

A Third Contribution to the Knowledge of the Hymenoptera of Sarawak.

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This paper is in continuation of one on the Hymenoptera of Sarawak based on material collected by Mr. Robert Shelford, M. A., published in the journal of the Straits Branch Royal Asiatic Society in 1903 and another in 1903.

SIRICIDÆ.

Stirocorsia cariniceps, sp. nov.

Black, the hind trochanters and femora red, the hind tibiæ thickly covered with white pubescence which gives it a white appearance; the fore wing fuscous-violaceous; a hyaline cloud extends from the base of the cubitus to near the base of the radius and extending to the opposite side of the wings, the lanceolate cell being also hyaline; the basal half of the hind wings hyaline, the apical lightly fuscous-violaceous; the stigma and nervures black. Temples, pleuræ, sternum, apex of abdomen and legs covered with white pubescence. ♀.

Length 13-14 mm.

Kuching. November.

On the sides of the vertex are 5 projections, rounded in front and arranged one above the other like the steps of a stair; the upper part of the front closely, strongly rugosely punctured, the lower is more irregularly and coarsely reticulated, with a smooth space, longer than broad, in the centre above; in the centre below is a somewhat triangular depression—the broad part above—and having, at the top, a large deep round fovea. Front coarsely, irregularly punctured-reticulated, more closely above than below, where the reticulations are more widely separated and irregular; in the centre near the apex is a large,

longer than broad, smooth space. Frontal keels distinct, the apical curved and projecting, more clearly separated than the others, the upper transverse and less developed than the lateral. Inner orbits obliquely sloped, coarsely rugosely punctured. The eyes behind are bordered by a keel which extends from the top to half way down the malar space, and is clearly separated from the eyes. Pronotum closely punctured; the meso- more strongly and irregularly, but not so closely and having a wide smooth line in the centre of the basal half; the scutellum is less closely and less strongly punctured, and with a smooth, shining, slightly violaceous space in the centre. It is separated from the metanotum by a deep, curved, crenulated furrow. Post-scutellar region closely rugose; the median segment more closely and less strongly punctured and having a smooth raised curved line at its base. The basal 4 segments of the abdomen are closely punctured, the punctuation becoming gradually weaker; at the base is a deep crenulated furrow; the last is more closely and strongly punctured and with its apex depressed and smooth, except in the centre, which projects. The apices of all the segments are smooth; the ventral closely and strongly punctured.

The pro- and mesopleuræ are closely punctured, the latter less strongly at the apex, the meta- coarsely aciculated, shining. The hinder tibiæ have 4 teeth above; below and clearly separated from them, are 4 larger oblique ones, followed by a smaller tooth. The 1st disjunctal cellule is of equal width throughout. The frontal area, above, is not half the length of the bottom. Clypeus and the apex of mandibles thickly covered with golden hair. Second abdominal segment not quite so long as the following 2 united. The median segment laterally is bounded by a keel; above this is another longitudinal keel.

Stirocorgia belongs to the Oryssinini.

CYNIPIDÆ.

Mesocynips insignis, Cam.

Mr. Shelford has sent the undescribed ♂ of this species from Matang. It has the antennæ filiform, longer than the

body, 15-jointed, the scape luteous, the flagellum black, bare. The last abdominal segment is as long as the preceding; it is closely and distinctly, the penultimate sparsely, punctured. The basal joint of the hinder tarsi is longer than the 4 following joints united. The apical 2 abdominal segments are marked with black.

CHALCIDIDÆ.

Antrocephalus maculipennis, sp. nov.

Black; the wings hyaline a cloud at the stigma extending to the middle, beyond which is a fainter, smaller cloud; between this and the apex of the wing is a wider, more irregular cloud, narrowed above; the apex of clypeus with a broad, rounded incision; the lateral lobes broad and rounded; head, thorax, legs and apex of abdomen covered with silvery pubescence. ♀.

Length 6 mm.

Hab. Kuching. December.

Head closely and strongly punctured; the inner orbits margined, the space between the keel and the eyes irregularly, transversely striated, the lower half of the front irregularly longitudinally striated, the striæ intermixed with the punctures. Prothorax rugosely punctured; the sides keeled to near the centre above. Mesonotum closely rugosely punctured at the base, the rest and the scutellum closely covered with round punctures. Metanotum coarsely reticulated; at the base are 2 irregular oval foveæ, followed, at their apex, by a larger longer one, sharply obliquely narrowed at the base, narrowed and rounded at the apex; there are no lateral projections. Propleuræ above coarsely punctured, the middle irregularly longitudinally striated, below smooth. The central depression of the mesopleuræ has the upper two-thirds closely, stoutly, longitudinally striated, below smooth, the rest rugose; metapleuræ rugosely reticulated and punctured. Abdomen slightly shorter than the thorax.

Antrocephalus rufipes, sp. nov.

Black, the legs red, their coxæ and trochanters black and thickly covered with white pubescence; the wings with a small

cloud at the stigma, the nervures black; the basal 2 joints of flagellum red. ♀.

Length 5 mm.

Hab. Trusan. November.

Cheeks, malar space and outer orbits thickly covered with silvery hair; the inner orbits clearly margined; frontal depression closely, minutely transversely striated, with a smooth, shining, transverse band below the ocelli. Occiput closely reticulated. Pronotum closely punctured; the basal slope keeled round the edges, except in the centre above. Mesonotum and scutellum similarly punctured; the furrows distinct; the 2 scutellar teeth, wider than long and rounded at the apex; the part beneath with a closely striated band. Median segment with 2, slightly converging at the base, keels down the centre and an oblique one on the sides. Pleuræ rugosely, closely punctured; the centre of the mesopleuræ closely striated, the striated part bounded at the base by a stout, smooth keel which is roundly curved above and dilated in the middle; the apex of the mesopleuræ is rugose above, smooth, shining, and depressed below. Metapleuræ coarsely rugose; below both are thickly covered with silvery pubescence. The upper two-thirds of the hind femora is roundly curved more dilated above than below; the lower part is clearly separated from the upper and rounded. Tegulæ rufous. Middle abdominal segments thickly covered with silvery hair.

Megacolus fulvipennis, sp. nov.

Black, the 1st abdominal segment and the sides ferruginous, the tarsi red; the femora with 5 large teeth of which the apical 2 are more widely separated than the others; apex of clypeus transverse; wings fulvo-hyaline, the nervures blackish. ♂.

Length 8 mm.

Hab. Kuching. September.

Head rugosely reticulated; the frontal depression transversely striated and with a keel down the middle. Thorax closely, rugosely punctured. Scutellar projection large, with 3 or 4 stout irregular keels. Metanotum stoutly, irregularly reticulated; the

sides with a large tooth at the base and a smaller, more rounded, one at the apex. Mesopleural depression punctured throughout. Legs thickly covered with white pubescence, as are also the breast and metapleuræ.

Megacolus rufitarsis, sp. nov.

Black, the abdomen and tarsi rufous, the hind femora with 7 short teeth; a longish stout tooth or spire between the antennæ; the apex of scutellum projecting in the middle, its apex almost transverse. ♂

Length 8 mm.

Hab. Kuching. July.

Head rugosely punctured, the punctures running into reticulations; the frontal depression above stoutly transversely striated, with a stouter longitudinal keel down the centre; the lower part with curved furrows; the occiput irregularly longitudinally striated. Metanotum with large, irregular reticulations. Propleuræ smooth; near the middle is a wide, oblique furrow, bordered below by a rounded keel; mesopleuræ covered with large, round deep punctures; the central depression wide, slightly narrowed below, smooth, obscurely striated above. The 3 basal teeth of the hind femora are narrower and closer together than the others.

In colouration this species is identical with *M. striolatus*, from which it may readily be known by the greater number of teeth on the femora, by the transverse apex of scutellum and by the frontal spine.

Megacolus striolatus, sp. nov.

Black; the 1st abdominal segment and the tarsi testaceous, the wings hyaline, narrowly streaked with fulvous, the nervures and costa black; hind femora with 5 teeth, the basal 3 short and rounded; the apical 2 sharper and longer. ♀.

Length 8-9; terebra 3-4 mm.

Hab. Kuching July.

Front and vertex coarsely rugosely punctured, almost reticulated; frontal depression transversely striated; face and clypeus covered with large, round, clearly separated punctures; above the centre of the clypeus is a deep depression or pit. Occiput obliquely depressed, its centre smooth; the sides punctured above, below irregularly striated. Pronotum closely irregularly punctured; the meso- more closely punctured, its centre at the base irregularly, transversely striated; scutellum coarsely, irregularly reticulated; its apex projecting, rounded, with a slight, wide incision in the centre; it is depressed, with some slight keels at the base. Metanotum coarsely, irregularly reticulated; the basal reticulations irregular and broken; the basal tooth, large rounded and narrowed at the apex, its length as long as the width at the base. Propleuræ irregularly punctured with a smooth space in the centre above; the meso- and metapleuræ with large, deep punctures; the oblique central depression on the former smooth at top and bottom, striated in the centre. The 4 front knees are testaceous, the basal 3 short teeth on the hind femora are widely separated; the 4th tooth is long and becomes gradually, obliquely depressed to the 5th which is shorter and sharper and has a short tubercle at its apex.

EVANIIDÆ.

Pristaulacus crythrocephalus, sp. nov.

Black, the scape of the antennæ, head, pro- and mesothorax, red; the fore legs of a paler red colour. Wings fuscous-violaceous, paler at the apex, the stigma dark testaceous, black at the base. ♀.

Length 20 mm. terebra 20 mm.

Hab. Kuching.

Head smooth and shining, covered with a pale golden down, which is longest on the clypeus. Apex of clypeus depressed in the middle and with a stout keel on the lower edge; the sides broadly rounded. Mandibles large, longer than the clypeus from top to the bottom of the apex; there are 3 large teeth;

the apical larger than the basal, two. Mesonotum coarsely, rugosely punctured and irregularly reticulated. Scutellum with 4 irregular, curved transverse keels; the depression at its apex and at the base of the metanotum stoutly, closely striated. Median segment irregularly, strongly reticulated. Pleuræ, except at the base of the pro-, closely irregularly reticulated. Antennæ 14-jointed; the scape not quite twice the length of the 2nd; the 2 together are slightly longer than the 3rd, which is distinctly shorter than the 4th. Temples wide. Hinder ocelli separated from each other by the same distance they are from eyes. Base of middle lobe of mesonotum slightly roundly incised in the middle. First recurrent nervure interstitial with the cubital, dilated at its junction with it; the 2nd received shortly beyond the middle of the cellule; the 3rd abscissa of the radins is as long as the other two united. Claws with 4 teeth, the 2 central being longer and sharper than the others.

The ♂ is similarly coloured, has the vertex obliquely raised from the front and has the sides bounded by a longitudinal keel.

Gasteruption rufomaculatum, sp. nov.

Black, the mesopleuræ and mesosternum rufous; as are also the front legs and the underside of the middle coxæ, there is a broad white band near the base of the hind tibiæ; wings hyaline, the stigma fuscous, the nervures darker. ♀.

Length 13; terebra 6 mm.

Hab. Kuching.

Front and vertex shining, smooth, almost bare; the face and clypeus and outer orbits thickly covered with silvery pubescence; the hinder ocelli are separated from each other by a slightly greater distance than they are from the eyes. The clypeus above, in the middle, is separated from the face by a distinct curved furrow. Mandibles and trophi dark rufous. Middle lobe of mesonotum closely and strongly transversely striated; the sides of the lateral lobes are more finely striated; the middle at the apex much more widely and more strongly longitudinally striated. Scutellum obscurely transversely striated. Median segment rather strongly transversely striated,

the sides less strongly and more irregularly than the metanotum. Centre of propleuræ broadly and strongly striated; the meso-obscurely striated, more distinctly below than above, almost reticulated.

Malar space small, as long as the 2nd antennal joint; the temples large, fully longer than the eyes above; collar short; the 3rd and 4th joints of the antennæ are equal in length and clearly longer than the scape. Parapsidal furrows deep, crenulated; and there is a longitudinal furrow on the apical half of the lateral lobes. Middle tarsi fuscous; the tibiæ darker, paler at the base. Ventral segments of abdomen dark rufous; the apical third of the sheaths of the ovipositor pale. Hind coxæ brownish, transversely striated above.

Belongs to *Gasteruption* S. Str. the 2nd discoidal cellule being divided.

Evania rubra, sp. nov.

Rufous, the abdomen black, the apex of petiole white, the rest of it fuscous-black, darker above than on the sides; legs coloured like the body, but paler in tint, the apical third of the hinder femora, and the hinder tibiæ black; the basal third of the tibiæ white; the hinder tarsi fuscous; wings hyaline, the nervures blackish. ♂.

Length 6 mm.

Hab. Kuching.

Third joint of antennæ slighter longer than the basal two united and slightly longer than the fourth. Head smooth shining and covered with a pale down. Temples well developed, as long as the malar space; the occiput slightly roundly incised. Mandibular teeth black. Pro- and mesothorax smooth; the lower part of the mesopleuræ with round, shallow, clearly separated punctures; median segment reticulated; the base of the metanotum with a curved, smooth, clearly separated area; the pleuræ at the base in the middle smooth. Metatarsus as long as the 2nd and 3rd joints united; the long spur of the calcaria three-fourths of its length. The cubitus originates far behind the stigma, the 1st cubital cell being thus

much longer on the lower than on the upper side; the transverse median nervure is received distinctly beyond the transverse basal; the cubitus is very faint, almost obliterated beyond the transverse cubital.

This species has the cubitus originating far back behind the stigma as in *Zeuxevania*, but in that group the 1st cubital and the discoidal cells are not separated as they are in my species and in *Evania*.

BRACONIDÆ.

Chaolta ruficeps, sp. nov.

Black, the head, antennal scape, thorax and 4 front legs rufous; wings dark fuscous-violaceous, with black stigma and nervures; sheath of ovipositor stout, black, covered with long, stiff hair. ♀.

Length 17; terebra 19 mm.

Hab. Buatal. April.

Scape of antennæ smooth, not excavated, or with the sides keeled; its apex below with a stout keel ending in a short broad tooth. Plate below the antennæ large, rounded and narrowed towards the apex; its keel its stout, reaches close to the middle and originates at the base of the antennæ, its apical half being higher than the basal and dilated in the middle; the face below it and the sides above are irregularly punctured and striated. Oral depression with stout, oblique sides above. Temples longer than the eyes. Median segment infuscated in the middle; its sides closely punctured. The sides of petiole closely, distinctly longitudinally striated; the centre more irregularly striated, the striæ running into reticulations; the 2nd and 3rd abdominal segments are closely, strongly longitudinally striated, the striæ stronger in the middle and at the base, the area being similarly striated; the 4th segment is closely, rugose, almost reticulated; the others smooth; the furrows wide and shallow, striated. Wings long; 2nd abscissa of radius about one, fourth longer than the 3rd.

The abdomen is not dilated in the middle and is twice the length of the thorax.

Chaolta lutea, sp. nov.

Luteous, the flagellum of antennæ black; the wings fuscous, behind the transverse median nervure, yellowish hyaline; the stigma black. ♀.

Length 10; terebra 8-9 mm.

Hab. Kuching. April.

Head smooth, shining; in the centre of the face is a depression about twice wider than long and with the sides rounded; oral depression small; temples wide, longer than the eyes. Apex of mandibles black. Apex of scape of antennæ below excavated slightly, the depression stoutly keeled, the keel produced at the apex into a broad tooth; the antennal tubercles stout. Facial plate wider than long, becoming gradually narrowed towards the apex and without a plate at the base. Thorax smooth and shining; flat above; the metanotum with a thin keel down the centre. The depressed sides of the petiole are distinctly longitudinally striated, the raised central part rugosely punctured and striated; the 2nd and 3rd segments are closely, longitudinally striated; the area on the 2nd segment is about twice longer than broad, its sides margined, its apex rounded and half the width of the base; it is more finely longitudinally striated; the 2nd to 4th segments are closely rugose; and have distinct oblique lateral depressions; the suturiform articulation crenulated.

Front depressed, deeply furrowed in the centre; the 3rd joint of the antennæ is slightly, but distinctly longer than the 4th abdomen oval, broader than the thorax and shorter than the head and thorax united. Legs stout, densely covered with pale hair; stigma large, broad; the recurrent nervure is received shortly before the 1st transverse cubital; 2nd abscissa of radius as long as the 3rd of the cubitus and about one-fourth shorter than the 3rd.

This species differs from *Chaolta* proper in the facial plate not having a keel in its centre, in the abdomen being shorter and broader and in the 2nd abscissa of the radius being shorter than the 3rd. In both species the mesonotum is quite flat; in *C. lutea* the scutellum is not raised above the level of

the mesonotum; in *C. ruficeps* it is slightly raised; the parapsidal furrows are absent. *C. lutea* may belong to *Platybracon*, Szép.

Lissobracon, gen. nov.

Head cubital; temples broad; occiput and cheeks not margined. Apex of clypeus obliquely depressed, rounded. Antennæ stout. Three cubital cellules. Radial cellule long, extending to the apex of the wing. Transverse median nervure received beyond the transverse basal. Second discoidal cellule closed. Anal nervure not interstitial. Hinder wings as in *Bracon*, but with the pobrachial and the transverse pobrachial nervures obsolete. Legs of moderate length. Abdomen smooth and shining, without transverse furrows on any of the segments.

There is a clear malar space; scape of antennæ short, thick, not much longer than broad, not much longer than the 3rd. Mandibles with a long upper and a shorter and blunter subapical tooth. Mesonotum indistinctly lobed; the furrows shallow, not clearly defined. Calcaria short. Antennæ stout, not narrowed towards the apex.

This genus has not a semicircular opening between the mouth and the mandibles, it being transverse, not rounded. In other respects it agrees fairly well with the *Braconneæ* except that the transverse median nervure is not interstitial; but it does not fit very well in to any of the tribes. The antennæ are much stouter than usual.

Lissobracon forticornis, sp. nov.

Black, smooth and shining, the head, thorax, except the metanotum and the front legs rufous; antennæ stout, black, the scape sparsely haired, the flagellum bare. ♀.

Length 19; terebra 50 mm.

Hab. Matang.

Head sparsely haired; the metanotum covered with longish black hair; the femora sparsely, the tibiæ and tarsi thickly cover-

ed with black hair, as is also the sheath of the ovipositor. The apical abscissa of the radius is as long as the basal two united. Recurrent nervure almost interstitial; below it is a hyaline spot. Abdomen longer than the head and thorax united; its apex bluntly pointed, the hypopygium larger, projecting.

Trichiobracon, gen. nov.

Hind coxæ with a large, curved and a shorter, minuter, straighter spine in the middle above. Pobrachial transverse nervure in hind wings joined to the transverse præbrachial, roundly curved towards the apex of the wing but not reaching it; pobrachial nervure short, not reaching to the middle of the wing; from near its apex a stouter oblique nervure runs to the præbrachial, forming a large, closed cellule at the base of the pobrachial. Stigma large, the radius issuing from behind its middle. Transverse median nervure received distinctly beyond the transverse basal; the recurrent nervure received in from of the 1st transverse cubital. Occiput and cheeks margined. Malar space large. Mesopleuræ with a distinct, crenulated furrow. Parapsidal furrows deep. Median segment large, closely reticulated; its sides at the middle of the apical slope with a small, but distinct, rounded tubercle. Basal segments of the abdomen closely longitudinally striated. Cerci long, slender. Legs short and stout; the metatarsus not much longer than the 2nd joint; cerci minute. Temples broad. Ovipositor projecting.

The abdomen is broad, not much longer than the head and thorax; basal segment broad; the other segments are broader than long; hypopygium short, vertex not much depressed.

This genus is allied to *Spinaria*. It may be identical with *Acanthobracon*, Szép; but the description of that author is too short to enable me to decide this. So far as the description goes Szepliget's genus differs from mine in the 3rd abscissa of the radius not reaching to the apex of the wing and no mention is made of the pobrachial nervure in hind wings being roundly curved, directed downwards from the præbrachial towards the apex of the wing, not obliquely sloped, straight from bottom to top as usual. This nervure, in fact, has the appearance of being a 2nd cubital nervure and may not be the equivalent of the

transverse pobrachial nervure. There is indeed, below the ordinary cubitus a longitudinal nervure which may be the pobrachial and the transverse nervure (which springs from shortly beyond its middle) may be the ordinary pobrachial transverse nervure. To put the matter in another way, above the anal cellule there are 2 large median cellules, the basal closed, the apical open—followed by the ordinary posterior cellule, also open below. I am not acquainted with any genus of *Braconidæ* having this peculiar neurulation in the hind wings. If my genus be really identical with *Acanthobracon* it seems remarkable that its describer has not noticed the odd neurulation.

Trichiobracon pilosus, sp. nov.

Luteous, the antennæ black; the wings to the transverse basal nervure yellowish-hyaline, beyond that smoky-fuscos, the stigma and apical nervures black. Legs coloured like the body, densely covered with long pale hair. ♀.

Length 10-11 mm: terebra 4 mm.

Hab. Kuching.

Antennæ as long as the body, black. Face and clypeus distinctly and closely punctured; the clypeus clearly separated from the face, which is raised and separated in the centre; both covered with long pale hair. Front and vertex smooth and shining, more sparsely haired than the face. Teeth of mandibles black. Pro- and mesothorax smooth and shining; the base of propleuræ irregularly reticulated, median segment reticulated except on the sides at the apex; the pleuræ more strongly reticulated than the rest. First abdominal segment slightly longer than its width at the apex, closely longitudinally striated; the 2nd and the 3rd segments to near the apex finely, closely longitudinally striated, as is also the 4th to the furrow; all the furrows striated.

Cendebeus, gen. nov.

Three cubital cellules. Recurrent nervure received in the 2nd cubital cellule, close to the 1st transverse cubital nervure;

transverse median shortly beyond the transverse basal; anal nervure interstitial; pobrachial nervure in hind wing interstitial; subcostal nervure distinct, curving down at the præbrachial nervure curving upwards again towards the costa. Occiput not margined. Temple wide. Mandibles short, broad, bluntly rounded at the apex, which is unidentate. Clypeus separated from the face. Middle lobe of mesonotum clearly separated; its base raised, its apex bounded by a transverse keel, mesopleuræ with a longitudinal furrow. Abdominal petiole of almost equal width throughout, about four times longer than wide, stout; 2nd segment with 2 furrows which converge towards the apex. Sutureform articulation obsolete. Legs of moderate size; the hinder coxæ twice longer than wide; spurs minute. Maxillary palpi long, at least 5-jointed. Antennæ long, slender. Stigma large, the radius originating behind its middle. Median segment large, rugose.

Belongs to the *Exothecini*.

Cendebeus filicornis, sp. nov.

Black, the scape of the antennæ pallid yellow; legs testaceous: the tibiæ broadly in the middle, the apices of the 4 hinder femora and the greater part of the fore tarsi, black; the wings hyaline, the stigma and nervures black; the ventral surface of the abdomen, the apices of the segments, narrowly, and the sides of the apical segments broadly testaceous; the base of mandibles dark testaceous. ♀.

Length 11; terebra 11 mm.

Hab. Kuching.

Front and vertex smooth and shining; the lower part of front irregularly transversely striated. Face closely rugosely punctured and thickly covered with white, longish pubescence; its middle shining above. Palpi white. Mesonotum closely, minutely punctured; the sutures irregularly reticulated; the depressed central apical part obscurely reticulated. Median segments closely rugosely punctured; the pro- and mesopleuræ shining aciculated. Mesopleural furrow smooth. First abdominal segment closely rugosely punctured, more coarsely at the

base where the punctures run into reticulations; the 2nd finely and closely punctured, the central part bounded by the keels more strongly than the sides. Propleuræ in the middle thickly covered with fulvous, longish pubescence.

Habnoba, gen. nov.

Wings with 3 cubital cellules: the recurrent nervure received in the 1st cellule, almost interstitial. Stigma distinct; the radius issuing from shortly behind its middle. Transverse basal and anal nervures interstitial. Occiput and cheeks margined. Eyes oval. Malar space large. Anterior tarsi more than double the length of the tibiæ; the apical half of fore femora dilated. Mesonotum trilobate. Mesopleuræ with a distinct longitudinal furrow. Scutellum and metanotum depressed at the base. Abdominal petiole long and slender; striated, cylindrical; the other segments smooth, without furrows or depressions. Radial cellule in hind wings divided by an oblique nervure; the pabrachial nervure interstitial; the anal cellule is divided into two by a distinct oblique nervure shortly behind the middle.

Head cubital, its temples wide; malar space moderately large; ocelli in a triangle; the hinder coxæ fully four times longer than broad; calcaria short; claws small, simple. The 2nd abdominal segment is longer than the following 3 segments united; there is an indistinct suturiform articulation; the basal joint of the hinder tarsi is as long as the other joints united. Legs long and slender; the 1st abscissa of the cubitus is roundly curved and is not much shorter than the 2nd, but longer than the 3rd.

Belongs to the *Spathiinae*. Allied to *Leptospathius* Szép.; which has a divided radial cellule in the hinder wings but not a divided anal cellule. Characteristic is the strong mesopleural furrow as in the *Cryptinae*.

Habnoba petiolata, sp. nov.

Black: the head and the greater part of the prothorax rufous; the anterior coxæ dark rufous below; the basal joint of

the 4 posterior tarsi to near the apex white. Wings hyaline, slightly infuscated, the nervures and stigma black. ♀.

Length 13-14 mm ; terebra 13 mm.

Hab. Kuching.

Antennæ longer than the body, slender, filiform, black ; the scape rufous, the basal joints of the flagellum dark rufous ; the 3rd joint shorter than the 4th. Face obscurely rugose, the centre slightly raised and separated from the sides which are smoother and more shining, clypeus clearly separated, raised, broadly rounded behind. Face and clypeus thickly covered with fuscous hair ; the hair on the clypeus longer than that on the face. Mandibles rufous, black at the apex ; the long palpi fuscous, the apical joints paler. Middle lobe of the mesonotum irregularly reticulated ; the furrows irregularly striated. Scutellum shining, minutely and closely punctured ; the basal region depressed and with a fine keel in the middle. Post-scutellum depressed, keeled laterally. Metanotum smooth and depressed at the base, irregularly transversely striated and with some irregular longitudinal keels. The centre and the apex of the propluræ strongly irregularly striated ; the oblique furrow on the base and the lower longitudinal one stoutly striated ; the base of the metapleuræ shagreened ; the rest stoutly reticulated. Pleuræ and sternum thickly covered with silvery pubescence. Petiole closely, distinctly transversely striated. On the base of the 2nd segment is a raised area, longer than broad, slightly narrowed towards and rounded at the apex ; the rest of the segment finely, longitudinally striated. Legs covered with a pale pubescence ; the tarsi spinose ; the hinder coxæ and trochanters minutely punctured ; the front legs have the femora and tibiæ piceous in front. Sheaths of ovipositor black, covered with a soft microscopic pubescence.

Ediya, gen. nov.

Recurrent nervure received shortly beyond the middle of the 1st cubital cell, transverse basal nervure shortly beyond the transverse median : anal nervure not interstitial. Radial cellule in hind wing bordered by a distinct nervure in front ; præ-

brachial nervure not interstitial above or below; the pobrachial transverse nervure received considerably in front of it; the pobrachial continued to the end of the wing; the pobrachial cell narrow at the base, much widened at the apex. Hind femora not much thickened, serrate beneath. Labrum projecting. Mandibles curved, with a short subapical tooth. First abdominal segment wide at the base, becoming wider towards the apex, as long as the 2nd and 3rd segments united. Thorax in ♂ longer than the abdomen; the pro- largely developed.

The head is cubital; the clypeus clearly separated from the face; the front depressed, its sides keeled; metanotum areolated. Mesopleuræ furrowed below. Metatarsus shorter than the other joints united. Calcaria and claws small.

Comes near to *Euseelmus* (also from Sarawak) but that genus may be known from it by the hind femora being thickened, by the recurrent nervure being received in the 2nd, not in the 1st cubital cell, and by the shorter thorax.

Edyia annulicornis, sp. nov.

Black, shining, the middle of the antennæ broadly, labrum, almost the basal half of the hinder tibiæ and the hinder tarsi white; the 4 front legs white, their femora with a slight fulvous tinge, their coxæ black, with a brownish tinge; wings hyaline, the stigma fuscous, the nervures darker. ♂.

Length 9 mm.

Hab. Kuching.

Face coarsely rugosely punctured, its sides irregularly longitudinally striated; clypeus more finely longitudinally punctured; front and vertex smooth, the frontal depression bordered by a stout, oblique keel. Pronotum stoutly, irregularly striated. Middle lobe of mesonotum strongly punctured and thickly covered with white hair, its apex irregularly reticulated; it is raised and clearly separated; the lateral lobes are sparsely punctured. Scutellum punctured on the basal half; its basal depression with a straight central keel, with an oblique one on either side. Post-scutellum with a stout keel down the centre and a stout transverse one across the middle, dividing it into 4

parts. Metanotum areolated irregularly reticulated, the areæ longer than broad. Mesopleuræ smooth, punctured above and below. Metapleuræ closely rugose. Basal segment of abdomen irregularly longitudinally striated. The hinder femora are serrate beneath in the middle, the teeth not being well developed.

Enagathis erythrocephala, sp. nov.

Black, the scape of antennæ, head, pro- and mesothorax red, the fore legs of a less clear red, the middle coxæ from near the base, trochanters and femora, fuscous-black, the rest of the legs of a dark red; wings fuscous-violaceous, paler on the costal cell, the nervures and stigma black, ♀.

Length 8-9 mm; terebra 1 mm.

Hab. Kuching. January.

Scape of antennæ covered with white, the flagellum thickly with stiff, pubescence. Front and vertex smooth; a curved oblique furrow above each antenna. Face distinctly punctured, roundly dilated in the middle; the clypeus less strongly punctured, deeply foveate at the sides. Mandibles rufous, palpi rufo-testaceous. Prothorax impunctate; the mesothorax punctured, but not closely or strongly, the scutellum more strongly punctured; scutellar depression deep, with 2 stout keels in the centre; scutellum roundly convex, with a bordering keel on its apex below; post-scutellum bordered by a stout keels and with a stout one in the centre. In the centre of the metanotum, at the base, is an area, fully twice longer than wide, transverse at the apex, gradually narrowed towards the base, with the keels curved; outside this is another area of nearly equal width; on the sides are some irregular striæ, especially at the apex. The apical slope is bordered above by a keel and has a few stout longitudinal keels. The long spur of the middle leg is nearly as long as the basal joint of the tarsi. Abdomen smooth and shining.

Apart from the difference in colouration, etc., this species may be known from *E. creophora* by the long spur of the middle tibiæ. In the latter species it is short as usual.

Enagathis creophora, sp. nov.

Black, the head, the fore legs, pro- and mesothorax red; the wings dark fuscous, the stigma and nervures black; the metapleuræ thickly covered with white pubescence. ♀.

Length 10, terebra 1 mm.

Hab. Kuching.

Scape of antennæ obscure reddish below. Head smooth and shining, the face and clypeus thickly covered with fuscous pubescence. Middle lobe of mesonotum distinctly raised, but not separated by furrows from the lateral. Scutellum with a distinct, raised margin, which is highest at the apex; the keels are bordered, on the inner side by a furrow, which, at the apex, has a few indistinct keels. Post-scutellum opaque, strongly aciculated, flat, transverse at the base, roundly narrowed towards the apex. On the base of the metanotum is a curved obliquely depressed rounded area, with its middle triangularly bent inwardly; next to this are 7 areae, all longer than wide, the central of equal width and twice longer than wide; the outer still longer, the apical slope is oblique, surrounded by a stout keel; in its centre is an area which becomes slightly narrowed towards the apex; at the sides is an area of equal width throughout; on either side of the central area is a keel which only extends to the middle. Pro- and mesopleuræ smooth; on the centre of the meso- on the lower half is an oblique row of long, stout keels; the apical furrow is crenulated; on the base of the metapleuræ are 3 stout keels. Tarsi thickly covered with short stiff hair. The 1st transverse cubital nervure is straight and sharply oblique; the 2nd is much shorter, not oblique, roundly curved; the recurrent nervure is bullated near the top.

This may be *E. pilosus* Szép.; but the 25 words of that author's description, dealing mainly with the colour, are not sufficient for identification. In my species the 4 front claws are bifid; the hinder subbifid, the basal claw being short. There is no branch on the 2nd transverse cubital nervure, but it is thickened in the middle.

Agathis malayana, sp. nov.

Luteous, the antennæ and the hinder tibiæ and tarsi black ; the 3rd and following segments of the abdomen blackish ; the apex of the wing from the transverse basal nervure fuscous, the base above to the transverse basal and below to near the commencement of the anal nervure, hyaline, the apex of the hind wings broadly fuscous. ♀.

Length 7-8 mm.

Hab. Singapore.

A small curved depression at the outerside of the hind ocelli. Head, pro- and mesonotum smooth and shining ; the middle lobe of mesonotum with 2 wide, shallow furrows near the middle a shallow, wider one on the lateral lobe. Scutellum distinctly, but not very strongly, punctured ; its sides and apex margined, the apex more strongly keeled. Post-scutellum depressed, stoutly margined. Base of metanotum with a wide area in the middle at the base ; its bounding keel roundly curved and curved towards the apex in the middle ; behind this are 6 areæ, in 2 rows of which the outer apical are the larger ; these are bordered by a keel which is angled outwardly in the middle ; and the sides, outside the spiracles, are bordered by a stout keel. Pro- and mesopleuræ almost impunctate, there is a narrow straight oblique keel above the middle of the latter ; its curved apical keel is wide, bears some stout keels and commences shortly below the middle ; the apical depression bears stout keels, as does also that on the base of the metapleuræ. Areolet triangular, the nervures uniting at the top, they are straight and oblique, except the 2nd which is narrowed and not so oblique below ; there is no branch on the 2nd cubital nervure ; the recurrent nervure is distinctly interrupted above.

Disophrys ornatipennis, sp. nov.

Black, the head, except the front, the vertex and occiput broadly in the middle, pronotum, upper half of propleuræ, the centre of the mesonotum between the sutures and scutellum ; the scutellum and adjoining region, metanotum, except a broad

curved band on the top of the apical slope, the upper part of the mesopleuræ and the metapleuræ, except in the middle, reddish-yellow. Four front legs luteous, the hinder black, the coxæ, trochanters, femora and tibiæ luteous, below. Ventral surface of abdomen for the most part testaceous; the base above testaceous, stoutly tuberculate laterally. Fore wings to the base of the cubitus, the 1st cubital cellule broadly above yellowish-hyaline the rest blackish-fuscous; with a curved hyaline cloud in front of the recurrent nervure; the basal half of the hind wings yellowish-hyaline, the rest fuscous, the apical cloud prolonged obliquely backwards below; the stigma black, yellow at the base. Antennæ black, brownish towards the apex. ♂.

Length 12-13 mm.

Hab. Matang. August.

Face minutely punctured, the centre from near the top bordered by furrows, which end in foveæ above the clypeus which is minutely punctured. Labrum large, broadly rounded. Front depressed in the middle, the depression bordered by furrows, which are roundly curved above, converging below; the lateral keels reach to the ocelli. Parapsidal furrows wide, bearing stout keels, forming deep foveæ; at the apex they converge, but do not unite. Apex of scutellum with a transverse stout keel. Metanotum depressed at the base, the sides more deeply than the centre; at the apex of the depression is an area, longer than wide, which becomes gradually wider to the apex, which is transverse and bears a stout transverse keel; following this is a depression about 3 times wider than long, rounded, but not much narrowed, at the apex and bordered by larger, longer depressions, wide at the base, becoming narrowed gradually to a point at the apex and touching the curved keel surrounding the apex; outside it are 2 larger wider depression, the outer being the larger. Pleural and sternal depressions wide and bearing stout keels all over.

Disophrys niger, sp. nov.

Black; the palpi and anterior tarsi pale testaceous, the wings black to the areolet, the rest milk-white, the apex of stigma and apical nervures pale yellow. ♂.

Length 8 mm.

Hab. Kuching. March.

Smooth and shining, the median segment irregularly areolated. The furrow in the centre of the edge of the mesonotum crenulated; scutellar depression large and deep, with 3 stout keels, the central slightly higher than the lateral. Scutellum flat, narrowed obliquely towards the apex, which is keeled; post-scutellum hollowed, the sides stoutly keeled, slightly obliquely narrowed towards the apex, the centre being transverse. The central basal area of the metanotum is large, about twice longer than wide, and rounded at the apex. On the base of the mesopleuræ in the middle are 5 stout, irregular keels, the space between them being depressed; below them, and placed obliquely, are 3 large foveæ, the apical being the larger. Metapleuræ with 3 stout curved keels, which have some oblique keels at the base, and on the upper and lower parts, these forming irregular areæ; the apex is bounded by a stout keel. Abdomen smooth and shining; the basal 2 segments distinctly margined laterally, the 2nd with a transverse curved furrow in the middle.

The lateral keels on the front are large and raised below, becoming narrowed above and do not reach to the ocelli; in the centre of the front are 2 stout keels which converge above, and are dilated at the base of the antennæ. Areolet longer than broad; its basal nervure with a distinctly oblique slope. Scape of antennæ about 3 times longer than wide. There is no appearance of a stump on the 2nd transverse cubital nervure.

Disophrys fumipennis, sp. nov.

Luteous, smooth and shining, the flagellum of antennæ and the hind tibiæ and tarsi, black; wings fuscous, highly iridescent, the base from the transverse median nervure and an oblique cloud, extending from the base of the stigma to the anal nervure, hyaline; the stigma and nervures black. ♀.

Length 7-8; terebra 1 mm.

Hab. Kuching. October.

Face and clypeus sparsely punctured and covered with white pubescence, the front and vertex smooth and shining; the centre of the face above is roundly incised, the incision longer than wide and with its sides projecting above. The raised central lobe of the mesonotum is widely furrowed on the basal half. Scutellar depression large, deep and with a stout keel in the middle. Scutellum with the sides and apex keeled, the latter more strongly than the former. Post-scutellum as wide as the scutellum, depressed at the base, roundly raised, its sides keeled. Base of metanotum with a large, somewhat semicircular area; behind this are 5 areæ; the central with stouter keels and slightly narrowed towards the apex, the outer obliquely narrowed towards the apex, almost triangular; the apex has an oblique slope and is bounded by keels on the top and sides, there being none in the centre. Pleuræ almost impunctate; the oblique furrow on the lower apical part of the mesopleuræ is shallow; and has a few obscure keels; on the lower side of the metapleuræ in the middle is a large projecting plate, dilated at the base, rounded at the apex and hollowed in the centre above. Areolet rounded and narrowed above; the 2nd transverse cubital nervure has a short, stout branch above the middle; the recurrent nervure is interrupted at the top and above the middle leaving a small isolated piece.

Microdus natangensis, sp. nov.

Rufous-luteous, the flagellum of antennæ blackish; wings yellowish-hyaline, the nervures and stigma luteous, the latter black at the base, where there is a small equare fuscous cloud, extending shortly beyond the cubitus; the basal three abdominal segments closely longitudinally striated, the 2nd with a transverse, slightly curved, furrow shortly beyond the middle. ♂.

Length 13 mm.

Hab. Matang

Head, pro- and mesothorax smooth and shining; parapsidal furrows smooth. Base of metanotum depressed; in the centre are two keels, which are close together on the basal third, then expand obliquely outwardly, then running straight to the apex. Abdominal petiole smooth and obliquely depressed at the apex, the middle is depressed.

ICHNEUMONIDÆ.

TRYPHONIDES.

Bentyra, gen. nov.

Median segment deeply depressed at the base; there is one transverse keel, behind which the segment is closely transversely striated; the spiracles small, oval. Areolet absent; the transverse basal nervure interstitial; disco-cubital nervure broken by a stump. Parapsidal furrows deep; a wide, deep depression at the base of the scutellum. A deep, oblique furrow on the basal half of the mesosternum. Eyes large, temples and malar space small. Clypeus roundly convex, not separated from the face; its apex minutely bituberculate. Mandibles stoutly bidentate, the teeth of equal size. Petiole stout, becoming gradually wider towards the apex; the spiracles are placed shortly beyond the middle. The middle segments are depressed at the base; the last is longer than the preceding; the ovipositor projects.

Radial cell wide in the middle, compared with its length; the basal and apical abscissa straight, sharply oblique; occiput margined, a deep furrow between the keel and the ocelli; the head is large and is distinctly wider than the thorax; there are 2 spurs on the 4 hind legs; on the front tibiæ the spurs there is one, cleft from near the base, the one tooth being broad, stout, the other more slender; claws small, simple; the long spur of the hind tibiæ does not quite reach the middle of the metatarsus; in the hind wings the transverse median nervure is broken distinctly below the middle. Middle lobe of mesonotum widely separated from the scutellum furrowed down the middle. Antennæ long and filiform, the basal joints of flagellum greatly lengthened.

Belongs to the *Tryphonidæ*, a group which appears to be rare in the tropics.

Bentyra striata, sp. nov.

Black, abdomen rufous, the face, except for a brown line in the centre, the inner eye orbits somewhat broadly, the line ex-

tending on to the hinder edge of the eyes, a broad line on the pronotum, one on the basal half of the middle lobe of the mesonotum, 2 shorter ones on its apex on the lateral lobes, scutellums, the apex of the median segments, the mark roundly dilated backwards in the middle, the lower edge of the propleuræ, an irregular mark under the hind wings and a large mark on the lower apical half of the metapleuræ, bright yellow. Legs rufous, the anterior paler; the 4 front coxæ and trochanters yellow; the hinder coxæ black, with a large yellow mark on the apex above; the apex of the hinder tibiæ black; the hinder tarsi infuscated. Wings hyaline, a small fuscous cloud near the centre of the radius and cubitus, the stigma and nervures black. ♀.

Length 7 mm.

Hab. Kuching.

Antennæ slender, longer than the body, fuscous; the scape obscure yellow beneath. Face and clypeus closely, transversely punctured; the front and vertex closely obliquely striated; the front with 2 stouter longitudinal keels down the centre. Mesonotum and metanotum closely, finely transversely striated. Upper part of propleuræ closely obliquely striated, the lower smooth, the upper part of mesonotum closely longitudinally striated, the lower closely rugose; upper half of metanotum coarsely obliquely striated, the lower distinctly punctured.

PIMPLINA.

Epirhyssa spiloptera, sp. nov.

Black, the face, clypeus, inner orbits to the top, the outer more broadly (but narrowly above) from near the top, malar space, the upper side, apex, lower side, except in the middle of the prothorax, scutellum, except at the apex, post-scutellum, the median segment except at the base, apex and lower side of pleuræ, the mesonotum, except at the base, below the tubercles and a large curved mark, with a narrow oblique pedicle below the latter, mesosternum, a longish mark, becoming gradually wider towards the apex, which is transverse on the 1st, a somewhat similar mark on the 2nd, but with its apex transverse, not rounded and with the sides at the apex projecting; a

band near the apex of the 2nd and following segments, the lines dilated and turned backwards below along the sides, yellow. Legs yellowish, the fore femora above, the middle at the base below and more broadly above, the hinder, except at the apex, the base of the hind tibiæ, and the 4 hind tarsi, black. Wings hyaline, the apex from the transverse cubital to shortly beyond the apex of the cubitus fuscous-violaceous; the stigma testaceous, the nervures black. ♀.

Length 18 mm.; terebra 33 mm.

Kuching. October.

Apex of clypeus roundly incised. Scutellum transversely punctured; its black apex longitudinally, coarsely striated. Median segment closely punctured; the metanotum with a smooth furrow down its centre. Propleuræ almost smooth, the meso- closely punctured. Abdomen smooth; the black on the middle segments has a brownish tinge.

Epirhyssa maculiceps, sp. nov.

Black, the face, except for an irregular bell-shaped mark in the centre, a mark on the front, longer than wide, clypeus, labrum, inner orbits to the hind ocelli, the outer from near the top, malar space, pronotum, 2 curved marks, narrowed at the apex, on the middle lobe of the mesonotum at the base, a broad line on the inner side of the lateral lobes, one along their outer edge, scutellum, except at the apex, its keels, the depressions at the sides of the post-scutellum, the lower edge of the propleuræ, mesopleuræ, except in the middle at the apex, median segment, except for a large conical mark on the apical two-thirds of the metanotum and the apices of the abdominal segments, broadly yellow. Legs yellow, the tibiæ and femora suffused with fulvous; the inner and lower side of the hind coxæ black; the hind tibiæ in front, except in the middle, their apex all round and the hinder tarsi blackish. Wings hyaline, clouded at the apex from the transverse cubital nervure; stigma fuscous, the nervures blackish. ♀.

Length 12; terebra 13 mm.

Hab. Kuching. March.

Antennæ fuscous-black. Face and clypeus closely punctured, the centre of the face obscurely striated; the front and vertex smooth. Scutellum rugosely punctured, its apex transversely striated. Median segment sparsely covered and the abdomen thickly covered with white hair; the middle segments closely punctured. Tarsi spinose.

Xanthopimpla Kuchingensis, sp. nov.

Luteous, the vertex and the lower part of the front broadly in the centre, the occiput between the eyes, a large mark on the mesonotum in front of the tegulæ, squarely dilated in the centre at the base, with the sides rounded, a mark on the scutellar depression, the 2 basal lateral areae, the areola narrowly at the base, a large mark, slightly, but distinctly broader than long, on the 1st abdominal segment, a large, transverse mark, slightly incised in the middle of the apex, on the 2nd and 3rd, 2 large marks, obliquely narrowed, on the innerside, 2 widely separated marks on the 4th and 5th (that on the 5th less distinct), black. Antennæ black, the scape obscure yellow, the flagellum brownish below. Areola large, its basal part obliquely narrowed, the slightly shorter apical slightly narrowed, the apex transverse; the 2 basal areae are slightly wider; the 2nd a little widened towards the outerside. Areolet 4-angled, shortly appendiculated; the recurrent nervure is received between the middle and apex. ♀.

Hab. Kuching. August.

Xanthopimpla claripennis, sp. nov.

Luteous, the ocellar region, a broad band, roundly curved in front, more transverse behind, near the base of mesonotum, a broad band across the base of the metanotum, a large mark, roundly dilated at the apex, roundly contracted at the base, on the centre of the 1st segment an irregular spot, wider than long and narrowed on the outerside on the 2nd, a large, oblique mark, rounded laterally, widely contracted in the centre at the base and more narrowly at the apex, on the 3rd, a small mark (but wider and more regular than the small mark on the 2nd) on the sides of the 4th, a large, regular transverse fully twice

wider than long one on the 5th, a small mark (the smallest of the series) on the sides of the 6th, 2 large marks, narrower, but thicker and narrowed roundly on the innerside, on the 7th, and 2 marks, transverse on the outerside, narrowed roundly on the inner, on the 8th, black. Legs of a paler yellow than the body, a large black line on the under side of the 4 hinder femora, the base behind of the 4 hinder tibiæ and the 4 hinder tarsi, black. Wings clear hyaline, the nervures and stigma black; the areolet oblique, triangular, shortly appendiculated. The areola is large, longer than wide by about one-fourth; its apex transverse, slightly, but distinctly, narrowed from shortly beyond the middle to the base; the basal lateral area is large, dilated at the base, the 2nd is wider than long, with straight sides, and of equal width throughout. Antennæ black. The recurrent nervure is almost united to the 2nd transverse cubital.

Length 8-9; terebra 2 mm.

Hab. Kuching, April.

Echthromorpha robusta, sp. nov.

Black, head, except the occiput broadly, the centre of the vertex and front, scutellums, 2 short marks on the base of the mesonotum, a large, curved mark on the sides of the metanotum, reaching to near the base, extending on to the pleuræ, in front of and behind the spiracles, tubercles, a large, irregularly semicircular mark on the basal half of the mesopleuræ, a small oblique one on the apex below, the apices of the abdominal segments—the basal band broader than the others, which are narrowed in the middle,—lemon-yellow. Legs similarly coloured, the hind coxæ broadly below, an oblique broad line, expanded at the apex, above, a long broad line on the innerside of the hind femora and a narrower one on the outer, the base of the tibiæ and the hind tarsi, black. Wings hyaline; the nervures and stigma black; the apical cloud dark violaceous. ♀.

Length 17 mm.; terebra 5 mm.

Hab. Matang.

Mesonotum distinctly, but not strongly or closely, punctured; the 2nd and following segments of abdomen closely and

distinctly punctured, the basal smooth and shining; pedicle of areolet more than half the length of the 2nd transverse cubital nervure.

This is a more robust species than *E. maculipes*; its thorax is much less strongly marked with yellow, the 2 yellows lines on the mesonotum only being present at the base, the basal mark on the mesopleuræ is smaller and not reaching to the lower edge, the sternum is black, and the pedicle of the areolet is longer.

Echthromorpha maculipes, sp. nov.

Black, the face, clypeus, orbits, the yellow below the ocelli expanding inwardly, this contracting the black mark in the centre of the front; the lower outer orbits entirely, malar space, 2 lines on the mesonotum, expanded outwardly at the base, scutellums, the keels running from them, the metanotum except for a large black mark in the centre, its basal half broader than apical and becoming gradually, rounded narrowed to the apex; the apical half becoming slightly gradually wider to the apex; on the sides a broad line runs to the spiracles; propleuræ black, yellow at the base; mesopleuræ yellow, its base, a band under the tubercles, the top, a large band on the apex, irregularly, slightly incised at the base and apex, where it joins the black on the mesosternum, thus having a large mark, narrowed and rounded at the apex, on either side and reaching shortly beyond the middle. Metapleuræ yellow, its base black to near the bottom. All the abdominal segments lined with yellow; the 1st broader and the last narrower than the others; the others slightly narrowed in the middle. Wings hyaline, with a slight fulvous tint; the nervures and stigma black; the usual apical cloud has a violaceous tinge. Legs yellow; the hind coxæ broadly, irregularly black below and laterally; above, and joined to the lower black mark, is a black mark, which becomes gradually wider towards the apex and extending from there to the base; there is a large broad black band on the upper innerside, a narrower one on the outer, the two almost uniting at the apex, a large band in the centre below and the base of the hinder tibiae, black; the hind tarsi black, fuscous at the base. Scape yellow below.

Mesonotum distinctly punctured, the punctures clearly defined and separated; the 2nd and following abdominal segments closely and distinctly punctured.

Length nearly 15; terebra nearly 5 mm.

Hab. Kuching. June.

OPHIONINA.

Pleuroneurophion malayanus, sp. nov.

Dark luteous, the apical half of the abdomen darker coloured, the face, clypeus and orbits pallid yellow; the mesosternum blackish; wings hyaline, the nervures and stigma blackish. ♀.

Length 20 mm.

Hab. Borneo.

Head smooth, shining and almost bare. Mesonotum darker coloured than the scutellum, closely, minutely punctured. Sides of scutellum keeled, the keels becoming indistinct towards the apex which is broadly rounded; the base obscurely punctured, the rest not very strongly or regularly longitudinally striated. Post-scutellum broader than long, projecting, rounded from the base to the apex. Base of metanotum smooth, the basal depression stoutly, but not closely striated; the rest closely, stoutly, irregularly transversely striated and reticulated, the sides with a bordering keel. Pro- and mesopleuræ closely, minutely punctured and covered with a fine down; the upper part of the meta- stoutly, obliquely irregularly striated. The basal abscissa of the cubito-disco-nervure is slightly curved upwards at the base, slightly, but more distinctly, downwards at the apex before the angle which is distinct but does not bare a stump of a nervure. Cubitus in hind wings roundly curved. The part of the cubito-disco nervure before the angle is distinctly shorter than that between it and the recurrent nervure.

This species differs from *P. grandis* in the disco-cubital nervure not being angled before the middle, but otherwise it agrees with the main features of the genus, *e. g.* in the transverse median nervure being received behind the transverse basal, in the radius being thickened at the base and in the trans-

verse median nervure in hind wings being broken below the middle. In both species the recurrent nervure is received directly opposite to the base of the basal abscissa of the radius.

Pleuroneurophion grandis, sp. nov.

Luteous, the head paler, apex of abdomen darker, pro- and mesothorax closely punctured; scutellum, except at the base, irregularly transversely striated, its keels curved inwardly at the apex, which is transverse, the basal depression with a stout keel in the centre; the post-scutellum is separated from it by a deep furrow, its side being oblique; the post-scutellum has an oblique slope towards the apex and is bordered by straight keels. Basal depression of metanotum large, deep; there is a central keel and the apex is stoutly irregularly, striated; the part behind the keel is closely, minutely punctured; the rest irregularly, strongly transversely reticulated; metapleural keel stout, roundly curved at the apex. Disco-cubital nervure roundly, broadly, not acutely angled before the middle; there is no trace of a stump of a nervure. The basal 2 segments of the abdomen are as long as the head and the thorax united. The cubitus in the hind wing is straight, not curved at the base and apex; the apical abscissa is the longer and is not sloped like the basal. The part of the disco-cubital nervure behind the angle is slightly longer than that between it and the recurrent nervure.

This is one of the largest species. Himalayas.

Eniscospilus nigropectus, sp. nov.

Luteous, the middle of the abdomen paler, the mesonotum, mesopleuræ, mesosternum and the apical 3 segments of the abdomen black; wings hyaline, the nervures and stigma black; there is only one horny point; it is longer than broad, conical, transverse at the apex, rounded and narrowed behind. ♀.

Length 17 mm.

Hab. Kuching.

Head smooth and shining, the ocellar region black. Behind and above the curved keel on the mesopluræ are stout keels,

which become gradually longer below, the lower ones reaching beyond the middle of the mesopleuræ. Scutellum stoutly keeled laterally its apex with 3 or 4 irregular, curved keels. Post-scutellum keeled. Metanotum behind the transverse keel smooth, stoutly irregularly, mostly longitudinally striated, the striæ in places forming almost reticulations, especially at the sides; metapleuræ above irregularly reticulated. Transverse median nervure interstitial; disco-cubital nervure roundly curved; first discoidal cellule distinctly shorter than the second, the recurrent nervure being received about 4 times its length behind the transverse cubital, its base not half the length of the apex.

Trichonotus, gen. nov.

Hind wings with the cubital nervure unbroken; disco-cubital nervure not interstitial with the discoidal; 3rd discoidal cellule not narrowed at the base; 2nd nearly twice as wide at apex as at base. Labrum hidden. Chypeus projecting, narrowed and rounded at the apex. Thorax thickly covered with long pubescence, the mesonotum reticulated, scutellum distinctly keeled laterally. Median segment produced at apex, depressed at base; petiole dilated above at apex. Claws minute, simple. Hind tibiæ longer than tarsi. Recurrent nervure received beyond transverse cubital, the transverse median shortly beyond transverse basal. Basal joint of hinder tarsi not thickened, slightly longer than the other joints united.

Comes close to *Atrometus* Foer. The characteristic features are the unbroken transverse median nervure in hind wings, the large, flat, keeled scutellum, the petiole dilated above and the longish hinder tibiæ compared with the tarsi.

Trichonotus reticulatus, sp. nov.

Black, the head and thorax densely covered with grey pubescence; the face, inner orbits, the lower outer, scape of antennæ and tegulæ, lemon-yellow; the sides and lower part of petiole yellow; the upper part behind the dilated apex dark rufous, the top of the 3rd pale yellow, the apices of the others

testaceous. Four front legs, hinder coxæ, apical joint of trochanters and the basal three-fourths of hinder tibiæ, yellow; the rest of hind legs black, with the femora rufous beneath. Wings hyaline, stigma dark testaceous. ♀.

Centre of face irregularly, longitudinally striated, base of clypeus irregularly punctured. Mesonotum strongly reticulated. Sculpture of scutellum hid by the dense hair. Metanotum irregularly reticulated, the pubescence dense, long and pale golden. Pro- and mesopleuræ stoutly, longitudinally striated; the meta- reticulated.

XORIDES.

Cænostoma, gen. nov.

Wings without an areolet, the recurrent nervure received shortly before the cubital; the transverse median behind the transverse basal. Cubital nervure in hind wings broken below the middle. Clypeus depressed, its apex broadly rounded. Labrum large, as long as the clypeus, broadly rounded at the apex and slightly narrowed above. Mandibles edentate, becoming narrowed towards the apex, which is bluntly rounded. Apex of face obliquely raised, with a fovea on either side of the middle. Thorax about 4 times longer than wide; the middle lobe of mesonotum clearly separated; scutellum flat, deeply bifoveate at the base; post-scutellum bifoveate. Median segment longer than broad, reticulated, its apex transverse and with a large tubercle on either side of the apex. First segment of abdomen fully 4 times longer than wide, as long as the 2nd and 3rd segments united; narrowed at the base, the spiracles placed shortly behind its middle; a curved depression before its middle; triangular depression—sharply printed at the base—on the 2nd and a shorter, rounded one on the 3rd segment. There are 8 abdominal segments. Four front legs slender, of moderate length; the middle coxæ longer than usual and longer than the anterior; the hinder legs much stouter and longer; the coxæ about 4 or 5 times longer than wide; the trochanters half their length; femora stout, the tibiæ as long as the trochanters and femora united; the metatarsus as long as the other

joints united; claws small. Antennæ filiform, bare, longer than the body, the 3rd and 4th joints equal in length; the scape globular, not much longer than broad. Disco-cubitus not broken by a nervure.

I only know the ♂ of this genus of *Xorides*. The front tibiæ are not inflated as in many of the genera of the group. Its affinities are clearly with *Spiloxorides*; but that genus has the median segment areolated, not reticulated, much shorter and not tuberculate laterally at the apex, its hinder coxæ much shorter and the basal joint of the hinder tarsi is shorter than the other joints united, being not much longer than the 2nd and 3rd united.

Cænostoma filicornis, sp. nov.

Black, labrum, clypeus, orbits broadly, the edge of the pronotum, scutellum, the 4 front legs, the basal two-thirds of the hinder tibiæ and the hinder tarsi, yellow; the hinder coxæ and femora rufo-testaceous; the extreme base of the hinder coxæ, their apical third, trochanters, base of tibiæ narrowly and their apical fourth, black; the apices of all the abdominal segments banded with yellow; wings hyaline, the nervures and stigma black, the base of latter white. ♂.

Length 13-14 mm.

Hab. Kuching.

Face closely punctured, obscurely, closely transversely striated above; front and vertex smooth and shining. Middle lobe of mesonotum raised, transversely striated; the apex at the scutellum with 3 longitudinal striæ. Scutellum smooth; its basal foveæ large wider than long; post-scutellum with 2 longer than wide foveæ. The reticulations irregular, much longer than wide. Propleuræ smooth, the meso-shagreened and thickly haired, the meta-closely reticulated. Base of petiole smooth; in the centre are 2 narrow keels with a keel on either side, the rest closely, irregularly reticulated; the 2nd segment is punctured at the base, with the furrows and depressions closely striated; there is a curved furrow. On the apex

of the 1st segment, behind extending to the sides and having the yellow apical band prolonged along its sides; the apex of the segment is roundly dilated in the middle; the 2nd and 3rd are raised in the centre, depressed behind the raised part.

Spiloxorides erythrocephalus, sp. nov.

Black; the head dark red, the vertex marked with black; the last abdominal segment white above; the 4 front legs red; the middle pair darker; the basal joints of antennæ dark red; wings hyaline, a broad band along the transverse basal and transverse median nervures and a shorter one along the transverse cubital, extending into the radial cellule and along the innerside of the recurrent nervure; the nervures and stigma black. ♂.

Length 10 mm.

Hab. Kuching. October.

Antennæ longer than the body, densely covered with longish, stiff, outstanding hair. Face covered with stout, curved, transverse striæ, the apex with a transverse furrow, clypeus and labrum almost smooth. Mandibles rufous, black at the apex. Vertex smooth, the front closely, transversely striated, the striæ on the sides oblique. Middle lobe of mesonotum raised, clearly separated, its base with a stout transverse keel, which projects at the sides; its apex stoutly, irregularly reticulated; the furrows—parapsidal and lateral—crenulated. Basal depression of scutellum deeply bifoveate. Scutellum smooth, its sides keeled at the apex. Post-scutellum keeled laterally. The base and apex of the metanotum distinctly, transversely striated; the striæ distinctly separated; it is areolated; there is a central area, which, at the base, is narrow and of equal width, then becomes wider, with the sides bulging roundly outwardly; the posterior part is closely transversely striated. Pro- and mesopleuræ smooth; the meta- coarsely, irregularly reticulated. First segment of abdomen rugosely punctured; the 2nd is more finely rugose, the others smooth; the basal segments are fringed with white hair and their depressions are striated; the other depressions smooth.

Cyancoxorides rufomaculatus, sp. nov.

Blackish-blue, the thorax, except the mesonotum, scutellums and the central area of the metanotum, rufous; the head deep black, the face, the edge of the inner eye orbits to the ocelli, the line roundly narrowed above and below and the lower half of the outer orbits broadly pale yellow; the base of the 1st abdominal segment, a longish mark, its basal third becoming gradually wider, then becoming narrowed again to the apex, which is, like the base, rounded; there is a similarly shaped white mark, but much shorter and broader, on the apex of the 2nd segment, the apices of the other segments are narrowly banded with a clearer white colour. The 4 front legs and the hinder coxæ are coloured like the thorax; the middle tibiæ are paler in front and fuscous behind; the basal and apical joints of the middle tarsi black, the middle white; the hind trochanters, femora, tibiæ and apical joint of tarsi, black, with a blue tint; a line near the base of the tibiæ and the tarsi, white. Wings clear hyaline, the nervures and stigma black; the latter with a white band at its base. ♀.

Length 18 mm.; terebra 16 mm.

Kuching, June.

Face closely punctured, its apex curved roundly and obliquely depressed, reddish, as is also its centre and the clypeus. Front and vertex smooth, shining; and with purple tints. Mandibles black, rufous at the base. Mesonotum closely, minutely punctured; its central part in the middle closely reticulated; the middle at the apex with some stout, curved longitudinal keels. Apical slope of scutellum irregularly striated. Post-scutellum stoutly keeled laterally and there is also a central keel. Metanotum strongly, irregularly striated; the black central area is stoutly, irregularly reticulated. Pro-meso- and the lower half of metapleuræ smooth; the upper half of metapleuræ irregularly punctured at the base, the apical half irregularly obliquely striated; this part is bordered below by a distinct and above by a less distinct, longitudinal keel; on the apical slope are 6 areæ in 2 rows, the basal areæ being the larger. Basal 3 segments of abdomen closely, minutely punc-

tured; the depressions and furrows closely, striated; the first segment, between the keels, more strongly and irregularly transversely striated.

This species may form the type of a new genus, when more species of this group are available for study. The areola is not contracted, but is of equal width throughout, the labrum is not obliquely depressed, the body wants the distinct metallic blue texture, and the wings are not spotted.

Cyanoxorides cæruleus, sp. nov.

Blue, the 5th abdominal segment white above; the legs bronzy black, the femora brighter in tint; the front legs testaceous especially anteriorly; the hinder coxæ rufous; antennæ black, covered with short, stiff black pubescence; the middle with a broad white band; wings hyaline; a fuscous band along the transverse median and the lower half of the transverse basal and a broad band, extending from near the base of the radial cellule to shortly beyond the transverse cubital and recurrent nervures; the stigma and nervures, black, the former with a white spot at the base. ♀.

Lenth 13-14; terebra 8 mm.

Hab. Kuching.

Face smooth, its sides depressed, transversely striated in the middle above; the clypeus clearly separated from it and obliquely depressed towards the base where is a furrow, which becomes oblique at the sides. Front and vertex smooth and shining; the frontal keel is stout. Base of mandibles testaceous. Middle lobe of mesonotum covered with black pubescence; its apex striated; on the middle, near the scutellum, are some longitudinal keels. Scutellum roundly convex, sparsely punctured; in the centre of the basal depression are 2 stout keels; the post-scutellum rounded; its sides depressed. Median segment smooth and shining and covered with pale pubescence; the pro- and mesopleuræ less shining, more opaque and covered with dark pubescence. Abdomen covered with white pubescence; the basal three segments closely, finely longitudinally striated and minutely punctured; the apical segments smooth; the last is

depressed in the middle at the base. Ventral surface more or less brownish. Sheaths of ovipositor covered densely with black pubescence.

ACÆNITINI.

Siphimedia iridicolor, sp. nov.

Black, with distinct blue and violet iridescence; the front femora and tibiæ brownish beneath; a broad pale line on the lower half of the inner eye orbits; wings hyaline, highly iridescent, the nervures and costa black. ♀.

Length 11 mm.; terebra 11 mm.

Hab. Kuching.

Face closely, strongly punctured, its centre with a smooth keel; the clypeus less strongly and closely punctured; its apex raised, smooth, the sides sparsely punctured. Front and vertex smooth, the former keeled down the middle. Middle lobes of mesonotum punctured in the middle; the scutellum more sparsely punctured; the depression with 3 stout keels. On the centre of the median segment at the base are 2 straight irregular bands of reticulations, forming an elongated area, from the apex of which an irregular keel runs to the spiracles and another, longer curved one down the apical slope, the parts between and outside being irregularly striated; the part before and behind the spiracles is irregularly, strongly striated; the metapleuræ below the keel bear round, not very deep, punctures. Upper part of mesopleuræ smooth, the lower and the sternum closely punctured. Body and legs covered with pale hair; the hair on the tibiæ and tarsi is denser; the calcaria black.

The transverse median nervure is received shortly behind the transverse basal and the recurrent nervure shortly beyond the transverse cubital, not interstitial as in the type *S. nigricans*.

Phalgea, gen. nov.

Areolet absent; 2nd recurrent nervure received beyond the transverse cubitus; disco-cubitus with the stump of a nervure; transverse median nervure placed behind transverse basal;

transverse median nervure in hind wing broken above the middle; cubital nervure in fore wing dilated at base. Four front claws cleft before the middle. Hind legs stout and greatly lengthened. Apex of clypeus roundly incised in the middle, the sides tooth-like. First abdominal segment distinctly narrowed, clearly separated and longer than the 2nd and 3rd united; ovipositor not much longer than the abdomen. Apical slope of metanotum smooth and bounded by a keel. Basal joint of hind tarsi as long as the following two united.

The wings are very large, longer than the body; the antennæ, as usual, short; mesonotum deeply trilobate; hinder tibiæ not twice the length of the femora; post-scutellum at base bifoveate, on the outerside bounded by stout keels.

Comes nearest to *Arates*.

Phalgea lutea, sp. nov.

Luteous, the flagellum of antennæ fuscous, darker towards the apex; wings yellowish-hyaline, the nervures and stigma luteous; hinder tarsi and apex of tibiæ blackish; the lower apex of the fore, and the apex of the hinder wings smoky, with a violaceous tint. ♀.

Length 13; terebra 5-6 mm.

Hab. Matang.

Face and clypeus closely and strongly punctured; the vertex sparsely behind the ocelli and at the eyes; the front deeply excavated; a shining furrow in the middle, the sides striated. Mesonotum and scutellum closely punctured; the apex of the middle lobe irregularly transversely striated. Metanotum smooth, punctured behind the keel. Pleuræ closely punctured, the base of the pro- and the upper part of the meso- smooth; the apical half of the meta- furrowed in the middle.

CRYPTINA.

Silsila apicimaculata, sp. nov.

Black, shining; the face, except at the top and bottom, the clypeus, except above and in the centre at the apex, labrum, inner

orbits, pronotal tubercles, scutellar keels, centre of scutellum broadly, post-scutellum, two large marks on the apical slope of the metanotum, extending on to the pleuræ, tegulæ, tubercles, a square mark on the lower edge of the mesopleuræ in the centre, the narrowed base of the 1st abdominal segment, its apex more narrowly, the apices of the others and the ventral segments from the 1st, yellow. Legs yellow, the femora with a fulvous line, the hinder coxæ below and broadly at the sides, trochanters, apical third of hind femora, base of tibiæ narrowly, their apex more broadly and the apical joint of the tarsi, black; the rest of the tarsi white. Flagellum of antennæ broadly white. Wings hyaline, the stigma and nervures black. ♀.

Length 14; terebra 5 mm.

Hab. Matang. August.

Front and vertex smooth and shining; the former furrowed; face obscurely shagreened. Mandibles yellow, black at the apex. Palpi yellow. The tubercles on the pronotum are large, longish, their apex with a longer, less rounded slope than the base. Pro- and mesothorax smooth and shining; the middle lobe of mesonotum broadly rounded at the apex, the furrow with a keel in the centre; it is widely separated from the apical depression which is large and deep. Base of metanotum smooth, the rest closely, transversely striated; the sides on the top of the apical slope are slightly tuberculated; the apical slope is straight and obliquely sloped. Propleuræ, except below with stout, curved keels; the mesopleuræ below the tubercles and the lower half at the base, and the lower part at the apex obscurely striated; the metapleuræ closely, coarsely obliquely striated. Mesopleuræ furrow stoutly striated. Sternum thickly covered with white hair. Abdomen smooth and shining; the 2nd and 3rd segments opaque, closely punctured, except on the base of the 2nd which is smooth, and the sides at the base which are aciculated.

Silsila (described Manchr. Memoirs, 1903, No. 14, p. 1) has the appearance of a *Friona* which it also resembles in the striated metanotum, but it belongs to the *Mesostenini*, while *Friona* belongs to the *Cryptini*. It is easily known by the

small, longish, narrow areolet, tuberculated pronotum and long narrow petiole.

Friona ruficoxis, sp. nov.

Black, a broad band on the centre of the antennæ, a line on the post-scutellum, a large mark, rounded behind, transverse at the apex at the hind wings, a line down the centre of the apical slope of the metanotum and a broader one across its apex, and the apical two segments of the abdomen, white. Four front legs pale fulvous, the coxæ more rufous in tint, the anterior black above; the hind coxæ bright rufous, the trochanters black, the femora rufous; black above, the tibiæ black, the tarsi white, narrowly black at the base. Wings hyaline, the stigma and nervures black. ♂.

Length 9 mm.

Hab. Kuching. June.

There are some stout keels below and at the sides of the ocelli; face rugose, clypeus shining, aciculated. Mandibles rufous before the apex. Palpi white. Mesonotum shining, smooth, the apical central depression coarsely transversely striated. Base of metanotum to the keel smooth, the rest transversely striated. The top of the pro- and mesopleuræ smooth, the rest longitudinally striated; the metapleuræ irregularly obliquely striated.

Friona pleuralis, sp. nov.

Black; the face, clypeus, labrum, mandibles, except at the apex, palpi, the inner eye orbits narrowly, the lower half of the outer, the malar space, the pleuræ, except for an irregular mark on the top of the propleuræ, the median segment except the base and a broad band on the sides of the metanotum, extending near to the top of the apical slope and narrow bands on the apices of the abdominal segments, yellow. Four front legs and hind coxæ yellow; the hind femora, trochanters and tibiæ black, their tarsi white. Wings clear hyaline, the nervures and stigma black. Under side of the 1st and joints 5 to 14 of antennæ white. ♀.

Length 13-14; terebra 4 mm.

Hab. Kuching.

Face rugosely punctured, almost striated, the clypeus smooth, with only a few scattered punctures; the striæ on the front irregular. Apex of central lobe of mesonotum irregularly rugose; the scutellar keels and the sides and apex of scutellum narrowly yellow. Striation on pleuræ and metanotum close and strong; on the apical slope of the metanotum it is oblique above, transverse below and with the centre smooth.

This species differs from the others by the pleuræ and sternum being yellow, not black.

Friona varipes, Cam.

Mr. Shelford sends from Singapore a ♀ of this species which wants the white mark on the mesopleuræ; the line on the metanotum commences in the middle, not at the transverse keel and the apical 2 joints of the hind tarsi are black. The species is probably variable in colouration. The 2 white marks under the antennæ may be very small, and the colouration of the legs varies.

Lactolus plagiatus, sp. nov.

Black, a band on the antennæ, the apical 3 segments of the abdomen above and the hind tarsi, except at the base, white; the 4 front legs pale rufous, their tarsi fuscous, the front coxæ for the greater part black, the middle black at the base, the hinder rufous; the pro- and mesopleuræ striated in the middle, the meta- more closely and regularly on the lower half; the metanotum and the metapleuræ for the greater part brownish. Wings hyaline, the stigma and nervures black. ♂.

Length 11-12 mm.

Hab. Kuching. May.

Front with broken, stout, irregular keels. Face in the centre coarsely rugosely punctured, the sides irregularly transversely striated and bordered by a longitudinal keel. Pro- and mesonotum smooth; the meta- from shortly behind the keel, not

very strongly transversely striated, the striæ on the metapleuræ are stronger and commence shortly behind the middle. Areolet square, hardly narrowed behind; the recurrent nervure received in the middle.

This species may be known by the weak striation on the pleuræ and metanotum, by the middle lobe of the metanotum being smooth, not reticulated, and by the brownish splashes on the thorax.

Lactolus reticulatus, sp. nov.

Black, labrum, palpi, a broad band on the middle of the antennæ, post-scutellum, the apical 3 segments of the abdomen above, base of first, a curved mark on the apical slope of the metanotum, and the hind tarsi, except narrowly at the base, white; 4 front legs and hind coxæ, rufous, the 4 front tarsi fuscous; wings hyaline, the stigma and nervures black. ♀.

Length 10; terebra 4 mm.

Hab. Kuching. May.

The centre and the lower part of the front with some irregular keels; the face irregularly rugose; the clypeus smooth. Pro- and mesonotum smooth and shining, the centre of the latter at the apex with a band of twisted striæ; the base of metanotum entirely smooth and shining; the rest closely transversely striated. Apex of pronotum punctured closely above, the rest, except below, striated. Mesonotum closely, irregularly longitudinally striated, except in the middle; the metapleuræ closely rugosely striated. Areolet longer than broad, the nervures not converging below.

This species, in colouration, agrees closely with *L. basimacula*, but that is a larger and stouter species, its areolet is square, not broader than long and it is narrowed behind, its scutellum and hind femora and tibiæ are brownish and there is a large white mark behind the hind wings.

Lactolus basimacula, sp. nov.

Black, labrum, palpi, a broad band on the antennæ, post-scutellum, a broad band, dilated above, on the apical slope of

the metanotum, the apical half of the 6th abdominal segment above and the 7th and 8th entirely, white; 4 front legs bright red, their tarsi blackish; hind coxæ bright red, the trochanters, femora, tibiæ and base of tarsi narrowly, black; the rest of tarsi white. Wings hyaline, the nervures and stigma black; areolet longer than broad, narrowed below. ♀.

Length 17; terebra 5 mm.

Hab. Kuching.

Face coarsely, closely, irregularly reticulated; clypeus shining, minutely sparsely, punctured; the ocellar region and centre of front with some stout irregular striæ, the outer curved. Centre of mandibles finely striated, the teeth brownish. Pro- and mesonotum smooth and shining, the scutellum brownish; the base of metanotum smooth, the sides, at the apex, obscurely striated; the rest closely, strongly transversely striated. The apex and central hollow of propleuræ strongly striated; the upper half of mesopleuræ strongly longitudinally striated, the striæ distinctly separated, the lower more closely striated and with the striæ running into reticulations; the meta- closely, strongly, irregularly striated.

The depressions and sutures of the thorax are striated; the apex of the middle lobe of the mesonotum is transversely striated; the scutellum is brownish and there is a broad white mark behind the hind wings.

Lactolus maculiscutis, sp. nov.

Length 16 mm. ♂.

Hab. Kuching.

Agrees closely in size and colouration with *L. basimacula*; may be known by the face, clypeus and base of mandibles being white; by the scutellum being lined laterally with white, by the areolet being longer and narrower; and by the post-petiole being tuberculated at the base.

Black, face, clypeus, labrum, mandibles, except at the apex, palpi, tubercles, sides of scutellum narrowly, a mark at the sides of the post-scutellum, the apex of metanotum—the mark prolonged in the middle behind—and the apical segment

of the abdomen, white. Four front legs red, the middle femora infuscated, their tarsi black; the hind legs black, the coxæ bright red, tarsi white; except at the base. Wings hyaline, the nervures and stigma black. ♂.

Face coarsely rugose, obscurely striated in the middle, the clypeus sparsely punctured. Front in centre stoutly striated. Basal depression of metanotum with 3 stout, longitudinal keels; behind this irregularly obliquely striated and rugose; the rest of metanotum rugose, the base with oblique, converging striæ, the centre at the apex irregularly transversely striated. Apex and central depression of propleuræ stoutly striated; the meso- except at the apex, closely, rugosely, longitudinally, the meta- closely, rugosely, striated.

The middle of the mesonotum at the end of the central lobe, is irregularly reticulated; the scutellar depression is deep, narrow and striated in the middle. Median segment covered with white pubescence. Petiole brownish and dilated at the base; hind tibiæ and tarsi densely covered with dark, short pubescence.

This species differs from the others in having the alar areolet longer and narrower, the scutellum flatter and the abdominal petiole tuberculate at the base and shortly beyond the middle. It differs also from the known males in having the face and clypeus white.

Pharzites, gen. nov.

This genus is closely related to *Lactolus* from which it may be separated by the under noted characters:—

Cubital nervure in hind wings broken above the middle; apex of clypeus obliquely, semicircularly depressed, labrum large, long, narrowed towards the apex. , *Pharzites*.

Cubital nervure in hind wings broken distinctly below the middle; clypeus not depressed in front, labrum indistinct. *Lactolus*, Cam.

The malar space is slightly larger; the tarsi are spinose; the median segment is not so distinctly or regularly striated; the antennæ are slender, broadly ringed with white and closely pilose, especially towards the apex; the transverse median nervure is received distinctly behind the transverse basal; the

colouration is identical with *Lactolus* except that the hinder tarsi are not ringed with white. The identical colouration of these 2 genera and *Buodias* is noteworthy. The latter is separated from both by the spined median segment.

Pharzites nigratarsis, sp. nov.

Black ; a ring on the flagellum of the antennæ, the apices of the basal three segments of the abdomen and the apical half of the penultimate and the last above, white. Legs black ; the fore trochanters, femora and tibiæ testaceous ; the middle trochanters pale ; the hinder coxæ and trochanters bright red. Wings hyaline, the nervures and stigma black. ♂.

Length 11 mm.

Hab. Kuching.

Face irregularly closely striated ; the upper part of the clypeus more irregularly longitudinally striated, the apical depression smooth. Mandibles dark red in the middle ; the long palpi white. Mesonotum opaque ; the scutellum more shining and distinctly punctured. Base of metanotum sparsely punctured, the rest finely rugose, almost transversely striated, in the middle. Mesopleuræ finely punctured, a curved striated furrow in the middle behind. Metapleuræ more closely punctured.

Buodias maculipennis, sp. nov.

Black ; the 4 front legs rufous ; the hinder coxæ, trochanters and femora of a paler rufous colour, their tibiæ black, the tarsi white, except the apical joint ; the palpi and the middle of flagellum of antennæ beneath white ; wings hyaline, the nervures and stigma black ; there is a fuscous cloud extending from the radius to the discoidal nervure and from the base of the radius to the recurrent nervure. First and second segments of the abdomen narrowly brownish at the apex, the apical two white above. ♀.

Length 11-12 mm.

Hab. Singapore.

Face opaque, aciculated, longitudinally striated above ; the clypeus smooth and shining. Front strongly longitudinally

and obliquely striated; vertex strongly aciculated. Pro- and mesonotum smooth and shining; the apex of scutellum obscure brownish; the pleuræ opaque, strongly aciculated. Median segment closely, strongly striated; the basal part of the metanotum longitudinally, the apical slope transversely striated, the part behind the keel more finely than the rest and with the area smooth; the apical slope more coarsely, closely transversely; the pleuræ closely, longitudinally striated. All the sutures and depressions are striated. Abdomen smooth, the 2nd and 3rd segments aciculated. Metanotal spines long, fully twice in length the thickness at the base; the basal area clearly defined, in length longer than the width at the base; it becomes gradually narrowed towards the apex.

Buodias rufipes, sp. nov.

Black, a band on the middle of the antennæ, palpi and the apical 2 segments of the abdomen, white; the legs rufous; wings clear hyaline, the nervures and stigma black. ♀.

Length 8-9 mm., terebra 3 mm.

Hab. Kuching.

Face and clypeus opaque, alutaceous, as are also the front and vertex, but not so coarsely; the ocellar region and the centre of the front striated; the latter keeled down the centre. Mesonotum shining, closely, minutely aciculated; the upper part of the propleuræ closely, strongly, and the greater part of the mesopleuræ closely, strongly, irregularly striated. Median segment closely, irregularly striated, the pleuræ more closely and regularly than the rest; the part of the metanotum behind the keel smooth at the base, the rest closely, finely striated. Metanotal spines short and thick. Abdomen smooth and shining; the 5th segment is white at the apex above. Areolet square, its apical nervure faint.

Mesostenus multimaculatus, sp. nov.

Black, the face, clypeus, except the apex broadly in the centre, labrum, mandibles, except at the apex, the orbits except the outer near the top, apex of pronotum broadly, a mark on

the apex of the middle lobe of mesonotum, longer than broad, transverse at the base, rounded at apex, scutellum, except at the apex; a longish mark, transverse at base and narrowed towards the apex on the base of the metanotum and reaching to the keel; a broad line on the basal half of the apical slope, its apex more broadly, the base of the pronotum, a small mark on the lower part of the propleuræ, tubercles, a conical mark on the base of the mesopleuræ in the centre, a mark, rounded at the base, on the upper and a similar mark on the lower part of the mesopleuræ, the greater part of the outer edge of the mesosternum, 2 larger marks on its centre, an oval mark below the hind wings above the spiracles and a large mark, roundly narrowed below near the apex of the metapleuræ in the middle and the apices of all the abdominal segments, yellow. Legs pallid fulvous, the coxæ and trochanters paler, the 4 front femora and tibiæ lined above with black; their coxæ marked with black before and behind; the hind coxæ black, largely yellow at the base above and at the apex below; the trochanters black above, the apical fourth of femora, base of tibiæ narrowly, their apical fourth and the last joint of tarsi, black, the rest of tarsi white.

Hab. Kuching.

Mesostenus maculiscutis, sp. nov.

Black, the face (except for a black mark in the centre) clypeus, labrum, the inner orbits (the line continued shortly beyond the eyes) the outer from near the top, the line becoming gradually wider below, the malar space, a mark on the centre of the pronotum, a mark on the mesonotum, transverse at the base, rounded and narrowed towards the apex, tegulæ, scutellar keels, a mark on the base, apex and sides of scutellum, post-scutellum, a broad straight line down the centre of the metanotum, united to a transverse one at its apex of about the same width, a curved mark on the lower part of the propleuræ, tubercles, a broad line, dilated upwards at the base and apex and united before the apex to a large mark on the mesosternum and a large mark on the middle of the metapleuræ, yellow. The 6 basal segments of the abdomen banded with yellow at the apex; the 3 apical bands not united to the yellow on the ventral surface, the apical two-thirds of the last segments broadly on

the sides and narrowly on the apex, the basal ventral segments at the apex and the apical entirely, yellow. Four front legs yellow, the femora and tibiæ in the middle above, their tarsi, the hind coxæ broadly at the base below, at the apex above, the apical joint of the hinder trochanters, apex of femora, of tarsi more broadly and their base narrowly, black; the rest yellow, the yellow on the femora and tibiæ with a rufous tinge. Wings hyaline, the stigma and nervures black. ♀.

Length 18 mm.; terebra 9 mm.

Hab. Kuching.

Front irregularly reticulated in the centre, the sides longitudinally striated. Face closely, the clypeus more sparsely punctured. Mesonotum and base of metanotum closely and distinctly; the scutellum more strongly, but not so closely, punctured; the metanotum, from the basal keel, closely striated, the striæ curved. Upper part of propleuræ smooth, the rest closely striated; mesopleuræ closely punctured, the base, stoutly, obliquely striated; meta- closely obliquely striated. Back of abdomen closely punctured; the punctures on the 1st segment more widely separated.

Cratocryptus, gen. nov.

Median segment short, reticulated, its sides dentate, its base with a central area, the spiracles small, oval. Head as wide as the thorax, temples very short, obliquely narrowed; eyes large, parallel, malar space small. Apex of clypeus rounded, the large labrum dilated broadly in the middle. Mandibles with 2 equal teeth. Areolet small, square, the apical nervure faint; transverse median nervure received shortly behind the transverse basal; disco-cubital nervure roundly curved not broken by a stump; transverse median nervure in hind wings broken distinctly below the middle. Post-petiole broad, the petiole becoming gradually wider. Antennæ ringed with white, slender; the 1st joint of flagellum longer than the 2nd.

There is only 1 keel on the metanotum; there is none on the metapleuræ. Parapsidal furrows distinct on the basal half. Thorax about 3 times longer than wide; its apex almost

tranverse and with a steep slope. Legs stout, basal joint of front tarsi shorter than the tibiæ; the claws of moderate size; last joint of hind tarsi as long as the 3rd. Spiracles wider from each other than to the apex of the petiole, owing to its great width.

Comes nearest to the American genera *Christolia* and *Mesostenoides*, but it cannot well be referred to either. Of the Oriental genera it comes nearest to *Skeatia*. The two may be distinguished thus.

Areolet square; apex of median segment only slightly oblique; labrum large, distinctly projecting; petiole not becoming gradually wider towards the apex. *Cratocryptus*.

Areolet narrow, distinctly longer than wide; apex of median segment with a distinct, oblique slope; labrum hidden; petiole becoming gradually wider towards the apex. *Skeatia*.

Cratocryptus maculiceps, sp. nov.

Black; the clypeus, except at the apex, the inner orbits—the line roundly narrowed opposite the antennæ,—an oblique, somewhat triangular, mark below the eyes, a line on the pronotum, not reaching to the base, tegulæ, scutellum, its keels narrowly, the sides of the median segment broadly—half on the metanotum, half on the pleuræ and dilated on the inner side above—the base of the propleuræ, a mark below the hind wings, rounded in front, transverse behind, a broad band on the 1st and 2nd segments of the abdomen, a narrow band on the 5th and the apical two entirely, yellow. Four front legs fulvous, the hinder coxæ, trochanters and femora of a darker red colour, their tibiæ and tarsi much paler, with the apex of the hinder tibiæ and the apical joint of the tarsi, black. Wings hyaline, the nervures and stigma black, the areolet square, its apical nervure faint. ♀.

Length nearly 8; terebra nearly 2 mm.

Hab. Kuching. June.

Basal joints of antennæ brownish beneath, joints 6-14 white. Centre of face raised, rugosely punctured, the sides sparsely punctured. Lower part of vertex at the ocelli and upper part of front closely obliquely, the lower part more

closely and finely transversely striated. Mesonotum closely, distinctly and finely punctured, the sides and apex obscurely striated. Scutellar depression with 4 stout keels; the scutellum almost impunctate. Base of metanotum closely finely rugose and with a few keels at the sides of the area; the rest is closely reticulated, the apical slope in the middle finely rugose. Propleuræ behind the keel strongly, obliquely striated; mesopleuræ closely, rugosely reticulated, less closely at the top where there are a few oblique and curved striæ; petiole smooth and shining; the 2nd and 3rd segments closely punctured; gastrocoeli obscurely striated.

Skeatia balteata, sp. nov.

Black; the face, clypeus, mandibles, eye orbits, a line on the centre of the pronotum, a square mark on the apex of the middle lobe of the pronotum, scutellums, the sides, including the teeth broadly, and the top of the apical slope of the metanotum, tubercles, a mark, longer than broad, above the apex of the mesopleuræ, a line below on its apical half and a similar line on the sides of the basal half of the mesosternum, an oblique mark under the hind wings and a large mark, becoming gradually wider below, on the centre of the mesosternum and the apices of all the abdominal segments, yellow. Legs fulvous, the middle tarsi blackish, the hinder white; the outer side of the hind coxæ, hind trochanters, base and apex of femora, the tibiæ at the base narrowly and at the apex more widely, black. Wings hyaline, the stigma and nervures black. Flagellum of antennæ broadly white. ♀.

Length 11-12 mm.

Hab. Singapore.

Face sparsely and strongly punctured, its centre projecting. Front and vertex smooth. Mesonotum opaque, closely and distinctly punctured; the middle of the central lobe shining; scutellums smooth. Metanotal area distinctly defined, moderately large, its apex about half the length of the base; the rest of the base finely rugose, depressed near the area; the remainder of the metanotum closely reticulated; the apical slope more

strongly than the middle; the teeth are large, about 3 times longer than thick at the base. Propleuræ stoutly striated; the meso- closely rugosely punctured, except at the apex where it is shining. Second and third segments of abdomen opaque, the others smooth and shining.

Is not unlike *S. varipes*, but that is larger, has a large irregular mark on the lower part of the mesopleuræ, the mesosternum yellow, and the 4 front femora are lined with black above.

Vagenatha armata, sp. nov.

Black, the face, clypeus, the inner orbits, the outer from shortly below the middle, the malar space, mandibles, palpi, the projecting outer angles of the pronotum, tegulæ, scutellum, a mark on post-scutellum, the sides, including the spines, of the apical slope of the median segment, the lower edge of the propleuræ, tubercles, an oval mark on the lower part of the mesopleuræ, near the base, a mark under the hind wings and the apices of all the abdominal segments broadly, yellow. Four front legs yellow; the hinder coxæ and basal joint of trochanters, the apical third of femora, and the apical fourth of tibiæ, black; there is a large mark, obliquely narrowed at the apex, on the top of the coxæ; the yellow on the femora has an orange tint. Wings hyaline, the stigma and nervures black. ♀.

Length 10 mm.

Hab. Kuching. January.

Flagellum of antennæ broadly yellow. Front broadly in the centre strongly, obliquely striated, the striæ distinctly separated. Face and clypeus strongly punctured, the latter not so closely as the face. Mesonotum closely rugosely punctured; scutellum strongly punctured, the punctures clearly separated. The area on the base of the metanotum triangular; the part behind the keel is stoutly, irregularly striated, at the base irregularly, strongly punctured; the rest stoutly reticulated, the apical slope much more closely and regularly than the upper part. Propleuræ stoutly, obliquely and closely striated; their bases bordered by a stout, straight keel; mesopleuræ stoutly

striated, the striæ more irregularly and widely separated on the apex below; the lower part at the base closely punctured; metapleuræ strongly, closely rugosely punctured, its lower edge with a distinct border. Petiole shining, the post-petiole punctured, but not closely or strongly, the 2nd and 3rd segments opaque closely, distinctly punctured. This species may be separated from *V. spinosa* as follows:—

Lower outer orbits yellow, not densely pilose; the metanotal spines not united by a yellow line, the face yellow. *Armata*.

Lower outer orbits and face black; the cheeks densely pilose; the metanotal spines united by a curved yellow line, the face black. *Spinosa*.

Coesula, gen. nov.

Transverse median nervure in hind wings broken below the middle; median nervure at the base roundly curved towards the costa. Areolet minute, open at the apex. Cubito-disco nervure angled in the middle, and with a minute stump of a nervure. Transverse median nervure interstitial. Median segment with 2 transverse keels; a longitudinal furrow between them; its spiracles small, oval, not much longer than broad. Antennæ longer than the body, thickened and broadly ringed with white in the middle; the basal joints of flagellum greatly elongated; the basal two equal in length. Clypeus roundly convex; its sides and apex depressed; malar space almost obsolete; temples very short. First abdominal segment as long as the 2nd, broad at the base, becoming gradually wider towards the apex; not much curved, not bent or elbowed; the segment banded with white at the apex; ovipositor short.

The median segment is short and has a somewhat steep rounded slope on the apex; its sides finely striated; the areola is only defined at the apex; on the base is a closely striated depression; its apex is irregularly rugosely striated; the basal keel extends to the mesonotum. Thorax fully 3 times longer than wide; its sutures moderately deep. Claws slender, longish; the last joint of hind tarsi distinctly shorter than the 3rd. Head wider than the thorax. Spiracles of 1st abdominal segment closer to each other than to the apex of the segment.

This genus is referred to the *Mesostenini* from its small almost punctiform areolet and from its more thickened antennæ.

Comes nearest to *Mesostenus*=*Stenaræus*, Thoms.; it is much more slenderly built; the disco-cubital nervure is angled and broken by a stump; the median nervure in hind wings not straight, but roundly curved, the temples much shorter, and the clypeus much more convex and roundly separated.

Cæsula fulvipes, sp. nov.

Black, the base of the mandibles, an oblique mark on the hinder part of the vertex close to the eyes, a mark on the middle lobe of the mesonotum at the apex, longer than broad, rounded at the apex, transverse behind, scutellum, except at the base, a longish spot on either side of the central furrow on the metanotum, its apex and a large irregular mark, longer than broad, on the sides, the apices of the 4 basal segments of the abdomen and the 6th and 7th broadly, white. Legs bright fulvous; the middle tarsi blackish, the posterior white, black at the extreme base. Antennæ longer than the body, the scape rufous below; the 7th to 15th clear white below. Wings hyaline; the stigma and nervures black. ♀.

Length 10 mm.; terebra nearly 2 mm.

Hab. Kuching. April.

Face finely, closely transversely rugose; the rest smooth and shining, the front with a broad, shallow furrow. Thorax shining; the pleuræ finely, closely longitudinally striated; the pro-smooth above, irregularly striated below; the apex of the metanotum with some longitudinal striæ below the keel and some transverse ones at the apex. Hinder knees black; the calcaria blackish.

Dinocryptus, gen. nov.

Entirely black, the wings uniformly violaceous. Transverse basal nervure almost interstitial. Disco-cubital nervure roundly curved, not broken by a stump of a nervure. Trans-

verse median nervure in hind wings broken almost in the middle. Median segment large, without transverse keels; its apex with 2 tubercles and with an oblique, straight slope; the spiracles elongate. Petiole longer than the 2nd segment, its base distinctly narrowed, the rest of equal width, roundly curved in the middle. Legs stout, longish; the basal joint of all the tarsi longer than the other joints united; fore tibiae shorter than the tarsi, stouter than the others and distinctly narrowed at the base. Temples moderately wide, rounded; the occiput margined, slightly, roundly incised. Parapsidal furrows distinct to shortly beyond the middle. Apex of clypeus projecting in the middle, the centre of the projection roundly incised, with the sides rounded; the apex below this is depressed, clearly separated and transverse. Metapleuræ keel broad and dilated at the base, narrowed at the apex.

Comes near to *Cryptoidens*, Ashmead. The toothed clypeus, the absence of transverse keels on the metanotum, the dark violaceous wings and the long metatarsus are 4 points which make the genus easily recognised.

Dinocryptus niger, sp. nov.

Black; the inner eye orbits white in the middle; the wings uniformly dark fuscous-violaceous, with violet and purple tints and highly iridescent, the stigma and nervures black. ♀.

Length 20; terebra 12 mm.

Hab. Kuching. April.

Head closely and distinctly punctured; the face roundly, broadly dilated in the middle; inner orbits distinctly margined. Thorax closely and distinctly punctured, except on the propleuræ which has the base smooth, the apex finely punctured. The apical segment of the abdomen is smooth and shining; depressed in the middle at the base; the others are closely punctured, the punctuation becoming finer towards the apical segments. The 2nd segment is raised at the base, this part being bounded by shallow, oblique furrows; there are shallow transverse furrows on the middle segments; the penultimate is as long as the preceding 3 united. Tarsi closely and shortly spined.

Melcha hyalinis, sp. nov.

Black, shining ; the median segment, except on the base of the metanotum, the apex of the mesopleuræ, the mesosternum, post-scutellum and the base of the petiole, red ; the face, clypeus, base of mandibles, apex of petiole and the apex of the 2nd abdominal segment from shortly behind the middle, pale yellow ; the 4 front legs pale rufous, the hind coxæ rufous, blackish above, the trochanters and femora blackish-fuscous, the femora dull rufous below, the tibiæ blackish, their basal fourth clear white ; the basal and apical joints of the tarsi black, the others clear white. Antennæ fuscous, darker towards the apex, the scape yellowish, tinged with rufous. Wings hyaline, the stigma and nervures black. ♂.

Length 6 mm.

Hab. Kuching.

Smooth and shining. Area on metanotum aciculated ; the part between the 2 keels obscurely striated in the middle ; the apical slope with some curved striæ above. Hind tarsi and tibiæ minutely spinose.

Melcha reticulata, sp. nov.

Black ; the labrum, palpi, tegulæ, the 4 front coxæ and trochanters, the basal fourth of the hind tibiæ, the apex of the 1st joint of the hind tarsi and their 2nd 3rd and 4th joints, white ; the apex of the metanotum, the greater part of the metapleuræ and the petiole pale rufous ; the base of the post-petiole black, its apex and the apices of the 2nd and 3rd segments broadly, white. Antennæ black ; the scape and the base of the flagellum dark testaceous. Wings hyaline, the stigma and nervures black.

Length 7 mm.

Hab. Kuching. March.

Smooth and shining ; the face above obscurely punctured ; the metanotum behind the keel reticulated, the sides striated ; the reticulations are widest at the base ; the basal central area

is greatly widened at the base, with the sides oblique; at the apex the sides are straight. Pro- and mesopleuræ smooth and shining; the meta- aciculated.

Melcha albomaculata, sp. nov.

Black; the median segment, scutellum, post-scutellum and the parts at their sides, the mesopleuræ, except for a triangular mark on the upper basal corner, and the meso- and meta-sternum, rufous; the apex of the post-petiole rufous, tinged with yellow; more than the apical third of the 2nd abdominal segment, the penultimate above and the apical entirely, white. Four front legs and the hinder coxæ rufous; the rest of the hind legs black; a band on the base of the tibiæ, the apex of the 1st and the whole of the 2nd and 3rd joints, white. 6th to 11th joints of antennæ white, except above. Wings hyaline, the nervures and stigma black. ♀.

Length 9 mm; terebra 2 mm.

Hab. Kuching.

Antennæ stout, the flagellum slightly brownish. Face rugosely punctured, the sides with irregular, longitudinal striæ. Clypeus smooth and shining. Front and vertex opaque; the front with a stout keel running down from the ocelli; the part on either side of the keel irregularly transversely striated. There are 5 stout keels in the basal scutellar depression. Post-scutellum depressed, the depression rounded behind and in the front, the basal bounding keel produced roundly backwards in the centre. Base of median segment smooth, the keels of the area thin; the part beyond the keel closely rugosely punctured, almost reticulated; the apical slope coarsely transversely reticulated, more coarsely on the sides than on the centre; the teeth longish. The apex and centre of the propleuræ longitudinally striated; the striæ becoming gradually narrowed from the apex to the base; the basal half of the meso- more irregularly and widely striated to near the bottom; the meta- closely and strongly obliquely striated. Mesopleural furrow crenulated.

Hadrocryptus striatus, sp. nov.

Black, the apex of the clypeus, labrum, palpi, the 5th to 14th joints of the antennæ, apex of scutellum, post-scutellum, a mark on the top of the apical slope of the metanotum, rounded and narrowed above, transverse below, the apices of the basal 4 abdominal segments, the basal third of the 1st, the sides of the 5th, the penultimate almost entirely and the greater part of the ventral segments, white. Legs white, all the coxæ and trochanters, the hind femora, basal of hind femora slightly, the apex more broadly and the apex of the 5th joint of the hind tarsi and the apical 2 joints of the 4 anterior, black; the 4 front femora dark fuscous. Wings clear hyaline, the stigma fuscous the nervures darker. ♀.

Length 12 mm; terebra 3 mm.

Hab. Kuching.

Face irregularly, longitudinally striated; the tubercle smooth, rounded, longer than broad, dull white. Clypeus sparsely punctured, shining; the lateral depression irregularly striated and bounded on the outerside by the usual keel. Front closely, longitudinal striated above, furrowed down the centre. Mesonotum, except at the apex, closely, transversely, irregularly striated. Scutellums smooth, metanotum at the base obliquely striated and punctured; the rest strongly distinctly transversely striated; the apex has an oblique slope and has a round tubercle or short tooth on the sides above. Propleuræ punctured above, the rest strongly striated; the meso-closely reticulated, the apex below and the base above striated; the meta-more closely reticulated. Abdomen smooth and shining. Tarsi spinose.

The areolet is large, almost square; the transverse median nervure is almost interstitial; the transverse cubital nervure in the hind wings broken shortly below the middle. Coxæ thickly covered with white pubescence, the hinder closely punctured.

Colganta varicornis, sp. nov.

Luteous; the hind femora, apical third of tibiæ and hind tarsi, black; the base of antennæ luteous, the middle whitish-

yellow, the apex black; wings hyaline, the base with a slight fulvous tinge, the costa and stigma testaceous, nervures darker coloured. ♀.

Length 12; terebra 2 mm.

Hab. Kuching.

Head pale yellow; the vertex obscurely, closely punctured, the front impunctate; the face strongly, but not closely, punctured; the clypeus smooth, obscurely punctured above; its apex depressed in the middle. Mesonotum of a dark reddish-yellow colour, closely punctured. Scutellum with the punctures more clearly separated. Central area of metanotum closely, strongly transversely striated, much more strongly above than below; the lateral basal areae are closely, strongly transversely striated; the upper posterior strongly obliquely striated above, below irregularly reticulated. Upper part of propleurae with stout curved striae, the lower longitudinally striated; upper part of meso- closely punctured, the middle striated; the apex stoutly crenulated; the meta- closely striated, the striae more or less curved; below these is a stout keel. Abdomen smooth and shining.

The basal and apical abscissae of the basal keels on the metanotum are straight, not rounded and are obliquely sloped; the disco-cubital nervure is broadly, roundly curved, not angled. The species comes near to *annulicornis* from which it may be known by the smaller size, by the apex only of the hinder tibiae being black and by the base of the flagellum not being black,

Colganta annulicornis, sp. nov.

Luteous, the ocellar region black, the mark gradually, obliquely narrowed towards the apex, the antennal flagellum black, the 6th to 13th joints white above; the apical third of hind femora, and the hind tibiae and tarsi, black; wings hyaline, the base with a yellowish tinge, the stigma dark testaceous, the nervures black. ♀.

Length 17 mm.; terebra 5 mm.

Hab. Kuching.

Sides of face strongly its sides more finely and the top of clypeus less strongly punctured; the clypeus in the centre at the apex depressed, the depression rounded above, transverse below; centre of front closely punctured, more strongly above than below. Mesonotum darker coloured than the rest of the thorax and closely, uniformly and strongly punctured, except at the apex; the scutellum is more strongly punctured. Metanotum behind the keel irregularly reticulated; the keels are stout, irregularly waved on the innerside, and raised there at the base; the posterior median area is depressed and transversely striated, the striæ stronger on the sides; the lateral areae are irregularly reticulated, the keels being much stronger than in the centre; there are 4 apical areae; the spiracular region is bounded by stout keels and is strongly striated. Propleuræ behind irregularly striated; the meso- minutely, indistinctly punctured; the meta- rugosely, coarsely punctured. Hind coxæ closely punctured; the tarsi spinose; below they have a rufous tint.

JOPPINI.

Agarenes, gen. nov.

♂. Head wider than the thorax; the temples wide, the occiput roundly incised. Scutellum flat, large, its sides keeled. Base of metanotum obliquely, deeply depressed; areola large, slightly longer than broad, rounded behind, transverse in front, widely separated from the base of the segment and without a petiolar area. Areolet narrowed in front, the nervures almost touching there; disco-cubital nervure broken by a stump of a nervure; transverse basal nervure interstitial. Petiole smooth, post-petiole obliquely narrowed at the base; the 2nd and 3rd segments closely punctured; there are 8 segments; the last minute, blunt and with stout, longish cerci; the ventral keel extends to the apex of the 3rd segment. Antennæ shorter than the body, narrowed and serrate at the apex. There is an oblique keel on the propleuræ, and 2 on the lower part of the meta- between the coxæ.

The median segment is regularly areolated, more so than in the typical *Joppini*; the ventral keel is large and is on the 2nd

and 3rd segments only; the 2nd and 3rd segments of the abdomen are minutely punctured, the 2nd striated at the base; tarsi minutely spined.

I unfortunately only know the ♂ of this genus. Like some other Oriental genera it is somewhat intermediate between the *Amblypygi* and the *Joppini*.

Agarenes cariniscutis, sp. nov.

Black, shining; the face, clypeus, inner orbits narrowly, the lower two-thirds of the outer, a short narrow line on the apex of the pronotum, tegulae, sides and apex of scutellum narrowly, post-scutellum, the sides of the apical slope of the metanotum, the narrowed basal part of the petiole, 2 marks on its apex, 2 on the apex of the 2nd and 3rd segments, the apical half of the 6th and the whole of the 7th and 8th, pallid yellow. Four front legs pallid fulvous; the hind coxae, trochanters and femora rufous, their tibiae and tarsi black, the former paler at the base behind; calcaria rufous. Wings hyaline, the nervures and stigma black. ♂.

Length 11 mm.

Hab. Kuching.

Face distinctly punctured. Ocelli in front bounded by a curved furrow. Mesonotum minutely punctured, the basal half with 2 longitudinal furrows; scutellum more strongly, but not so closely, punctured. Base of metanotum smooth; the areola irregularly longitudinally striated; the other areae closely, transversely, strongly striated. Pro- and mesopleurae indistinctly, the meta- closely and strongly punctured. The 2nd and 3rd abdominal segments closely punctured, striated at the base. Gastracoeli shallow, irregularly striated. •

Druscia, gen. nov.

Scutellum obliquely raised from the base, its apex with an oblique slope, its top ending in 2 stout teeth. Median segment completely areolated; the areola longer than broad, obliquely narrowed at the base, separated from the base of the segment by an area of almost its own length, this area becoming gradu-

ally wider from the apex to the base. Occiput deeply incised; temples wide, obliquely narrowed. Apex of clypeus broadly rounded. Labrum hidden. Abdomen with 8 segments; the 1st long and slender; the last small; sheath of ovipositor long, projecting. Areolet 5-angled, narrowed in front; transverse basal nervure interstitial; the disco-cubital broken by the stump of a nervure. Legs long, the apex of hinder femora reaching to the 5th segment; ventral fold broad, reaching to the base of the ovipositor.

The tarsi are long and spinose; there is a keel between the two hind coxæ and another above it; the antennæ are dilated and compressed before the apex and ringed with white; the abdominal segments closely punctured and not longitudinally striated at the base; face and clypeus flat; the wings fuscous.

This genus is intermediate between the *Joppini* and the *Amblypygi*. In the form of the metathorax it does not differ from the latter and can hardly be looked upon as a typical genus of *Joppini*.

Druscia 4-dentata, sp. nov.

Black, the sides of the face and clypeus, the line on the latter dilated inwardly at the apex, the lower two-thirds of the inner orbits, the scutellar spines, a line on the lower edge of the scutellum, post-scutellum, an irregular mark on the lower side of the mesopleuræ near the apex, a line on the pronotum at the base, and a spot on its apex in the centre, pale yellow, almost white; the basal 3 segments of the abdomen red; the base of the 1st and the apices of the others white. Legs black, the 4 anterior with their coxæ and trochanters for the greater part and the tibiæ and tarsi in front white; the hinder coxæ red, black at the apex below. Wings fuscous-violaceous, the hinder paler at the base, antennæ black, the 8th to 11th joints white beneath. ♀.

Length 13 mm.

Hab. Kuching. March.

Front, below the ocelli and the face and clypeus obscurely punctured, shining; the face and cheeks thickly covered with silvery pubescence. Pro- and mesothorax obscurely punctured,

scutellum shagreened; the apex of the mesopleuræ obliquely striated below. Basal area of metanotum obscurely punctured; the posterior median area closely transversely, the lateral more strongly and less closely striated; the sides and apex of the segment thickly covered with longish white pubescence.

Cænojoppa, gen. nov.

Mandibles very broad, largely projecting below the mouth at the base, their apex with 2 large, widely separated teeth; below broadly roundly curved from the base to the apex. Occiput roundly incised. Temples broad. Face flat, not separated from the clypeus, which slightly projects in the middle at the apex. Scutellum raised; its sides and apex on the top with a distinct keel, its apex with an oblique slope. Median segment completely areolated, its base in the middle broadly, obliquely depressed; areola clearly separated from the base of the segment, broad behind, roundly narrowed at the apex; the sides of the segment with short, sharply pointed teeth. Mesosternum with a curved furrow on the sides at the base. Areolet oblique, large, 5-angled; the disco-cubital nervure broken by the stump of a nervure. Legs long, slender; the basal 2 joints of the hinder tarsi as long as the tibiæ. Antennæ longer than the body, stout. Post-petiole broad, obliquely sloped at base and apex; 2nd and 3rd segments minutely closely punctured, not striated; there are 7 segments; the last is longer than the 6th. Head cubital, as long as wide.

I am only acquainted with the ♂ of this genus. Characteristic is the form of the mandibles, which are larger and stouter than usual, the longer hinder tarsi and (for the *Joppini*) the regularly areolated metanotum.

Cænojoppa longitarsis, sp. nov.

Black, shining; the face, clypeus, the outer orbits broadly, the inner more narrowly to near the top, a line on the apical half of the pronotum, broader line on the lower edge of the propleuræ, a broader one on the lower part of the mesopleuræ, the tubercles, a broad mark, longer than wide, on the apical half of the metapleuræ, touching and below the keel; a mark, longer

than wide, on the mesonotum, the scutellums, 2 marks, narrowed below on the middle of the metanotum, the narrowed basal part of the petiole and the apices of all the abdominal segments, pale yellow. Four front legs with a fulvous tinge, the hind coxæ black, yellow above, apical joint of trochanters black below, the femora rufous, the tibiæ and tarsi yellow, the former black at the base and apex. Wings clear hyaline, the nervures and stigma black. First segment of abdomen smooth and shining; the 2nd and 3rd closely punctured; gastracoeli large, wide, their middle with a few irregular striæ; the space between shining, aciculated, finely, irregularly striated. Hinder tarsi with the basal 2 joints together longer than the tibiæ.

Facydes striolata, sp. nov.

Rufo-luteous; a large mark on the face, becoming gradually wider below, the clypeus except narrowly at the apex, the base of the 2nd abdominal segment in the centre and in front of the gastrocoeli, the base of the 3rd and 4th and the 5th and following segments entirely, black; the legs similarly coloured, the apex of the hind femora, almost the apical half of the tibiæ and the tarsi entirely, black. Wings yellowish-hyaline, the apex from the end of the areolet fuscous-violaceous, the stigma luteous, the nervures darker coloured. Antennæ black, the thickened apical part fuscous. ♀.

Length 16 mm.

Hab. Penrisen, 4500 feet. May.

Face and clypeus closely punctured, the sides of the former broadly, of the latter narrowly, pale yellow; the front and vertex smooth; the ocellar region and the occiput broadly, black. Thorax closely and clearly punctured; the mesonotum darker coloured and thickly covered with fuscous pubescence; the scutellum closely covered with longer, darker hair. Apical slope of metanotum irregularly, coarsely transversely striated; the top of the posterior median area longitudinally striated; its bordering keel smooth and shining. Upper part of propleuræ closely punctured; the meso- less closely, the middle behind almost smooth; the meta- closely and distinctly punctured.

The post-petiole longitudinally striated; the 2nd to 6th segments are closely, regularly longitudinally striated; the apical segments smooth.

Cratojoppa rufofemorata, sp. nov.

Black; face, clypeus, orbits—on the outerside narrowly above—a line on the pronotum, scutellum, tubercles, a large mark on the lower half of the mesopleuræ, 2 large marks, obliquely narrowed on the inner side, on the apices of the basal 3 segments of the abdomen and the apices of the others, yellow. Four front legs fulvous, their coxæ and trochanters pale yellow, the tibiæ darker behind; the hind coxæ black, pale yellow above, the trochanters, tibiæ and tarsi pale yellow, the femora rufous, their apical fourth and about the apical half of the tibiæ, black. Wings hyaline, the stigma and nervures black. Antennæ black, the scape beneath and the middle of the flagellum broadly white.

Length 18 mm.

Hab. Tansan.

Face punctured, its face with a large black, spot, which at the apex, is dilated round the top of the clypeus. Front and vertex smooth, impunctate. Basal half of mandibles pale yellow. Mesothorax closely and distinctly punctured and covered thickly with white pubescence. Areola irregularly, strongly punctured on the apical half; the lateral area strongly punctured on the outerside; the posterior median strongly transversely striated; the lateral area strongly punctured, the punctures clearly separated; the spiracular rugose at the base, the rest closely, strongly obliquely striated. Upper part of propleuræ minutely punctured, the lower at the base smooth and shining, the apex strongly longitudinally striated, the striae shorter above than below, where they become gradually longer; the mesopleuræ closely punctured, except in the middle behind; the meta- closely and more strongly punctured. Breast and median segment thickly covered with longish white pubescence. Middle of post-petiole closely striated, the sides distinctly, but not very closely, punctured; the 2nd to 4th segments closely punctured; the 2nd and 3rd striated at the base; gastrocoeli deep, curved, transverse, smooth.

This species has the areola shorter, wider and projecting only slightly beyond the apex of the lateral areæ and is more distinctly separated at the apex than in *C. robusta* or *C. maculiceps*; the temples are shorter, the occiput not so deeply incised, the fore legs shorter and stouter, with the tarsi shorter and stouter compared with the tibiæ. It cannot be looked upon as a typical *Cratajoppa*.

Anisobos cincticornis, Cam. *

This species is to be referred to my genus *Acanthojoppa*, *The Entomologist*, 1902, p. 109. My description may be usefully supplemented, as the species in this genus appear to be numerous, and difficult to separate from their uniform colouration.

Scutellum flat on the top, its apex with a long perpendicular slope and raised above the post-scutellum; its sides and apex with distinctly raised margins. Median segment completely areolated: the areola wider than long, and separated by more than its own length from the base of the segment, which is depressed in the centre, the depression being bounded by keels laterally. Face and clypeus flat, not separated; the clypeus foveate at the sides above. Labrum projecting. Eyes larger, not converging above or below; the malar space large. Occiput widely and deeply roundly incised. There are 3 distinct areæ on the base of the median segment behind the areola and 3 on the apical slope; the middle areæ being also clearly defined; the sides are bluntly toothed. There is a stout keel above the middle of the propleuræ; the pronotum is broadly margined above laterally; its centre is roundly depressed. Metathoracic spiracles linear. There are 2 short, deep furrows on the base of the mesonotum. There is a shallow furrow on the sides of the mesonotum at the base. Areolet 5-angled, narrowed above; the discocubital and the recurrent nervures with the stump of a nervure. Petiole long and slender, the post-petiole not abruptly separated. Gastrocoeli shallow; the ventral keel broad, extending to the apex of the 4th segment; there are 7 segments, the last is as long as the preceding and bluntly pointed. Legs long; the hinder tarsi sparsely spined. Antennæ slender, serrate, broadly

* J. Str. Br. Roy. As. Soc. 1902, 51.

ringed with white; the pedicle is minute, narrowed; the 3rd joint is distinctly longer than the 4th.

ACULEATA.

Tachytes varipilosa, sp. nov.

Black, the pubescence on the head pale golden, on the thorax pale fulvous, on the abdomen silvery; wings yellowish-hyaline, the nervures and stigma testaceous. ♀.

Length 13 mm.

Hab. Kuching.

Front, face and clypeus densely covered with golden pubescence; vertex finely rugose, obscurely furrowed down the centre; eyes at the top separated by fully twice the length of the 2nd antennal joint. Thorax alutaceous; the median segment thickly covered with long pale pubescence; the fovea on the apex of the basal slope pyriform; the apical slope with curved, fine striæ; the base is not furrowed; tarsal and tibial spines rufous; costa and stigma dark, the other nervures pale testaceous; tegulæ testaceous, 1st transverse cubital nervure with 3 curves.

Comes near to *T. aurifex*, Sm.; that species is larger, has the scape of antennæ rufous, the apex of clypeus rounded in the centre, and otherwise, may easily be separated by the eyes converging more above, they being there separated by distinctly less than the length of the 5th antennal joint.

Tachytes aureocincta, sp. nov.

Black; the hair on the head and thorax fulvous; the abdominal segments banded with golden pubescence; the pygidium with silvery pile and, more sparsely, with long fulvous hair; wings hyaline, suffused with yellow at the base; the tibiæ and tarsi and apex of hinder femora rufo-testaceous. ♀.

Length 14-15 mm.

Hab. Matang.

Clypeus smooth and shining; the centre depressed, transverse; front with, narrow, but distinct, furrow in the centre,

the eyes at the top separated by the length of the 5th antennal joint. Mandibles black, the base covered with pale fulvous pubescence. Metanotum with a shining V-shaped fovea on the apex of the basal part. The long spur of the hinder tibiæ is fully longer than the metatarsus, which is as long as the following 2 joints united.

Of the Bornean species this is not unlike *T. borneana*, Cam.; that species has the eyes more widely separated above, being there separated by the length of the 5th antennal joint; its wings want the distinct yellowish tinge of *varipilosa*; and otherwise is easily known by the shorter and thicker hinder tarsi of which the metatarsus is not much longer than the 2nd joint and shorter than the long joint of the tibial spines.

Pompilus flavifrons, sp. nov.

This species resembles closely *P. cariniscutis*, Cam. from which it may be known as follows:—

Post-scutellum higher than the scutellum, front broadly black in the centre, apex of clypeus transverse, mandibles for the greater part yellow, scape of antennæ black above, apex of hinder tibiæ broadly black. *cariniscutis*, Cam.

Post-scutellum not higher than the scutellum, apex of clypeus broadly curved, mandibles for the greater part black, scape of antennæ yellow, apex of hinder tibiæ not black.

flavifrons, Cam.

Black, the vertex from near the ocelli, face, clypeus, labrum, outer orbits narrowly from near the top, a broad interrupted band on the apex of the pronotum, scutellum, post-scutellum, and scape of antennæ bright yellow; the apex of femora, tibiæ and tarsi rufo-testaceous; wings hyaline; the apex from near the base of the radial cell smoky, with a slight violaceous tinge.

Clypeus broad, the apex roundly, but not deeply incised, with the sides straight, oblique. Labrum obliquely depressed. Mandibles black. Palpi yellow. Third abscissa of radius distinctly shorter than second. Metanotum irregularly transversely striated. Penultimate ventral segment covered with long black hair; the others more sparsely and shortly haired. Hinder metatarsus as long as the following 3 joints united and slightly more than one-third of its length. 12 mm.

Salius matangensis, sp. nov.

Black; the abdomen and legs, except the coxæ, ferruginous red; wings large, brilliant fuscous-violaceous, the nervures and stigma black; the labrum and apex of mandibles red; the palpi rufo-testaceous. ♂.

Length 13 mm.

Hab. Matang. June.

Head and thorax covered with pale pubescence; the pleuræ more sparsely with long pale hair; the base of metanotum smooth, with a V-shaped depression in the middle, the rest finely, obscurely striated; the sides of the apical slope at the top project bluntly, the apex much more largely and prominently. First abscissa of radius clearly shorter than the second; the fourth straight and obliquely turned upwards; the 3rd is roundly curved upwards; the 2nd recurrent nervure is received at the apex of the basal third of the cell. Tarsi spinose; claws dentate near the base. Frontal furrow distinct on the upper half only.

Is not unlike *S. veda*, Cam., but is much larger and has the head entirely black; and the median segment bituberculate laterally.

Odynerus Kuchingensis, sp. nov.

Black, the clypeus, eye incision, a mark above the antennæ, transverse above, its apex obliquely narrowed, a line behind the eyes, not reaching to their end and gradually narrowed, a mark, longer than broad, with straight sides, on the upper basal half of the propleuræ, the two united along the apex of the pronotum by a narrow line; tegulæ, a large mark on the scutellum, slightly narrowed in the middle at the base and apex, a mark, also contracted in the middle, at the base and apex, on the post-scutellum, a large mark, on the mesopleuræ below the tegulæ, rounded above and below, longer than broad and slightly, gradually narrowed from top to bottom, and two large marks, rounded above, on the sides of the apical slope of the metanotum and the apices of the abdominal segments (the line on the 3rd narrower than the others), a large mark, longer than

broad and almost transverse at the base and apex, on the sides of the 2nd segment near the base and two smaller marks on the base below, yellow. Legs yellow, the 4 front coxæ behind, the hinder except for a mark on the sides, a line on the centre of the middle femora above, the hind femora and the inner side of the hind tibiæ, black. Wings hyaline; the radial cell from shortly behind the middle and the fore part of the 4th cubital cell, smoky; the nervures and stigma black. ♀.

Length 8 mm.

Hab. Kuching. June.

Front and vertex closely and distinctly; the clypeus sparsely punctured; it is longer than broad; its apex depressed in the middle, only very slightly incised, almost transverse. Pro- and mesothorax closely and clearly punctured; the pronotum transverse, keeled on the base; the scutellum sparsely punctured, its apex coarsely longitudinally striated; the yellow part furrowed slightly down the centre. Median segment with an oblique slope, its sides broadly rounded, the centre depressed. Propleuræ punctured like the pronotum; the meso- and meta-pleuræ more sparsely punctured above, smooth below. Abdomen closely punctured; the 1st segment becomes gradually wider from the base to the apex.

Allied to *O. hyades*, Cam., but is much smaller, wants the yellow lines on the mesonotum and the 2nd recurrent nervure is not interstitial. *O. lybas*, Cam., is much less strongly marked with yellow and its 1st abdominal segment is raised in the centre and obliquely sloped at base and apex.

Odynerus matangensis, sp. nov.

Black, a line on the scape of the antennæ below, the clypeus, the mandibles except above and at the apex, the anterior tibiæ in front and a narrow band on the apex of the 1st and 2nd abdominal segments all round, yellow. Wings hyaline, the apical two-thirds of the radial and the greater part of the 4th cubital cell smoky; the nervures and stigma black. ♂.

Length 7 mm.

Hab. Matang.

Front and vertex closely, strongly and uniformly punctured, the clypeus more sparsely punctured and covered with white pubescence; it is slightly longer than its greatest width; the apex has a shallow, wide rounded incision. Apical two joints of antennæ brownish beneath, the claw is not quite so long as the joint. Thorax closely rugosely punctured; the apex of the median segment is less strongly punctured; its sides are straight and obliquely narrowed towards the centre, which is furrowed; the slope is almost vertical. Abdomen punctured like the thorax; the basal segment with a stout keel near the base.

Belongs to the group of *O. sicheli*. It is not unlike *O. robertianus*, but that species has the clypeus longer compared with its width, broadly marked with black in the middle, depressed at the apex, which is not so broadly rounded and depressed down the middle, the scutellums have a more distinct oblique slope from the base to the apex, the scutellum in *matangensis* being much more convex and without a distinct slope.

Dielis truscanensis, sp. nov.

Black, the sides of the clypeus broadly—the yellow line becoming slightly broader towards the apex,—the upper part of the mandibles, a line on the pronotum, broadest in the middle, bands on the apices of the basal 4 abdominal segments, commencing from shortly behind the middle and the outer side of the tibiæ, yellow. Wings clear hyaline, iridescent, the nervures and stigma black. Head, thorax, base of abdomen and its ventral surface thickly covered with long white hair; the basal 4 segments fringed with similar; the apical thickly with black, stiffer hair. Ocellar depression with curved striæ on the sides. Mesonotum and sides of scutellums punctured, but not closely or strongly; the metanotum at the base sparsely haired and punctured the rest thickly covered with longish white hair. ♂.

Length 13-14 mm.

Hab. Trusean.

The black basal bands on the 2nd to 4th abdominal segments are slightly dilated in the middle; the wings are slightly

infuscated at the apex; the 1st recurrent nervure is straight, not oblique in front, the 2nd roundly curved at the top and bottom; the 2nd transverse cubital is straight and oblique by sloped at top and bottom, the lower (and larger) abscissa having a more oblique slope than the upper; the 2nd abscissa of the cubitus is distinctly less in length than the 3rd and 4th united the apical abscissa of the radius roundly, obliquely curved. Pronotum rounded.

Comes close to *D. fimbriata*, Bur., which may be known from it by the middle of the pronotum being transverse, not rounded, by the 2nd abscissa of the cubitus being longer than the apical two united, by the recurrent nervures not being so widely separated and by the transverse median nervure being more rounded, not obliquely sloped above.

Megachile Wallacei, sp. nov.

Black, the hair on the metanotum, base of 1st abdominal segment, a band on the 2nd and the whole of the apical two segments above covered with whitish hair; the ventral slope bright red; the wings hyaline, the apex slightly clouded, the nervures and stigma black; the hair on the legs black; the basal 4 joints of the hind tarsi covered with bright red hair. ♀.

Length 18 mm.

Hab. Trusean. August.

Vertex distinctly punctured, more strongly and closely in the centre than on the sides; the face similarly punctured, more closely above than below; the clypeus more strongly punctured; the lower part with the punctures more widely separated and the apex impunctate. Mandibles strongly, but not closely punctured; they have 3 teeth; the apical is the longer; the 2nd shorter and bluntly rounded; the 3rd not so clearly separated, longer, broader and blunter. Mesonotum closely and clearly punctured, the punctures round and in places running into reticulations; the base in the centre is less strongly punctured and furrowed narrowly. Scutellum more strongly and similarly punctured. Metanotum smooth. Mesopleuræ closely and distinctly punctured; the meta much more

minutely and sparsely punctured. Mesosternum and mesopleuræ thickly covered with black hair; the meta- with longer and white hair. Fore tibiæ with the edges spined; the outer spine longer and sharper than the inner; the middle and hind calcaria red, the others black.

Mesonotum thickly covered with short black hair; clypeus longer than the face, its apex transverse in the middle, the sides curved, it is sparsely haired; metatarsus not much narrower than the tibiæ which, at the apex on the outer side, projects into a stout spine.

This species belongs to a group which appears to be well represented in Malaya. It differs from *M. bicanaliculata* and *Frederici* in the mandibles having 3, instead of 2 teeth; *M. albocaudata* Friese has 4 mandibular teeth; the number of teeth in *M. miniata* Bingham, (J. Bomh. N. H. Soc. 1890-5), from Sumatra, is not stated.

Megachile Sarawakensis, sp. nov.

Black, the hair black, on the vertex, mouth and sternum white, on the median segment soot-coloured; the wings yellowish-hyaline, the nervures and stigma luteous. ♂.

Length 12 mm.

Hab. Sembulong.

Front, vertex and face closely punctured; the clypeus more closely and finely punctured, the rest more widely and not so strongly as the front; its apex fringed with long pale fulvous hair. Mandibles short and broad; the apical tooth long and sharp-pointed; the 2nd broad, bluntly-rounded, the 3rd indistinct. Thorax closely, minutely punctured, as is also the scutellum; post-scutellum alutaceous. Metanotal area alutaceous, depressed in the centre. Back of abdomen coarsely alutaceous, obscurely punctured, the segments depressed in the middle; the last segment with a shallow incision in the centre; and with 2 distinct, blunt, and an outer indistinct, tooth on either side of the incision; its apex is broadly depressed and the middle is bluntly keeled. Metatarsus narrower than the tibiæ.

Megachile varidens, sp. nov.

Black; the front, vertex and thorax above with rufo-fulvous hair, the hair on the face, clypeus and pleuræ long and white; the abdominal segments with rufous hair bands; wings hyaline, highly iridescent, the apical half clouded with fuscous-violaceous, the stigma and nervures black. ♂.

Length 9 mm.

Hab. Kuching. January.

Front and vertex closely and distinctly punctured, the former less strongly than the latter. Face closely rugose; the clypeus closely punctured, the punctures round, moderately deep and close together; in the centre is a smooth, moderately broad smooth line. Mandibles with 4 teeth; the 1st and 4th much larger than the central and sharp-pointed; the 2nd bluntly rounded, the 3rd longer than it and sharp-pointed. Thorax closely rugosely punctured. Metanotal area clearly defined, alutaceous and with a shallow furrow in the middle; and less closely haired than the rest of the segment, which is pitted. The basal segments of the abdomen closely, but not very strongly; the others more strongly rugosely, punctured; the 1st has the basal slope margined round the top, the 2nd and 3rd and, to a less extent, the 4th transversely furrowed; the last incised; the incision wider than long, with the sides oblique, straight and meeting in the centre; below the last segment is widely depressed in the centre and with the sides keeled at the apex. Legs stoutly; the hinder tibiæ bluntly, roundly projecting at the apex on the outside.

Is very like *M. borneana* but may be known from it by having 4 distinct teeth on the mandibles. The same character separates it from *M. cæcina* which it closely resembles otherwise.

Nomia bidiensis, sp. nov.

Black, the flagellum of antennæ below and at the apex above, rufous, the hair on the head and thorax pale fulvous; all the abdominal segments with broad pale pubescent bands; the hair on the ventral surface pale, with a slight fulvous tint; wings

hyaline, the stigma pale testaceous, the costa and nervures darker. ♀.

Length 7 mm.

Hab. Bidi. December.

Front, vertex and face closely minutely, irregularly reticulated, more closely in the centre than on the sides; the occiput sharply margined. Mesonotum closely punctured, almost reticulated; the centre with an impressed line. Metanotal area stoutly irregularly longitudinally striated and without an apical bounding keel; the apical slope with 2 or 3 irregular longitudinal keels. Pleuræ alutaceous; the meso- with an oblique keel down the middle, behind which it is closely striated; near the apex of the meta- are 2 curved keels, the space between them being striated. The hair on the tarsi is more rufous than on the rest of the legs; the apical 4 joints of the fore tarsi rufous. First and second transverse cubital nervures straight and parallel, the cell being of equal width throughout and distinctly shorter, above, than the following; the recurrent nervure is received shortly beyond the middle; this being also the case with the 2nd the 1st is straight and oblique, the 2nd roundly curved.

Is not unlike *N. bicaniculata*, Cam., that species is readily separated by the different form of the median segment which is much larger and with the apical slope stoutly keeled round the top.

Nomia erythropoda, sp. nov.

Black; the 1st abdominal segment with a piceous band on the apex, the others banded with blue, variegated with orange; the antennal scape, apex of clypeus, labrum and legs ferruginous-red; the hair on the head, thorax, base of abdomen and legs pale fulvous; wings hyaline, the radial and cubital cells smoky, the stigma and nervures black. ♂.

Length 9-10 mm.

Hab. Kinghang. January.

Lower part of front and face keeled in the centre, the former more strongly than the latter; the clypeus distinctly

punctured, except at the apex ; the orbits thickly covered with fulvous pubescence and more sparsely with fulvous hair. Mesonotum opaque, minutely punctured ; post-scutellum thickly covered with pale fulvous pubescence. Metanotal area irregularly striated, the central striæ converging inwardly. Hind femora not much thickened ; on the lower side of the hind tibiæ is, at the middle, a raised curved keel, curving obliquely from the inner side to the outer and reaching to the apex, it becoming gradually reduced in size ; tarsi not thickened.

A species easily recognized by the rufous legs and by the oblique keel on the inner side of the hind tibiæ.



Cameron, Peter. 1905. "A Third Contribution to the Knowledge of the Hymenoptera of Sarawak." *Journal of the Straits Branch of the Royal Asiatic Society* 44, 93–168.

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