

XVII.—*On some new Genera and Species of Parasitic Hymenoptera from Borneo.* By P. CAMERON.

Evaniidæ.

Pristaulacus erythrocephalus, sp. n.

Black; the head, pro- and mesothorax, antennal scape, and fore legs red; wings fuscous violaceous, the hinder pair paler, almost hyaline behind, the stigma dark testaceous, the recurrent nervure interstitial. ♂ ♀.

Length 18–19 mm.; terebra the same.

Kuching, Borneo (*R. Shelford, M.A.*).

Claws with four teeth, the apical small; the two middle teeth longer than the basal. Head smooth, shining, almost bare. Clypeus depressed at the apex in the centre; the sides rounded, narrowed to a point; in the centre is a narrow tooth as viewed from the front, but it is broad as seen from the sides. The narrowed basal part of the prothorax is smooth, impunctate, shining; the rest rugosely punctured; on the sides, at the base of the dilated apical part, is a stout tooth. Mesonotum rugosely reticulated. Scutellum with five stout, clearly separated keels, the apex being also bordered by one. Postscutellum obliquely raised in the centre; smooth, the sides stoutly, irregularly striated. Basal depression of metanotum crenulated; the rest of it coarsely transversely reticulated. Pleuræ reticulated, the metapleuræ more coarsely than the rest. Sternum irregularly weakly punctured, the central furrow wide, deep, crenulated. Abdomen smooth and shining: the second transverse cubital nervure is roundly curved; the first recurrent nervure is interstitial, the second received shortly behind the base of the apical third. Legs long, slender; the tibiæ sparsely, the tarsi thickly spinose. The pedicle of antennæ is about three times longer than thick; the following joint distinctly shorter than the next, it and the pedicle together being nearly as long as the third. The hind coxæ are finely transversely striated, weakly at the base, more strongly towards the apex. Temples wide, rounded.

Braconidæ.

EDYIA, gen. nov.

Hind femora stout, but not dilated, the middle irregularly serrate; the hind coxæ about three times longer than thick;

the basal joint of hind tarsi not longer than the following two united; calcaria short, claws cleft. Wings with three cubital cellules—the radial cellule long, the second cubital cellule behind shorter than the first, narrowed in front, the transverse cubital nervures converging in front, straight, oblique; the recurrent nervure is received near the base of the apical third of the first cubital cellule. Transverse basal nervure almost interstitial, anal nervure not interstitial. Middle lobe of mesonotum clearly raised. Metanotum areolated. Apex of clypeus transverse. Labrum projecting, rounded. Lower part of frontal depression bordered by a curved keel; in the centre is a short stout keel, not reaching to the middle above. Head cubital; temples wide, occiput margined. Thorax about four times longer than wide. First abdominal segment broad, longer than the following two united. Antennæ pilose, the first joint of the flagellum not much shorter than the second. Palpi very long, the maxillary reaching to the middle coxæ, 5-jointed.

The affinities of this genus are with *Euscelinus*, also from Borneo. The latter has the hind femora greatly thickened, the thorax shorter and broader, and the recurrent nervure is received in the second, not in the first cubital cellule.

Edyia annulicornis, sp. n.

Black; a broad ring on the middle of the antennæ; the four front legs except their coxæ, basal half (or nearly) of hind tibiæ and their tarsi whitish yellow. Wings hyaline, the stigma and nervures black. ♂.

Length 8 mm.

Kuching, August (*R. Shelford, M.A.*).

Antennæ stout, densely pilose, longer than the body. Head above the antennæ smooth, coarsely rugosely punctured, almost reticulated below. The depressed base of pronotum is coarsely, irregularly striated, the raised upper part smooth and shining. Apex of middle lobe of pronotum coarsely, irregularly reticulated. Scutellum flat, longish, punctured. Postscutellum with two square areæ at the base and two longer and deeper ones at the apex. There are three rows of areæ on the metanotum, the central longer and narrower than the others, the central is the longest, the basal the shortest; there is a large, irregular, spiracular area, rugose and irregularly striated. Metapleuræ coarsely, closely reticulated; mesopleuræ smooth in the centre, strongly punctured above and below, as is also the case with the propleuræ. First abdominal segment irregularly wrinkled;

there are two keels on the basal half, bordering the centre. The white ring on the antennæ is longer than the basal or apical part. There are five or six small teeth on the underside of the hind femora in the middle; they are widely separated and the middle ones are larger and sharper than the others.

Neotrimorus ? luteus, sp. n.

Luteous, densely covered with long pale hair; the antennæ, ocelli, and hind tarsi black; the wings smoky, the basal third yellowish hyaline, stigma black. Face rugosely punctured, the rest of the head smooth and shining. Pronotum in front closely rugosely punctured; lower part of pleuræ bordered above by a keel, the centre with some stout irregular striæ. Mesothorax smooth, the pleural lower furrow crenulated. Metanotum finely reticulated; the reticulations round for the most part; the metapleuræ much more coarsely, irregularly reticulated. The first and the second abdominal segment to near the apex closely, longitudinally striated, as is also the base of the third and fourth segments. ♀.

Length 8; terebra 4 mm.

Kuching (R. Shelford, M.A.).

In the 'Records of the Albany Museum,' i. p. 168, I described two species of Braconidæ under the name of *Trichiobracon*, but gave no generic description; as I was not sure but that the species might be referred to *Acanthobracon*, Szép., *non* Kriech. There seems to be considerable structural differences between the species, and it is probable that they might be split up into two genera. *Trimorus*, Kriech., is regarded by Szépligeti* as identical with his *Acanthobracon*, but Kriechbaumer says nothing about the coxæ being toothed. The third longitudinal nervure in the hind wings may be broadly rounded, or geniculated as it is in *T. rufus*, Cam. I give a generic description of the Bornean species mentioned above:—

Radial cellule long, lanceolate. Transverse median nervure received before the transverse basal; the recurrent nervure in the first cubital cellule; accessory nervure interstitial. Hind wings with a third longitudinal nervure issuing from the lower part of the transverse præbrachial nervure and reaching close to the apex of the wing; there is a large basal cellule. Head cubital, not margined behind.

* Gen. Insect., Braconidæ, p. 64.

Eyes oval; the malar space is nearly as long as them. Mesonotum 3-lobate. Scutellum flat. Median segment longer than wide; its apex transverse; it is closely reticulated. Abdomen sessile; the basal segments closely striated; the suturiform articulation deep. Ovipositor long. Maxillary palpi long. Base of hind coxæ with a large tooth.

The occiput is sharply margined on the lower side. The mesosternum is bordered by a distinct furrow. Legs short and stout; their claws simple. Body and legs densely covered with long hair. Pterostigma lanceolate; the radius issues from beyond its middle. The second transverse furrow on the abdomen is distinct. The centre of the second segment is raised, clearly separated by furrows, which shape it into a large, transverse, raised, oval area. Sides of median segment projecting into a blunt tubercle.

Ichneumonidæ.

JOPPINI.

CÆNOJOPPA, gen. nov.

Scutellum obliquely raised at the base, the apex with a sharper, steeper slope; the base as long as broad, flat, the sides and apex bordered by a raised high keel. Areola widely separated from the base of the segment, 6-angled, narrowed towards the apex, which is transverse; it is longer than wide; the three basal areæ are confluent at the base; the sides bear longish teeth. Head cubital, about as wide as long; the occiput widely, deeply incised; temples as long as the eyes. Face and clypeus flat; the latter separated at the sides only, its apex bluntly rounded, very slightly projecting in the middle. Mandibles long, thick at the base, largely projecting downwards on the outer side; on the inner side are two large, sharp-pointed, widely separated teeth. Malar space large. Petiole long, narrow; postpetiole dilated, smooth, impunctate; the second and following segment punctured, the others smooth; the ventral keel extends to the apex of the fifth; there are seven segments, the last being large. Legs long; the hind tarsi twice the length of their tibiæ. Areolet 5-angled; discocubital nervure with a minute stump of a nervure. Antennæ longer than the body, broadly ringed with white, serrate at the apex. Mesonotum reticulated in the middle. Fore coxæ small.

Comes near to *Imeria*, Cam., and *Xenojoppa*, Cam. (cf. Ann. & Mag. Nat. Hist. 1903, xi. p. 174).

Canojoppa longitarsis, sp. n.

Black; the face, clypeus, orbits (largely below on the outer), mandibles, palpi, a narrow line on the pronotum, a broader one on the lower part of the propleuræ, tegulæ, a mark (longer than wide) on the mesonotum, scutellums, metanotal spines and the part surrounding them, a broad line on the lower side of the mesopleuræ, a large square mark on the apex of metapleuræ, the narrowed basal part of the first abdominal segments and the apices of all broadly, yellow. Legs yellow; the hind femora fulvous; the hind coxæ (except for a broad mark in the centre above), apex of hind trochanters below, base and apex of femora and apex of tibiæ, black. Wings hyaline, the stigma and nervures black. ♂.

Length 12 mm.

Kuching, June (*R. Shelford, M.A.*).

The space separating the mandibular teeth is broad and rounded. Mesonotum, except on the reticulated central apical part, closely, shallowly punctured. Scutellum impunctate. Metanotum smooth at the base, the rest more or less strongly transversely striated; the striæ on the apex strong and curved. Propleuræ stoutly striated at the base; the oblique keel stout; the meso- and metapleuræ for the greater part striated, the striæ on the latter closer, oblique, and intertwining. Gastrocœli deep, shining, more or less irregularly striated; the part between smooth, shining, irregularly, finely striated.

DRUSEIA, gen. nov.

Scutellum pyramidal, obliquely raised from the base to the top, which ends in two stout teeth; the apex has a much shorter, steeper slope than the base. Metanotum regularly areolated; the sides in the middle with longish stout teeth; the areola twice longer than wide; the base rounded, the apex slightly bent inwardly; there is a longish basal area, gradually narrowed towards the apex. Spiracles linear, narrow. Temples long, obliquely narrowed; occiput deeply incised. Clypeus transverse at the apex, its sides broadly rounded. Labrum projecting. Abdominal petiole long, slender; the postpetiole gradually dilated towards the apex. Areolet narrow, five-angled; discocubital nervure not broken by a stump of a nervure.

The abdomen is sharply narrowed at the base and apex; closely punctured; gastrocœli shallow, indistinct; sheaths

of ovipositor as long as the apical three segments united. Antennæ thickened and dilated beyond the middle. Face and clypeus flat. Hind tarsi much longer than their tibiæ. The abdomen is not much longer than the head and thorax united. Malar space nearly as long as the antennal scape.

The flat face and clypeus in one line, sharply pointed abdomen with its long projecting ovipositor, stoutly spined scutellum and metanotum, and violaceous wings should distinguish this genus readily.

Druseia quadridentata, sp. n.

Black; the face (except for a line in the centre, which becomes gradually wider from the narrowed top to the apex), base of labrum, scutellar spines, apex of scutellum below, and the apices of the three middle segments of the abdomen narrowly, pale yellow. Wings fuscous violaceous, highly iridescent, the posterior paler. Basal three segments of abdomen red. Legs black; the greater part of the four front coxæ, trochanters, tibiæ and tarsi, and the calcaria whitish yellow; the hind coxæ, except at the base below, red; the rest of the hind legs black, except for a broad pale yellow line on the base of the tibiæ behind. ♀.

Length 14 mm.

Kuching, March (*R. Shelford, M.A.*).

Head smooth. Thorax for the greater part finely punctured; apical slope of metanotum thickly covered with white hair; the centre transversely, the sides more strongly obliquely striated; the pleuræ for the greater part striated. Petiole smooth; its base broadly yellow. Transverse median nervure almost interstitial.

XORIDINI.

Cyanoxorides rufomaculatus, sp. n.

Black, tinged with blue; the thorax, except the mesonotum, scutellum, and a line down the centre of metanotum red; head black, the face, a line on the inner orbits, a broad one on the lower half of the outer, whitish yellow; the clypeus, labrum, and malar space dull reddish; the base of first abdominal segment, a line, dilated at the base in the centre of the apex, a longish ovate longitudinal mark in the middle of the second, the apices of the others narrowly and the ventral surface, white. Four front legs red, the tarsi and tibiæ pale; the middle tibiæ infuscated behind; hind legs black, their coxæ red; a narrow band on the base of the

tibiæ and the tarsi, white. Wings hyaline; the nervures and stigma black, the latter white at the base. Scape of antennæ and a broad ring on the middle of flagellum white. ♀.

Length of body and ovipositor 18 mm.

Kuching (*R. Shelford, M.A.*).

Face punctured, covered with white pubescence; the middle near the top projecting; the black on the front and vertex distinctly tinged with blue and violaceous tints. Palpi pale fulvous. Base of mandibles rufous. Base and sides of mesonotum closely minutely punctured, the rest reticulated-striated; the apex in the centre depressed, marked with four or five longitudinal striæ. Scutellum roundly convex; its apex striated. Postscutellum with the sides stoutly keeled; its centre with a stout keel. Metanotum irregularly transversely striated, the base more finely than the rest; there is one narrow area, coarsely transversely striated and extending from the base to the apex of the segment, it is of equal width; there are three lateral areae, the basal is the larger, the middle is almost square, the apical triangular. Basal segments of abdomen finely, closely punctured; the apex of the first is bounded laterally by a curved keel, commencing at the sides and reaching close to the middle at the apex, the oblique furrow on the sides at the base extending from the inner to the outer and the furrow nearer the middle extending from the outer to the inner side are deep; the similar furrows on the third segment are wider and not so deep, the space between is more raised. The upper part of the metapleuræ is bounded by keels; except at the base, it is irregularly reticulated; the lower half is smooth and bounded by a keel below.

Cyanoxorides cæruleus, sp. n.

Blue, tinged with purple, the antennæ broadly ringed with white; the penultimate abdominal segment for the greater part clear white; the four front legs brownish, tinged with purple; the hinder purple, with the coxæ reddish fulvous. Wings hyaline, a cloud along the transverse basal and median nervures and a larger one in the radial and cubital cellules. Head smooth; the face keeled in the centre, sparsely punctured, the furrow separating it from the clypeus deep. Thorax smooth. Basal central area on metanotum small, triangular; the two keels running from it are close together and lead to a longish area, acutely pointed at base and apex; there are three lateral areae on

the metanotum—the basal is the longest, the apical small, square, its angles denticulate. Basal three segments of abdomen closely, longitudinally striated. ♀.

Length 13; terebra 9 mm.

Kuching (*R. Shelford, M.A.*).

Body and legs covered, but not thickly, with long hairs. Recurrent nervure broadly rounded. First abdominal segment nearly as long as the following two united; it is not keeled and has an oblique furrow on the sides at the apex.

Spiloxorides erythrocephalus, sp. n.

Black; the head, except the vertex, and the greater part of the four front legs red; antennæ densely covered with longish, stiff hair, black, the basal joints reddish. Wings hyaline, a cloud along the transverse median and the transverse basal nervures (broadest below), and one on the inner side of the transverse cubital and recurrent nervures, extending from the hinder part of the radial cellule into the discoidal; stigma and costa fuscous, the nervures black. Face strongly, transversely striated; the front and vertex smooth. The black of the thorax has a plumbeous hue; smooth; the propleuræ stoutly striated; the apex of mesonotum stoutly reticulated. Scutellar fovea deep, divided in the middle by a stout keel. Sides of scutellum stoutly keeled laterally, as is also the postscutellum. Metanotum regularly areolated, the petiolar area three times longer than wide, of equal width throughout; the areola is wider, more irregular, and also about three times longer than wide; outside these are two large areæ and there are three lateral, the spiracular being larger, wider, and more irregular than the others; the posterior median occupies the apex, is strongly, closely, transversely striated; the other areæ are more irregularly, sparsely striated. Metapleuræ coarsely reticulated. The pleural furrow is bordered below, especially at the apex. First abdominal segment irregularly reticulated, more strongly in the middle than on the sides; the base in the centre transversely striated; the middle segments are closely punctured; the depressions more or less striated. The apex of the last segment is white. ♂.

Length 10 mm.

Kuching, October (*R. Shelford, M.A.*).

C R Y P T I N Æ.

LOIADA, gen. nov.

Areolet small, square. Temples not developed, the large

eyes extending to the edge of the occiput, which is transverse. Eyes large, parallel, not converging. Parapsidal furrows distinct. Metathorax spined, with one (the basal) transverse keel. Abdominal petiole broadly dilated at the apex. Metapleural keel obsolete. Thorax three times longer than wide. First joint of flagellum slightly longer than the second. Ovipositor short. Hind legs stout, not greatly lengthened. Claws long. The spiracles on first abdominal segment are wider from each other than they are from the apex. Head not wider than the thorax.

The second transverse cubital nervure is faint; the transverse median nervure is received shortly behind the transverse basal; the transverse median nervure in hind wings is angularly broken below the middle. Scutellum roundly convex, the sides not margined. Metathoracic spiracles small, oval, not much longer than wide.

Of the Oriental genera of *Mesostenini* the present most resembles *Melcha*, which may be known from it by the longer and thinner abdominal petiole, which is not abruptly dilated at the apex and whose spiracles are nearer to each other than to the apex, by there being a complete metapleural keel and one above it, and by the longer median segment with two transverse keels. The Oriental genus *Skeatia*, Cam., has some affinity with *Loiada*; but it may be known by the longer, narrowed, not square areolet, by the long, linear metathoracic spiracles, by the head being distinctly wider than the thorax, and by the scutellum being clearly longer than wide, which is not the case with the present genus, in which it is, if anything, wider than long.

Loiada maculiceps, sp. n.

Black, clypeus, mandibles, palpi, an interrupted line on the inner orbits, malar space, a line on the pronotum, tegulæ, tubercles, scutellar keels, scutellum, sides of median segment, apex of basal two abdominal segments broadly, of the fourth more narrowly, and the whole of the apical two, yellow. Legs fulvous red; the four front coxæ and trochanters pale yellow; the base of hind tibiæ narrowly, the apex more broadly, and apex of tarsi, black. Wings hyaline, the stigma black. Antennæ with a broad white band. ♀.

Length 8 mm.; ovipositor 1 mm.

Kuching (*R. Shelford*, *M.A.*).

Face strongly, closely, rugosely punctured; upper part of front closely, finely, obliquely striated. Mesonotum minutely punctured-aciculated, the sides finely closely striated.

Scutellum smooth. Base of metanotum closely punctured, more or less striated; the rest strongly, closely reticulated; spines broad; the apical lateral edges serrate. Propleuræ above obliquely rugosely striated, the lower part with stout, clearly separated keels; the mesopleuræ closely rugosely reticulated-punctured, more or less striated at the apex; the metapleuræ closely, strongly, obliquely striated-reticulated. Postpetiole smooth, the middle segments closely punctured.

OPHIONINI.

TRICHIONOTUS, gen. nov.

Transverse median nervure in hind wings unbroken. Transverse median nervure in fore wings received shortly beyond the transverse basal. Scutellum roundly convex; its sides keeled. Mesonotum and mesopleuræ reticulated, the former without parapsidal furrows. Antennæ as long as the body. Basal joint of hind tarsi longer than the others united. Apex of clypeus rounded. Thorax densely pilose. Metanotum reticulated, the reticulations hid by the dense pile. Basal joint of hind trochanters as long as the second. Discoidal cellule at the apex twice its width at the base. Eyes large, slightly converging below. Ovipositor shorter than the apical two segments of the abdomen united. Mandibular teeth almost equal. Hinder calcaria as long as the second tarsal joint, clearly longer than the breadth of the apex of the tibiæ. Claws pectinated.

Comes close to *Trichomma*, which may be known from it by the hairy eyes, strongly converging below, by the basal joint of the trochanters being more than double the length of the second, and by the flatter, more oblique, not reticulated scutellum, by the more narrowed at the base brachial cellule, the transverse discoidal nervure being broken farther up the middle than it is in the present genus, which has further strongly pectinated claws, while in *Trichomma* the spines are very few, if any. The only other genus with which it could be confounded is *Atrometus*, but that has the discoidal cellule sharp-pointed at the base (*cf.* Schmiedeknecht, Zeit. f. Hym. u. Dipt. 1902, p. 361).

Trichionotus reticulatus, sp. n.

Black, the four front legs, hind coxæ, apical joint of trochanters, basal three fourths of hind tibiæ, and the calcaria, pale yellow; the mandibles, face (except in the middle above and below), the inner orbits and the lower

fourth of the outer of a bright yellow colour; the basal half of the first abdominal segments all round and the apical below yellow, tinged with fulvous; the greater part of the ventral segments, the top and the sides of the middle, testaceous. Thorax, and especially the median segment, densely covered with long, pale fulvous pubescence; the second and following abdominal segments densely covered with a fulvous pile. Wings hyaline, the stigma testaceous, the nervures black. ♀.

Length 14 mm.; ovipositor 1 mm.

Kuching, March (*R. Shelford, M.A.*).

Face irregularly rugosely punctured, keeled down the middle, the lower part with two short, stout keels on either side of the middle. Clypeus irregularly punctured. Front with some irregular striæ. Centre and sides at the base of the mesonotum irregularly stoutly reticulated; the sides raised into a stout keel. Scutellum apparently irregularly rugose (the sculpture hid by the dense pubescence); the sides stoutly keeled, and there are two keels on the apical central half. Median segment coarsely, irregularly rugose. Upper part of propleuræ strongly longitudinally striated; the mesopleuræ strongly longitudinally striated all over, the striæ curved and almost forming reticulations in the middle. Middle tarsi blackish at the apex.

XVIII.—*On a Second Collection of Mammals obtained by Dr. W. J. Ansorge in Angola.* By OLDFIELD THOMAS and R. C. WROUGHTON.

IN the 'Annals' for last year* an account was given of the mammals obtained during 1903 in Northern Angola by Dr. W. J. Ansorge, and the present paper is based on a series formed by the same collector during 1904 in the central part of that country.

Dr. Ansorge was not able to devote so much attention to mammals as on his previous trip, but the series he obtained is still a very valuable one and adds considerably to our knowledge of Angolan mammals. It consists of about 90 specimens belonging to 34 species, of which we have found it necessary to describe 5 as new, the most notable being the fine rodent-mole we have named *Georychus Ansorgei*.

* Ann. & Mag. Nat. Hist. (7) xiii. p. 405 (1904).



Cameron, Peter. 1905. "On some new genera and species of parasitic Hymenoptera from Borneo." *The Annals and magazine of natural history; zoology, botany, and geology* 16, 159–169.

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