

Some Ephialtinae, Banchinae, Porizontinae, Mesochorinae, Metopiinae and Acaenitinae of Formosa (Hymenoptera: Ichneumonidae)

Kanetosi KUSIGEMATI*

Abstract

Descriptions of 4 new taxa of Ichneumonidae of the subfamilies Ephialtinae, Mesochorinae and Metopiinae, the female description of *Glypta aquila* CHIU and the male description of *Metopius (Tylopius) fuscolatus* CHIU, together with notes on some other ichneumonflies from Formosa, are given.

Key Words: Insecta, Hymenoptera, Parasitica, Ichneumonidae.

Introduction

The present article treats material from Formosa collected in 1986 by Dr. K. BABA. It includes descriptions of new taxa, viz., 1 species of *Millironia*, 1 species of *Astiphromma*, 1 species of *Hypsicera* and 1 species of *Exochus*, the female description of *Glypta aquila* CHIU and the male description of *Metopius (Tylopius) fuscolatus* CHIU for the first times, and notes on some other species.

All of the specimens treated in this paper, including type specimens of the new species described herein, will be preserved in the collection of the Entomological Laboratory, Kagoshima University, Kagoshima.

Subfamily EPHIALTINAE

1. *Xanthopimpla konowi* KRIEGER

Xanthopimpla konowi KRIEGER, Sitzber. Naturf. Gesell. Leipzig. 1897/98: 87, 1899.

The present specimens differ from the Japanese form by the 1st lateral area of the

* 楠下町鉦敏, 鹿児島大学農学部農学科害虫学教室

Entomological Laboratory, Faculty of Agriculture, Kagoshima University, 21-24, Korimoto 1-Chome, Kagoshima 890, JAPAN

propodeum without a black marking and the vertical carina of the anterior margin of the mesoscutum very weak.

Specimens examined: 1 ♀, 30-v-1986, Taonah near Maolin, Kaohsiung Hsien; 1 ♀, 3-viii-1986, Palon, Yaoyuan Hsien; 2 ♀♀, 9-x-1986, Yaumuli near Sanhsia, Taipei Hsien.

Distribution: Formosa, China, Ryukyu Is., Japan, Hong Kong, Vietnam, Malaysia, Indonesia, Thailand, Burma and India.

2. *Xanthopimpla naenia* MORLEY

Xanthopimpla naenia MORLEY, Fauna of British India . . . Hymenoptera 3: 115, 1913.

Specimen examined: 1 ♀, 9-x-1986, Yuamuli near Sanhsia, Taipei Hsien.

Distribution: Formosa, China, Ryukyu Is., Japan, Philippines, Malaysia, Vietnam and India.

3. *Coccygomimus laothoë* (CAMERON)

Pimpla laothoë CAMERON, Mem. & Proc. Manchester Lit. Phil. Soc. 41: 22, 1897.

Specimens examined: 1 ♀, 4-vii-1986, Yushih, 1,900 m, Nantou Hsien; 1 ♀, 6-ix-1986, Sunkang, 2,200 m, Nantou Hsien.

Distribution: Formosa, China, Sri Lanka, India and Pakistan.

4. *Camptotypus arianus formosanus* (MATSUMURA)

Glyptogastra formosana MATSUMURA, Thousand Insects of Japan, Suppl. 4: 155, 1912.

Specimen examined: 1 ♀, 3-v-1986, Taonah near Maolin, Kaohsiung Hsien.

Distribution: Formosa.

5. *Millironia babai* sp. nov. (Figs. 2, 4, 9 & 14)

♀. Face polished, very sparsely haired dorsally and laterally, virtually bare ventromedially, 6/7 as wide as high at level of clypeal fovea; inner margins of eyes almost parallel-sided; clypeus polished, with sparse, long hairs, 2.0 times as wide as high, weakly convex, its central area flattened; apical margin of clypeus thin, broadly convex; malar space 1/2 as long as basal width of mandible; mandible rather strongly tapering towards apex, the upper tooth clearly longer than the lower one; frons polished, bare; ocellar area polished, with a few hairs; lateral ocellus very large (Fig. 2); distance between lateral ocelli and eyes 1/6 as long as diameter of an ocellus; occipital carina strong and complete; temple flat, very sparsely haired, 2/5 as long as eye in lateral view; occiput polished, more sparsely haired than in temple. Antennae 36-segmented; 2nd flagellar segment 1.1 times as long as the 3rd. Pronotum, meso- and metapleurum, and meso-

scutum polished, virtually bare; scutellum bare, rather strongly convex; prepectal carina strong, its upper end distant from front edge of mesopleurum by 1.4 times of tegular width; submetapleural carina strong and complete. Propodeum (Fig. 4) polished, sparsely haired on pleural area, on basal area and on basal portion, elsewhere bare; median longitudinal carina except for basal short stub-like carina absent; lateral longitudinal carina present on about apical 1/4; prododeal spiracle small, circular, touching pleural carina. Venation of wings as Figs. 9 & 14; stigma slender, 6.4 times as long as wide, with radius emitting from basal 1/2; nervulus postfurcal by 3/7 of its own length; basal vein with a reversed curve; portion of cubitus between intercubitus and 2nd recurrent vein 1.7 times as long as intercubitus; nervellus not intercepted, weakly reclivous; discoidiella absent; metacarpella with 5 hamuli. Hind femur slender, 4.7 times as long as wide in lateral view. Abdomen polished, sparsely to densely haired, the hairs becoming sparser basally, denser apically; 1st tergite stout, 1.6 times as long as wide at apex and 1.1 times as long as the 2nd, with a large, dull swelling without hairs; 2nd tergite about 1.2 times as long as the 3rd, with a few short hairs on median swelling; 3rd and 4th tergites with a basomedian pair of large rounded swellings. Ovipositor sheath about 1.4 times as long as hind tibia.

Yellowish brown. Head yellowish brown, the face, clypeus, mandible except for dark brown apical teeth, and frons paler; antennae infusate. Thorax and propodeum yellowish brown; scutellum pale yellow. Legs yellowish brown, the last segments of front and middle tarsi, hind tibia except for basal part, and hind tarsus infusate. Abdomen with 1st tergite light yellowish brown, a little paler apically; 2nd and 3rd tergites almost entirely dark brown, whitish yellow laterally and apically, with a narrow subapical dark brown band each; 4th tergite dark brown on basal 2/3, whitish yellow on about apical 1/3 and on lateral side, with a narrow, dark brown apical band; 5th tergite blackish on about basal 2/3, whitish yellow on about apical 1/3 and on lateral side, the apicolateral corner dark brown; 6th tergite dark brown basally, whitish yellow apically and laterally; 7th and subsequent tergites dark brown basally, whitish yellow apically. Ovipositor sheath infusate, a little paler apically. Wings subhyaline; stigma dirty yellowish brown, paler apically; sides of basal vein narrowly tinged with dark brown (Fig. 9)

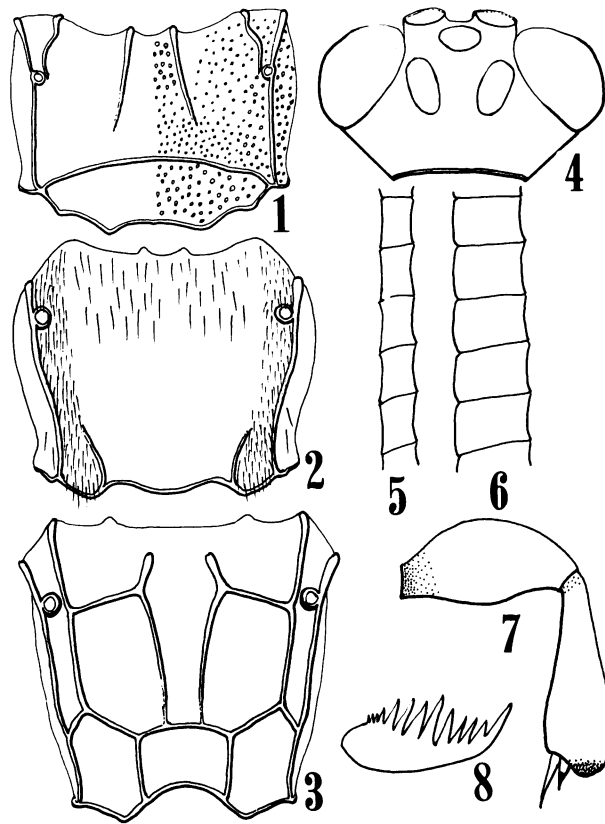
Length: Body 11.4 mm., forewing 9.5 mm.

♂. Unknown.

Holotype (♀): 29-v-1986, Taiyuanshan near Liukuei, Kaohsiung Hsien.

Distribution: Formosa.

In general structure and colouration, this new species resembles most closely the Japanese *M. rufa* (UCHIDA, 1932), from which it differs by the clypeus which is not emarginate apically, the postfurcal nervulus, the postnervulus which is intercepted below the middle, the comparatively long 2nd abscissa of the cubitus and the dark brown hind tibia and tarsus.



Figs. 1–3. Areolation, hair arrangement or punctuation of propodea: 1, *Glypta aquila* CHIU, ♀; 2, *Millironia babai* sp. nov., ♀; 3, *Astiphromma taiwulengense* sp. nov., ♀.

Fig 4. Head in dorsal view: *M. babai* sp. nov., ♀.

Figs. 5 & 6. Fortieth – 44th flagellar segments in dorsal (5) & lateral (6) view: *Metopius (Tylopius) fuscolatus* CHIU, ♂.

Fig. 7. Hind femur and tibia: *Exochus rufipleuralis* sp. nov., ♂.

Fig. 8. Hind tarsal claw: *Astiphromma taiwulengense* sp. nov., ♀.

6. *Theronia (Theronia) brachyura* GUPTA

Theronia (Theronia) brachyura GUPTA, Pacific Ins. Monogr. 4: 36, 1962.

Specimen examined: 1 ♂, 7–viii–1986, Tienchi, 2,000 m, Kaohsiung Hsien.

Distribution: Formosa and Hong Kong.

Subfamily Banchinae

7. *Leptobatopsis planiscutellata* (ENDERLEIN)

Leptobatopsis planiscutellata ENDERLEIN, Stetiner Ent. Ztg. 73: 113, 1912.

Specimen examined: 1 ♀, 2–vi–1986, Chiponspa, Taitung Hsien.

Distribution: Formosa.

8. *Glypta aquila* CHIU (Figs. 1, 13 & 18)

Glypta aquila CHIU, Quart. Jour. Taiwan Mus. 18: 212, 1965.

The female of this species has not yet been described. On the basis of the present specimen a description of the female may be given below: —

♀. Face 1.7 times as wide as high at level of lower margin of antennal socket, finely and closely punctate, the punctures a little weaker and sparser centrally and laterally, with a dull prominence; clypeus about 1.5 times as wide as high, moderately strongly convex, very finely and very sparsely punctate, its apical margin strongly convex; malar space about 4/5 as long as basal width of mandible; frons rather strongly and densely punctate, with transverse striae on ventral part; occipital carina weak, narrowly interrupted on dorsomedian portion; temple polished, very sparsely and finely punctate. Pronotum finely and rather sparsely punctate dorsally, transversely to obliquely striate ventrally; epomia weak and short; mesoscutum finely and densely punctate; notaulus weakly impressed at base; punctuation of mesopleurum a little stronger and sparser than that of mesoscutum, the punctures stronger and sparser dorsally and posteriorly; speculum smooth; metapleurum strongly and rather sparsely punctate; scutellum slightly convex, sparsely and rather strongly punctate. Propodeum shallowly and rather sparsely punctate, the punctures denser apically; petiolar area strongly and sparsely punctate; apical transverse carina strong; median longitudinal carina very weak, obsolete near apical transverse carina (Fig. 1). Venation of fore and hind wings as in Figs. 13 & 18. First to 4th abdominal tergite densely and moderately strongly punctate, with a apical impunctate area each; 5th and subsequent tergites impunctate; 1st tergite about 1.4 times as long as wide at apex; 2nd tergite 4/5 as long as wide at apex and about 1.1 times as long as the 3rd. Ovipositor sheath 6.7 times as long as 1st tergite.

Black. Mandible black, the apical teeth dark reddish brown; clypeus black on basal 1/2, yellowish brown on apical 1/2; 1st and 2nd segments of maxillary and labial palpi infusate; 3rd and 4th segments of maxillary palpus yellowish brown. Humeral angle of pronotum and tegula pale yellow. Antennae black. Legs with coxae dark brown to blackish basally, yellowish brown apically; all 1st trochanters except at apex dark brown; apices of all 1st trochanters and all 2nd trochanters pale yellow; front and middle femora light ferrugineous, a little paler apically; front and middle tibiae yellowish brown, a little paler basally; front and middle tarsi except for infusate last segments yellowish brown; hind femur dark brown to dull ferrugineous, darker dorsally and laterally; hind tibia pale yellow, with apical and subapical blackish bands, the inner side tinged with dark brown; hind tarsus infusate, the basal 4/9 of 1st segments, basal 1/3 of the 2nd and basal 1/4 of the 3rd pale yellow. Ovipositor dull ferrugineous; ovipositor sheath black. Extreme apex of each tergite slightly tinged with dark brown; subgenital plate dark brown basally, yellowish brown apically.

Length: Body 7.1 mm., forewing 6.5 mm.

Specimen examined: 1 ♂, 6-viii-1986, Hohuanshan, 3,200 m, Nantou Hsien.

Distribution: Formosa.

Subfamily Porizontinae

9. *Casinaria formosana* MOMOI

Casinaria formosana MOMOI, Pacific Ins. 12: 380, 1970.

Specimen examined: 1 ♀, 10-xi-1986, Tsaitiehku near Liukuei, Kaohsiung Hsien.

Distribution: Formosa.

10. *Eriborus vulgaris* (MORLEY)

Diocetes vulgaris MORLEY, Trans. Linn. Soc. London 15: 174.

Specimen examined: 1 ♀, 6-viii-1986, Hohuanshan, 3,200 m, Nanton Hsien.

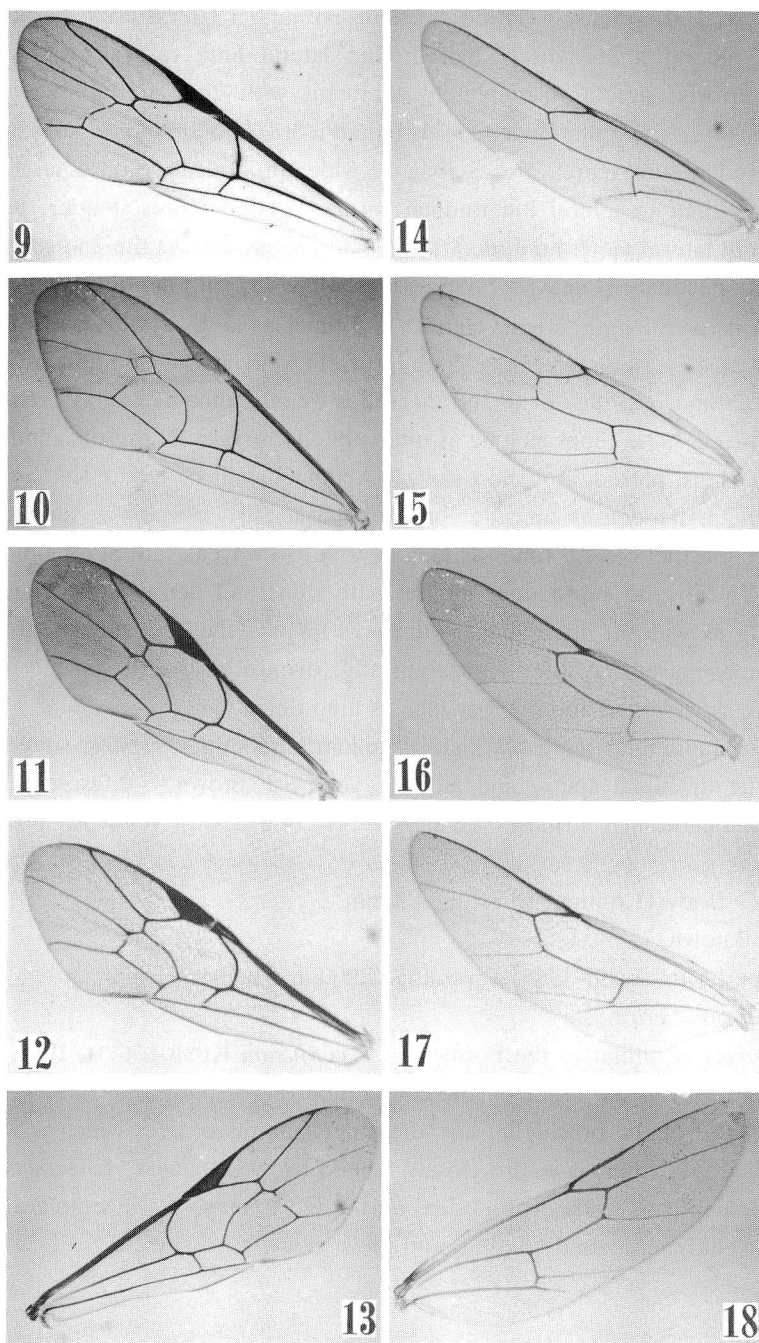
Hosts: *Chilades laius* CRAMER (Lycaenidae, Lep.) and *Megalorhipidia defectalis* (WALKER) (Noctuidae, Lep.) (in Pakistan, after DUTT, 1923), and *Cnaphalocrocis medicinalis* GUENÉE (Pyralidae, Lep.) (in China, after HE, 1979).

Distribution: Formosa, China, Ryukyu Is., Seychelles, Sri Lanka, India and Pakistan.

Subfamily Mesochorinae

11. *Astiphromma taiwulengense* sp. nov. (Figs. 3, 8, 10 & 15)

♀. Face about 1.2 times as wide as high at level of clypeal fovea, mat with fine, sparse punctures; clypeus mat, slightly convex, with several weak punctures, its apical margin thick and truncate; inner margins of eyes weakly divergent ventrally; malar space mat, unstriate, 4/9 as long as basal width of mandible; mandible large, about 1.6 times as long as its basal width, the upper tooth slightly longer than the lower; temple subpolished, with very fine, rather sparse, setiferous punctures, about 1.6 times as long as wide in lateral view; distance between lateral ocelli and eyes about 1/5 as long as diameter of an ocellus; occipital carina strong and complete; frons almost entirely polished and bare, with sparse hairs on dorsal portion. Antenna about 1.4 times as long as forewing; flagellum 52-segmented; 2nd flagellar segment 4/5 as long as the 1st and about as long as the 3rd. Pronotum subpolished, rather densely haired wholly; mesoscutum moderately strongly and rather sparsely punctate; metapleurum and mesoscutum densely haired; notaulus weakly impressed at base; scutellum subpolished, slightly convex, densely haired, its apical part not specialized. Propodeum (Fig. 3) rather long, strong-



Figs. 9-13 (forewings) & 14-18 (hind wings): 9 & 14, *Millironia babai* sp. nov., ♀; 10 & 15, *Asthiphromma taiwulengense* sp. nov., ♀; 11 & 16, *Hypsicera imperfecta* sp. nov., ♂; 12 & 17, *Exochus rufipleuralis* sp. nov., ♂; 13 & 18, *Glypta aquila* CHIU, ♀.

ly carinate; basal area densely haired, without carina; 1st lateral area, basal portion of areola, and pleural area densely haired; 2nd lateral area rather sparsely punctate, sparser posteriorly; areola incompletely confluent with 2nd lateral area, densely to sparsely punctate, the punctures denser basally; 3rd lateral and pleural area rather sparsely haired; petiolar area 5/6 as long as wide; propodeal spiracle large, closer to pleural carina than to lateral longitudinal carina. Hind femur slender, 6.8 times as long as wide in lateral view; hind metatarsus 2.3 times as long as the 2nd segment; tarsal claws strongly pectinate (Fig. 8). Wings (Figs. 10 & 15) with nervulus vertical, postfurcal by 1/2 of its own length; stigma slender, 5.5 times as long as wide, with radius emitting from basal 4/7; areolet received 2nd recurrent vein at the middle; 3rd abscissa of discoideus 1.2 times as long as the 2nd; nervellus weakly sinuate, weakly reclivous, intercepted at lower 2/7, 1.3 times as long as intercubittella; brachiella present; 2nd abscissa of cubittella very short, present as a short stub. Abdomen with 1st tergite sparsely to densely haired, the hairs denser apically, bare on basal part, about 4.2 times as long as wide at apex; postpetiole 1.9 times as long as wide, with weak lateral longitudinal carina on apical 5/7; 2nd and subsequent tergites with short and dense hairs; 2nd tergite 1.3 times as long as wide at apex and 1.4 times as long as the 3rd; subgenital plate moderately densely haired, a little sparser apically; ovipositor sheath sparsely haired, 3.4 times as long as wide and about 1/3 as long as hind tibia.

Ivory. Mandibular teeth blackish; flagellum, abdominal tergites, subgenital plate, ovipositor sheath, tibial spurs, and all tarsi yellowish brown. Mesoscutum fuscous, with 4 ivory longitudinal stripes. Wings weakly tinged with yellowish brown; stigma pale yellow.

Length: Body 11.6 mm., forewing 9.3 mm.

♂. Unknown.

Holotype (♀): 5-viii-1986, Taiwuling, 2,900 m, Hualien Hsien.

Distribution: Formosa.

This species is similar to the Formosan *A. confusum* KUSIGEMATI, 1985, but it may be distinguished from the latter by the colouration of the body, the intercepted nervellus, the presence of the brachiella, and the inner margins of eyes which is weakly divergent ventrally. Further, it is also closely related to the Japanese *A. jezoense* UCHIDA, 1928, from which it is easily distinguished by the ivory body, the incomplete areola, the shortly and weakly impressed notaulus and the slender 1st tergite.

Subfamily Metopiinae

12. *Metopius (Metopius) browni* ASHMEAD

Metopius browni ASHMEAD, Proc. U. S. Natl. Mus. 29: 177, 1905.

Specimen examined: 1 ♀, 29-iii-1986, Liukuei, Kaohsiung Hsien.

Distribution: Formosa, Ryukyu Is., Japan, Korea, China, Hong Kong, Mongolia and Philippines.

13. *Metopius (Tylopius) fuscolatus* CHIU (Figs. 5 & 6)

Metopius (Tylopius) fuscolatus CHIU, Bull. Taiwan, Agr. Res. Inst. 20: 9, 1962.

The male of this species has not yet been described. On the basis of the present specimen a description of the male may be given below: —

♂. Face with facial shield strongly and rather sparsely punctate, 1.1 times as wide as high, its lower margin weakly pointed; malar space $5/8$ as long as basal width of mandible; mandible bidentate, the lower tooth much shorter than the upper one; clypeus flat, its apical margin truncate; 2nd segment of maxillary palpus strongly swollen, about 2.2 times as long as wide; frons strongly and densely punctate; antennal scrobs transversely and rather strongly striate; distance between lateral ocelli and eyes 1.3 times as long as diameter of an ocellus; temple weakly and densely punctate; occiput broadly and shallowly impressed. Flagellum (Figs. 5 & 6) 53-segmented, cylindrical basally, gradually compressed towards the apex, the apical part rather strongly compressed (Fig. 5); in dorsal view sides of each flagellar segment weakly concave medially (Fig. 5); 1st flagellar segment 2.4 times as long as wide at apex and $6/7$ as long as the 2nd. Mesoscutum coarsely and densely punctate; scutellum coarsely punctate on basal $2/3$, longitudinally striate on apical $1/3$, the lateral carina strongly raised as a high lamella, and almost truncate apically; mesopleurum coarsely punctate; metapleurum reticulate-punctate. Propodeum with basal area confluent with areola, transversely striate-punctate, with a distinct median longitudinal carina; 1st lateral area obliquely striate; combined areola and petiolar area reticulate-rugose; costula present. Wings with nervulus postfurcal by $1/7$ of its own length; areolet rhomboidal, sessile above, with 2nd recurrent vein emitting from basal $3/8$ of its length; 1st intercubitus $5/7$ as long as 2nd intercubitus; metacarpella with 14 hamuli; nervellus intercepted at upper $2/7$. Hind femur 3.3 times as long as wide in lateral view. Abdomen with 1st tergite polished, with several large punctures; median longitudinal carina of 1st tergite distinct on basal $1/2$, obtuse on apical $1/2$; 2nd and subsequent tergites strongly and coarsely punctate, the punctures weaker on posterior tergites; 2nd tergite $6/7$ as long as wide at apex and a little shorter than the 3rd; 6th tergite $4/5$ as long as wide at apex. Subgenital plate concave on apicomedian part.

Black. Facial shield, lower corner of frons, palpi, subtegular ridge, anterior large spot of mesopleurum, submarginal elongate spot of pronotum, apical $3/4$ of 1st tergite, apicolateral corner of 2nd tergite, apical $1/3$ of 3rd tergite, apical $1/2$ of 4th tergite and apicolateral margin of 5th tergite yellow. Labrum yellow, its apical margin narrowly blackish. Mandible black, with a small basal yellow marking. Scape and pedicel blackish on outer side, yellow on inner side; flagellum blackish dorsally, dirty yellow ventrally. Front leg with coxa black; trochanter black at base and on lateral side, yellow on inner side and at apex; femur yellow on inner side, dark brown on outer side;

tibia yellowish brown on inner side, fuscous on outer side, with 2 pale yellow basal bands; trassus fuscous. Middle leg with coxa black, with a narrow yellow marking on apicolateral portion; trochanter black, yellow at apex and on outer side; femur blackish, yellowish brown at extreme base, apex and on dorsolateral side; tibia and tarsus similar to front tibia and tarsus. Hind leg with coxa black, 1st trochanter black, yellow at apex; 2nd trochanter yellow; femur black, yellow on apicolateral 1/4; tibia and tarsus dark reddish brown to fuscous. Wings strongly tinged with dark brown; stigma yellowish brown.

Length: Body 14.5 mm., forewing 11.8 mm.

Specimen examined: 1♂, 8-viii-1986, Nanfornshan near Liukuei, Kaohsiung Hsien.

Distribution: Formosa.

14. *Drepanoctonus auritus* CHIU

Drepanoctonus auritus CHIU, Bull. Taiwan Agr. Res. Inst. 20: 23, 1962.

Specimen examined: 1♀, 7-viii-1986, Tienchi, 2,000 m, Kaohsiung Hsien.

Distribution: Formosa.

15. *Hypsicera imperfecta* sp. nov. (Figs. 11 & 16)

♂. Face and clypeus combined about 2/3 as wide as high; face rugulo-punctate medially, weakly punctate laterally; clypeus subpolished, weakly and rather sparsely punctate, its apical margin slightly concave medially; malar space 1.0–1.2 times as long as basal width of mandible; mandible narrow, rather strongly tapering towards apex, bidentate, the upper tooth clearly longer than the lower tooth; distance between lateral ocelli and eyes 2/3 as long as diameter of an ocellus; temple narrow, about 4/9 as long as eye in lateral view, weakly swollen, densely haired; occipital carina obsolete laterally, absent dorsally and ventrally; frons slightly convex medially, finely and densely punctate, with a weak V-shaped prominence just below anterior ocellus, the antennal scrobs polished and bare. Antennae long, filiform, with 42 or 43 segments; 1st flagellar segment 2.1–2.2 times as long as wide at apex and 1.3–1.4 times as long as the 2nd. Mesoscutum rather strongly punctate, the punctures weaker anteriorly and posteriorly; notaulus weakly impressed, reaching to basal 1/3; scutellum weakly convex, very finely and sparsely punctate; mesopleurum weakly and sparsely punctate, with a large bare area on posterior portion; metapleurum polished, slightly convex, with very few and fine punctures on dorsal portion, sometimes impunctate entirely, with a row of sparse hairs along pleural margin. Propodeum strongly and completely areolated; areola confluent with basal area, sometimes separated by a very weak and incomplete carina; combined areola and basal area long, weakly angulated at costula, 1.4–1.6 times as long as petiolar area; 2nd lateral area about 1.3 times as long as wide, with about 30 hairs; propodeal spiracle long elliptic. Wings (Figs. 11 & 16) with nervulus postfurcal by 4/7 of

its own length; stigma comparatively large, 3.6–3.8 times as long as wide, with radius emitting from basal 5/9; nervellus weakly reclivous. Front and middle tarsal claws weakly pectinate at base, with 3 teeth; hind femur 2.6–2.7 times as long as wide in lateral view. Abdomen with 1st tergite 1.5 times as long as wide at apex, rather densely haired, bare on median 1/3, with median longitudinal carinae on basal 3/5; 2nd tergite 3/4 as long as wide at apex, rather sparsely haired, with a large bare area on posteromedian portion, its sublateral longitudinal carina sharp throughout; penis without subapical seta.

Black. Palpi and tegula pale yellow; mandible yellowish brown medially, apical teeth and basal half blackish; scape and pedicel blackish, dirty yellowish brown ventrally; flagellum infusate, a little paler basoventrally; posterodorsal margin of pronotum narrowly tinged with yellowish brown. Legs yellowish brown to light ferrugineous; hind tibia with basal and apical infusate bands; hind tarsus infusate. Wings hyaline; stigma blackish.

Length: Body 6.1 mm., forewing 5.0–5.3 mm.

♀. Unknown.

Holotype (♂) and Paratypes (2 ♂♂): 29-vi-1986, Meishan-Tinchi, 800–2,300 m, Kaoshung Hsien.

Distribution: Formosa.

This species is very closely related to the Formosan *H. affinis* CHIU 1962, but it is easily separated from the latter by the metapleurum with a few fine punctures along the dorsal margin, the costula which is emitted from the middle of the combined areola and basal area, the elliptic propodeal spiracle, the shortly impressed notaulus, and the entirely black face.

16. *Exochus rufipleuralis* sp. nov. (Figs. 7, 12 & 17)

♂. Face 1.2 times as wide as high at level of clypeal fovea, shallowly and rather sparsely punctate; clypeus with large, sparse punctures, without punctures on apical portion, its apical margin very strongly convex medially; malar space long, 5/7 as long as basal width of mandible; mandible weakly swollen basally, short and stout, rather strongly tapering towards apex. Flagellum 29-segmented; 1st flagellar segment 1.9 times as long as wide at apex and about 1.4 times as long as the 2nd. Punctuation of mesopleurum similar to *decoratus*, finely and coarsely punctate, denser anteriorly and dorsally; metapleurum polished and impunctate. Propodeum with basal area and areola bare; 2nd lateral area with a few hairs on apicolateral corner; 1st lateral and petiolar areas rather densely haired. Wings (Figs. 12 & 17) with nervellus postfurcal by 7/9 of its own length; portion of cubitus between intercubitus and 2nd recurrent vein 1.1 times as long as intercubitus; nervellus strongly inclivous, intercepted at lower 1/8. Hind femur 2.3 times as long as wide in lateral view; longer spur of middle tibia 2.0 times as long as the shorter spur; hind tibia stout, 3.5 times as long as wide in lateral view. Abdomen with 1st tergite about 1.1 times as long as wide at apex, with median

longitudinal carinae on basal 5/8; 2nd tergite 5/7 as long as wide at apex and about as long as the 3rd.

Black, with yellow markings on head and thorax. Face yellow, weakly and broadly tinged with yellowish brown; interantennal process, clypeus, palpi, mandible except blackish apical teeth, malar space, lower 2/3 of temple, vertex, tegula and subtegular ridge yellow; frons yellow to yellowish brown, paler laterally; occiput, bottom of frons and ocellar area black. Scape and pedicel black, yellow ventrally; flagellum blackish. Propleurum yellow, dark brown to blackish dorsally; pronotum yellow, the concavity dark brown to blackish; mesoscutum black, with a subapical yellow marking; scutellum and postscutellum entirely yellow; mesopleurum dark brown to blackish with a median large yellow marking; prepectus yellow, yellowish brown on dorsal corner and ventral side; mesosternum yellowish brown. Pleural area of propodeum and dorsal side of metapleurum weakly tinged with dark brown. Front and middle legs yellow. Hind leg (Fig. 7) with coxa yellowish brown, with a large brown marking on dorsal side; trochanters and base of femur dark brown; femur except at base and tibia yellow; tarsus yellow to yellowish brown, paler basally. Wings hyaline; stigma and vein black.

Length: Body 8.1 mm., forewing 5.8 mm.

♀. Unknown.

Holotype (♂): 6-ix-1986, Piluchieh, 2,400 m, Nantou Hsien.

Distribution: Formosa.

This species belongs to the *mandibularis* group of TOWNES and TOWNES (1959). It is very closely allied to the Holarctic *E. decoratus* HOLMGREN, 1873, but it differs from the latter by the venation of the forewing, the comparatively stout hind tibia without basal and apical blackish bands, the yellowish brown pleural area of the propodeum and the yellowish brown mesopleurum.

Subfamily Acaenitinae

17. *Ishigakia exetasea* UCHIDA

Ishigakia exetasea UCHIDA, Jour. Fac. Agr. Hokkaido Imp. Univ. 25: 33, 1928.

Specimen examined: 1 ♀, 30-v-1986, Taonah near Maolin, Kaohsiung Hsien.

Distribution: Formosa and Ryukyu Is.

Acknowledgements

The author wishes to express his hearty thanks to Dr. K. BABA (Kurokawa, Niigata Pref.) for his kindness in giving him the opportunity to study invaluable specimens. Grateful acknowledgement is made to Prof. A. NAGATOMI (Kagoshima University,

Kagoshima) for his kindness in reading through the manuscript. Thanks are also due to Mr. K. KONISHI (Kyushu University, Fukuoka) for his help with various aspects.

References

- BALTAZER, C. R. 1964. *Eriostethus* Morley and a new Polysphinctine genus (Ichneumonidae, Hymenoptera). Pacific Ins., 6: 388–401.
- CHIU, S. C. 1962. The Taiwan Metopiinae (Hymenoptera: Ichneumonidae). Bull. Taiwan Agr. Res. Inst., 20: 1–37.
- 1965. The Taiwan Glyptini, subfamily Banchinae (Hymenoptera: Ichneumonidae). Quart. Jour. Taiwan Mus., 18: 202–217.
- , CHOU, L. Y. and CHOU, K. C. 1984. A check list of Ichneumonidae (Hymenoptera) of Taiwan. Spl. Publ. Taiwan Agr. Res. Inst., 15: 1–67.
- GUPTA, V. K. 1987. The Ichneumonidae of the Indo–Australian area (Hymenoptera). Mem. Amer. Ent. Inst., 41: 1–1210.
- and MAHESHWARY, S. 1977. Ichneumonologia Orientalis, part IV. The tribe Porizontini (= Campoplegini) (Hymenoptera: Ichneumonidae). Oriental Ins. Monogr., 5: 1–267.
- KUSIGEMATI, K. 1983. Some Metopiinae of Taiwan (Hymenoptera: Ichneumonidae). Mem. Kagoshima Univ. Res. Center S. Pac., 3: 123–138.
- 1985. Some Ephialtinae of South East Asia, with descriptions of eleven new species (Hymenoptera: Ichneumonidae). Mem. Kagoshima Univ. Res. Center S. Pac., 5: 126–150.
- 1985. Mesochorinae of Formosa (Hymenoptera: Ichneumonidae). Mem. Kagoshima Univ. Res. Center S. Pac., 6: 130–165.
- MOMOI, S. 1966. Some new Ichneumonidae (Hymenoptera) from New Guinea and adjacent areas. Pacific Ins., 8: 152–164.
- MORLEY, C. 1913. Fauna of British India, including Ceylon and Burma. Hymenoptera Vol. III. Ichneumonidae. London., 531 pp.
- NAKANISHI, A. 1969. Studies on the genus *Astiphromma* in Japan. 1. Species with smooth scutellum (Hymenoptera, Ichneumonidae). Sieboldia, 4: 49–74.
- TOWNES, H. 1969. The genera of Ichneumonidae, part 1. Mem. Amer. Ent. Inst. 11: 1–300.
- and CHIU, S. C. 1970. The Indo–Australian species of *Xanthopimpla* (Ichneumonidae). Mem. Amer. Ent. Inst., 14: 1–372.
- UCHIDA, T. 1932. Beitrage zur Kenntnis der japanischen Ichneumoniden. Ins. Matsum., 6: 145–168.

(Received April 27, 1987)