

**Data to the Vietnamese ichneumon wasp fauna with description of a new
Teleutaea species (Hymenoptera: Ichneumonidae)**

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Abstract – Ichneumon wasps (Hymenoptera: Ichneumonidae) collected in Vietnam on a recent joint trip of the Institute of Ecology and Biological Resources (Hanoi) and the Hungarian Natural History Museum (Budapest) are reported. Three species, *Glyptopimpla avniae* Gupta, 2002, *Teleutaea minamikawai* Momoi, 1963, and *Dicamptus nigropictus* (Matsumura, 1912), are new for the Vietnamese fauna. *Teleutaea pantherina* sp. n. is newly described, and a key to the Oriental *Teleutaea* species is provided. With 4 figures.

Key words – Banchinae, *Dicamptus*, *Glyptopimpla*, identification key, Ophioninae, Oriental

INTRODUCTION

The fauna of ichneumon wasps (Hymenoptera: Ichneumonidae) in Vietnam is poorly explored; according to Yu *et al.* (2012) only 127 species have been reported so far. The species diversity in adjacent countries (e.g. China, Thailand and Japan; see e.g. YU *et al.* 2012, SHENG & SUN 2014, WATANABE & MAETO 2014) indicates that the fauna in Vietnam might be undoubtedly larger than the present records suggest.

In this paper, I report three newly recorded species from Vietnam and describe a new species of the genus *Teleutaea* Förster, 1869. Materials are based on the collection of a recent joint expedition by the Institute of Ecology and Biological Resources, Vietnam Academy of Science and Technology (IEBR, Hanoi, Vietnam), and the Hungarian Natural History Museum (HNHM, Budapest, Hungary).

MATERIAL AND METHODS

In 2016, a joint expedition was carried out by the researchers of IEBR and HNHM in Vietnam. The main objectives were to study and collect bats (Chiroptera) and bat virus samples, and to collect invertebrates, mainly beetles

(Coleoptera). Hymenoptera were also collected during this field trip. Various collecting methods were used; they are indicated in the species records below.

Morphological terminology follows GAULD (1991) and GAULD *et al.* (1997). Taxonomy and nomenclature follow YU & HORSTMANN (1997) and YU *et al.* (2012). Identifications were based on TOSQUINET (1903), MORLEY (1914), UCHIDA (1928), CUSHMAN (1933), TOWNES *et al.* (1961), MOMOI (1963), TOWNES (1970, 1971), MOMOI (1978), GAULD & MITCHELL (1981), KUSLITZKY (2007), SHENG (2008), SHENG & SUN (2009, 2014) and WATANABE & MAETO (2014). The specimens were examined using a Nikon SMZ645 stereoscopic microscope. All Vietnamese specimens reported here are deposited in the Hymenoptera Collection of HNHM.

RESULTS

Subfamily Banchinae

Genus *Glyptopimpla* Morley, 1913

Glyptopimpla Morley, 1913. Type species: *Glyptopimpla prima* Morley, 1913; original designation.
Zygglypta Momoi, 1965. Type species: *Glypta uchidai* Momoi, 1963; original designation, incl. by GUPTA (2002).
Orientoglypta Kuslitzky, 1973. Type species: *Glypta watanabei* Momoi, 1963; original designation, incl. by GUPTA (2002).

Remarks – In Vietnam, no species of this genus has been reported so far (YU *et al.* 2012). Below I newly report *Glyptopimpla avniae* Gupta, 2002 from Vietnam.

Glyptopimpla avniae Gupta, 2002

Material – Vietnam, Yen Bai Province, Mu Cang Chai District, Che Tao commune, Mu Cang Chai Species and Habitats Conservation Area, around Cong Troi (Gate to Heaven) Pass, 21.764°N, 104.043° E, 2040 m, 23.IX.2016, upper montane evergreen forest, swept, leg. Ottó Merkl & Phu Pham Van; 1 female. – Same locality and collectors, 24–29.IX.2016, at light; 1 female.

Remarks – First records from Vietnam. Previously known from India and Myanmar (GUPTA 2002).

Genus *Teleutaea* Förster, 1869

Teleutaea Förster, 1869. Type species: *Lissonota striata* Gravenhorst, 1829; incl. by SCHMIEDEKNECHT (1888).
Hoplitophrys Förster, 1869. Type species: *Glypta brischkei* Holmgren, 1860; incl. by SCHMIEDEKNECHT (1888).
Teleutea Thomson, 1889. Emendation for *Teleutaea*.

Remarks – *Teleutaea* is a moderately speciose genus of the subfamily Banchinae, tribe Glyptini, with 19 valid species described so far (not including the one described in this paper) (YU *et al.* 2012, SHENG & SUN 2014, WATANABE & MAETO 2014). A definition of the genus is provided by TOWNES (1970). *Teleutaea* seems to be most diverse in the Eastern Palaearctic region, represented by 15 species, while only two species are known to occur in the Western Palaearctic, six in the Oriental, and one in the Neotropical region (YU *et al.* 2012, SHENG & SUN 2014, WATANABE & MAETO 2014). In Vietnam, no species of this genus has been reported so far (YU *et al.* 2012).

Despite the low number of Oriental species, their species-level identification is complicated as the published keys focus on the Eastern Palaearctic species, including only different subsets of the Oriental species if any (see e.g. MOMOI 1963, KUSLITZKY 2007, SHENG 2008, SHENG & SUN 2014, WATANABE & MAETO 2014). Additionally, two of the Oriental species, *T. macilenta* Tosquinet, 1903 and *T. flavomaculata* (Uchida, 1928), have not yet been included in any identification keys.

I studied specimens of all Oriental *Teleutaea* species with simple antennal sockets, including the holotype of *T. macilenta* Tosquinet, 1903, which is deposited in the Institut Royal des Sciences Naturelles de Belgique (IRSNB, Brussels, Belgium). However, I have not seen specimens of the three *Teleutaea* species with upwardly prolonged antennal sockets known to occur in the Oriental region, namely *T. arisana* Sonan, 1936, *T. flavomaculata* (Uchida, 1928), and *T. mishae* Kuslitzky, 1973. As for *T. arisana* Sonan, 1936 and *T. mishae* Kuslitzky, 1973 the original and later descriptions provide sufficient information to separate them (see e.g. WATANABE & MAETO 2014). However, *T. flavomaculata* (Uchida, 1928), a species known only from Taiwan, is described only in its original description, which contain insufficient information to separate it from *T. arisana* Sonan, 1936. Hence, *T. flavomaculata* (Uchida, 1928) is not included in the present key (it is mentioned but not included as in SHENG (2008)), and should be a subject of a future revision. The original descriptions and specimens of the Palaearctic and Neotropical *Teleutaea* species were, if necessary, checked to ensure that the new species has not been described previously in another zoogeographical region.

Teleutaea minamikawai Momoi, 1963

Material – Vietnam, Yen Bai Province, Mu Cang Chai District, Che Tao commune, Mu Cang Chai Species and Habitats Conservation Area, around Cong Troi (Gate to Heaven) Pass, 21.764°N, 104.043°E, 2040 m, 24–29.IX.2016, upper montane evergreen forest, at light, leg. Ottó Merkl & Phu Pham Van; 1 female.

Remarks – First record from Vietnam. Previously known from several parts of Japan and the Russian Federation (YU *et al.* 2012, WATANABE & MAETO 2014); hence, this record represents the southernmost locality of this species.

***Teleutaea pantherina* sp. n.**

(Figs 1–4)

Material – Holotype: female; Vietnam, Yen Bai Province, Mu Cang Chai District, Che Tao commune, Mu Cang Chai Species and Habitats Conservation Area, around Cong Troi (Gate to Heaven) Pass, 21.764°N, 104.043°E, 2040 m, 24–29.IX.2016, upper montane evergreen forest, at light, leg. Ottó Merkl & Phu Pham Van; specimen card-mounted, ovipositor sheaths largely missing, present only at extreme basal part; apical flagellar segments damaged after counting all segments; holotype deposited in the Hymenoptera Collection of the Hungarian Natural History Museum (HNHM, Budapest) (Id. number HNHM-HYM 23215).

Diagnosis – The new species belongs to the morphological group of Oriental *Teleutaea* species with the following characters in combination: torulus (antennal socket) simple, not prolonged upwardly, and mesopleuron with a large yellow spot. Thus species of the region with prolonged antennal sockets, such as *T. mishae* Kuslitzky, 1973, can be distinguished from *T. pantherina* sp. n. on this regard). Within the morphological group of species with simple antennal sockets, *T. pantherina* sp. n. can be easily separated from the other species of the group: from *T. gracilis* Cushman, 1933, by the lack of a yellow band on the propodeum, the weaker and sparser punctuation, and the colour pattern of the tergites; from *T. minamikawai* Momoi, 1963, by the lack of distinct grooves on fifth tergite and the weaker and sparser punctuation. In surface sculpture of the body (i.e. relatively weaker and sparser punctures and bluish-metallic reflection) *T. pantherina* sp. n. most resembles most to *T. macilenta* Tosquinet, 1903; however, the new species is significantly smaller, darker, and its first tergite is stouter: first tergite 1.5× as long as wide apically, metanotum (postscutellum) and tergites 1–3 are black in *T. pantherina* sp. n., while the first tergite is 2× as long as wide apically, metanotum (postscutellum) is yellow and tergites 2–3 are with yellow apical bands in *T. macilenta* Tosquinet, 1903.

Description – Female (holotype) (Figs 1–4). Body length c. 10.0 mm, fore wing length c. 7.5 mm, ovipositor sheath c. 6.0 mm.

Head: Antenna with 40 flagellomeres; first flagellomere 5.5× as long as wide apically and 1.5× as long as second flagellomere. Gena short, strongly constricted behind eyes. Occipital carina complete. Occiput, gena, vertex, frons shiny, punctures indistinct. Frons smooth, concave above toruli. Torulus simple, not prolonged upwardly. Face elevated, smooth and shiny in middle, laterally shiny with distinct and dense punctures. Clypeus convex in profile, shiny with a few scat-

tered punctures; apical margin of clypeus weakly notched in midline. Inner eye orbits parallel, weakly emarginated around toruli. Ocellus diameter distinctly shorter than distance between lateral ocellus and eye. Malar space finely coriaceous, about as long as basal width of mandible. Upper mandibular tooth slightly longer than lower tooth.

Mesosoma: Pronotum shiny and punctate, punctures more distinct and denser in upper part (punctures separated by usually more than puncture diameter) than in lower (almost completely smooth). Epomia distinct but not tuberculate at upper end. Mesoscutum densely punctate in middle, punctures separated by less than puncture diameter; lateral lobes of mesoscutum indistinctly and sparsely punctate, shinier. Notaulus distinct, reaching about middle of mesoscutum. Scutellum shiny with a few sparse punctures, with diagonal wrinkles at apex; strongly convex in profile, without lateral carina. Mesopleuron shiny with weak punctures separated by usually more than puncture diameter (more densely punctate along anterior margin); speculum shiny, impunctate. Sternaulus indistinct. Epicnemial carina present but rather weak, not reaching middle of hind margin of pronotum. Posterior transverse carina of mesosternum incomplete. Metanotum (postscutellum) shiny, punctures indistinct. Metapleuron shiny, distinctly but relatively weakly punctate, punctures separated by usually less than puncture diameter dorsally but by more than puncture diameter ventrally; anteroventral lobe above mid coxa translucent and smooth with a few indistinct punctures. Coxae shiny with sparse punctures. Legs slender, hind femur about $6.5\times$ as long as its maximum width in lateral view. Tarsal claws small, pectinate. Propodeum shiny with distinct and dense but relatively weak punctures, punctures separated by usually less than puncture diameter, punctures denser laterally than medially. Pleural carina weak, apical part obsolete; posterior transverse carina complete and strong. Propodeal spiracle small and circular, connected by a very short and indistinct ridge to pleural carina.

Wings: Wing membrane with dense short setae. Fore wing with vein *cu-a* postfurcal, weakly inclivous. Vein *2m-cu* with two bullae, both situated above middle. Areolet petiolate and relatively small, *2rs-m* distinctly shorter than *3rs-m*; *3rs-m* complete but weakly pigmented at lower end. Distal abscissa of *Rs* straight, curved only slightly at base and apex. Hind wing vein *cu-a* distinctly reclivous and about as long as abscissa of *Cu1* between *M* and *cu-a*. Distal abscissa of *Cu1* present.

Metasoma: Surface shiny. Tergites 1–4 distinctly and densely but weakly punctate, punctures separated by usually less than puncture diameter, punctures denser laterally than medially. Fifth tergite and the following tergites shiny, indistinctly punctate, very finely shagreened (fingerprint-like). First tergite $1.5\times$ as long as its posterior width, posteriorly with distinct oblique grooves; dorsomedian carina obsolete behind spiracle, dorsolateral carina complete, reaching apex

of tergite. Tergites 2–4 slightly longer (c. $1.1\times$) than wide posteriorly, with deep oblique grooves anteriorly, basolateral and median parts of tergites along the grooves elevated. Fifth tergite $0.75\times$ as long as its posterior width, fifth and following tergites without oblique grooves. Ovipositor sheath $2.2\times$ as long as hind tibia, ovipositor smooth with distinct subapical dorsal notch.

Colour: Body black with yellow markings; black body parts with distinct bluish-metallic reflection. Head black except following parts: clypeus, mouthparts, a small patch at mandibular base, and mandible except teeth yellow; mandibular teeth dark brown. Antenna black, except small apical yellowish brown patch on ventral side of scapus. Pronotum black, dorsal edge completely yellow, lower edge yellow on ventral half. Propleuron black dorsally, yellow ventrally. Mesoscutum black, tegula yellow. Scutellum yellow laterally, black medially. Mesopleuron black with large yellow spot, subtegular ridge yellow, mesepimeron brownish yellow. Metanotum (postscutellum) black. Metapleuron black with a very thin yellow line above anteroventral lobe. Propodeum black. Tergites 1–3 completely black, fourth and following tergites each with thin ivory line posteriorly. Hypopygium brown. Ovipositor reddish brown (ovipositor sheaths of holotype largely missing, but extreme proximal parts present and black). Wings hyaline, veins brown. Fore and mid legs: coxae, trochanters and trochantelli yellow; femora and tibiae reddish (tibiae slightly darker than femora); tarsomeres brown. Hind leg: coxa red, basally yellow, with yellow more extended on dorsal side; trochanter and trochantellus yellow with irregular dark brown patches; femur brown, slightly darkened basally and apically, slightly lighter on dorsal and ventral sides than laterally; tibia brown, with small yellowish spot basally on dorsal side, slightly darkened apically, slightly lighter on ventral side; tarsus very dark brown, almost black, first tarsomere with narrow reddish brown ring at extreme base.

Male: Unknown.

Distribution – Vietnam.

Ecological note – The holotype specimen was captured in a montane evergreen forest, attracted to light. No host species is known.

Etymology – The specific epithet *pantherina* is the feminine form of the Latin adjective *pantherinus*, *-a*, *-um*, meaning ‘panther-like’, referring to the colouration and gracefulness of the new species.

Identification key to Oriental *Teleutaea* species

Supporting but not distinguishing specific characters are given in parentheses. Currently known distribution is indicated. As it was previously mentioned, *T. flavomaculata* (Uchida, 1928), a species known from Taiwan, is not included in this key.



Figs 1–4. Holotype of *Teleutaea pantherina* sp. n., 1 = lateral habitus, 2 = dorsal habitus, 3 = pronotum and mesopleuron (in lateral view, head facing right), 4 = central tergites (in dorsal view, third tergite is the rightmost, head facing right)

- 1 Antennal sockets simple 2
- Antennal sockets modified, prolonged upwardly 5
- 2 Propodeum with yellow band (body with strong and dense punctures; first tergite 2× as long as wide apically; tergites 1–5 with yellow apical bands; postscutellum yellow; body length ~10 mm). China: Taiwan
..... *T. gracilis* Cushman, 1933
- Propodeum black 3
- 3 Fifth tergite with distinct oblique grooves; body with strong and dense punctures and without distinct bluish-metallic reflection (first tergite 1.3× as long as wide apically; tergites 1–3 only apicomediaally ivory, tergites 4–6 with ivory apical bands; postscutellum yellow; body length 11–12 mm). Russian Federation, Japan, Vietnam *T. minamikawai* Momoi, 1963
- Fifth tergite without distinct oblique grooves (Fig. 4); body with distinctly weaker and sparser punctures and with distinct bluish-metallic reflection (Fig. 3) 4
- 4 First tergite 2× as long as its apical width; tergites 2–6 with ivory apical bands; postscutellum yellow; body length ~14 mm. Indonesia: Java
..... *T. macilentata* Tosquinet, 1903
- First tergite 1.5× as long as wide apically; tergites 1–3 black, 4–6 with ivory apical bands; postscutellum black; body length ~10 mm. Vietnam
..... *T. pantherina* sp. n.
- 5 Second tergite and following tergites with yellowish apical margin; postscutellum yellow; body without distinct bluish-metallic reflection (first tergite 1.5× as long as wide apically; body length 10–15 mm). China: Mainland, China, Taiwan *T. arisana* Sonan, 1936*
- Fourth tergite and following tergites with yellowish apical margin; postscutellum black; body with distinct bluish-metallic reflection (first tergite 1.5–1.6× as long as wide apically; body length 11–13 mm). Russian Federation, Japan *T. mishae* Kuslitzky, 1973

Subfamily Ophioninae

Genus *Dicamptus* Szépligeti, 1905

Dicamptus Szépligeti, 1905. Type species: *Dicamptus giganteus* Szépligeti, 1905; original designation.

Remarks – In Vietnam, no species of this genus has been reported so far (YU *et al.* 2012). Below I newly report *Dicamptus nigropictus* (Matsumura, 1912) from Vietnam.

* *T. flavomaculata* (Uchida, 1928) also might key out here.

Dicamptus nigropictus (Matsumura, 1912)

Ophion nigropictus Matsumura, 1912. Lapsus: *Ophion migropictus* Matsumura, 1912.

Material – Vietnam, Yen Bai Province, Mu Cang Chai District, Che Tao commune, Mu Cang Chai Species and Habitats Conservation Area, around Cong Troi (Gate to Heaven) Pass, 21.764° N, 104.043° E, 2040 m, 24–29.IX.2016, upper montane evergreen forest, at light, leg. Ottó Merkl & Phu Pham Van; 1 female.

Remarks – First record in Vietnam. This species is widely distributed in the Eastern Palaearctic and Oriental regions (GAULD & MITCHELL 1981).

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