

NEW GENERA AND SPECIES OF HYMENOPTERA FROM THE PHILIPPINES.

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In this paper I describe three new genera and twenty-seven new species of Hymenoptera from the Philippines, based principally upon material received recently from Father Robert Brown, S. J., of the Philippine Weather Bureau. Two of the species, however, belonging to genera known only in India and Japan, and of great economic importance, since they destroy destructive scale-insects of the family *Coccilæ*, were sent to me by Prof. T. D. A. Cockerell, of Boulder, Colorado, who received them, together with their hosts, from Prof. Tyler Townsend, now in the Philippines.

The new genus, *Elasmognathus*, is very remarkable in many of its characters, and totally unlike any other genus so far discovered in the tribe Ichneumonini, where it is placed at present. It may ultimately be considered as the type of a distinct tribe.

Family DIAPRIIDÆ.

Genus GALESUS Curtis.

1. GALESUS MANILÆ, new species.

Female.—Length 3 mm. Polished black, with the legs, except the coxæ, the extreme apex of the hind femora, and the basal three-fourths of the hind tibiæ outwardly, red; the coxæ, the extreme apex of the hind femora, and the basal three-fourths of the hind tibiæ are black.

The head is a little longer than wide, smooth, shining, and impunctate, but with a delicate carina on each side anteriorly just above the eyes, and an inclosed area in front of the front ocellus that is connected with carinæ, which extend to the lateral ocelli; the antennal sockets are deep; the face near the insertion of the antennæ is flat, with a large quadrate fovea, but anteriorly it is subtectiform, or sloping off on each side from a delicate median carina; there is also a delicate carina extending from the base of the eyes to the back of the head;

the projecting mandibles are large and have three teeth at apex; the 12-jointed antennæ are thickened toward apex, the scape stout, dilated at apex, with the inner apical margin angulated, the pedicel longer and stouter than the first joint of the funicle, the latter being obconical and longer than any of the following joints, except the last, which is cone-shaped and about twice as long as the penultimate joint; the thorax is smooth, shining, and impunctate, except the metathorax, which is opaque, with some ridges, and clothed with a pale pubescence; the parapsidal furrows are distinct, complete; the scutellum has two large foveæ at base; the abdominal petiole is stout, fully twice as long as thick, longitudinally furrowed, and pubescent, while the body of the abdomen is long, oval, smooth, and shining, the first segment occupying very nearly the whole surface, the other segments being visible as transverse lines. Wings hyaline, pubescent, the veins pale, the radius represented by a fuscous streak, so as to form a large, open marginal cell.

Male.—Agrees with the female, except in having a different shaped head and antennæ. The head is not nearly so long, although it has the carina and areas anteriorly as in the female, while the antennæ are longer, 14-jointed, filiform, the joints of the flagellum cylindrical, more than thrice as long as thick, the first two a little shorter, the last joint the longest and slenderest, more than four times as long as thick.

Type.—Cat. No. 8950, U.S.N.M.

Manila. (Father Robert Brown.)

2. GALESUS LUZONICUS, new species.

Male.—Length 1.9 mm. Polished black, impunctate; legs, except the coxæ, red; wings hyaline, pubescent. On the face and along the anterior margin of the mesonotum are some sparse whitish hairs, while the hind margin of the head laterally back of the eyes and on the cheeks, the metathorax, the abdominal petiole, and the base of the abdomen beneath, are clothed with a whitish pubescence.

The head is carinate anteriorly; the antennæ are 14-jointed, black, and extend almost to the apex of the abdominal petiole, the scape being shining and longitudinally striated, with the apex slightly emarginate, inclosing part of the pedicel, the flagellum being subopaque, sparsely pubescent, the joints, except the last, being oval, hardly twice as long as thick, the last being cone-shaped and fully thrice as long as thick. The scutellum has two large foveæ at base and a broad grooved line on each side; while the abdomen is similar to *G. manilæ*.

Type.—Cat. No. 9034, U.S.N.M.

Manila. (Father Robert Brown.)

Easily distinguished from the previous species by its small size and the great difference in the length of the antennal joints.

Family SCELIONIDÆ.

Genus OPISTHACANTHA Ashmead.

3. OPISTHACANTHA NIGRICLAVATA, new species.

Female.—Length 1 mm. Black, subopaque, microscopically shagreened, the scutellum and the body of abdomen alone smooth and shining; scape, pedicel and funicle of antennæ, and the legs flavotestaceous, the club of the antennæ being black, the joints transverse; the postscutellar spine is minute but distinct; the metapleura are covered with a silvery white pubescence; the lateral ocelli touch the eye margin; the abdomen seen from above is pointed ovate, depressed, a little longer than the head and thorax united, smooth and polished, except the petiole, which is opaque and striated. Wings hyaline, the veins, except the short marginal vein which is brown, being pale yellowish.

Type.—Cat. No. 8751, U.S.N.M.

Manila. One specimen. (Father Robert Brown.)

Genus HADRONOTUS Förster.

4. HADRONOTUS FLAVIPES, new species

Female.—Length about 0.8 mm. Black; basal half of the scape of the antennæ, the apex of the pedicel, and the legs yellow. The head is about thrice as wide as thick antero-posteriorly, wider than the thorax, deeply emarginate posteriorly, convex anteriorly, and reticulately sculptured; the 12-jointed antennæ terminate in a 6-jointed club, the joints of which, except the last, are transverse, the last being conical; the pedicel is obconical, about $2\frac{1}{2}$ times as long as thick, and much longer and stouter than the first joint of the funicle; the funicle joints after the first are a little wider than long; the thorax is finely, closely punctate, subopaque, and without parapsidal furrows; the abdomen is broadly oval, smooth and shining, the first segment longitudinally striated, the second segment with some delicate striae at base. Wings hyaline, pubescent, the marginal, stigmal, and postmarginal veins brownish, the marginal being the shortest and stoutest of the three veins, or a little shorter than the shaft of the stigmal vein.

Type.—Cat. No. 9035, U.S.N.M.

Manila. (Father Robert Brown.)

Family FIGITIDÆ.

Genus KLEIDOTOMA Westwood.

5. KLEIDOTOMA PHILIPPINENSIS, new species.

Male.—Length 0.9 mm. Polished black, the legs, including the coxæ, reddish-yellow, the first two joints of the antennæ dark red, the flagellar joints dark brown, and all, except the first, beautifully, although delicately, fluted.

The 15-jointed antennæ are longer than the body; the scape is obconical, longer than thick, the pedicel round, the joints of the flagellum long, cylindrical, except the first which is clavate, slightly bent, and a little longer than the second, the joints beyond are about four times as long as thick; the scutellum, except the cup, is striated, the fovea at base is divided by a delicate median carina, the cup is ellipsoidal with a puncture at base and a fovea toward apex; the metathorax is bicarinate, subopaque, pubescent laterally; the abdomen has a tuft of white wool on each side at base. Wings hyaline, slightly emarginate at apex, ciliated, the veins pale yellowish, slightly brownish in the thickened parts, the marginal cell open along the front margin.

Type.—Cat. No. 8952, U.S.N.M.

Manila. (Father Robert Brown.)

Family TORYMIDÆ.

Genus PHILOTRYPESIS Förster.

6. PHILOTRYPESIS FICICOLA, new species.

Female.—Length to tip of ovipositor 4.8 mm., to tip of abdomen 2.8 mm. Brownish yellow, smooth and shining, the dorsum of abdomen with some brownish spots down the center, the apical or tubercularly produced segments with a black median line at base and clothed with black sparse hairs or bristles, the sheaths of the ovipositor black and pubescent, clavate at tips; scape and pedicel of the antennæ, and the legs, including the coxæ, paler yellowish; flagellum brown-black, pubescent, the funicle joints all longer than thick; eyes pale greyish, with a faint bluish tinge in certain lights; ocelli pale; tibiæ with bristly hairs, more noticeable on the hind pair. Wings hyaline, iridescent, pubescent, the veins light brownish.

Male.—Length about 1 mm. Apterous, rufo-testaceous, and highly polished, the abdomen triangularly pointed, depressed, yellowish, becoming whitish at apex; the hind femora are also paler or yellowish; the tibiæ are beset with short, stiff, bristly spines; the head is large, trapezoidal, a little wider behind than in front, but not quite as wide as the thorax, with a deep triangular emargination anteriorly in which repose the antennæ, the surface surrounding the emargination delicately aciculated; the antennæ are yellowish white; eyes oval, brown, faceted and placed near the anterior lateral angles; mandibles large, blackish, and dentate, the two apical teeth acute; the pronotum is large, wider than long, and longer than the mesonotum and metanotum united; the metanotum is a little shorter than the mesonotum; the wings are represented by two white, thread-like appendages on each side of the mesonotum.

Type.—Cat. No. 9038, U.S.N.M.

Manila. Several specimens obtained by Father Robert Brown from the fruit of *Picus heterophylla* Linnaeus.

This species, the first in the genus to be noted in the Philippines, appears to be closest allied to *P. spiniger* Mayr., described from Java and Borneo.

Genus MEGASTIGMUS Dalman.

7. MEGASTIGMUS IMMACULATUS, new species.

Female.—Length 1.6 mm.; ovipositor about the length of the whole insect. Brownish yellow, with the scape and pedicel of the antennae, cheeks and face anteriorly, and the legs pale yellowish or yellowish white; eyes circular, red; sheaths of ovipositor black; wings hyaline, the subcostal vein, the stigmal vein, and its large rounded knob brown, the other veins whitish or hyaline.

The whole insect is smooth and shining, impunctate, but with some delicate transverse striae on the vertex back of the ocelli, on the pronotum, the mesonotum, and scutellum.

Type.—Cat. No. 8953, U.S.N.M.

Manila. (Father Robert Brown.)

Family CHALCIDIDÆ.

Genus STOMATOCERA Kirby.

8. STOMATOCERA SULCATA, new species.

Male.—Length 4.2 mm. Black and shining, but distinctly, rather closely punctate, the metathorax reticulately punctured, the depression on the mesopleura longitudinally striate; tegulae and the front and middle legs, except coxae, brownish yellow; their femora, especially above, brown; the hind trochanters, a large spot at base of hind femora beneath and slightly along their base, a small spot at apex, and the hind tibiae and tarsi reddish brown; all coxae and the hind femora, except as already noted, black; the hind coxae are concave posteriorly for the reception of the base of the swollen femora when elevated; the hind femora have a slight elevation beneath toward apex and are finely serrated; the head is broadly concave in front, the concavity surrounded by a delicate carina, the carina across the vertex separating the front ocellus from the lateral ocelli; the antennae are inserted far anteriorly and are separated by a carina; the flagellum is filiform, the first joint the longest, the others becoming slightly shorter and shorter; the punctures on the lateral mesothoracic lobes posteriorly are separated and rather sparse, the surface being smoother and more shining than elsewhere; the scutellum is emarginate at apex and has a sulcus down its middle; the abdomen is cone-shaped, the basal segment occupying a little less than its basal half, the other segments being

subequal. Wings hyaline, the veins, except the short marginal vein, pale yellowish.

Type.—Cat. No. 8954, U.S.N.M.

Manila. One specimen. (Father Robert Brown.)

Genus DIRHINUS Dalman.

9. DIRHINUS AURATUS, new species.

Female.—Length 3 to 4.2 mm. Head and thorax metallic gold green, rather coarsely, reticulately punctate, sparsely pubescent, some of the hairs on the vertex, the thorax, and scutellum being golden yellow, the others white or silvery white; the metathorax areolated and carinated, there being a large, somewhat oval area at base, separated into two divisions by a median carina, with carinae on either side, and back of the large basal area are two more or less triangular areas; the metapleura are armed with two teeth on their lower hind margin; the abdomen is smooth and shining, the short petiole with longitudinal carinae, the first segment of the abdomen proper, which is very large and occupies the larger portion of the abdomen, being longitudinally striate at base above; the antennae tegulae, front and middle legs, except coxae, and the hind tarsi brownish yellow, the rest of the hind legs black. Wings hyaline, with a faint yellowish tinge, the veins dark brownish, the stigmal and postmarginal veins not developed.

Male.—Length 2.8 mm. Dull bronze green, the frontal horns longer, with a slight tooth on each side of the face, opposite the apex of the eyes, the antennae brownish yellow, the pedicel and the two or three apical joints brownish, the abdomen clavate, pear-shaped, the petiole longer than in the female, fully twice as long as thick, longitudinally furrowed, the base of abdomen with some short striae near its junction with the petiole, otherwise similar to the female.

Type.—Cat. No. 8955, U.S.N.M.

Manila. Described from five specimens received from Father Brown.

This species is quite distinct from *D. anthracia* Walker, the only other species known from the Philippines, in color and sculpture.

Family MISCOGASTERIDÆ.

Genus ORMOCERUS Walker.

10. ORMOCERUS PALLIDIPES, new species.

Female.—Length 3.8 mm. Head, coxae, and abdomen dark blue, the abdomen along the venter testaceous, the eyes whitish, the thorax bronze green, the scape of the antennae and the legs pale yellowish, the femora brownish toward apex above, the flagellum brown, the first

joint more than twice longer than thick. Wings hyaline, the veins brownish yellow.

The head is transverse, wider than the thorax, at least four times as wide as thick antero-posteriorly, smooth and shining, but under a strong lens the surface in front appears finely, reticulately sculptured; the thorax is smooth, but the middle mesothoracic lobe and the scutellum exhibit a fine, delicate, reticulate sculpture similar to that on the face, only more distinct, this sculpture being less distinct on the lateral mesothoracic lobes and entirely absent on the pronotum and the axillæ.

The metathorax is impressed on each side, the middle lobe thus formed being smooth and brassy, and produced into a neck that extends over the base of the abdomen; it has also a delicate median carina that is connected with a transverse carina at apex; the lateral depressions are aeneous black; the abdomen is conically pointed, blue, longer than the head and thorax united, flat or subconcave above, compressed beneath; the ventral segment projecting and forming a prominent keel. Wings hyaline, the veins brown, the marginal and postmarginal veins very long, only a little shorter than the subcostal vein; the stigmal vein is clavate at apex and about one-third the length of the marginal.

Type.—Cat. No. 8956, U.S.N.M.

Manila. One specimen. (Father Robert Brown.)

Family ENCYRTIDÆ.

Genus HOWARDIELLA Dalla Torre.

11. HOWARDIELLA TARSATA, new species.

Female.—Length 2 mm. Black and shining, the head subopaque, with two rows of microscopic punctures from the front ocellus, the tibiæ brown black, the tarsi, except the last joint, yellowish white.

The head is sublenticular, about as wide as the thorax, with an excavation anteriorly for the reception of the antennæ, which are inserted far anteriorly, with a ridge between; eyes very large, occupying most of the sides of the head, long oval, strongly faceted, and slightly converging above, the upper inner margin touching the lateral ocelli, the latter being close to each other; the flagellum is brown black, thickened toward apex, the pedicel being long, as long as the three following joints united, the funicle joints broadening toward the club and wider than long; the pronotum is very short, hardly visible from above; the mesonotum is wider than long and hardly as long as the large scutellum, the axillæ widely separated; the metathorax is very short, perpendicular with the apex of the scutellum; the abdomen is sessile, seen from above subcordate, and hardly as long as the thorax; the first joint of the hind tarsi is as long as joints 2 and 3 united and thicker. Wings hyaline, the veins brown, the marginal and submar-

ginal veins short, the stigmal vein rather long, slightly curved and clavate.

Type.—Cat. No. 8957, U.S.N.M.

Manila. One specimen. (Father Robert Brown.)

Genus APHYCUS Mayr.

12. APHYCUS ALBICLAVATUS, new species.

Male.—Length 1 mm. Head and thorax mostly orange red, the eyes brown black, the mouth parts, sides of thorax, legs, and the abdomen on each side at base white, the rest of the abdomen brownish, with a median streak toward apex, and a median spot at apex of the basal segment, black or dark fuscous. The antennæ are black, but the scape broadly at apex, the pedicel narrowly at apex, and the three last joints of the flagellum, representing the club, are snow white; the scape is dilated beneath, the flagellum long, subfiliform and pubescent, the joints of the funicle being about thrice as long as thick. Wings hyaline, the veins brown.

Type.—Cat. No. 8958, U.S.N.M.

Manila. One specimen. (Father Robert Brown.)

This beautiful species is evidently allied to *A. dactylopii* described from Hongkong, China, and known only in the female sex, so that there is a probability of its being the opposite sex of that species. This can not be settled positively until the female is discovered or until the male of *A. dactylopii* is made known.

Family PTEROMALIDÆ.

Genus PARASAPHES Ashmead.

13. PARASAPHES TOWNSENDI, new species.

Female.—Length about 0.8 mm. Bluish black, with a faint æneous tinge especially noticeable on the hind margin of the pronotum; the hypopygium toward apex is testaceous; ocelli pale, arranged in a triangle; scape of antennæ and the legs brownish-yellow, the sutures of the joints, the knees, and the tarsi whitish; flagellum brown, pubescent, the funicle joints longer than thick, the first being the longest, about $1\frac{1}{2}$ times as long as thick. Wings hyaline, iridescent and pubescent, the marginal and stigmal veins brown, the other veins pale; the marginal vein is fully four times as long as the stigmal vein, or as long, or very slightly longer, than the subcostal vein.

The large head is transverse, a little wider than the thorax, about $3\frac{1}{2}$ times as wide as thick antero-posteriorly; behind it is broadly, shallowly concave; anteriorly it is convex; the pronotum is very slightly longer than the mesonotum, but not quite so wide; the mesonotum is much broader than long, with distinct parapsidal furrows that con-

verge posteriorly and almost meet at the base of the scutellum, the latter being convexly rounded; the metanotum is rather short, with a distinct median carina; the abdomen is fully as long as the thorax, ovate, depressed, beneath subcompressed, the hypopygium slightly projecting, plowshare-shaped.

Male.—Length about 6.5 mm. Differs from the female in being proportionally smaller, a little darker in color, the head more aeneous black, with purplish and metallic reflections, the abdomen smaller, less than two-thirds the length of the thorax, and depressed, the anterior legs and the middle coxæ more yellowish white than in the female.

Type.—Cat. No. 8465, U.S.N.M.

Manila. Described from 5 female and 3 male specimens bred by Prof. Tyler Townsend from a coccid and sent to Prof. T. D. A. Cockerell, of Boulder, Colorado, who transmitted them to me.

Genus EURYCRANIUM Ashmead.

14. EURYCRANIUM SAISSETIÆ, new species.

Female.—Length 0.8 to 0.9 mm. Head and thorax blue black, the eyes black, the abdomen wholly brownish yellow, the scape of the antennæ and the legs, except the coxæ, yellowish, the front and middle legs mostly metallic bluish but with the front tarsi and the middle tibiæ and tarsi yellowish. Wings hyaline, the veins yellowish.

Male.—Length about 0.7 mm. Head and thorax aeneous black, the head anteriorly in front bluish, the small, very short, depressed abdomen black with a strong violaceous tinge; the scape of the antennæ is more or less bluish; the legs black or brown black, the sutures of the joints, the knees, and tips of tibiæ yellowish, the tarsi whitish. Wings hyaline, the veins brownish, darker than in the female.

Type.—Cat. No. 9037, U.S.N.M.

Manila. Described from 3 female and 7 male specimens received from Prof. T. D. A. Cockerell and bred by Prof. Tyler Townsend from a coccid, *Saissetia nigra* Nietner.

The type of this genus, *E. alcocki* Ashmead, was bred from a coccid, *Ceroplastes actiniformis* Green, at Calcutta, India, by Major Alcock.

Family ICHNEUMONIDÆ.

ELASMOGNATHUS, new genus.

Head very large, quadrate, similar to that in the genus *Trigonalys* Westwood, seen from above only a little wider than long, the temples wide, as wide as the eyes, the clypeus not at all separated from the face, slightly angulated anteriorly and projecting slightly over the mandibles; mandibles very broad and flat, terminating in two acute teeth, the outer margin of the mandibles being strongly curved from base to apex; labial palpi short, apparently only 3-jointed, the first

joint the longest, clavate, the second about twice as long as thick, stouter than the last but shorter; maxillary palpi long, apparently 4 jointed, the joints long, subequal in length, the second dilated into a compressed, obtusely triangular lobe beneath toward apex, the other joints cylindrical; antennæ tapering off toward apex, apparently 37-jointed, with a broad white annulus at the middle, the scape rather long and stout, about *four* times as long as thick; the mesonotum is without a trace of the parapsidal furrows; the scutellum is subconvex and delicately keeled at the lateral margins; the metanotum is areolated, the areola being hexagonal, longer than wide, the spiracles elongate; the abdomen is subcompressed toward apex, with a distinctly projecting ovipositor, although short, as in some *Cryptines*; the second segment alone is distinctly punctate, the others being smooth and shining, the gastrocœli being large and transverse; the venation of the wings is very similar to that in *Ichnumon*, the areolet being pentagonal, the median and submedian cells equal, the transverse median nervure being distinctly interstitial with the basal nervure; in the hind wings the transverse median nervure is straight but broken by the subdiscoidal nervure far *below* its middle.

15. ELASMOGNATHUS CEPHALOTES, new species.

Female.—Length 6.5 mm.; ovipositor projecting considerably beyond the tip of the abdomen, or the length of the second joint of the hind tarsus. Black marked with yellowish white as follows: An oval spot on vertex back of eyes, the upper inner orbits, the hind orbits broadly for two-thirds the length of the eyes, the cheeks, the face except an oblong black median spot, the mandibles except the teeth, the palpi, the anterior margin of the prothorax, the hind margin of the same to the tegulae, but broadly interrupted at the middle, two short lines on the disk of the mesonotum, the scutellum and post-scutellum, the tegulae, a spot beneath same, a broad band on the mesopleura, a spot at the insertion of the hind wings, a spot on each side at base of the metathorax inclosing the spiracles, a spot back of these on the hind angles and connected with a large quadrangular spot on the upper hind angles of the metapleura, the basal half or more of the abdominal petiole, the apical margin of same, the basal margin of the second segment including the gastrocœli, and the apical margins of segments 2 to 7, most of the ventral membrane, except some lateral spots and the last two segments basally, the front and middle coxæ and trochanters, the hind coxæ broadly at apex, and the hind tarsi except pulvilli and the basal half of the first joint, all white or yellowish white, the scutellum being more distinctly yellow; rest of the legs, except as noted, mostly red; the hind coxæ basally, the hind trochanters, except a white spot above, a stain at apex of hind femora above, the base of hind tibiae, the basal half of the first joint of hind

tarsi, and the middle tarsi, black or fuscous; joints 8 to 15 of the antennæ and joints 16, 17, and 18 *beneath* are white.

The large quadrate head is smooth and shining and impunctate; the mesonotum and the scutellum are distinctly, but not reticulately, punctured; the lateral depressions on the prothorax and the mesopleura are lineated, the former, as well as the sternum, the metapleura and the hind coxæ, being also punctate; the metathorax, except the surface of the areola and the basal lateral areas which are smooth and shining, is rugulose with irregular raised lines and punctures, the surface of the long petiolar area being transversely rugulose; the abdomen, except the second segment, is smooth and shining, the second segment being distinctly punctured, the punctures more dense toward the base, sparser toward apex, and obsolete on the white apical margin. Wings hyaline, the stigma and veins brown.

Type.—Cat. No. 8959, U.S.N.M.

Manila. One specimen. (Father Robert Brown.)

This curious species is totally unlike any other in the tribe Ichneumonini, the only place it could be arranged in according to the present classification.

Genus ISOTIMA Förster.

16. ISOTIMA ALBICINETA, new species.

Female.—Length 5 mm.; ovipositor half the length of the abdomen. Head and abdomen, except the petiole and a white band at apex of the second and last segments, black; the petiole of the abdomen is ferruginous, with a white band at apex; the thorax, all coxæ, and the legs, except the hind legs which are black with white tibial spurs and a white annulus at base of tarsi and in the incision of the joints, and the first joint of the front and middle trochanters which are fuscous, are ferruginous, the middle tibiæ and tarsi more or less fuscous above, paler beneath; palpi white; antennæ black, the last three joints red; wings hyaline, the front pair with a broad dark-brown band across from the lanceolate stigma and the areolet; there is a paler, narrower band before the basal nervure.

The transverse head back of the eyes is smooth and impunctate, the scrobes emarginate, the vertex coriaceous and opaque, the face below the antennæ and the clypeus are shining, the eyes large, strongly faceted; the thorax, except the metathorax, is smooth with distinct parapsidal furrows, but with some striæ in the depressions laterally on the collar and on the mesopleura, the metathorax, except the surface of the three basal areas which is smooth and shining, is rugoso-punctate, the areola being defined only at base, the apical transverse carina being obsolete medially.

Type.—Cat. No. 8961, U.S.N.M.

Manila. One specimen. (Father Robert Brown.)

17. ISOTIMA METATHORACICA, new species.

Male.—Length about 4 mm. Head and thorax, except the metathorax and a spot just above the middle coxæ on the lower hind margin of the mesopleura, and the abdomen, except white bands at the apex of the first, second, and third segments, a large white spot on the last segment above, and the base of the petiole, which is ferruginous, black; the metathorax, the spot on mesopleura above the middle coxæ, the base of the abdominal petiole, and the legs, except the front and middle coxæ and trochanters, which are white, and the first joint of the hind trochanters, a spot at apex of the hind femora, the apex of the hind tibiæ, and the hind tarsi, which are blackish or fuscous, are ferruginous; an oblong spot on the middle of the face, a spot on vertex at the apex of the eyes, the mandibles except the teeth, the palpi, the scutellum, except the fovea across the base, the tegulæ, a spot in front and beneath, the front and middle coxæ and trochanters, a small spot at the metathoracic spiracles, the apical margins of the abdominal segments 1 to 3, and the large spot on the last segment are white; first two joints of antennæ yellow, rest of antennæ black; the first joint of the flagellum long, about 6 times as long as thick. Wings hyaline, the venation fuscous, the stigma paler within. The insect is smooth and shining, with the second and third segments of the abdomen punctate; the parapsidal furrows distinct; the middle lobe with a crenate depression in front of the scutellum, while the metathorax is completely areolated.

Type.—Cat. No. 9040, U.S.N.M.

Manila. (Father Brown.)

18. ISOTIMA ALBIFRONS, new species.

Female.—Length 8.5 mm.; ovipositor half the length of the abdomen. Black; the palpi, a spot at base of the mandibles, the clypeus, a large spot on the face extending from the clypeus to the insertion of the antennæ, a stripe on each side of it close to the eye, a large spot on the vertex close to the apex of the eye and leaving a triangular black spot inclosing the ocelli, the tegulæ and a spot beneath, the scutellum, except the depression across the base, the front and middle coxæ and trochanters, the knees and front tibiæ toward base and beneath, the base of the middle tibiæ and beneath, a broad annulus at base of the hind tibiæ, the hind tarsi, except an annulus at base and the last joint, broad bands at the apex of the first and second segments of the abdomen, and a large spot on the last two segments are white; the metathorax, the base of the first segment of the abdomen, and rest of the legs, except as noted and the hind tibiæ, are ferruginous; the hind tibiæ, except the annulus at base, the tibial spurs, the annulus at base of tarsi and the last joint, are black; the two basal joints of the antennæ and the front coxæ *above* are yellowish, the rest of the antennæ,

except a broad white annulus, black; wings hyaline, with a broad brown band across the stigma, the stigma and veins black or brown-black.

The metathorax is rugulose, with two transverse carinae and a pleural carina, the first transverse carina being connected with a triangular area just back of the metascutellum, the spiracles large; the insect otherwise, except the mesopleura anteriorly, which are finely rugulose, and the second and third abdominal segments, which are closely finely punctate and opaque, is smooth and shining.

Type.—Cat. No. 9441, U.S.N.M.

Manila. (Father Brown.)

19. ISOTIMA CINCTICORNIS, new species.

Female.—Length nearly 5 mm.; ovipositor not quite as long as the abdomen. Colored as in *I. albicincta*, only the antennae have a distinct white annulus not present in that species, while the legs too are slightly differently colored, being mostly red, with the hind pair black from the trochanters, with only the tibial spurs white; the tarsi wholly black, not white basally as in *I. albicincta*.

Type.—Cat. No. 9042, U.S.N.M.

Manila. (Father Brown.)

Genus AGROTHEREUTES Förster.

20. AGROTHEREUTES NIGRITARSIS, new species.

Female.—Length about 7 mm.; ovipositor not half the length of the abdomen. Head, prothorax, mesonotum, and the abdomen, except the apical margins of the first and second segments and large spots on the last two segments which are white, black; rest of the thorax and the legs, except the front and middle coxae and an annulus at base of hind tibiae which are white, and the hind tibiae and tarsi which are black, are ferruginous or red; the antennae, except joints 8, 9, and 10 *in front* which are white, are black, the three or four basal joints being brownish. Wings hyaline, faintly dusky at apex, the stigma and veins dark brown.

The whole insect is mostly smooth and shining, but the face from the antennae to the clypeus and the depressions laterally on the pronotum are finely rugulose, the mesopleura, except a spot at the upper hind angles and the metathorax, are rugulose, while the second and third segments of the abdomen are closely, opaquely punctate.

Type.—Cat. No. 9043, U.S.N.M.

Manila. (Father Brown.)

21. AGROTHEREUTES ALBIPALPIS, new species.

Male.—Length 6 mm. Head and thorax, except the metathorax, which is red, and the abdomen mostly black, but marked with white

as follows: The palpi entirely, the mandibles, except the teeth, an oblong spot on the middle of the face, an oblong spot on the vertex on each side between the ocelli and the eyes, the tegulae and a spot beneath, a large spot back of the insertion of the hind wings, the front and middle coxae, the front femora beneath their tibiae and tarsi, except the last joint, the middle tibiae, the apical margins of abdominal segments 1, 2, and 3, and a large spot on the last segment are white; the suture between the fourth and fifth dorsal segments of the abdomen is also white; the scape of the antennae, the front and middle femora above, the metathorax, the hind legs (except the trochanters, apex of tibiae, and tarsi, which are black), and the base of the first joint of the abdomen are red. Wings hyaline or only faintly tinted, the stigma and veins black. The whole insect, except some minute punctures on the face, some wrinkles laterally on the prothorax and the mesopleura, the finely rugulose metathorax, and the closely, opaquely punctate second and third segments of the abdomen, is smooth and shiny.

Type.—Cat. No. 9044. U.S.N.M.

Manila. (Father Brown.)

AMAUROMORPHA, new genus.

This new genus belongs to the tribe Lissonotini, and, on account of the abdomen being petiolate, not sessile, falls into the section with the genera *Atropha* Kriechbaumer and *Taschenbergia* Schmiedeknecht.

My table of the genera, Classification of the Ichneumon Flies, page 49, may be modified to include it as follows:

Abdomen petiolate; head transverse.

Metathorax exareolated, *without* a transverse apical carina. (For further characters see Classification).

Atropha Kriechbaumer and *Taschenbergia* Schmiedeknecht

Metathorax exareolated, but *with* an apical carina and a basal carina.

Abdomen petiolate, the gaster finely, densely punctate, subsericeous, the petiole very slightly and gradually thickened to the apex, sparsely punctate, but not abruptly bent, the spiracles very minute placed at the middle; parapsidal furrows not distinct, only vaguely indicated; metathorax rather long, the spiracles elongate, linear; front wings *without* a distinct areolet, the submedian cell not quite as long as the median, the transverse median nervure joining the median vein just before the basal nervure; transverse median nervure in hind wings angularly broken *above* the middle.

Amauromorpha, new genus

22. AMAUROMORPHA METATHORACICA, new species.

Female.—Length 9 mm.; ovipositor about one-third the length of the abdomen. Black, very finely, closely punctate, and clothed with a fine, sericeous pubescence, the metathorax, the front legs, except the coxae, trochanters, and tarsi, the middle coxae and femora, the hind coxae and the hind femora being orange red; antennae brown-black; palpi black, but with the first joint narrowly yellowish at apex; wings

hyaline, the lanceolate stigma and the veins black or brown-black, the second recurrent nervure being distinctly interstitial with the first transverse cubitus; the areolet is wanting, but there is a trace of the second transverse cubitus present by a small stump of a vein from the radius.

Type.—Cat. No. 9045, U.S.N.M.

Manila. (Father Brown.)

Genus XANTHOPIMPLA Saussure.

23. XANTHOPIMPLA KRIEGERI, new species.

Female.—Length 9 mm.; ovipositor less than one-third the length of the abdomen. Yellow; a spot inclosing the pale ocelli, a round spot on each side of the mesonotum, a minute spot on each side of the first abdominal segment just back of the spiracles, a small round spot on each side of the second segment, a large oblong oval spot on each side of the third, fourth, fifth, and seventh segments, that on the seventh being emarginate within, a V-shaped mark on the eighth segment, and the sheaths of the ovipositor black; eyes brown, slightly emarginate within; antennæ black, with the first four or five joints yellow beneath, the first joint or the scape being triangularly emarginate laterally at apex; the tips of the tarsal claws and the teeth of the mandibles are black. Wings hyaline, the stigma and the veins, except the subcostal vein and the stigma within which are yellowish, are black; the areolet is trapeziform, subpetiolate. The metanotum has three areas across the base, and another area on each side back of the lateral basal areas, or five in all; the pleural carinæ and a carina at the apex of the metanotum are distinct but very delicate.

Type.—Cat. No. 8962, U.S.N.M.

Manila. Two specimens. (Father Robert Brown.)

This interesting new species, the first to be discovered in the Philippines, is named in honor of Dr. Richard Krieger, who monographed the species in the genus *Xanthopimpla* Saussure in 1899.

Family ALYSIIDÆ.

Genus GONIARCHA Förster.

24. GONIARCHA MALAYENSIS, new species.

Female.—Length 2 mm.; ovipositor about the length of the basal joint of the hind tarsi. Head, except the eyes, and the abdomen, except the first segment, ferruginous, the eyes, the thorax, the hind coxæ, and the first segment of the abdomen, black; the second dorsal segment of the abdomen is more or less brownish; the antennæ are dark fuscous, becoming black toward apex, but with the first four or five joints yellowish; the palpi, tips of coxæ, and all trochanters are

white, the rest of the legs, except the pulvilli and the hind tarsi, which are fuscous, are testaceous; mandibles yellowish, tridentate at apex; wings hyaline, the stigma yellowish, the veins fuscous. The head, the thorax, except the metathorax, and the abdomen, except the petiole, are smooth and shining; the metathorax is coarsely reticulated with irregular elevated lines, while the petiole is longitudinally striated.

Type.—Cat. No. 8963, U.S.N.M.

Manila. One specimen. (Father Robert Brown.)

Family BRACONIDÆ.

Genus HOMIOPTERUS Girard.

25. HOMIOPTERUS PACIFICUS, new species.

Male.—Length 1.6 mm. Head and thorax brownish yellow, the eyes brown-black, the metanotum subfuscous, with elevated lines, the abdomen pale brownish with the petiole rugulose and black; the palpi and legs are yellowish white; the antennæ are very long, the flagellum subfuscous above, becoming black toward apex; wings hyaline, the stigma pale, the venation typical of the genus and fuscous.

The whole insect, except the metathorax and the petiole of the abdomen, is smooth and shining, and quite different in this respect from the delicately, longitudinally sculptured species known in the North American fauna.

Manila. One specimen. (Father Robert Brown.)

Genus MICROBRACON Ashmead.

26. MICROBRACON LUTEICEPS, new species.

Female.—Length 1.3 mm.; ovipositor not quite half the length of the abdomen. Head, except the eyes and a large spot inclosing the ocelli, most of the thorax, except as hereafter noted, and the abdomen beneath, luteous or pale yellowish; legs yellowish, the hind femora and tarsi and the last joint of the front and middle tarsi, dark fuscous; the antennæ, the eyes, the spot on vertex inclosing the ocelli; the disks of the lateral and middle lobes of the mesonotum, the base of the scutellum, the metanotum, sutures beneath the tegulæ, a spot on the mesosternum, the abdomen above, and the sheaths of the ovipositor, are black. Wings hyaline, with a grayish tinge; the stigma and veins brownish, the stigma paler within.

Type.—Cat. No. 9036, U.S.N.M.

Manila. One specimen. (Father Robert Brown.)

HEMIGLYPTUS, new genus.

This new genus falls in the tribe Braconini and comes next to *Glyptomorpha* Holmgren, to which it is closely related.

My table of the genera, "Classification of the Ichneumon Flies" may be modified to include it as follows:

4. Abdominal segments 2-3 or 2-4 with oblique lateral impressions, and all segments longitudinally striate, or aciculate; metanotum *without* a median carina; first and second abscissæ of the radius not nearly straight, but forming an obtuse angle, the second cubital cell not wider at base than at apex, usually a little narrower *Glyptomorpha* Holmgren.
- Abdominal segment 2 alone with an oblique lateral impression, the second and third segments alone longitudinally striate, the following smooth or nearly; metanotum *with* a median carina; first and second abscissæ of the radius in a straight line, or nearly, the second cubital cell much wider at base than at apex *Hemiglyptus*, new genus.

27. HEMIGLYPTUS FLAVUS, new species.

Female.—Length 4.2 mm. Pale brownish yellow, the eyes brown, the antennæ, except the two basal joints, and the sheaths of the ovipositor, which are nearly as long as the abdomen, are black, the hind tarsi faintly dusky, the wings hyaline, the large stigma and the costæ black, the internal veins brown.

The head and thorax are smooth and shining, but exhibit some sparse, microscopic punctures; the parapsidal furrows are distinct posteriorly from the anterior third of the mesonotum; the metanotum is smooth, but has a distinct median carina; the abdomen has two crenate furrows on the first segment that converge anteriorly, the second and third segments being longitudinally striate, while the following segments are smooth.

Type.—Cat. No. 9046, U.S.N.M.

Manila. (Father Robert Brown.)