

TAXONOMIC NOTES ON THE SPECIES OF THE GENUS *MALAYEPIPONA* GIORDANI SOIKA (HYMENOPTERA: VESPIDAE: EUMENINAE) FROM NORTHERN VIETNAM, WITH DESCRIPTION OF THREE NEW SPECIES

Lien Thi Phuong Nguyen

*Insect Ecology Department, Institute of Ecology and Biological Resources, Vietnam Academy of Science and Technology
18 Hoang Quoc Viet Road, Nghia Do, Cau Giay, Hanoi, Vietnam
Email: phuonglientit@gmail.com (Corresponding author)*

James M. Carpenter

*Division of Invertebrate Zoology, American Museum of Natural History, New York, NY 10024, USA
Email: carpente@amnh.org*

ABSTRACT. — A taxonomic study on the solitary wasps in the vespidae genus *Malayepipona* Giordani Soika from the northern part of Vietnam is presented. *Malayepipona malickyi* (Gusenleitner, 2010), known from Tam Dao, Vietnam, is a good species, not a synonym of *M. assamensis manipurensis* Giordani Soika, 1995. Three new species are described: *M. clypeata* Nguyen & Carpenter from Bac Kan province, *M. seomyty* Nguyen & Carpenter from Lao Cai province, and *M. furva* Nguyen & Carpenter from Vinh Phuc province. A key to all known species of the genus is provided.

KEY WORDS. — Vespidae, Eumeninae, *Malayepipona*, new species, northern Vietnam

INTRODUCTION

The potter wasp genus *Malayepipona* was described by Giordani Soika (1993), monotypic for *M. pagdeni* Giordani Soika, 1993. Later, in 1995, two subspecies of the *M. assamensis* were also described by that author, the nominate subspecies distributed in Assam, India, and Laos (Gusenleitner, 2011), and *M. a. manipurensis* also from Assam.

The first *Malayepipona* species recorded from Vietnam was *M. assamensis manipurensis* by Gusenleitner (2012), who listed as a synonym *Indodynerus malickyi* Gusenleitner, 2010, which was described based on specimens from Tam Dao, Vietnam. However, he provided no explanation of why he synonymised it.

In this paper, based on specimens deposited in the Institute of Ecology and Biological Resources (IEBR), the taxonomy of Vietnamese *Malayepipona assamensis manipurensis* is revised, and three new species of the genus *Malayepipona* are described.

MATERIAL AND METHODS

The material examined in the present study is deposited in the collections of the IEBR.

The adult morphological and colour characters were observed on pinned and dried specimens under a stereoscopic microscope. Measurements of body parts were made with the ocular micrometer attached to a stereoscopic microscope. “Body length” indicates the lengths of head, mesosoma and the first two metasomal segments combined. Terminology follows Yamane (1990). Photographic images were made with the Leica EZ4HD 3.0 MegaPixel Digital Stereo Microscope, using LAS exclusive microscopy software (LAS EZ 2.0.0); the plates were finished with Photoshop CS6, mostly to adjust the size and background.

Collector is abbreviated as follow: IED-c, staff of the Insect Ecology Department (IEBR); NP, National Park.

TAXONOMY

Genus *Malayepipona* Giordani Soika, 1993

Malayepipona Giordani Soika, 1993: 151, genus

Type species. — *Malayepipona pagdeni* Giordani Soika, 1993, by original designation and monotypy.

Diagnosis. — This genus was separated from related genera by the combination of the following characteristics (Giordani Soika, 1993): first metasomal tergum in dorsal view

truncate anteriorly with front vertical face weakly convex, with lateral margins weakly divergent backwards (nearly straight), about two third as wide as second tergum and about twice as wide as long; maxillary palp six segmented, labial palp four segmented; head in frontal view as wide as long; temples well developed; mesosoma slightly longer than wide; pronotal carina thin and regular, slightly reflexed on humeri; epicnemial carina absent; pretegular carina well developed; tegulae more than twice as long as wide, with the posterior lobe narrow, but well developed, shaped like a long triangle; parategula small, short, not reaching the apex of the tegula; metanotum moderately convex, oblique; propodeum rounded laterally, ecarinate, lateral surfaces flat; second metasomal sternum convex.

Gordani Soika (1993) proposed the genus *Malayepipona* based on *M. pagdeni*. This is a small species (body length about 9.5mm), covered with small punctures. The other species of this genus, including *M. assamensis* and species described below, are bigger (body length about 11–13mm), and covered with coarse punctures.

Taxonomy of *Malayepipona assamensis manipurensis*

Gusenleitner (2010) described the new species *Indodynerus malickyi* based on a single female from Tam Dao NP, Vinh Phuc, Vietnam. Later, he (2012) synonymised this species under *Malayepipona assamensis manipurensis* Gordani Soika, 1995, but did not check the type (pers. comm.), and gave no explanation for this change.

Careful examination of his *Indodynerus malickyi* description and figures, and comparison with the specimens of this species on hand, led us to conclude that *I. malickyi* belongs to the genus *Malayepipona* but is not a synonym of *Malayepipona assamensis manipurensis* Gordani Soika 1995. This is shown by the following considerations: Gusenleitner (2010) mentioned in his description of *Indodynerus malickyi* that the second sternum is slightly and smoothly curved while it is strongly convex in the basal half in *Malayepipona assamensis* (Soika, 1995). Judging from Gusenleitner's fig. 3 of *I. malickyi* and examining specimens on hand, the first tergum is much less than twice as wide as long, while it is about twice as wide as long in *M. assamensis* (Soika, 1995). We therefore conclude that *Malayepipona malickyi* is a valid species.

Malayepipona malickyi (Gusenleitner, 2010)

(Figs. 1–5)

Indodynerus malickyi Gusenleitner, 2010

Malayepipona assamensis manipurensis Gordani Soika – Gusenleitner, 2012: 1047

Material examined. — 1 female, VIETNAM, Tam Dao NP, Vinh Phuc, alt. 900–1200 m, 30 Jul. – 3 Aug. 2012, coll. Tran. T. Du.

In his description of *Indodynerus malickyi*, Gusenleitner (2010) mentioned that the clypeus is slightly longer than wide, but judging

from his fig. 4, it is slightly wider than long. Below we provide a redescription of the species for future study.

Description. — *Female*. Body length about 11 mm; forewing length about 10.5 mm. Head in frontal view subcircular, about 1.15 times as wide as high. Vertex with cephalic foveae small, bearing dense pubescence, situated far from each other with distance between foveae about equal to distance between posterior ocelli; depression for cephalic foveae obsolete. Distance from posterior ocelli to apical margin of the vertex about twice of the distance from posterior ocelli to inner eye margin (Fig. 1). Gena narrower than eye, in lateral view about 0.7 times as wide as eye; occipital carina complete, present along entire length of the gena. Inner eye margins weakly convergent ventrally; in frontal view about 1.2 times further apart from each other at vertex than at clypeus. Clypeus in lateral view weakly and smoothly convex; in frontal view about 1.1 times as wide as high, with basal margin slightly convex medially (Fig. 2) and distinctly separated from antennal sockets; apical margin shallowly emarginate medially, forming a blunt tooth on each lateral side (Fig. 2); width of the emargination less than 1/3 width of clypeus between inner eye margins. Mandible quadridentate, basal tooth with inner margin much reduced to a straight line, second and third teeth short with inner margins slightly produced to form round edges, outer one pointed apically with inner margin nearly straight (Fig. 3). Antennal scape about 3.5 times as long as its maximum width; flagellomere I about 1.3 times longer than wide, flagellomere II about as long as wide, flagellomeres III–IX wider than long, terminal flagellomere bullet-shaped, as long as its basal width (Fig. 4).

Pronotal carina slightly raised, slightly produced at humeral angles, reaching ventral corner of pronotum. Mesoscutum weakly convex, about as long as wide between tegulae; anterior margin broadly rounded. Scutellum weakly convex, strongly depressed along anterior margin with many short longitudinal carinae. Metanotum weakly convex, sloping down to apical margin. Propodeum excavated in the middle, the basal fovea about 1/3 of the length of the median carina which runs from the fovea to the apical margin; in lateral view outline of the posterior surface slightly curved; border between posterior and lateral surfaces rounded.

First metasomal segment narrower than second, truncate at base; anterior vertical surface convex, with some shallow punctures, clearly separable from the posterior horizontal part, but without carina; tergum divided laterally by a sharp carina into upper and lower parts. Tergum I in dorsal view less than twice as wide as long; tergum II slightly wider than long; sternum II nearly flat at base, then slightly convex to apical margin (Fig. 5).

Body covered with short, ferruginous hairs except lower part of propodeum with dense long silver hairs.

Clypeus with dense, large, flat-bottomed punctures, each bearing a golden bristle, punctures at the center larger than at sides. Mandible with several shallow small punctures. Frons densely covered with coarse punctures. Vertex and gena with

punctures similar to those on frons. Pronotum with punctures coarser than punctures on vertex and gena, spaces between punctures very narrow, slightly raised to form reticulation. Mesocutum densely and coarsely covered with flat-bottomed punctures, punctures on scutellum and metanotum dense, coarse and equal to those on mesoscutum. Mesepisternum with dense, coarse, well-defined punctures in posterodorsal part, barely punctured in anteroventral part; border between posterodorsal and anteroventral parts distinct. Dorsal metapleuron with striae, ventral metapleuron with sparse shallow punctures. Propodeum with punctures dorsally and laterally similar to those on mesopleuron, posterior surface with shallow sparse large punctures. Metasomal segments densely covered with strong punctures, punctures on tergum II coarser than on terga III–V, tergum and sternum IV with minute punctures.

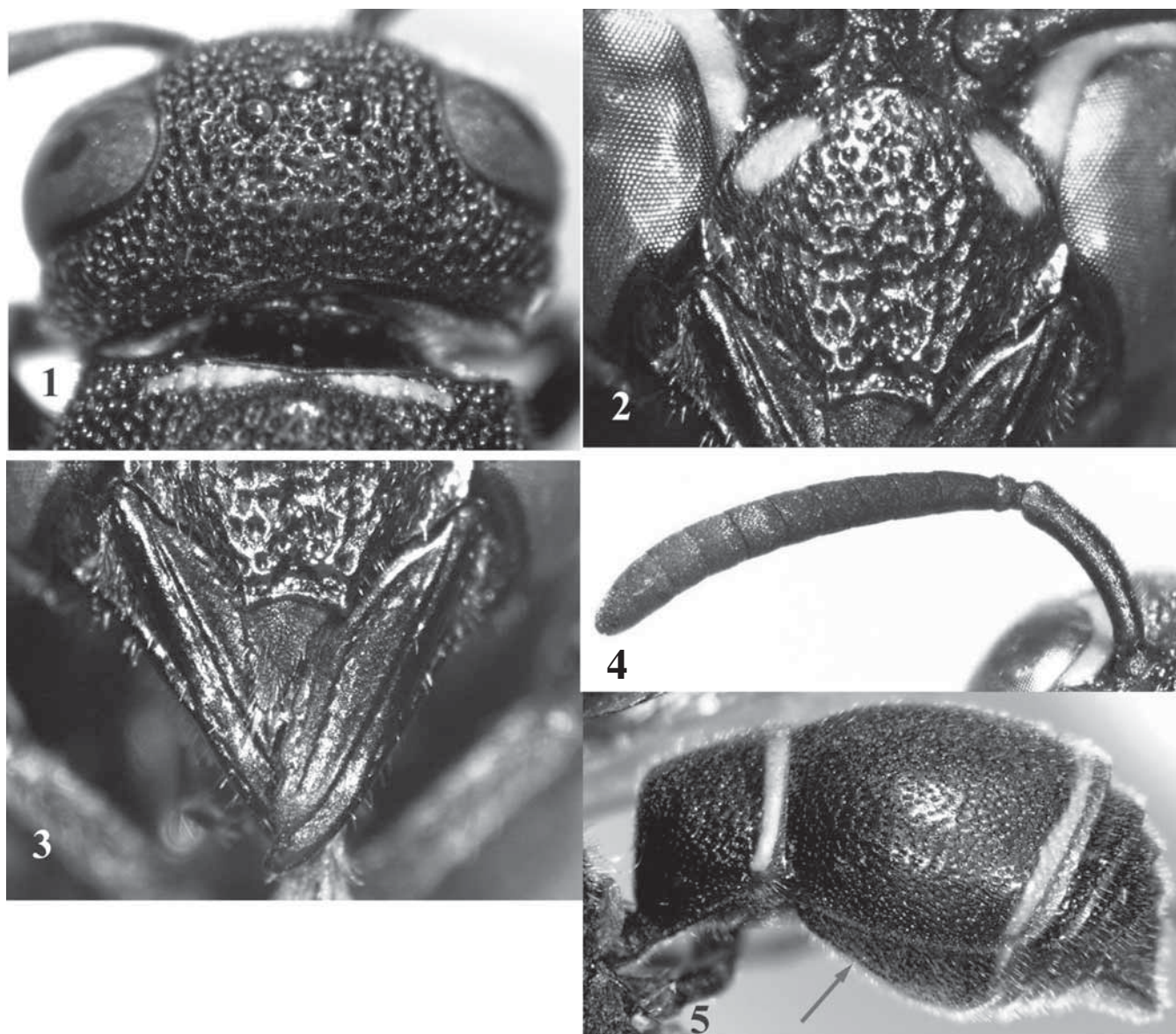
Colour. Black; following parts orange-yellow: large spots on upper lateral corner of clypeus, narrow band along inner

eye margin extending from bottom of frons nearly to ocular sinus, a spot on frons, spots on basal mandible, antennal scape beneath, narrow band at apical margin of first and second terga. Legs black. Wings dark-brown, strongly infusate, veins dark brown.

***Malayepipona clypeata* Nguyen & Carpenter, new species**
(Figs. 6–11)

Material examined. — Holotype: female, VIETNAM, Lang San, Na Ri, Bac Kan, 22°14'N, 106°05'E, alt. 600–700m, 4 Aug.2012, Nguyen T. P. Lien & IED-c.

Diagnosis. — This species can be distinguished from all other known species of the genus *Malayepipona* by the following combination of characters: head in frontal view much wider than high, about 1.25 times as wide as high;



Figs. 1–5. *Malayepipona malickyi* (Gusenleitner). Female: 1, vertex in dorsal view; 2, clypeus in frontal view; 3, mandibular teeth in frontal view; 4, right antenna; 5, metasomal segments showing second sternum.

clypeus much wider than high, about 1.3 times as wide as high; propodeum with upper part forming a pair of relatively blunt teeth behind metanotum, dorsal and posterior surfaces connected by a sharp edge, border between posterior and lateral surfaces sharply angulate; head and mesosoma covered

with very coarse punctures, punctures strongly raised to form reticulation.

Description. — *Female*. Body length about 13 mm; forewing length about 11.5 mm. Head in frontal view subcircular, about



Figs. 6–11. *Malayepipona clypeata*, new species. Female: 6, vertex in dorsal view; 7, clypeus in frontal view; 8, mandibular teeth in frontal view; 9, left antenna; 10, propodeum in posterior view; 11, metasomal segments showing second sternum.

1.25 times as wide as high. Vertex with cephalic foveae small, bearing dense pubescence, situated far from each other with distance between foveae about equal to distance between posterior ocelli; depression for cephalic foveae obsolete. Distance from posterior ocelli to apical margin of the vertex slightly greater than two times of the distance from posterior ocelli to inner eye margin (Fig. 6). Gena slightly narrower than eye, in lateral view about 0.9 times as wide as eye; occipital carina complete, present along entire length of the gena, but dorsally somewhat weak. Inner eye margins weakly convergent ventrally; in frontal view about 1.1 times further apart from each other at vertex than at clypeus. Clypeus in lateral view weakly and smoothly convex; in frontal view about 1.3 times as wide as high (Fig. 7), with basal margin slightly convex medially and distinctly separated from antennal sockets; apical margin deeply emarginate medially, forming a sharp tooth on each lateral side (Fig. 7); width of the emargination less than 1/3 width of clypeus between inner eye margin. Mandible with prominent teeth, second and third teeth triangular with inner side produced, nearly square, the outer one pointed apically, with inner margin nearly straight and forming a right angle with apical margin of the third tooth (Fig. 8). Antennal scape about 3.5 times as long as its maximum width; flagellomere I about 1.5 times longer than wide, flagellomeres II–IV about as long as wide, flagellomeres V–IX wider than long, terminal flagellomere bullet-shaped, as long as its basal width (Fig. 9).

Mesosoma short, longer than wide in dorsal view. Pronotal carina slightly raised, produced at humeral angles, reaching ventral corner of pronotum. Mesoscutum weakly convex, about as long as wide between tegulae; anterior margin broadly rounded. Scutellum weakly convex, strongly depressed along anterior margin with many short longitudinal carinae. Metanotum weakly convex, slope down to apical margin. Propodeum excavated in the middle, the basal fovea about 1/4 of the length of the median carina which runs from the fovea to the apical margin; in lateral view outline of the posterior surface nearly straight; upper part of propodeum forming a pair of relatively blunt teeth behind metanotum (Fig. 10); dorsal and posterior surfaces connected by a sharp edge; border between posterior and lateral surfaces sharply angulate.

Metasomal segment I narrower than segment II, truncate at base; anterior vertical surface weakly convex, with some shallow punctures, clearly separable from the posterior horizontal part, without carina; tergum divided laterally by a sharp carina into upper and lower part. Tergum I in dorsal view about twice as wide long; second tergum slightly wider than long; second sternum nearly flat at base, then slightly convex to apical margin (Fig. 11).

Body covered with short, ferruginous hairs except lower part of propodeum with dense long silver hairs.

Clypeus with dense, large, flat-bottomed punctures, each bearing a golden bristle, punctures at center larger than at sides. Mandible with several shallow small punctures. Frons densely covered with very coarse punctures, punctures strongly

raised to form reticulation. Vertex and gena with punctures similar to those on frons. Pronotum with punctures coarser than punctures in vertex and gena, spaces between punctures very narrow, strongly raised to form reticulation. Mesoscutum densely and coarsely covered with flat-bottomed punctures, punctures on scutellum and metanotum dense, coarse and equal than those on mesoscutum. Mesepisternum with dense, coarse, well-defined punctures posterodorsally, barely punctured anteroventrally; border between posterodorsal and anteroventral parts distinct. Dorsal metapleuron with strong striae, ventral metapleuron with sparse shallow punctures. Propodeum with punctures on dorsal and lateral parts similar to those on mesopleuron, posterior surface with shallow, sparse, large punctures. Metasomal segments densely covered with strong punctures, punctures on tergum II coarser than punctures on tergum III–V, tergum and sternum IV with minute punctures.

Colour. Black; following parts orange-yellow: large spots on upper lateral corner and small spots on lower lateral corner of clypeus, narrow band along inner eye margin extending from bottom of frons to nearly ocular sinus, a spot on frons, spots on basal mandible, antennal scape beneath, narrow band at apical margin of first tergum. Legs black except following parts orange-yellow: spots on inner side of fore tibia, upper part of middle and hind femora. Propodeal valvulae dark brown. Wings dark brown, strongly infusate, veins dark brown.

Etymology. — The specific name refers to the wide clypeus in this species.

***Malayepipona seomyti* Nguyen & Carpenter, new species**
(Figs. 12–19)

Material examined. — Holotype: female, VIETNAM, Seomyti, Sapa, Lao Cai, 1700 m, 9 Jul. 2009, Pham H. Phong. Paratypes: 2 males, same data as holotype.

Diagnosis. — This species can be distinguished from all other known species of the genus *Malayepipona* by the following combination of features: distance from posterior ocelli to apical margin of the vertex short, about 1.5 times of the distance from posterior ocelli to inner eye margin; clypeus in lateral view prominently convex at basal half, then slightly depressed and running straight to apical margin (weakly convex in other species); scutellum and metanotum with a longitudinal depression in the middle; propodeum with dorsal and posterior surfaces delimited by a blunt edge, border between posterior and lateral surfaces bluntly angulate.

Description. — *Female.* Body length about 12 mm; forewing length about 11 mm.

Structure as in *Malayepipona clypeata*, but differing as follows: Head in frontal view about 1.1 times as wide as high. Distance from posterior ocelli to apical margin of the vertex about 1.5 times of the distance from posterior ocelli

to inner eye margin. Gena narrower than eye, in lateral view about 0.85 times as wide as eye. Inner eye margins in frontal view about 1.25 times further apart from each other at vertex than at clypeus. Clypeus in frontal view about 1.1 times as wide as high, apical margin shallowly emarginate medially, forming a blunt tooth on each lateral side (Fig. 12), width of the emargination slightly more than 1/3 width of clypeus between inner eye margins; in lateral view prominently convex at basal half, then slightly depressed and running straight to apical margin (Fig. 13). Mandibular teeth quite short, basal tooth with inner side slightly concave, second and third teeth with inner side slightly produced to form round edges, the outer one pointed apically with inner side nearly straight (Fig. 14). First flagellomere slightly longer than wide, second flagellomere about as long as wide, third to ninth flagellomeres wider than long, terminal flagellomere bullet-shaped, shorter than its basal width (Fig. 15). Scutellum and metanotum with a longitudinal depression in the middle (Fig. 16). Propodeum with basal fovea about 1/3 of the length of the median carina which runs from the fovea to the apical margin; in lateral view outline of the posterior surface slightly curved; upper part of propodeum normal, without a pair of blunt teeth behind metanotum; dorsal and posterior surfaces connected by a blunt edge; border between posterior and lateral surfaces bluntly angulate. First tergum in dorsal view about twice as wide as long (Fig. 17).

Body covered with less coarse punctures than in *M. clypeata*. Clypeus covered with shallow punctures, each bearing a golden bristle, diameter of the punctures smaller than distance between the punctures, punctures coarser on apical half. Dorsal metapleuron with weak striae, area between striae smooth; ventral metapleuron with scattered shallow punctures. Propodeum with deep coarse punctures in dorsally, border between punctures cariniform; punctures shallow laterally with border between punctures undefined; posterior surface with scattered shallow punctures.

Colour. Black; following parts orange-yellow: a large band at lateral margins of clypeus, a large band along inner eye margin extending from bottom of frons to the half of ocular sinus, a spot on frons, spots on middle of mandible, a small spot on gena behind eye margin, antennal scape beneath, narrow band along pronotal carina with branches extending along posterodorsal margin of pronotum, pretegular carinae, a pair of small spots on basal margin of metanotum, apical bands on terga I–V (widest on tergum I and II and very narrow on terga III–V, bands on terga I and II incise in the middle), spots on lateral apical margin of sternum II. Tegulae and propodeal valvulae dark brown. Legs black except dark brown spots on apical margin of fore and mid femora.

Male. — Body length about 11 mm; forewing length about 10.5 mm.

Structure as in female, but differing from the latter as follows: head proportionally smaller, transverse, about 1.3 times as wide as high in frontal view; eye strongly swollen laterally; inner eye margins strongly convergent, about 1.5 times further apart from each other at vertex than at clypeus;

gena narrow, in lateral view about 0.6 times as wide as eye; clypeus in frontal view slightly wider than high, only slightly produced ventrally, in lateral view strongly convex at basal half, then slightly depressed at apical half, apical margin deeply emarginate medially, forming a sharp pointed tooth on each lateral side (Fig. 18); mandible with four prominent, sharp teeth (Fig. 18). Antenna slightly more slender than in female, scape short, about three times as long as its maximum width; first flagellomere about 1.5 times as wide as long, second flagellomere slightly longer than wide, third to fifth flagellomeres about as wide as long, sixth to eighth flagellomeres wider than long, terminal flagellomere elongate, slightly curved, about twice as long as its basal width (Fig. 19).

Body surface sculpture as in female, but clypeus without large punctures, punctures sparse and small.

Colour. Similar to female, but clypeus orange-yellow except black apical margin, and spots on mandible much larger than in female.

Etymology. — The specific name refers to the type locality, Seomyty in Sa Pa, Lao Cai Province of Vietnam; it is to be treated as a noun in apposition.

Remarks. — This species is most similar to *M. visenda* Gusenleitner known from Laos, but can be easily distinguished from the latter by having the female head with shorter and sparser hairs, second and third teeth of mandible with inner side produced to form round edge, the outer one with inner side nearly straight (in *M. visenda*, second and third teeth of mandible with inner side nearly straight, the outer one with inner side slightly curved); metanotum more convex and punctures on clypeus and metasomal terga coarser.

***Malayepipona furva* Nguyen & Carpenter, new species**
(Figs. 20–23)

Material examined. — Holotype: female, VIETNAM, Tam Dao, Vinh Phuc, 800 m, 12 May 2003, Nguyen T. P. Lien.

Diagnosis. — This species can be distinguished from all other known species of the genus *Malayepipona* by having the clypeus with apical margin deeply emarginate medially, forming a sharp triangular tooth on each lateral side, width of the emargination wide, more than 1/3 width of clypeus between inner eye margins; mandible with prominent teeth, second and third teeth trapezoid; tergum I less than twice as wide as long in dorsal view, with anterior vertical surface more convex, as in *M. malickyi*.

Description. — *Female.* Body length about 11 mm; forewing length about 10.5 mm.

Structure as in *Malayepipona clypeata*, but differing as follows: head in frontal view about 1.1 times as wide as high. Distance from posterior ocelli to apical margin of vertex about 1.8 times the distance from posterior ocelli to

inner eye margin. Gena narrower than eye, in lateral view about 0.7 times as wide as eye. Inner eye margins in frontal view about 1.3 times further apart from each other at vertex than at clypeus. Clypeus in lateral view weakly convex; in frontal view about 1.1 times as wide as high (Fig. 20); apical margin deeply emarginate medially, forming a sharp tooth on each lateral side (Fig. 20); width of the emargination slightly more than 1/3 the width of clypeus between inner eye margins. Mandible with prominent teeth, second and third teeth trapezoid, the outer one pointed apically (Fig. 21). First antennal flagellomere 1.3 times as long as wide, second and third flagellomere about as long as wide, fourth to ninth flagellomeres wider than long, terminal flagellomere bullet-shaped, shorter than its basal width (Fig. 22). Propodeum with basal fovea about 1/4 of the length of the median carina which runs from the fovea to the apical margin; in lateral view outline of the posterior surface slightly curved; upper part of propodeum normal, without a pair of blunt teeth behind metanotum; dorsal and posterior surfaces forming a smooth curve; border between posterior and lateral surfaces rounded. Tergum I in dorsal view much less than twice as wide as long (Fig. 23), anterior vertical surface more convex than in *M. clypeata*, as in *M. malickyi*.

Body covered with less coarse punctures than in *M. clypeata*, like in *M. seomyty*. Clypeus covered with coarse and dense punctures, each bearing a golden bristle, punctures near apical margin coarser. Dorsal metapleuron with weak striae and some shallow punctures between striae; ventral metapleuron with scattered shallow punctures. Propodeum with deep coarse punctures dorsally; punctures laterally shallow with border between punctures undefined; posterior surface with scattered shallow punctures.

Colour. Black; following parts orange-yellow: a narrow band along inner eye margin extending from lower frons to the half of ocular sinus, narrow and short band at posterodorsal margin of pronotum, pretegular carinae, apical bands on terga I and II, spots on lateral apical margin of sternum II. Valvulae dark brown. Legs black except dark brown spots on apical margin of all femora.

Etymology. — The specific name, *furva*, is a Latin adjective and refers to the black colour of the species.

Remarks. — This species is similar to *M. malickyi* except for the following combination of features: clypeus with apical margin deeply emarginate medially, forming a sharp tooth on each lateral side (apical margin shallowly emarginate and forming blunt teeth in *M. malickyi*); mandible with prominent teeth, inner side long with round edge (teeth with inner side quite short with nearly curve edge in *M. malickyi*).

KEY TO ALL KNOWN SPECIES OF GENUS *MALAYEPIPONA*

The characters are applicable to both sexes unless the sex is specified.

1. Small wasps; body length about 9–9.5 mm. Punctures on head and thorax small and strong. Punctures on metasomal terga sparse and less strong.....*M. pagdeni* Giordani Soika
- Medium-sized wasps; body length about 11–13 mm. Punctures on head and thorax large and stronger. Punctures on metasomal terga strong2
2. Metasomal sternum II strongly convex at base.....*M. assamensis* Giordani Soika
- Metasomal sternum II nearly flat at base, then slightly and gradually convex toward its apical margin (Figs. 5, 11).....3
3. Female clypeus wide, about 1.3 times as wide as high (Fig. 7). Punctures on head and thorax very coarse. Upper part of propodeum with a pair of relatively blunt teeth just behind metanotum (Fig. 10). Mandible with prominent long teeth, second and third teeth triangular with inner side produced, nearly square (Fig. 8).....*M. clypeata*, new species
- Female clypeus narrower, slightly wider than high (Figs. 2, 12, 20). Punctures on head and thorax coarse. Upper part of propodeum normal, without blunt teeth. Mandible with short teeth (Figs. 3, 14) (except in *M. furva* with long teeth [Fig. 21], but second and third teeth trapezoid).....4
4. Metasomal tergum I about twice as wide as long in dorsal view (Fig. 17); border between anterior and dorsal surfaces slightly raised with faint edge.....5
- Metasomal tergum I less than twice as wide as long in dorsal view (Fig. 23); border between anterior and dorsal surfaces bluntly angulate6
5. Female head with long and dense hairs. Clypeus with coarse punctures. Second and third teeth of mandible with inner side nearly straight, the outer one with inner side slightly curved. Punctures on metasomal terga strong*M. visenda*, Gusenleitner
- Female head with short and sparse hairs. Clypeus with coarser punctures. Second and third teeth of mandible with inner side produced with round edge, the outer one with inner side nearly straight (Fig. 14). Punctures on metasomal terga stronger.....*M. seomyty*, new species
6. Female clypeus with apical margin deeply emarginate medially, forming a sharp tooth on each lateral side (Fig. 20). Mandible with prominent long teeth, inner side long with round edge (Fig. 21).....*M. furva*, new species
- Female clypeus with apical margin shallowly emarginate medially, forming blunt tooth on each lateral side (Fig. 2). Mandibular teeth short with inner side quite short and slightly curved (Fig. 3).....*M. malickyi* (Gusenleitner)

ACKNOWLEDGEMENTS

The present study was supported by the grant from the Vietnam National Foundation for Science and Technology Development (NAFOSTED: no. 106.12-2011.30) to the senior author. We thank J. Gusenleitner for his kind help in sending pictures of *Malayepipona visenda*.

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