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A new species of the genus *Isodontia* Patton (Hymenoptera: Sphecidae) from Vietnam

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PHAM P. H. 2016: A new species of the genus *Isodontia* Patton (Hymenoptera: Sphecidae) from Vietnam. *Acta Musei Moraviae, Scientiae biologicae* (Brno) **101(1):** 63–68. – A new species of the grass-carrying wasps, *Isodontia vanlinhi* sp.nov., from Thai Binh Province, Vietnam, is described. The species belongs to the species-group of *I. praslinia* together with seven species recorded to date.

Key words. Hymenoptera, Sphecidae, *Isodontia*, new species, Vietnam

Introduction

The genus *Isodontia* was erected by PATTON (1880). Commonly known as the grass-carrying wasps, the *Isodontia* consist of 61 valid species within a cosmopolitan genus with (PULAWSKI 2015). Of these, 27 species have been recorded for the Oriental region to date. The first comprehensive publication addressing the Malesian (i.e., tropical southeastern Asia incl. New Guinea *sensu* HENSEN 1991) species was by KOHL (1890). Over 100 years later, HENSEN (1991) worked on the Malesian species and divided them into five groups (*I. diodon* group: 11 species, *I. chrysorrhoea* group: 2 species, *I. praslinia* group: 7 species, *I. ochroptera* group: 2 species, and *I. aurifrons* group: 4 species) along with descriptions of eight new species.

In a distributional checklist of sphecid wasps from Vietnam (Pham, *in litt.*), four species of the genus have been recorded for Vietnam to date. However, these were published by different authors: *I. auripygata* (Strand, 1913) by HENSEN (1991), *I. chrysorrhoea* (Kohl, 1856) by DOLLFUSS (2008), *I. diodon* (Kohl, 1890) by BARTHÉLÉMY (2014), *I. edax* (Bingham, 1897) by BOHART & MENKE (1976). Information about *Isodontia* from Vietnam remains sparse and fragmentary. As a contribution to knowledge of the genus, a new species is described herein.

Materials and Methods

The adult morphological characters were observed and described from pinned and dried specimens with the aid of a stereoscopic microscope. Measurements of body parts were taken with an ocular micrometer attachment. Body length = head + mesosoma + first metasomal segment + second metasomal segment. Terminology follows BOHART & MENKE (1976). Photographic images were taken by using a Leica stereomicroscope with LAS 3.6.0 software.

The material examined in the present paper is deposited in the Institute of Ecology and Biological Resources (IEBR), Vietnam Academy of Science and Technology (VAST).

Abbreviations of measurements

AOD . . . . . anterior ocellar diameter
POD . . . . . posterior ocelli distance
OOD . . . . . distance between anterior ocellus and posterior ocellus
EOD . . . . . distance between the compound eye and posterior ocellus
IOC . . . . . minimum interocular distance across the clypeus
IOV . . . . . minimum interocular distance across the vertex

Taxonomy

***Isodontia vanlinhi* sp.nov.** (Figs 1–11)

Type material. Holotype female: "Vietnam, Thai Binh, Hung Ha, Hong Minh, 20°35′N, 106°08′E, alt. 3m, 23–24.vi.2013, Khuc Van Linh, IEBR". Deposited in IEBR, Reg. No. 00045/P13.
Paratypes: 1 ♀ "Vietnam, Thai Binh, Hung Ha, Hong Minh, 20°35′N, 106°08′E, alt. 3m, 23–24.vi.2013, Khuc Van Linh, IEBR"; 1 ♂ "Vietnam, Thai Binh, Hung Ha, Hong Minh, 20°35′N, 106°08′E, 3m, 24.vi.2013, Pham Huy Phong, IEBR". Both paratypes deposited in IEBR, Reg. No. Reg. Nos. 00043-00044/P13.

Description. Characters essentially common to both sexes: Body black (Fig. 6), except small, dull reddish-brown mesal spot on mandible in the female (Fig. 1); and reddish-brown mandible in the male (Fig. 7). Veins of hind wing yellowish (except costa and subcosta nervure black) (Fig. 4), veins of fore-wing black; wings without violaceous lustre, apical margins of fore-wings fuscous (Fig. 9).

Body with long, white setae, sparse on head and dense on upper metapleural area, propodeal surface dorsally. Facial tomentum dense, silvery (Figs 1, 7). Mandible with a clump of long, yellow setae at inner base (Fig. 1).

Punctures coarse and dense, large on propodeum, obviously sparse; small on head, scutum, scutellum, metanotum, and upper metapleuron area (Fig. 2). Pronotum, mid- and lower metapleuron (Fig. 3) and gaster impunctate.

Head: Clypeus with blunt median carina on dorsal half, and a pair of clearly differentiated teeth at apex. Mandible stout, with three apical teeth, length of outer tooth about twice that of mid- and inner tooth (Fig. 1). Apical flagellomere truncated at apex, relative proportional length of flagellomeres I–III 1 : 0.82 : 0.82. Area around ocelli smooth, lustrous.

Thorax: Pronotum smooth. Scutum with conspicuously parapsidal lines, and dull admedian line extending from base to apex. Scutellum and metanotum obviously convex, scutellum more convex than metanotum and separated from metanotum by large, deep groove (Fig. 2). Tegula markedly convex with defined transverse striations. Mid- and lower metapleuron smooth, lustrous. Propodeum with inconspicuous, incomplete transverse striations on dorsum, and more obvious complete striations at sides, propodeal dorsum without smooth and lustrous interspace. Forewings with parastigma length 2.5 ×

that of stigma, anterior veinlet of submarginal cell II 1.5 × as long as basal veinlet, 1.15 × as long as posterior basal veinlet (Fig. 9).

Metasoma: Petiole conspicuously curved. Whole gaster smooth (Fig. 6).

Characters different in the two sexes: Female: Body length 16–18mm forewing length 13–15 mm. Clypeus strongly convex, 0.67 × as wide as long, clypeus length 0.85 × IOC. IOV 1.16 × IOC. OOD 0.7 × AOD, POD 0.77 × EOD. Petiole length 1.08–1.10 × that of hind basitasus. Hind tibia with 8–10 spines on outer side (Fig. 5), tarsomere IV of hind leg as long as wide. Sterna of gaster with only a few long, white setae.

Male: Body length 17 mm, forewing length 13.5 mm. Clypeus length 0.74 × width, 0.87 × IOC. Mandible reddish-brown with apical teeth black. Antenna with 13 segments, fourth flagellomere with clearly defined placoid along the side (Fig. 8). IOV 1.19 × IOC. OOD 0.8 × AOD, POD 0.91 × EOD. Petiole length 1.27 × that of hind basitasus, hind tibia with 11 spines on outer side, tarsomere IV of hind leg 1.2 × as wide as long. Gastral sternum III–VII with erect fimbriae before apex (Fig. 10).

Etymology. The specific name refers to name of the collector, Mr. Khuc Van Linh.

Diagnosis. This species is close to *I. sepicola* (F. Smith, 1859) and *I. elsei* Hensen, 1991. It is, however, distinguished from them and all other known species of the genus by the following combination of characters: Female – petiole 1.08–1.10 × as long as hind basitasus; IOV 1.16 × IOC; both forewing and hind wing with nervures yellowish (except costa and subcosta nervure black), without violaceous lustre; mandible with small, dully reddish-brown spot at centre; clypeus with median carina on upper basic portion; facial pubescence silvery, dense. Male – petiole 1.27 × as long as hind basitasus; IOV 1.19 × IOC; facial pubescence silvery, dense; both forewing and hind wing with nervures black; placoid long, along fourth flagellomere (Fig. 11); apical margin of clypeus with pair of short teeth; mandibles reddish-brown with apical tooth black.

Remarks: The characters described above reveal that this species belongs to the group of *I. praslinia*. Seven species have been recorded for this group to date (Hensen 1991). Together with the new species described in the present paper, the number of species of the group is currently eight: *I. obscurella* (F. Smith, 1856); *I. nigella* (F. Smith, 1856); *I. praslinia* (Guérin-Méneville, 1831); *I. nidulans* Hensen, 1991; *I. jaculator* (F. Smith, 1860); *I. sepicola* (F. Smith, 1859); *I. elsei* Hensen, 1991; and *I. vanlinhi* sp.nov.

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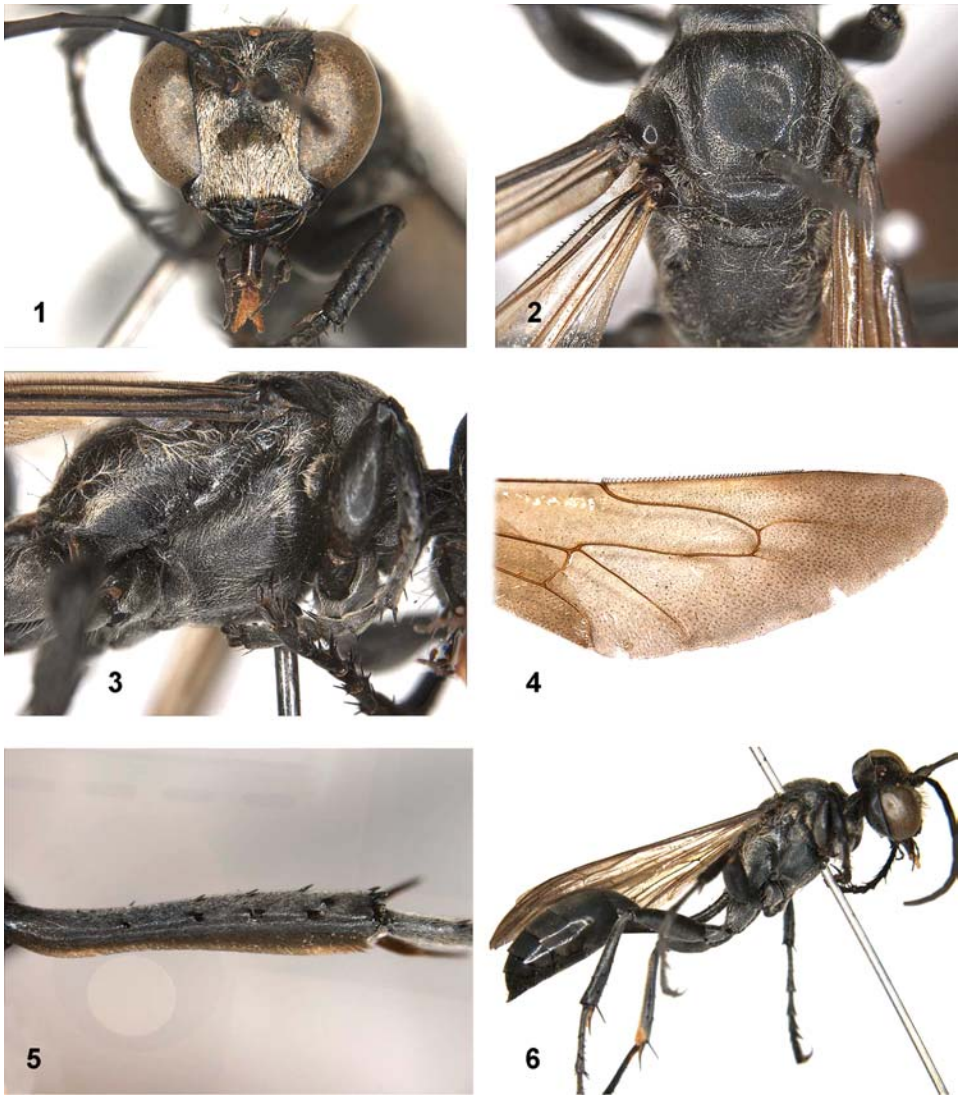
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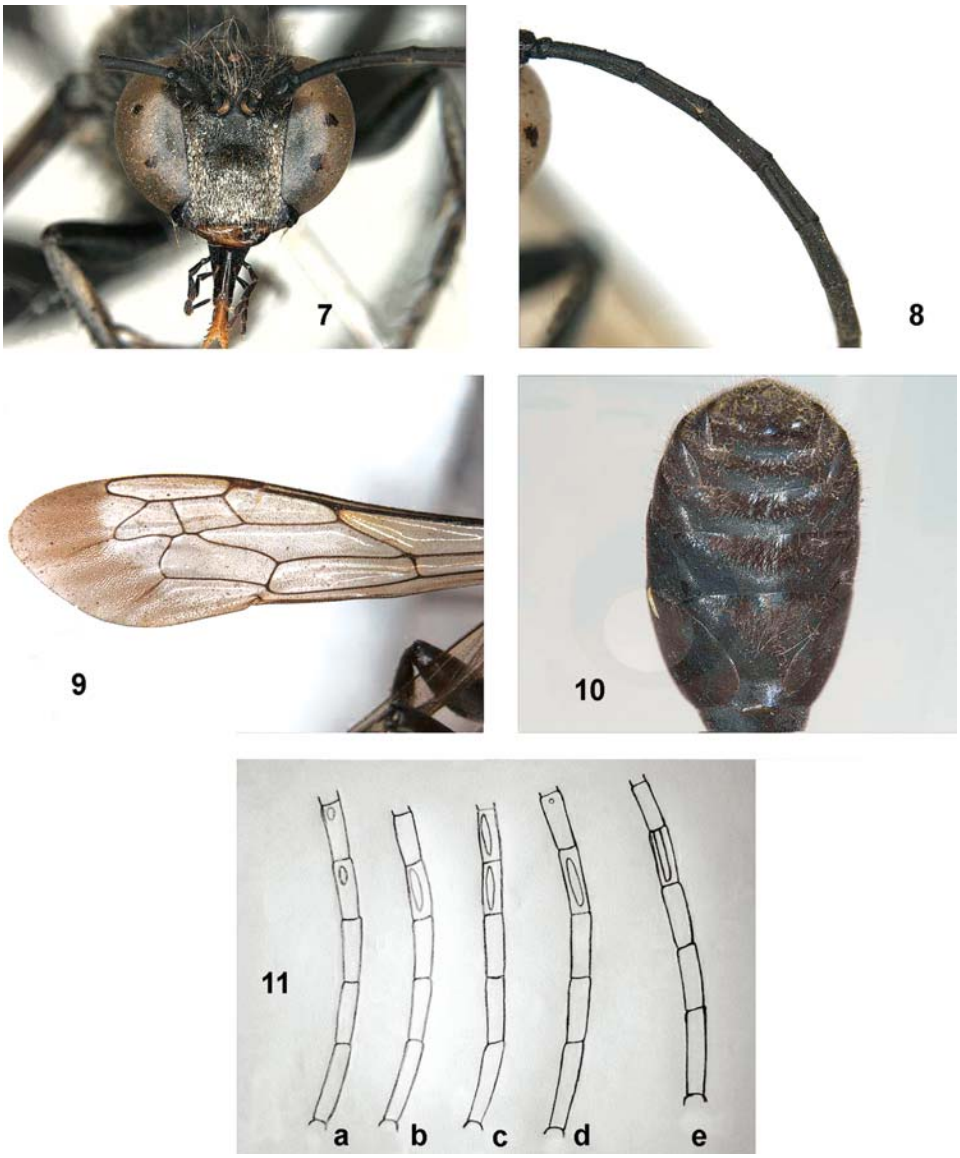
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Figs 1–6. *Isodontia vanlinhi* sp.nov., female: 1 – head, frontal view; 2 – thorax, dorsal view; 3 – thorax, lateral view; 4 – hind wing; 5 – outer edge of hind tibia; 6 – habitus.



Figs 7–11. 7–10, *Isodontia vanlinhi* sp.nov., male: 7 – head, frontal view; 8 – antenna; 9 – forewing; 10 – sterna of gaster. 11 – flagellomeres of five males of the group of *Isodontia praslinia* (mainly referred from Hensen 1991): a – *I. elsei*; b – *I. jaculator*; c – *I. praslinia*; d – *I. sepicola*; e – *I. vanlinhi* sp.nov.