

## New record of the genus *Indodynerus* Gusenleitner, 2008 (Hymenoptera: Vespidae: Eumeninae) from northern Vietnam, with description of a new species

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**Abstract.** The genus *Indodynerus* Gusenleitner, 2008, is newly recorded from Vietnam. *Indodynerus caikinh*, new species is described from northern Vietnam.

**Key words.** Vespidae, Eumeninae, solitary wasps, new species, northern Vietnam

### INTRODUCTION

The genus *Indodynerus* was described by Gusenleitner (2008), monotypic for *Indodynerus capitatus* Gusenleitner, 2008. Subsequently, Gusenleitner (2010) described *Indodynerus malickyi* from Vinh Phuc, Vietnam, and later, Gusenleitner (2012) synonymised this species under *Malayepipona assamensis manipurensis* Giordani Soika, 1995. Nguyen & Carpenter (2013), when studying the genus *Malayepipona* from Vietnam, concluded that *I. malickyi* belonged to the genus *Malayepipona* but clearly not a synonym of *M. assamensis manipurensis*, and thus considered *Malayepipona malickyi* (Gusenleitner, 2010) as a valid species. Prior to the present paper, this genus contains only *I. capitatus*, which is distributed in India (Chhattisgarh, Karnataka, Kerala) and Pakistan (Gusenleitner, 2008; Kumar et al., 2013).

In this paper, a new species of *Indodynerus*, from northern Vietnam is described. This is also the first record of the genus *Indodynerus* from Vietnam.

### MATERIAL & METHODS

The specimens examined in the present study are deposited in the collections of the Institute of Ecology and Biological Resources, Hanoi, Vietnam (IEBR).

The adult morphological and colour characters were observed on pinned and dried specimens under a Olympus SZ61 stereoscopic microscope. Measurements of body parts were made with an ocular micrometer attached to the

microscope. Body length is measured as the total lengths of head, mesosoma and the first two metasomal segments. Terminology follows Yamane (1990). Photographic images were made with the Leica M80 Stereo Microscope, using LAS exclusive microscopy software (LAS EZ 3.1.1); the plates were prepared using Adobe Photoshop CS6.

### TAXONOMY

#### Genus *Indodynerus* Gusenleitner, 2008

*Indodynerus* Gusenleitner, 2008, Linz. Biol. Beitr. 40(2): 1495, 1500.

Type species: *Indodynerus capitatus* Gusenleitner, 2008, by monotypy.

**Comparative notes.** This genus is very similar to the genus *Anterhynchium* Saussure, 1863, but it differs from the latter in the following characters: its clypeus has a different shape, anteriorly widely truncated, only slightly emarginated (anteriorly narrowly truncated and deeply emarginated in *Anterhynchium*); sides of propodeum without serration or teeth (sides of propodeum with serration or teeth in *Anterhynchium*); epicnemial carina absent (epicnemial carina present in *Anterhynchium*) (Gusenleitner, 2008). This genus is also similar to *Malayepipona* Giordani Soika, 1993, but can be separated from *Malayepipona* by the combination of the following characters: first metasomal tergum in dorsal view round basally, as wide as the second tergum (first metasomal tergum in dorsal view truncate basally, about two thirds as wide as the second tergum in *Malayepipona*); tegula two thirds as long as wide (tegula more than twice as long as wide in *Malayepipona*); parategula large, long, reaching or even surpassing the apex of the tegula (parategula small, short, not reaching the apex of the tegula in *Malayepipona*).

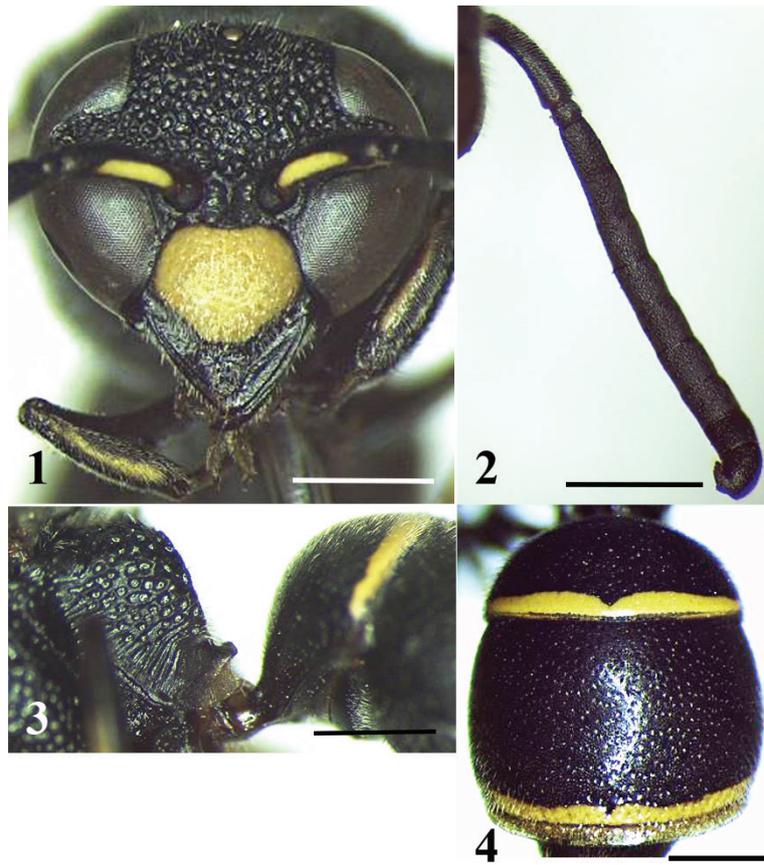
#### *Indodynerus caikinh*, new species

(Figs. 1–8)

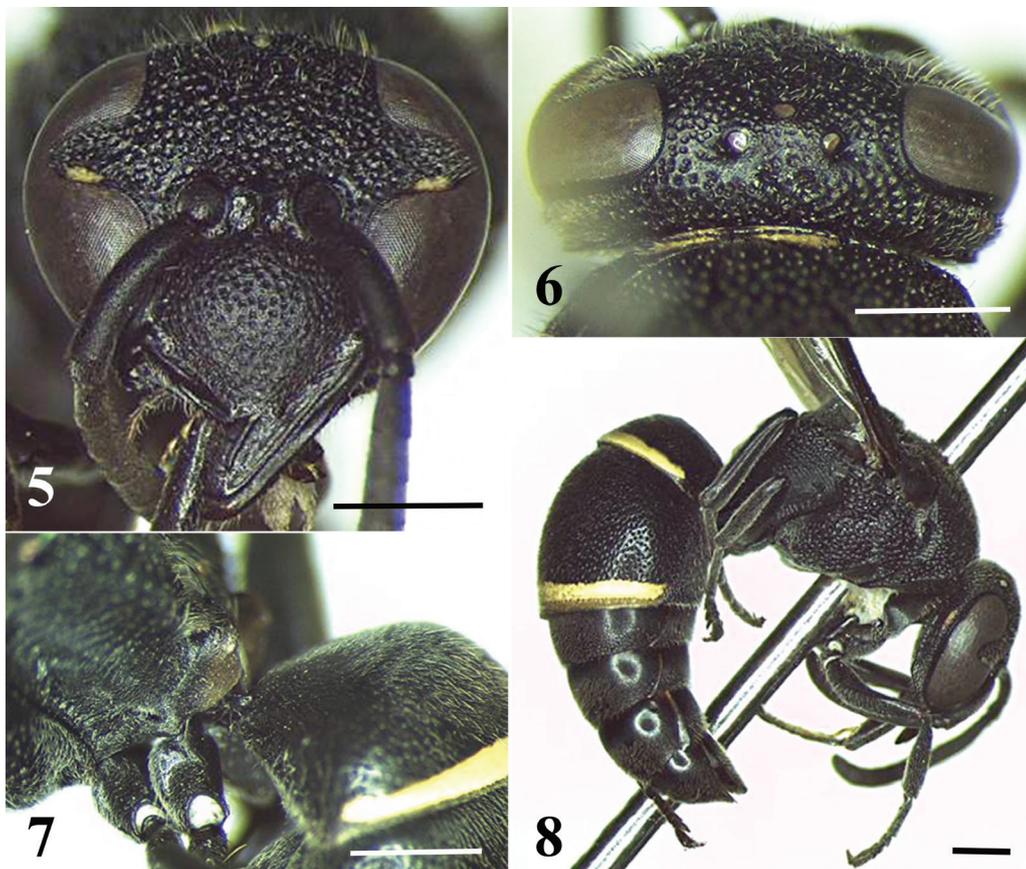
**Material examined.** Holotype, male, labeled “VIETNAM, Cai Kinh, Huu Lung, Lang Son, 22°39'42.9"N, 106°15'36"E,

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Figs. 1–4, *Indodynerus caikinh*, new species, male, holotype. 1, Head, frontal view; 2, Right antenna; 3, Propodeal valvula, lateral view; 4, Terga 1–2 dorsal view. Scale bar = 1 mm.



Figs. 5–8, *Indodynerus caikinh*, new species, female. 5, Head, frontal view; 6, Vertex, dorsal view; 7, Propodeal valvula, lateral view; 8, Habitus, lateral view. Scale bar = 1 mm.

ca 30 m, 24 October 2015, coll. L.T.P. Nguyen, D.D. Nguyen & N.T. Tran" (IEBR). Paratypes: VIETNAM: 1 female, same locality data as holotype (IEBR); Hai Phong: 1 male, Dao Khi, Cat Ba NP, Cat Hai, 20°43'81"N, 107°4'74"E, ca 30 m, 26 July 2013, coll. LTP Nguyen & DD Nguyen (IEBR).

**Diagnosis.** The new species can be distinguished from *Indodynerus capitatus* Gusenleitner by the following combination of characteristics: female clypeus with narrower anteriorly truncated margin (the width of the truncation less than one third the width of clypeus between inner eye margins in *I. caiking*, while in *I. capitatus*, the width of the truncation slightly more than two fifths the width of clypeus between inner eye margins); propodeum posteriorly shiny and rugose (in *I. capitatus*, according to Kumar et al. (2013): propodeum with transverse striations on lower half of posterior face); the valvula slightly curved at inner side (in *I. capitatus*: the valvula not curved); terga 1–2 with deep punctures (in *I. capitatus*: terga 1–2 with minus punctures).

As described below, the male and female are similar to each other both in structure (subcircular head with area on vertex behind posterior ocelli slightly depressed, thorax slightly longer than wide, metanotum angulate, deeply depressed in the middle and forming two blunt teeth, propodeum, metasomal segment 1 and 2 and tegula) and colouration.

**Description.** *Male.* Body length 8.0–8.2 mm (holotype: 8.2 mm); fore wing length 7.5–7.7 mm (holotype: 7.7 mm). Head in frontal view subcircular, 1.2 times as wide as high (Fig. 1). Vertex sloping down behind posterior ocelli towards occipital carina, without cephalic foveae; area on vertex behind posterior ocelli slightly depressed, the depression close to lateral sides (near eye) of posterior ocelli much deeper than level of the ocelli. Distance from posterior ocelli to apical margin of vertex 1.5 times distance from posterior ocelli to inner eye margin. Gena in lateral view 0.3 times as wide as eye. Occipital carina complete, present along entire length of gena. Inner eye margins strongly convergent ventrally, in frontal view 1.4 times further apart from each other at vertex as at clypeus. Clypeus in lateral view strongly convex from base to apical margin; in frontal view nearly as high as wide (Fig. 1), apical margin slightly emarginated, width of emargination one third the width of clypeus between inner eye margins. Mandible with prominent short teeth, fourth tooth blunt apically. Antennal scape nearly 3 times as long as its maximum width; flagellomeres 1–2 are 1.3 times as long as wide, flagellomeres 3–5, flagellomeres 8–9 slightly longer than wide, flagellomeres 6–7 as long as wide, flagellomere 10 small, as long as wide, terminal flagellomere slightly curved, slightly more than 2 times as long as its basal width (Fig. 2).

Mesosoma slightly longer than wide in dorsal view. Pronotal carina present, produced at humeral angles, reaching ventral corner of pronotum. Mesoscutum rather convex, 0.8 times as long as wide between tegulae; anterior margin broadly rounded. Disc of scutellum slightly convex. Metanotum angulate, deeply depressed in the middle and forming two

blunt teeth. Propodeum excavated medially, with posterior surface distinctly concave, basal triangular area with two basal foveae, at lower end median carina running to apical margin; border between dorsal and lateral, posterior and lateral surfaces rounded. Propodeum with submarginal carina fused with the valvula at base and projecting as truncated lobe above propodeal valvula at apical margin (Fig. 3).

Metasomal tergum 1 in dorsal view as wide as the second, rounded basally, 2.5 times as wide as long; tergum 2 is 1.3 times as wide as long, with wide, smooth, shiny apical lamella (Fig. 4); sternum 2 depressed basally at basal two thirds, and slightly convex to apical margin.

Body with short, ferruginous setae except lower part of propodeum with longer setae. Clypeus with shallow medium punctures on disc, laterally with smaller and deeper punctures. Mandible with several shallow small punctures. Frons with dense shallow large flat bottomed punctures, interspaces strongly raised to form reticulation; vertex and gena with smaller and weaker punctures, interspaces not raised. Pronotum with coarse punctures, spaces between punctures not raised and with minute punctures. Mesoscutum with dense coarse flat-bottomed punctures, medially similar to those on pronotum, interspaces at apical margin strongly raised to form reticulation. Punctures on scutellum similar to those near apical margin of mesoscutum. Punctures on metanotum coarse and dense. Mesepisternum with larger and coarser punctures posterodorsally than in mesoscutum, some small and shallow punctured anteroventrally; border between posterodorsal and anteroventral parts distinct. Metapleuron with weak striae and some shallow punctures at upper parts of dorsal area, with sparse shallow and small punctures in ventral area. Propodeum with very coarse and large flat bottomed punctures dorsally, laterally punctures shallower and smaller, with striae at lateral margin, posteriorly shiny, rugose. Tergum 1 with medium deep punctures, minute punctures in between them, tergum 2 with larger punctures, area between punctures with minute punctures, punctures near apical margins of tergum 2 deeper, larger and coarser than those on other part of the tergum, punctures on tergum 3–4 much smaller and weaker than those on tergum 1–2, tergum 5–6 with minute punctures; punctures on sternum 2 deeper and larger than those on lateral margins of tergum 2, punctures on sternum 3–5 small and shallow; narrow basal part of sternum 1 smooth.

*Colour.* Black; following parts yellow: clypeus except black apical margin, narrow short band along ocular sinus, inner antennal scape (antennal scape totally black in the specimen from Hai Phong), narrow short band at vertex behind eye, narrow short band along pronotal carina at dorsal part of pronotum (omitted medially in the specimen from Hai Phong), apical bands on tergum 1 and 2 (bands incised medially in the specimen from Hai Phong). Legs black except following parts yellow: an outer long narrow strip on fore tibia, two outer short strips on middle tibia (an outer spot at apical margin in the specimen from Hai Phong), and an outer small spot near apical margin of hind tibia (omitted in

the specimen from Hai Phong). First tarsomere of all legs yellow, other tarsomeres ferruginous. Propodeal valvulae dark brown. Wings brown, transparent, veins dark brown.

**Female.** Body length 8.8 mm; fore wing length 8.5 mm. Similar to the male, but differs as follows: Head in frontal view 1.1 times as wide as high (Fig. 5). Vertex with cephalic foveae small, bearing dense pubescence, situated on flat area on vertex, under overhanging V-shape and close to each other with distance between foveae slightly greater than a half distance between posterior ocelli (Fig. 6). Inner eye margins in frontal view slightly further apart from each other at vertex than at clypeus. Clypeus 1.1 times as wide as high, apical margin truncate, width of the truncation less than one third the width of clypeus between inner eye margins (Fig. 5). Mandible with four distinct teeth on inner side, basal tooth long and point apically. Antennal scape 3.5 times as long as its maximum width; flagellomere 1 is 1.2 times as long as its maximum width, flagellomeres 2–9 wider than long, flagellomere 10 bullet shaped, and as long as its maximum width. Propodeum with submarginal carina fused with the valvula and not projecting above propodeal valvula, the valvula slightly curved at inner side (Fig. 7).

**Colour.** Similar to the male, but clypeus, antenna wholly black, legs black with some ferruginous mark on all tarsi.

**Distribution.** Vietnam (northern provinces).

**Etymology.** The specific name refers to the type locality, Cai Kinh in Huu Lung, Lang Son province of Vietnam.

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