebmer, 1997.

Lasioglossum (*Hemihalictus*) *dolus submarginellum* Ebmer, 1997.

Distribution: Himachal Pradesh, Kullu District, Kullu Tal (Ebmer, 1997).

Lasioglossum* (*Hemihalictus*) *eduardi (Blüthgen, 1931)

Halictus eduardi Blüthgen, 1931.

Evylaeus eduardi (Blüthgen, 1931).

Lasioglossum (*Dialictus*) *eduardi* (Blüthgen, 1931).

Lasioglossum (*Evylaeus*) *eduardi* (Blüthgen, 1931).

Distribution: West Bengal, Darjeeling (Blüthgen, 1931).

Lasioglossum* (*Hemihalictus*) *fulgens (Nurse, 1902)

Halictus fulgens Nurse, 1902.

Lasioglossum (*Dialictus*) *fulgens* (Nurse, 1902).

Distribution. Himachal Pradesh: Shimla (Nurse, 1902).

Lasioglossum* (*Hemihalictus*) *laevidorsum (Blüthgen, 1923)

Halictus laevidorsum Blüthgen, 1923.

Evylaeus laevidorsum (Blüthgen, 1923).

Lasioglossum (*Dialictus*) *laevidorsum* (Blüthgen, 1923).

Halictus limbellus troodicus Blüthgen, 1937.

Lasioglossum laevidorsum troodicum (Blüthgen, 1937).

Lasioglossum (*Hemihalictus*) *laevidorsum troodicum* (Blüthgen, 1937).

Lasioglossum laevidorsum katharinae Ebmer, 1974.

Lasioglossum (*Evylaeus*) *katharinae* Ebmer, 1974.

Lasioglossum (*Hemihalictus*) *laevidorsum katharinae* Ebmer, 1974.

Halictus laevidorsum priesnerellus Warncke, 1981.

Lasioglossum laevidorsum priesnerellum (Warncke, 1981).

Lasioglossum (*Hemihalictus*) *laevidorsum priesnerellum* (Warncke, 1981).

Distribution: India (Varnava et al., 2020).

Lasioglossum* (*Hemihalictus*) *massuricum (Blüthgen, 1926)

Halictus massuricus Blüthgen, 1926.

Halictus massuricus var. *chaprensis* Blüthgen, 1926.

Lasioglossum (*Dialictus*) *massuricum* (Blüthgen, 1926).

Distribution: Uttarakhand, Dehradun District, Mussoorie; Jammu & Kashmir (Blüthgen, 1926).

Lasioglossum* (*Hemihalictus*) *matianense (Blüthgen, 1926)

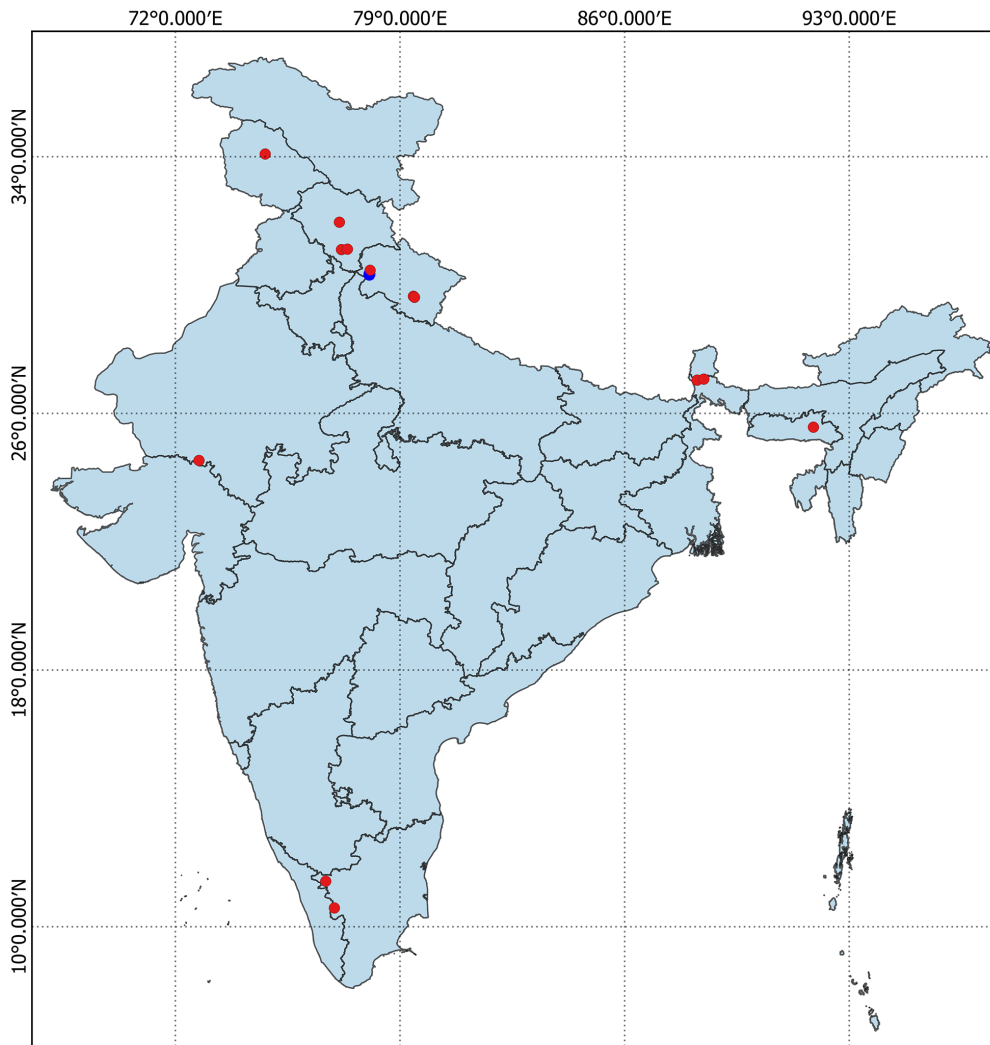
Halictus matianensis Blüthgen, 1926.

Evylaeus matianensis (Blüthgen, 1926).

Lasioglossum (*Dialictus*) *matianense* (Blüthgen, 1926).

Lasioglossum (*Evylaeus*) *matianense pluto* Ebmer, 1980.

Lasioglossum (*Hemihalictus*) *matianense pluto* Ebmer, 1980.



● Location of the new species (Uttarakhand, Dehradun) ● Locations mentioned in the checklist

Fig 15. Distribution of *Lasioglossum (Hemihalictus)* in India.

Distribution: Jammu & Kashmir; Himachal Pradesh, Shimla District, Matiana Village (Blüthgen, 1926).

Lasioglossum (Hemihalictus) orchidodeceptum
Pauly and Bänziger, 2011

Lasioglossum (Mediocralictus) orchidodeceptum Pauly and Bänziger, 2011.

Distribution: Chennai, Anamalai Hills; Tamil Nadu, Nilgiri Hills (Pauly & Bänziger, 2011).

Lasioglossum (Hemihalictus) orpheus (Nurse, 1904)

Halictus testaceus Nurse, 1902 [junior homonym].

Halictus orpheus Nurse, 1904.

Lasioglossum (Dialictus) orpheus (Nurse, 1904).

Halictus kangranus Blüthgen, 1926.

Distribution: Himachal Pradesh, Shimla (Blüthgen, 1926).

Lasioglossum (Hemihalictus) paralphenum

Sakagami, Ebmer et Tadauchi, 1996

Lasioglossum (Sudila) paralphenum Sakagami, Ebmer & Tadauchi, 1996.

Distribution: Tamil Nadu, Nilgiri Hills (Blüthgen, 1930; Sakagami et al., 1996).

Lasioglossum (Hemihalictus) plasunicum
(Blüthgen, 1926)

Halictus plasunicus Blüthgen, 1926.

Evylaeus plasunicus (Blüthgen, 1926).

Lasioglossum (Evylaeus) plasunicum (Blüthgen, 1926).

Distribution: India (Blüthgen, 1926).

Lasioglossum* (*Hemihalictus*) *polyctor (Bingham, 1908)

Halictus polyctor Bingham, 1908.

Lasioglossum (*Dialictus*) *polyctor* (Bingham, 1908).

Distribution: Himachal Pradesh, Shimla (Blüthgen, 1926).

Lasioglossum* (*Hemihalictus*) *pygmaeum (Schenck, 1853)

Hylaeus nitidus Schenck, 1853 [junior homonym].

Hylaeus pygmaeus Schenck, 1853.

Halictus pygmaeus (Schenck, 1853).

Lasioglossum (*Dialictus*) *pygmaeum* (Schenck, 1853).

Halictus distinctus Schenck, 1869.

Halictus patulus Vachal, 1905.

Lasioglossum (*Hemihalictus*) *pygmaeum patulum* (Vachal, 1905).

Halictus spretus Pérez, 1911.

Halictus andinus Warncke, 1982.

Distribution: Jammu & Kashmir (Ebmer, 2000).

Lasioglossum* (*Hemihalictus*) *shoichi Ebmer, 2004

Lasioglossum (*Evylaeus*) *shoichi* Ebmer, 2004.

Distribution: Himachal Pradesh, Shimla; Rajasthan, Mount Abu (Ebmer, 2004).

Lasioglossum* (*Hemihalictus*) *tschibuklinum (Blüthgen, 1931)

Halictus tschibuklinus Blüthgen, 1931.

Lasioglossum (*Dialictus*) *tschibuklinum* (Blüthgen, 1931).

Distribution: Jammu & Kashmir, Inshan Village and Margan Pass (Ebmer, 1983).

Lasioglossum* (*Hemihalictus*) *villosulum (Kirby, 1802)

Melitta villosula Kirby, 1802.

Melitta punctulata Kirby, 1802.

Halictus villosulus (Kirby, 1802).

Lasioglossum (*Dialictus*) *villosulum* (Kirby, 1802).

Halictus hirtellus Schenck, 1869.

Halictus medinai Vachal, 1895.

Halictus melanomitratatus Strand, 1914.

Halictus melanomitratatus var. *mitratolus* Strand, 1914.

Halictus trichopsis Strand, 1914.

Lasioglossum villosulum trichopse (Strand, 1914).

Lasioglossum (*Hemihalictus*) *villosulum trichopse* (Strand, 1914).

Halictus villosulopsis Blüthgen, 1926.

Halictus pahanganus Blüthgen, 1928.

Lasioglossum (*Evylaeus*) *pahanganum* (Blüthgen, 1928).

Halictus barkensis Blüthgen, 1930.

Halictus villosulus perlautus Cockerell, 1938.

Halictus (*Evylaeus*) *rufotegularis* Cockerell, 1938.

Lasioglossum (*Evylaeus*) *villosulum arabicum* Ebmer, 2008

Lasioglossum (*Hemihalictus*) *villosulum arabicum* Ebmer, 2008.

Distribution: Meghalaya: Shillong (Blüthgen, 1926).

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