

Records of Eight Species of Ichneumonidae (Hymenoptera) from Fiji and Solomon Islands, with Descriptions of Two New Species

Kanetosi KUSIGEMATI*

Abstract

Eight species of Ichneumonidae are recorded from Fiji and Solomon Islands. *Casinaria vitilevensis*, sp. nov. and *Pristmerus honiarensis*, sp. nov. are described. *Enicospilus pankumensis* (Cheesman) and *Diplazon laetatorius* (Fabricius) are newly recorded from Fiji Islands.

Introduction

The present article is based on material collected by the author in Fiji and Solomon Islands when he joined to the Second Scientific Expedition of Kagoshima University Research Center for the South Pacific, 1982. H. Townes, M. Townes and V. K. Gupta reclassified and catalogued the Indo-Australian ichneumonid species in 1961, enumerating 24 species in the Fiji Is. and 18 species in the Solomon Is. In the present paper 3 species (including one new species) are added to the ichneumonid fauna of the Fiji Is. and one new species to that of Solomon Is. All specimens, including type specimens of the new species described herein, are preserved in the collection of the Entomological Laboratory, Kagoshima University, Kagoshima.

Subfamily Ephialtinae

1. *Echthromorpha agrestoria immaculata* Krieger

Echthromorpha immaculata Krieger, Mitt. Zool. Mus. Berlin 4 : 331, 1909.

Echthromorpha agrestoria immaculata : Townes, Insects of Micronesia 19 : 42, 1958.

Specimen examined. Fiji Is. : 1♂, Ngaloa, Nuku, Viti Levu, 27-xi-1982, K. Kusigemati leg.

* Entomological Laboratory, Faculty of Agriculture, Kagoshima University, Kagoshima 890, Japan

The present material agrees well with the original description of *E. diversoe* Morley, 1913 (= *E. agrestoria immaculata* Krieger, 1909), but it differs in having the following aspects: —

♂. Mesopleurum entirely black; subtegular ridge yellowish brown; mesosternum entirely black; metapleurum except for anterior upper margin and posterior corner yellowish brown, black; 2nd to 4th tergites blackish, the apical margin of each tergite slightly tinged with dirty yellowish brown.

Length: Body 8.1 mm., forewing 7.0 mm.

Distribution: Fiji Is., New Hebrides Is.?, and Solomon Is.?

Subfamily Porizontinae

2. *Casinaria vitilevensis*, sp. nov. (Figs. 3 & 4)

♀. Head lenticular; head and thorax covered with short, rather dense, light yellowish brown hairs; face about 1.1 times as wide as high at level of clypeal fovea, weakly mat, with shallow and rather dense punctures, and a few transverse rugulae on median dorsal portion; clypeus evenly and moderately convex, rather densely and weakly punctate, the apical margin weakly convex, and slightly reflexed; malar space narrow, about 1/3 as long as basal width of mandible; temple weakly swollen, narrow, about 1/2 as long as eye in lateral view; occipital carina strong and complete; distance between lateral ocelli and eyes about as long as diameter of an ocellus. Antennae with 35 segments; 2nd flagellar segment 4/7 as long as the 1st and 1.0 times as long as the 3rd. Mesoscutum weakly mat, strongly and densely punctate; notaulus weakly impressed, extending near apex; mesopleurum rather strongly and densely punctate, the punctures becoming weaker anteriorly and dorsally, with oblique, distinct striae just before speculum; speculum polished and smooth; sternaulus shortly and indistinctly impressed; metapleurum coarsely rugose posteriorly, weakly and densely punctate anteriorly. Propodeum strongly reticulate-rugose, with a deep median longitudinal trough, the trough being strongly and transversely striate; median longitudinal carina more or less complete; propodeal spiracle small and circular; apex of propodeum extending about 2/3 of hind coxa. Forewing (Fig. 3) with nervulus postfurcal by about 1/4 of its own length; areolet small, petiolate above; 2nd recurrent vein received close to 2nd intercubitus; nervellus weakly reclivous, not intercepted (Fig. 4). Hind basitarsus 2.6 times as long as 2nd segment of hind tarsus. Abdomen strongly compressed; 2nd and following tergites covered with rather dense, short, yellowish brown to dark brown hairs; 1st tergite about 1.3 times as long as the 2nd; 2nd tergite 2.2 times as long as wide at apex; ovipositor short, weakly upcurved; ovipositor sheath extending slightly beyond apex of abdomen.

Black. Palpi yellowish brown; mandible light ferruginous, the apical teeth blackish brown; tegula reddish brown; scape and pedicel yellowish brown, darker dorsally; flagellum infusate, a little paler basoventrally. Front and middle legs

yellowish brown to ferrugineous, the tibiae and tarsi a little paler. Hind coxa blackish brown, paler apically; trochanter, femur, tibia and tarsus light ferrugineous, the apex of tibia and tarsus a little darker. First tergite blackish on about basal 1/2, ferrugineous on apical 1/2; 1st tergite blackish brown, paler apically; 2nd tergite ferrugineous, the extreme apex and about basal 1/2 infuscate; 3rd tergite ferrugineous, with a infuscate basomedian spot; 4th and following tergites ferrugineous; ovipositor ferrugineous; ovipositor sheath blackish. Wings entirely clouded.

Length: Body 8.8 mm., forewing 5.2 mm.

♂. Differs from the female, apart from usual sexual differences, by the following aspects: —

Face and clypeus a little more strongly and densely punctate than in female; face about 1.2 times as wide as high at level of clypeal fovea; malar space about 4/9 as long as basal width of mandible. Antennae with 35–38 segments; 2nd flagellar segment 2/3–5/7 as long as the 1st and about 1.1 times as long as the 3rd. Propodeum more coarsely reticulate-rugose than in female; first tergite 1.1–1.2 times as long as the 2nd; 2nd tergite 2.3–2.8 times as long as wide at apex; hind basitarsus 2.4–2.5 times as long as 2nd segment of hind tarsus. Middle coxa sometimes blackish basally; apical part of hind tarsus a little more darker than in female; 1st sternite almost entirely blackish, paler apically; 1st tergite blackish on about basal 2/3, ferrugineous on about apical 1/3.

Length: Body 7.9–9.7 mm., forewing 4.5–5.2 mm.

Holotype. ♀, Rawanga, Sigatoka, Viti Levu, 27-xi-1982, K. Kusigemati leg. Paratypes: 2♂♂, with the same data as in holotype; 2♂♂, Nanduri, Sigatoka, Viti Levu, Fiji Is., 27-xi-1982, K. Kusigemati leg.

Distribution: Fiji Is. (Viti Levu).

This species is similar to *C. meridionalis* (Turner, 1919) from Australia and Tasmania. It can be readily distinguished from the latter by the propodeum which is extending to the basal 2/3 of the hind coxa and the antennae with 35–38 segments.

Subfamily Cremastinae

3. *Trathala flavoorgitalis* (Cameron)

Tarytia flavo-orbitalis Cameron, Jour. Bombay Nat. Hist. Soc. 17: 589, 1907.

Trathala flavo-orbitalis: Townes, Insects of Micronesia 19: 66, 1958.

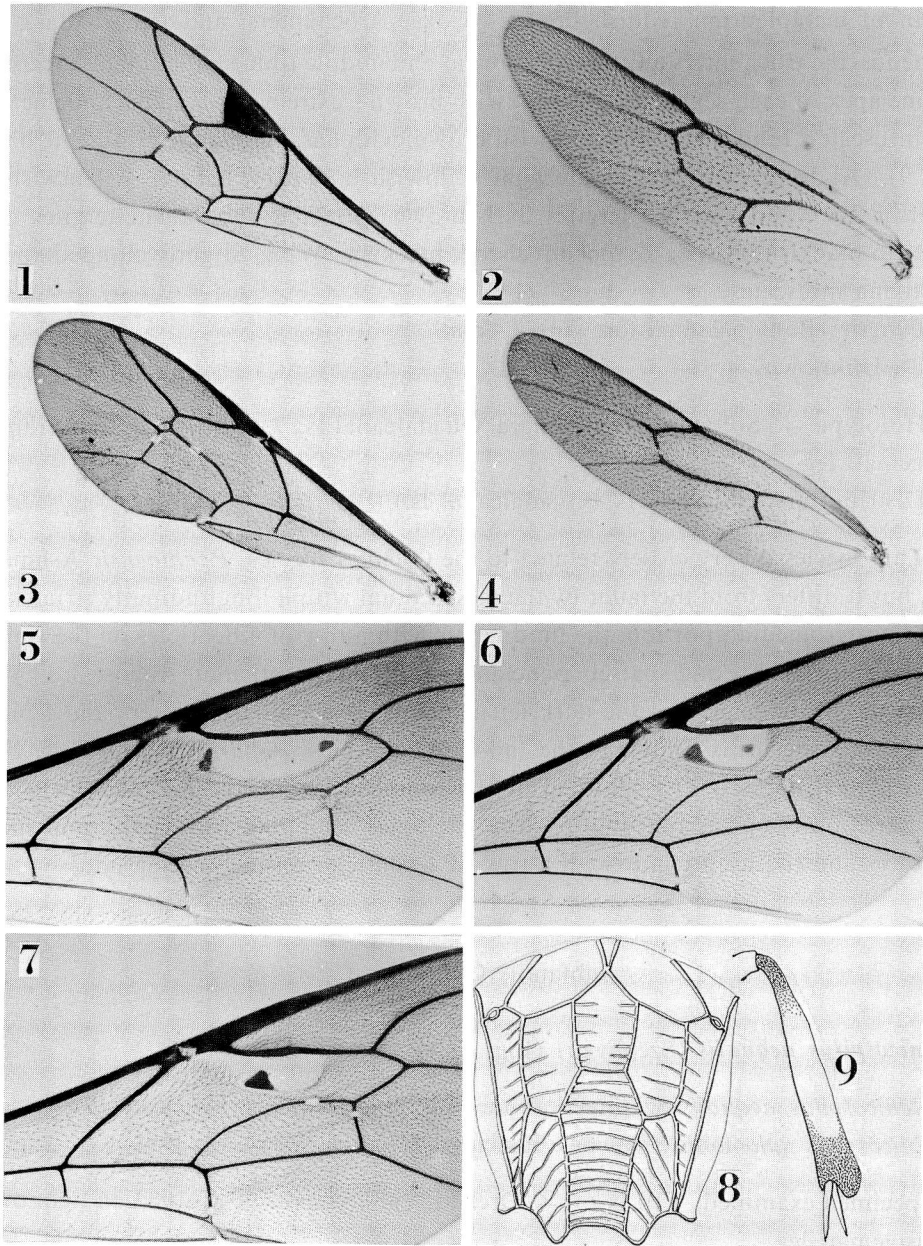
Specimens examined. Fiji Is.: 1♂, Navua, Veivatuloa, Viti Levu, 27-xi-1982, K. Kusigemati leg.; 2♀♀, Nanduri, Sigatoka, Viti Levu, 27-xi-1982, K. Kusigemati leg.; 1♀, Rawanga, Sigatoka, Viti Levu, 27-xi-1982, K. Kusigemati leg.

Distribution: China, Hong Kong, Japan, Formosa, Philippines, Sri Lanka, Burma, India, Hawaii, Micronesia, Singapore, Indonesia, and Fiji Is.

4. *Pristmerus honiarensis*, sp. nov. (Figs. 1, 2, 8 & 9)

♀. Face about 1.4 times as wide as high at level of lower margin of antennal socket, distinctly and rather sparsely punctate, the punctures becoming sparser centrally and laterally, with a dull central prominence; clypeus polished, weakly convex, very sparsely punctate, about 1.0 times as wide as high, the apex marginated with a weak carina and almost truncate; malar space about $2/5$ as long as basal width of mandible; mandible slightly tapering towards apex, rather densely haired, the upper tooth slightly longer than the lower one; inner margins of eyes almost parallel-sided; temple weakly mat, flat, very narrow, about $1/9$ as long as eye in lateral view; frons weakly mat, with rather dense punctures, finely and longitudinally striate on median portion; distance between lateral ocelli and eyes $2/3$ as long as diameter of an ocellus; occipital carina distinct and complete, the median dorsal area slightly deepened downwards. Antennae with 30 segments; 2nd flagellar segment $6/7$ as long as the 1st and about 1.1 times as long as the 3rd. Pronotum polished, rather sparsely punctate, the punctures becoming coarser and sparser ventrally, with five longitudinal striae on the lower corner; mesoscutum weakly and rather densely punctate, the punctures becoming weaker and sparser laterally, with longitudinal and weak striae on posteromedian portion; notaulus distinct; mesopleurum distinctly and rather densely punctate; speculum polished, finely and sparsely punctate, the punctures becoming very sparser ventrally; metapleurum strongly and densely punctate, rugoso-punctate on posterior corner; scutellum weakly convex, with large, strong, sparse punctures, without a lateral carina, distinctly and longitudinally striate on the apical $1/3$. Propodeum (Fig. 8) strongly areolated; areola complete, about 1.7 times as long as wide at costula; basal area small, triangle, about as long as wide, the posterior margin almost pointed; petiolar area with a shallow longitudinal trough, and distinct transverse striae; 3rd lateral area reticulate-rugose. Forewing (Fig. 1) with stigma large, about 1.9 times as long as wide, with radius emitting from basal $5/8$; nervulus postfurcal by about $1/3$ of its own length; nervellus weakly inclivous, intercepted at lower $1/3$ (Fig. 2). Hind femur about 4.2 times as long as wide except ventral teeth in lateral view, with a short tooth on ventral side, and a row of 4 denticles on ventral side between the large tooth and apex of femur; hind tibia without a longitudinal ventral carina. Abdomen with 1st tergite about 1.2 times as long as propodeum; postpetiole rather stout, about 1.7 times as long as its basal width, very finely and longitudinally striate; 2nd tergite 2.2 times as long as wide at base, finely and longitudinally striate; 3rd tergite very finely and longitudinally striate, the striae being weaker posteriorly; ovipositor sheath about 1.3 times as long as 1st tergite.

Black. Clypeus blackish basally, yellowish brown apically; mandible light yellowish brown, the apical teeth dark brown; malar space weakly tinged with dirty yellowish brown; palpi pale yellow; scape and pedicel yellowish brown, a little darker dorsally; flagellum infuscate, paler basally. Pronotum and propleurum dark reddish brown; subtegular ridge slightly tinged with dark reddish brown; posterior



Figs. 1 and 3. Left forewings: 1, *Pristmerus honiarensis*, sp. nov., ♀; 3, *Casinaria vitilevensis*, sp. nov., ♀.

Figs. 2 and 4. Left hind wings: 2, *P. honiarensis*, sp. nov., ♀; 4, *C. vitilevensis*, sp. nov., ♀.

Figs. 5-7. Right forewings: 5, *Enicospilus aequalis* (Szépligeti), ♀; 6, *E. uncivena* (Enderlein), ♂; 7, *E. pankumensis* (Cheesman), ♀.

Fig. 8. Propodeum in dorsal view: *P. honiarensis*, sp. nov., ♀.

Fig. 9. Hind tibia, showing colour pattern: *P. honiarensis*, sp. nov., ♀.

margin of metapleurum reddish brown. Coxae, trochanters, and femora dark ferrugeneous, the trochanters a little paler; front and middle tibiae and all tarsi except for extreme apex of each segment light yellowish brown; extreme apex of each segment of tarsi infuscate; hind tibia light yellowish brown, with basal and apical infuscate bands (Fig. 9). Abdomen with 1st tergite light yellowish brown on basal 1/2, blackish on posterior 1/2; 2nd and 3rd tergites dark brown; 4th and subsequent tergites dark brown to blackish brown; ovipositor sheath blackish. Wings slightly clouded apically; stigma infuscate.

Length: Body 5.2 mm., forewing 3.4 mm.

♂. Unknown.

Holotype. ♀, Solomon Is.: Honiara, Guadalcanal Is., 7-xii-1982, in light trap, K. Kusigemati leg.

Distribution: Solomon Is. (Guadalcanal Is.).

This species is very closely related to the Oriental species, *P. chinensis* Ashmead, 1906, but it differs from the latter by the mesoscutum with a longitudinally striate area on the posteromedian portion, the hind femur with a row of 4 denticles on the ventral side, the more weakly and sparsely punctate specillum, the reticulate-rugose 3rd lateral area of the propodeum and the dark ferrugineous coxae, all trochanters and femora. Further, this species is similar to the Indonesian species, *P. parilis* Kusigemati, 1984, from which it is easily distinguished by the complete areola, the mesoscutum with a striate area on the posteromedian portion, the black scutellum with coarse and sparse punctures and the hind femur with a row of 4 denticles on the ventral side.

Subfamily Ophioninae

5. *Enicospilus aequalis* (Szépligeti) (Fig. 5)

Henicospilus aequalis Szépligeti, Ann. Mus. Natl. Hungarici 4: 143, 1906.

Enicospilus salomonis: Townes, Insects of Micronesia 19: 74, 1958.

Specimen examined. Fiji Is.: 1 ♀, Dreketi, Vanua Levu, 29-xi-1982, in light trap, K. Kusigemati leg.

The present material agrees well with the Townes' redescription of this species based on material of Guam, but it differs in having the following characters: —

♀. Flagellum with 2nd segment about 3.1 times as long as wide at apex in lateral view; clypeus weakly and evenly convex wholly; hind tarsal claw with 8-10 pecten teeth.

Distribution: Micronesia, New Caledonia Is., New Guinea, New Hebrides Is., Samoa Is., Solomon Is., and Fiji Is.

6. *Enicospilus pankumensis* (Cheesman) (Fig. 7)

Henicospilus pankumesds Cheesman, Trans. R. Ent. Soc. London 85 : 184, 1936.

Specimen examined. Fiji Is. : 1 ♀, Dreketi, Vanua Levu, 29-xi-1982, K. Kusigemati leg.

This is the first record of the species from Fiji Is. The present material agrees with the original description of *pankumensis* (Cheesman, 1936), but it differs in having the following aspects : —

♀. Scutellum with a few longitudinal striae on the apical 1/2 ; mesopleurum finely and densely punctate, longitudinally and finely striate, the striae becoming finer towards dorsally ; metapleurum finely and rather densely punctate, with fine and vertical striae on about dorsal 3/5 ; nervulus antefurcal by about 1/6 of its own length ; ocellar area black.

Length : Body 19.8 mm., forewing 11.1 mm.

Distribution : New Hebrides Is., Palau Is., and Fiji Is.

7. *Enicospilus uncivena* (Enderlein) (Fig. 6)

Enicospilus reticulatus Cameron, Fauna Maldive et Laccadive Arch. 1 (1) : 52, 1902. Name preoccupied by Cameron, 1899.

Henicospilus nigrinervis Szépligeti, Mus. Natl. Hungarici 4 : 142, 1906. Name preoccupied by Cameron, 1901.

Henicospilus uncivena Enderlein, Stettin. Ent. Ztg. 82 : 23, 1921.

Enicospilus nigrivenalis Cushman, Arb. über Morph. u. Taxonom. Ent. 4 : 307, 1937.

Specimens examined. Fiji Is. : 1 ♀, Ngaloa, Viti Levu, 27-xi-1982, K. Kusigemati leg. ; 3 ♂♂, Dreketi, Vanua Levu, 29-xi-1982, in light trap, K. Kusigemati leg. Solomon Is. : 1 ♂, St. Martin, Chaombata, Guadalcanal Is., 7-xii-1982, K. Kusigemati leg.

Distribution : Micronesia, New Caledonia Is., New Guinea, New Hebrides Is., Samoa Is., Fiji Is., and Solomon Is.

The three species of *Enicospilus* treated above may be distinguishable from each other by the following key : —

1. Frontal orbit narrowly yellow ; face and abdomen entirely castaneous. Forewing (Fig. 5) with discoidal cell with 2 scleromes, the two scleromes widely separated.
..... *aequalis* (Szépligeti)
- Inner orbit widely yellow ; abdomen bicoloured, castaneous basally, blackish apically. Forewing (Figs. 6 & 7) with discoidal cell with one or two scleromes, when two scleromes present, the scleromes normally separated. 2
2. Forewing with discoidal cell with one sclerome (Fig. 7) ; median area of face

- weakly and sparsely punctate, not striate; ocellar area black. Metapleurum less strongly convex, more finely striate. *pankumensis* (Cheesman)
- Forewing with discoidal cell with two scleromes (Fig. 6); median area of face more or less vertically striate; ocellar area light yellowish brown. Metapleurum more strongly convex, more strongly striate. *uncivena* (Enderlein)

Subfamily Diplazontinae

8. *Diplazon laetatorius* (Fabricius)

Ichneumon laetatorius Fabricius, Species insectum...1 : 424, 1781.

Diplazon laetatorius : Illingworth, Hawaii. Ent. Soc. 5 : 278, 1923.

Specimens examined. Fiji Is. : 1 ♀, Rawanga, Sigatoka, Viti Levu, 27-xi-1982, K. Kusigemati leg. ; 1 ♂, Macuata, Dreketi, Vanua Levu, 14-xii-1982, reared from puparium of *Ischiodon scutellaris* (Fabricius) feeds on *Toxoptera citricidus* (Kirkaldy) on *Citrus sinensis* Osbeck by K. Kusigemati.

This species is the first record of the species from Fiji Is. The present material agree well with the Japanese form, but it differs in having the following aspects : —

♂ ♀. Face except for inner orbit blackish to blackish brown; basal black band of scutellum a little wider than that of Japanese form; metapleurum and propodeum blackish, weakly tinged with dark brown.

Distribution : Almost worldwide.

Acknowledgements

The author wishes to express his hearty thanks to Dr. M. Miyazaki of Insect Taxonomy Laboratory, National Institute of Agriculture Science, and Mr. K. Ôhara of the Kyushu University for their kind determination of Aphidae and Syrphidae.

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