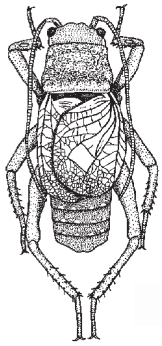

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A NEW SPECIES OF THE GENUS *LASIOGLOSSUM* CURTIS, 1833 (HYMENOPTERA: HALICTIDAE) FROM AFGHANISTAN

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Summary. Afghanistan's complex biogeography hosts a rich but poorly known bee fauna. We provide an illustrated description of *Lasioglossum ebmerius* Flaminio, **sp. n.** (Hymenoptera: Halictidae) from Afghanistan. The new species increases the known diversity of Afghani *Lasioglossum* Curtis, 1833 and highlights the need for further faunistic studies in this underexplored region.

Key words: Halictini, taxonomy, bees, Asia.

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Резюме. Биогеография Афганистана обуславливает наличие богатой, но малоизученной фауны пчел. Приводится иллюстрированное описание нового

вида *Lasioglossum ebmerius* Flaminio, **sp. n.** (Hymenoptera: Halictidae) из Афганистана. Новый вид увеличивает известное разнообразие рода *Lasioglossum* Curtis, 1833 в Афганистане и подчеркивает необходимость дальнейших фаунистических исследований в этом малоизученном регионе.

INTRODUCTION

Afghanistan's biogeographical landscape offers a rich and diverse habitat for insects, shaped by the country's complex topography, varied climates, and its location at the confluence of several biogeographic regions (Kühn *et al.* 2020). The country's ecological diversity ranges from arid deserts to alpine ecosystems of the Hindu Kush, providing unique conditions for insect biodiversity, much of which remains undescribed. In particular, Afghanistan's entomofauna includes species from both the Palearctic and Indo-Malayan realms, with many species endemic to its mountainous regions (Swan, 2010).

Despite Afghanistan's important biogeographical position, the study of its bee fauna did not begin until the 19th century, with Morawitz's monograph (1876), which partly focused on the family Halictidae. Subsequently, aside from the works by Blütghen (1930; 1961), Afghanistan's wild bee fauna remained largely unstudied until Ebmer's monograph (1974). He provided the first work dedicated to the Halictidae of Afghanistan and described several species. In subsequent publications, additional species were described (Ebmer, 1997; Ebmer, 1983; Ebmer, 1980; Ebmer, 1978).

The continued discovery of new species, particularly within the family Halictidae, underscores the remarkable but still underexplored biodiversity of Afghanistan. In this study, a new species of *Lasioglossum* Curtis, 1833 is described.

MATERIAL AND METHODS

Morphological terminology follows Michener (2007). The following abbreviations are used in the species descriptions: A = antennal segments, S = metasomal sterna, T = metasomal terga, L = length, W = width. Subgeneric classification follows Ghisbain *et al.* (2023).

Specimens were measured from the vertical plane of the front of the head to the apex of the metasoma. The pictures of the lateral and dorsal habitus were taken using an Olympus E-M1 Mark I with an Olympus Zuiko 60 mm macro lens. Detailed pictures and measurements were taken with a Keyence digital microscope VHX-970F.

DESCRIPTION OF NEW SPECIES

Lasioglossum ebmerius **Flaminio, sp. n.**

https://zoobank.org/NomenclaturalActs/C8C5A8FB-0BF5-4D66-B2D6-E932C50BF4EB

Figs 1–3

TYPE MATERIAL. Holotype – ♂, **Afghanistan**: Bamiyan Prov., 15 km SSW Bamiyan, Kohi-Baba Mts, Fualdi env., h=3600 m, 30.VII 2011, leg. Oleg Pak (in Biologiezentrum Linz). Paratypes: 2 ♂, same data as holotype (1♂ in A.W. Ebmer private collection and 1♂ in Simone Flaminio private collection.)

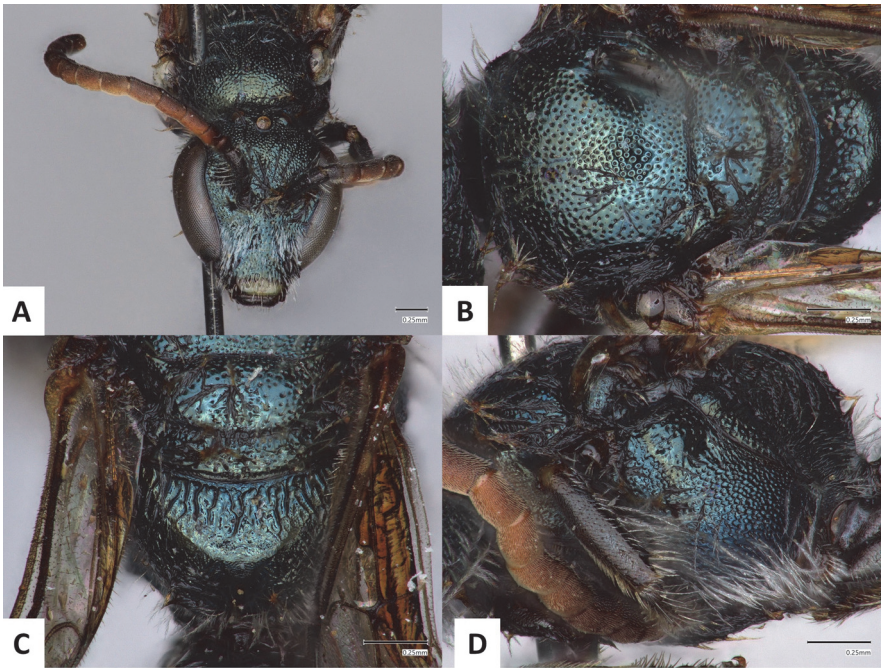

Fig 1. *Lasioglossum ebmerius* sp. n. A – head, frontal view; B – scutum, dorsal view; C – propodeum, dorsal view; D – mesopleuron, dorsal view. Scale bar: 0.25 mm.

DESCRIPTION. Male. Body length 5.5 mm.

Head (Fig. 1A): dark metallic green, tip of clypeus light yellow, mandibles and labrum black. Longer than wide (L/W = 1.2). Clypeus densely punctate (interspaces 0.5–0.7 puncture diameter), supraclypeal area less densely punctate, punctures of similar size as on the clypeus (interspaces 1-2 puncture diameter), frons densely punctate (interspaces less than 1 puncture diameter), underlying surface polished. Vertex short. Antennae moderately long, flagellomeres longer than wide, brownish dorsally and ochraceous ventrally. Scape and pedicel black. Face with long (two times longer than one ocellus diameter) whitish hairs.

Mesosoma: dark metallic green, shiny. Scutum punctate (interspaces equal to 0.5-1 puncture diameter) (Fig.1B), underlying surface polished, slightly shagreened in the anterior third. Scutellum also densely punctate (interspace equal to 0.5–1 puncture diameter), more densely punctate in the anterior third, underlying surface polished. Propodeum (Fig. 1C) not carinated, the horizontal part as long as the

scutellum (length/width = 1), with longitudinal wrinkles not reaching the posterior margin, underlying surface polished. Mesopleuron (Fig. 1D) strongly and densely punctate, (interspaces smaller than one puncture diameter), underlying surface polished. Hypoepimeral area less densely punctate, polished and shiny. All legs black. White hairs (two times longer than one ocellus diameter) on the anterior third of the scutum and mesopleuron.

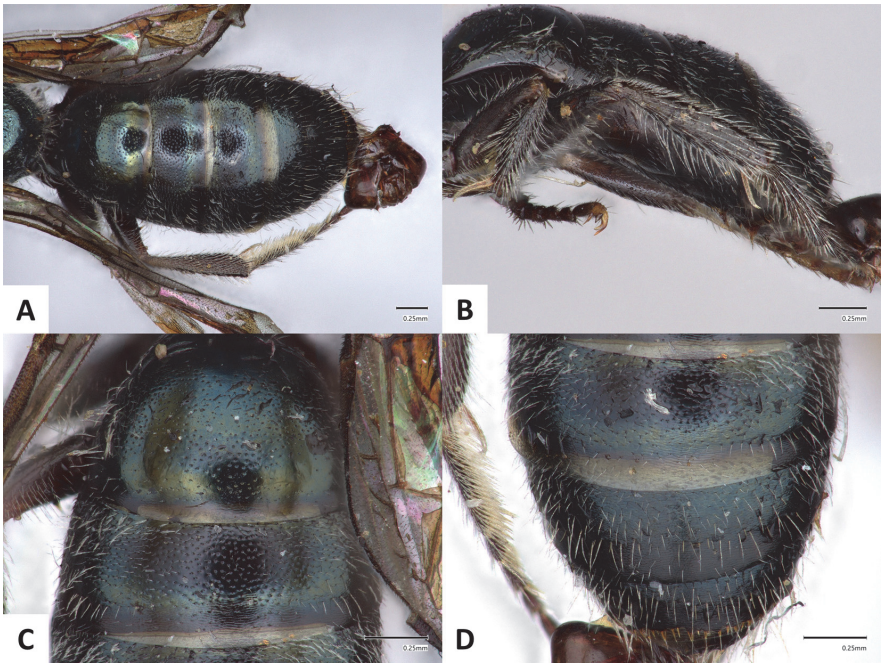

Fig. 2. *Lasioglossum ebmerius* sp. n. A – metasoma, dorsal view; B – the same, lateral view; C – T1-T2, dorsal view; D – T3-T5, dorsal view. Scale bar: 0.25 mm.

Metasoma (Fig. 2A): dark metallic green, posterior margin of tergites slightly translucid and brownish. T1 (Fig. 2C) shiny, sparsely punctate on the disc and posterior margin, interspaces equal to several puncture diameters; the translucid marginal part is impunctate and polished. T2 more densely and uniformly punctate (interspace equal to 2–3 puncture diameters), polished. Translucid marginal part almost impunctate and transversely shagreened. T3 (Fig. 2D) less densely punctate than T2, punctures also more superficial, underlying surface opaque. Following tergites impunctate and shagreened. Gonostylus long, slightly curved and expanded in the middle (Fig. 3A), membranous lobe drop-shaped (Fig. 3B), with a dense tuft of cilia at the apex. Sparse whitish hairs on the sides and convex part of T1, sides of T2–T4, also on the disc on T5. Sterna with short hairs at the posterior margin, longer on the sides (Fig. 2B).

Female unknown.

DIAGNOSIS. *Lasioglossum ebmerius* sp. n. can be assigned to the *duckei*-species group (Ebmer, 1985; 1998; 2002; Pesenko, 2007) based on its green metallic reflections of the body, the small size, the strong punctation of the scutum

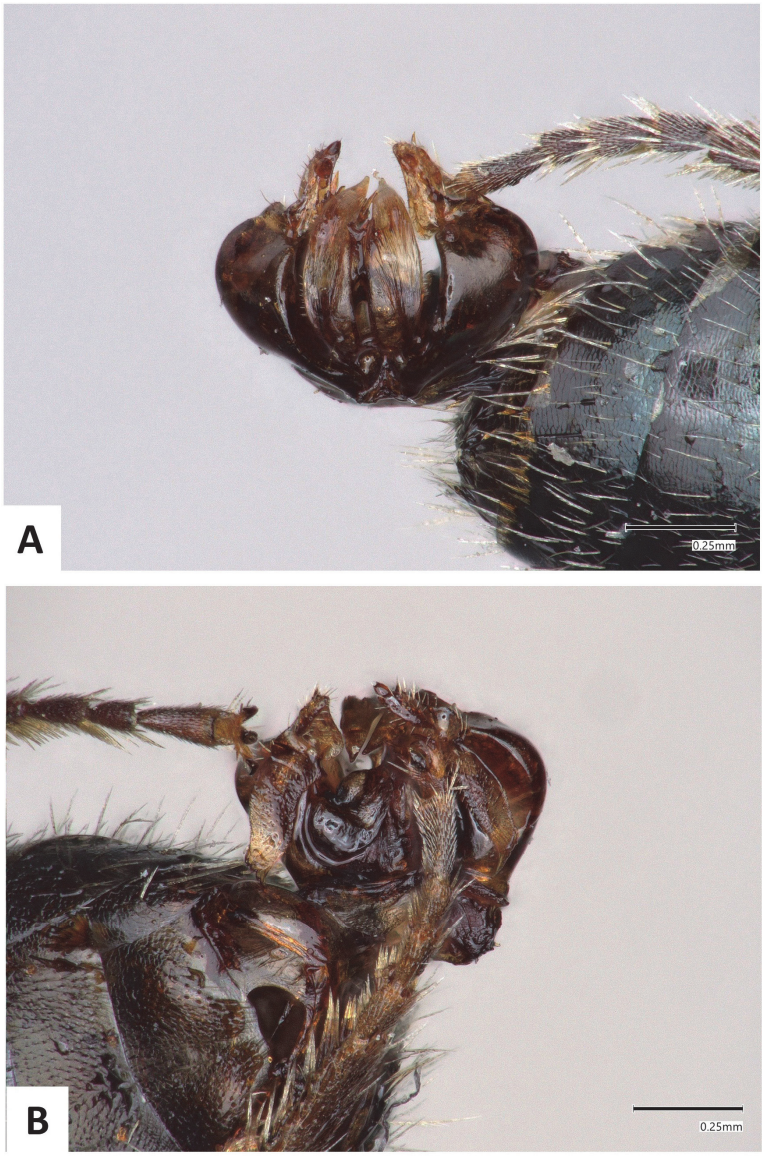

Fig. 3. *Lasioglossum ebmerius*, sp. n. A – genital capsule, dorsal view; B – the same, ventral view. Scale bar: 0.25 mm.

in comparison to the size, the T2 of male with a barely distinct depression in the apical margin, and the shape of the membranous lobe of the gonocoxite. Interestingly, the disc of S2 and S3 are almost bare and devoid of the long patent hairs typical of the species group (Fig. 2B).

Given the similarity between the *duckei*-species group and the *smeathmanellum*-species group, a diagnosis in comparison with the closely related species of the latter group is also provided. *Lasioglossum ebmerius* sp. n. can be distinguished from *L. krishna* Nurse, 1902 mainly by the stronger punctation on the frons, the different sculpture of the basal part of the propodeum and the setae of the membranous lobe of the gonocoxite, which are not curled outwards. From *L. smeathmanellum* (Kirby, 1802), *L. nitidulum* (Fabricius, 1804) and *L. podolicum* (Noskiewicz, 1925), it differs by the denser punctation of the clypeus, supraclypear area, and the mesopleuron (densely punctate in the lower third in *L. ebmerius*, while sparsely punctate in the other species). From *L. hethiticum* Ebmer, 1970, it can be distinguished by the different punctation of frons and vertex, and the differences in the membranous lobe. *Lasioglossum exulans* Ebmer, 1978, *L. hirkanium* Ebmer, 1978, and *L. hypiston* Ebmer, 1980 differ in the shape of the membranous lobe and the presence of relatively long hairs on the sternites. Finally, *Lasioglossum oculare* (Morawitz, 1893) can be separated by the broader membranous lobe and the longer basal part of the propodeum, in addition to the larger and shorter head.

DISTRIBUTION. Afghanistan: Bamiyan Province.

ETYMOLOGY. The species epithet *ebmerius* is a patronym honouring Pater A. W. Ebmer, in recognition of his extensive and fundamental contributions to the taxonomy and systematics of the family Halictidae.

DISCUSSION

To our knowledge, *Lasioglossum acherontion* Ebmer, 1978, *L. afghanicum* Ebmer, 1974, *L. chloridicum* Ebmer, 1974, *L. fulvopacum* Ebmer, 1983, *L. opacolampron* Ebmer, 1997, and *L. orion* Ebmer, 1974, are considered endemic to Afghanistan. However, the scarcity of faunal studies on wild bees from neighboring countries, such as Pakistan, Iran, and, more generally, Central Asia, suggests that the distribution of the listed species might be broader. Afghanistan's unique position within the eastern Palaearctic makes it a key area for biodiversity studies. The discovery of the newly described species *L. ebmerius* highlights the importance of continued investigations, as many taxonomic, ecological and faunistic aspects remain understudied. Such efforts are essential to understanding the full spectrum of biodiversity in this region and the impacts of climate change and habitat alteration on these endemic species. Intensive and systematic sampling in poorly explored habitats will likely reveals additional species, refine the known distributions of endemic taxa, and contribute to global conservation priorities.

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