

## Descriptions of New Species of *Braconidae* from Borneo. (Hym.)

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### *Vipio borneanus* sp. nov.

Luteous, shining, the flagellum of antennae fuscous at the base, blackish for the rest; wings luteous to the upper part of the transverse basal nervure and the lower discoidal cellule, fuscous black, slightly tinged with violaceous for the remainder; the base of the stigma is dark luteous; there is a small hyaline cloud below it and another in front of the recurrent nervure. Face closely, somewhat strongly punctured; laterally above the puncturation is not so close. There are 2 keels, converging below, above the antennae, and from them a curved one runs round the antennae. Base of mesonotum smooth, the apex sparsely, weakly punctured. Scutellum much more closely and strongly punctured, rounded, its apex with a narrow depression, bounded by stout keels. Basal slope of metanotum surrounded by a stout keel, and with a longitudinal one in the centre; there are 5 areae; the central square and smaller than the others, the 2<sup>nd</sup> larger and narrowed at the base, the 3<sup>rd</sup> still larger and roundly narrowed towards the apex; outside the spiracles is a stout, oblique keel, forming a large area; the apical slope is a little depressed and bears some stout striae. The apical joint of the middle tarsi and the hinder entirely black, fuscous below. ♂.

Length 14 mm.

Kuching (Hewitt).

### *Chelonus euryaspilus* sp. nov.

Black, the scape of the antennae rufous, the anterior tibiae pale testaceous, the base of the middle tibiae pale to beyond the middle, fuscous beyond it, there is a broad white band near the middle of the hind pair; wings hyaline to the base of stigma, fuscous beyond; the lower part of stigma and the nervures fuscous, the rest of stigma black. Antennae 25-jointed, longer than the body. ♀.

Length 2 mm.

Kuching. June (John Hewitt).

Face opaque, closely, finely uniformly punctured; the clypeus more shining, finely punctured, but not so closely as the face; the upper part of the head more finely punctured than the face. Mesonotum shining, minutely punctured, the sides at the base finely striated. Scutellum roundly convex, finely, but not closely,

punctured, the sides below striated. Metanotum in the centre with a wide, longer than wide area of equal width in the centre; the sides finely, closely rugose, with 2 keels (finer than the central pair) in the middle; the apical slope coarsely, longitudinally rugose; there is an acute tooth at the top. Propleurae aciculated; the mesopleurae closely reticulated, the metapleurae with some, widely separated longitudinal, somewhat oblique keels, the central having a few oblique ones between. Abdomen longitudinally striated on the basal half. The 2<sup>nd</sup> transverse cubital nervure is very faint.

*Chelonus striatigenas* sp. nov.

Black, the anterior tibiae and tarsi testaceous, the spurs white; wings hyaline to the base of stigma, the rest smoky, the nervures and stigma black; the 2<sup>nd</sup> transverse cubital nervure largely bullated; the head and pleurae densely covered with white pubescence; antennae 28-jointed. ♀ ♂.

Length 6 mm.

Kuching, Borneo (John Hewitt).

Face closely, rugosely punctured, more or less striated above; the clypeus clearly separated from it, more shining, finely, closely punctured, its sides bordered by wide furrows; the outer orbits obliquely striated, finely and closely above, more strongly and widely below, this being also the case with the malar space, which is two-thirds of the length of the eyes. Upper inner orbits broadly, closely reticulated; the centre of the front and vertex shining, almost smooth; a stout keel runs down from the ocelli. Apex of mandibles piceous; palpi dark testaceous. Middle of mesonotum raised, finely, closely rugose, the sides more coarsely, rugose and irregularly reticulated; on the outer edge are 4 foveae. Scutellum finely rugose and irregularly striated, gradually narrowed to a bluntly rounded point at the apex; at its base are 3 deep, longer than wide, foveae, of which the central is of equal width, the lateral narrowed towards the apex, the 2 keels dividing the foveae are distinct; the basal half of the space bordering the scutellum is stoutly striated, the apical very smooth and shining. Metanotum coarsely reticulated, the apex transverse above, the central basal area is roundly narrowed above, below it are two small square ones, followed by 2 larger square areas. Basal half of propleurae rugosely, irregularly punctured, the apical somewhat coarsely longitudinally striated. Mesopleurae finely, closely rugose above, the rest reticulated, the lower reticulations longer than the upper; the metapleurae more strongly reticulated, the reticulations round. Abdomen longitudinally

striated, those on the basal fourth strong and widely separated and more or less transversely striated between the longitudinal striae; from these the striation becomes gradually weaker to the apex. There is a small testaceous spot on the sides near the base. Legs (and more particularly the tibiae and tarsi) covered with white pubescence.

*Spathius leptoceras* sp. nov.

Testaceous, the legs paler coloured, the back of the abdomen and the apical half of the hind femora black, the antennal scape testaceous, the flagellum black, with the apical 10 or 12 joints testaceous; wings hyaline, suffused slightly with fuscous, the stigma black, pale at the base, the nervures black. Antennae long, when turned back reaching beyond the middle of the ovipositor, densely covered with stiff blackish pubescence. ♀.

Length 6 mm, terebra 4 mm.

Kuching, Borneo (John Hewitt, B. A.).

Face somewhat strongly transversely striated, the striae more or less intertwining, more strongly striated laterally than in the middle. Middle lobe of mesonotum closely, rugosely punctured, the rest coarsely irregularly reticulated. At the base of the scutellum is a wide, deep transverse furrow, extending beyond it and with its outer edges narrowed; the base of the scutellum is depressed, coarsely reticulated and bordered by an oblique keel, which does not extend to the middle; the central part is smooth, the apical punctured. Base of metanotum finely, closely transversely striated and with a keel down the centre, the middle coarsely reticulated, the apical slope black, with 2 stout keels down the middle, forming an area; between the longitudinal keels are stout transverse ones; on the sides are some stout, irregular oblique keels. Propleurae in the centre stoutly striated; the mesopleurae smooth, except at the top half which is stoutly longitudinally striated, the apex also having some, clearly separated stout longitudinal striae. Metapleurae stoutly obliquely striated above, more weakly below; above the centre are 2 longitudinal keels; the space between them is stoutly striated, the striae distinctly separated and running from the top to the bottom. Abdominal petiole longitudinally rugose, the sides above keeled, outside which, on the apex, are 3 or 4 finer striae, the outermost being much shorter than the others; laterally it is rugosely punctured to shortly beyond the middle; the apical part stoutly striated. As usual the legs are covered with stiff pale hairs. The ovipositor is as long as the abdomen.

*Spathius leptothecus* sp. nov.

Black, the head and mesonotum dark testaceous, the apical abdominal segments banded with paler testaceous; the trochanters whitish; the hair on the legs pale; wings very iridescent, the stigma and nervures black, the base of the former white. Base of antennae testaceous, the rest blackish. ♀.

Length of body and ovipositor 5 mm.

Kuching, January (John Hewitt, B. A.).

Face closely transversely striated, more strongly in the centre than on the sides; in the centre is a smooth, distinct, somewhat oval tubercle. Front closely rugosely punctured, the sides transversely striated. Vertex pale yellow, smooth, the sides finely, closely striated. There is a fine oblique furrow near the top of the outer orbits. Middle lobe of mesonotum finely, the lateral coarsely striated, the latter with an opaque shagreened line down the centre. The area on the metanotum is large, commences near the base, where it is rounded; it bears broken irregular striae; the sides at the base are finely, closely transversely striated. The furrow on the propleurae stoutly striated, the striae distinct and clearly separated, the rest obliquely, closely reticulated. The top of the mesopleurae stoutly striated, the striae distinct, curved at the base, straight at the apex. Upper part of metapleurae, above the keel, obliquely striated, almost reticulated at the base; the rest closely rugosely punctured. Abdominal petiole opaque, depressed above, with the sides keeled; the sides are also keeled above and below, and on the basal half are finely, irregularly obliquely striated. The sheaths of the ovipositor are pale testaceous, darker towards the apex.

May be known from *S. leptoceras* by the black colouration, longer ovipositor and by the smooth shining tubercle on the face.

*Stenophasmus testaceitarsis* sp. nov.

Black, the antennal scape pale yellow, the flagellum and tarsi rufotestaceous, the palpi white; wings almost hyaline, the nervures black. ♀.

Length 8 mm, terebra 8 mm.

Inop. Sarawak, Borneo (John Hewitt).

Antennae slender, much longer than the body, bare. Head somewhat thickly covered with longish black pubescence; the vertex smooth, the front finely closely transversely striated except on the outer edges; there is a wide furrow in the centre of the lower half. Face opaque, closely, somewhat coarsely transversely striated; there is a small shining, smooth spot immediately



below the antennae. Mesonotum trilobate, smooth, except the furrows which are striated and the space at the end of the middle lobe which is sparsely, irregularly reticulated. Scutellum large, smooth; rounded at the base, its basal depression large, transverse at the base, the lateral keels reaching beyond the base of scutellum; in its centre are 4 keels. Postscutellum depressed, opaque, coarsely shagreened. The long metanotum has a furrow at the base; in the centre of the metanotum is a single keel reaching close to the middle; it then bifurcates, forming an area, which becomes gradually widened to its centre, the apical part being of equal width; the apical slope is irregularly transversely striated. Propleurae finely longitudinally striated; the extreme top and a hollowed space in the centre of the basal two-thirds, its apex narrowed to a blunt point, smooth; below this longitudinally striated part is a longitudinal keel, under which the part is closely obliquely striated, except at the apex. Mesopleurae smooth, the base and apex striated; below is a smooth furrow bordering the sternum. Petiole not quite so long as the thorax, dilated at the apex, opaque, closely, finely rugose, the sides obliquely striated; it is sparsely covered with sparse, erect hairs; the 2<sup>nd</sup> segment is shorter than the petiole, but longer than the following segments united; it becomes gradually widened towards the apex and is opaque. Legs covered with white erect hairs, the spurs are very short. The recurrent nervure is interstitial.

*Stenophasmus* Smith is treated by Szépligeti as a mere synonym of *Spathius*, cf. Gen. Ins., *Braconidae*, p. 52.

*Disophrys albopilosellus* sp. nov.

Rufo-testaceous, the basal 2 segments of abdomen darker coloured, the apical blackish, the flagellum of antennae black; the wings hyaline, slightly tinged with fuscous, the basal nerves of wings luteous; the costa, stigma, radius and cubitus black; the areolet in front half the width of the posterior part; where the transverse cubital nervures are bullated at their junction with the cubitus. Face and clypeus punctured, the front and vertex smooth; a keel runs obliquely from between the ocelli to the eyes; there is a shallow elongated fovea on the centre of the lower part of the front. Mesonotum closely punctured, except on the sides of the lobes; the middle lobe with a shallow depression on the basal slope. Scutellum more strongly punctured than the mesonotum. Metanotum with a longish, straight, oblique slope; the areola is obliquely narrowed at the base, transverse at the apex; it is transversely striated; on either side of it is

a wide area, longer than wide and transversely striated; below it, on the apical slope, is a squarish area, having on either side of it 4 stouter, more or less curved striae, of which the central are the stouter; these are bordered laterally and below by a keel. Propleurae smooth, the apex weakly, sparsely striated; the mesopleurae weakly, closely punctured, more closely above than below; the metapleurae much more closely, regularly and strongly punctured; and thickly covered with white pubescence; there is a stout, oblique keel below the spiracles. Legs densely covered with white pubescence.

*Agathis unicolor* sp. nov.

Rufo-fulvous, the flagellum of antennae black; the wings rufo-fulvous to the base of the stigma, the radial cellule and the fore part of the cubital cellules below it, a fuscous small cloud near the apex below, on either side of the anal nervure; the nervures rufo-fulvous; the hind wings rufo-fulvous in front. ♀.

Length 10 mm; terebra 1 mm.

Kuching (John Hewitt).

Face closely, distinctly punctured, more closely above than below; the clypeus sparsely, weakly punctured in the middle. Front and vertex, except between the ocelli, smooth; there is a curved depression, narrowest above, at the sides of the latter. There are 2 stout keels, close to each other at the top, diverging below, between the antennae. Mesonotum distinctly trilobate, the furrows wide and having 5 stout keels, the parts between them deep: the apex in the centre bears some minute shallow punctures. Scutellum distinctly, but not closely punctured, the apex with a stout, semicircular keel, the part behind which is depressed and bears 2 irregular keels. There are 5 areae on the base of the metanotum, the outer being the larger, the central the smaller; the latter is of equal width, narrowed to a point at the top, its apex transverse, the centre with 2 transverse keels. On the apical slope are 3 areae; the central is the smallest and is narrowed to a point at the apex; the 2<sup>nd</sup> is larger than the outer; it is narrowed below; the outer is dilated on the outer lower side; the keel bounding the outer side is roundly curved inwardly near the middle. Mesopleurae weakly, the metapleurae more closely and strongly punctured; the mesopleural furrow has 9 widely separated keels, the space between them being depressed. At the base above, is a raised oblique part narrowed towards the apex; it is bordered above and below by furrows of which the upper is the narrower, and is bounded near the apex by a stout keel; the lower one has 3, less distinct, keels near

the apex. Abdomen smooth. Wings large, longer than the body; the 2<sup>nd</sup> cubital cellule narrowed in front; the 2<sup>nd</sup> transverse cubital cell nervure is roundly curved, the curve towards the top of the 1<sup>st</sup> commencing below the middle.

Allied to *A. abuensis*, Cam.

*Agathis latisulcata* sp. nov.

Rufo-testaceous, the flagellum of antennae, the apical segments of the abdomen, the apex of the hind tibiae and the hind tarsi, black; wings hyaline, the costa, stigma, radius, cubitus and transverse cubital nervures black, the basal nervures and base of stigma yellow. ♀.

Length 6 mm. — Kuching, Borneo (John Hewitt, B. A.).

Head, thorax and legs covered with a white pile, the legs much more densely than the body. There is a narrow curved keel on either side of the front ocellus. Face and base of clypeus punctured. Mesonotum not very strongly punctured, the parapsidal furrows deep, weakly crenulated. The 1<sup>st</sup> transverse cubital nervure is straight, oblique, the 2<sup>nd</sup> roundly curved; the 1<sup>st</sup> is bullated at its union with the cubitus; the transverse median nervure is received shortly behind the transverse basal. Metanotum areolated; in the centre of the basal half is a keel which bifurcates near the middle, forming a longish triangular area, the apex of which is rounded; on either side of this is an area obliquely narrowed on the inner side, longer than wide, the apex transverse; outside this are 2 square areas, of which the basal is the smaller. Pro- and mesopleurae smooth, the metapleurae weakly punctured. The basal half of the middle lobe of the mesonotum is widely, but not very deeply furrowed.

*Agathis pallidipes* sp. nov.

Rufo-testaceous, the front, vertex and basal segment of abdomen brownish black; the mesonotum, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> abdominal segments and the antennae, black; the mesopleurae and sternum brownish, the former black above; legs pale yellow, the hind coxae blackish; wings large, hyaline, the base tinged slightly with yellow; areolet triangular, the nervures meeting in front; the 2<sup>nd</sup> transverse cubital issuing a stout branch which is as long as itself; below this branch the nervure is bullated. ♂.

Length 8 mm.

Kuching, Borneo. September (John Hewitt).

Head and thorax sparsely covered with a white pile. Front and vertex smooth, without keels. Face and clypeus punctured, the latter more strongly than the former. Middle lobe of meso-

notum somewhat strongly, the lateral more weakly punctured; the former is distinctly separated. Scutellum more closely and strongly punctured; its apex with a testaceous projecting keel. Base of metanotum obliquely depressed; its centre with a stout keel which joins the areola; the latter is about 3 times longer than wide; obliquely bluntly narrowed at the base, the apex transverse; it is bounded by a large area slightly narrowed at the base, which is bounded at the base, not by a keel, but by a raised part; the sides are keeled throughout; this keel forming, with the keel of the 2<sup>nd</sup> area, a large triangular one; there are 2 keels in the middle of the apical slope, the sides of which bear a few striae. Propleurae smooth; the mesopleurae weakly, the metapleurae more strongly punctured; the mesopleural furrow weakly crenulated.

*Microdus erythrothorax* sp. nov.

Black, the head, thorax and palpi red, the 4 anterior legs of a paler red, the middle tibiae and tarsi fuscous, the hind coxae fuscous below, reddish at the base; wings uniformly fuscous, tinged with violaceous, the nervures and stigma fuscous; the 2<sup>nd</sup> cubital cellule narrowed in front, it being there about one fourth of the length of the posterior part; the 2<sup>nd</sup> transverse cubital nervure is bullated at its junction with the cubitus; it emits from its middle a long nervure, which extends a little beyond the middle of the radius. Head, pro- and mesothorax smooth. Metanotum smooth; in its centre is a stout keel, which bifurcates in the middle, the 2 keels forming an elongated area acutely narrowed above, transverse at the apex, and bearing 3 irregular longitudinal striae; the sides of the metanotum are keeled; below the keel is a narrow, but distinct striated band. The 1<sup>st</sup> abdominal segment from behind the middle, and the 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> abdominal segments are closely, somewhat strongly longitudinally striated; the 1<sup>st</sup> is depressed in the middle and is a little longer than the 2<sup>nd</sup> and 3<sup>rd</sup> segments united. Malar space fully one half the length of the eyes. Palpi fuscous, darker at the base.

Length 11 mm; terebra 7 mm. ♀.

Kuching, Borneo. January (John Hewitt, B. A.).

The malar space is larger than it is in typical *Microdus*, the species forming a distinct approach in the form of the head to *Agathis*; in its other characters it agrees with *Microdus*. The mesosternal furrow is smooth; as are also the parapsidal furrows, Calcaria short, the hinder as long as the 2<sup>nd</sup> tarsal joint. Scutellum smooth, rounded, its apex not keeled.



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Zeitschrift/Journal: [Deutsche Entomologische Zeitschrift \(Berliner Entomologische Zeitschrift und Deutsche Entomologische Zeitschrift in Vereinigung\)](#)

Jahr/Year: 1908

Band/Volume: [1908](#)

Autor(en)/Author(s): Cameron Peter

Artikel/Article: [Descriptions of New Species of Braconidae from Borneo. \(Hym.\) 687-694](#)