

XLIII.—*On Indo-Chinese Hymenoptera collected by R. Vitalis de Salvaza*.—I. By ROWLAND E. TURNER, F.Z.S., F.E.S.

Family Siricidæ.

Tremex smithi, Cam.

Tremex smithi, Cam. Trans. Ent. Soc. London, p. 470 (1876). ♀ ♂.

One female, taken at Vieng Vai, Haut Mékong, on June 10, 1918, differs from the typical form in the total absence of yellow abdominal markings, in the more distinct blue gloss on the whole insect, and in the almost clear hyaline base of the wings, extending on the fore wing to the basal nervure and nervulus. I do not know whether these distinctions are merely individual or whether they indicate a local race. The antennæ are 22-jointed.

Tremex flavicollis, Cam.

Tremex flavicollis, Cam. Mem. Manchester Lit. & Phil. Soc. xliii. p. 3 (1899). ♀.

One female, taken at Vien Poukha, Haut Mékong, on May 11, 1918, differs from the description in having the scutellum covered with long fulvous hairs, and in having the fifth and sixth tergites broadly yellow at the base and clothed with long fulvous pubescence towards the apex. The antennæ are 21-jointed.

Xiphydria melanopus, Cam.

Xiphydria melanopus, Cam. Journ. Straits Br. R. As. Soc. xxxix. p. 90 (1903).

Hab. Nam Lot, Haut Mékong; May 2, 1918. 1 ♀.
Described from Borneo.

Family Evaniidæ.

Pristaulacus tuberculiceps, sp. n.

♀. Ferruginea; capite fusco-ferrugineo; antennis mandibulisque nigris; alis flavis, venis ferrugineis; cellula cubitali prima macula magna sub stigmatē, cellula brachiali secunda striga obliqua basali, nervuloque macula oblonga venam basalem

attingente fuscis; cellula brachiali secunda apice leviter infus-cata; capite maximo, vertice fortiter bituberculato.
Long. 14 mm.; terebræ long. 12 mm.

♀. Mandibles broad, with two apical teeth, the outer one long, the inner one very short, above the inner tooth the edge of the mandible is broadly rounded. Second joint of flagellum about two and a half times as long as the first, third a little more than half as long again as the second. Clypeus rather sparsely punctured, front minutely and very closely punctured. Head massive, subquadrate, strongly produced behind the eyes, cheeks distinctly longer than the scape, temples distinctly broader than the eyes; posterior ocelli as far from each other as from the eyes and nearly three times as far from the hind margin of the head. Vertex produced posteriorly on each side into a large, upright, blunt tubercle. Behind each of the posterior ocelli, and separated from them by the same distance that separates them from the anterior ocellus, is a minute tubercle, which at first sight resembles a minute ocellus. Thorax without spines or tubercles; neck short; mesonotum and scutellum strongly transversely striated; præscutum concave in the middle anteriorly; mesopleuræ less strongly striated; postscutellum coarsely longitudinally striated, median segment coarsely and irregularly transversely striated, bluntly produced above the insertion of the abdomen. Tarsal unguis with a row of four teeth, excluding the apical tooth. Abdomen stout, the first segment very strongly broadened from the base, third and following tergites clothed with very delicate fulvous pubescence. Second abscissa of the radius half as long again as the first; second transverse cubital nervure incomplete; nervulus distinctly postfurcal; first recurrent nervure received by the first cubital cell at a distance equal to half the length of the first abscissa of the radius before the first transverse cubital nervure. Terebra and valvulæ black.

Hab. Vien Poukha, Upper Mekong (*R. Vitalis de Salva*), May 11, 1918. 1 ♀.

Easily distinguished from other species of the genus by the extraordinary form of the head. *Aulacus bituberculatus*, Cam., has similar tubercles on the head, and is probably related to this species, though Cameron says that it belongs to *Aulacinus*, having three cubital cells.

Family Ichneumonidæ.

Subfamily PIMPLINÆ.

Pimpla vitalisi, sp. n.

♀. Nigra; palpis tegulisque pallide luteis; scutello macula mediana pallide flava; segmentis abdominalibus apice angustissime luteo-marginatis; pedibus anticis, intermediis, coxis exceptis, tibiisque posticis dimidio basali testaceis; alis subhyalinis, flavo-suffusis, stigmatibus venisque nigris. Long. 18 mm.; terebræ long. 6 mm.

♀. Head transverse, narrowed behind the eyes; clypeus raised at the extreme base and punctured, strongly depressed from near the base and smooth; face closely punctured, with sparse fulvous hairs; front concave, shining and almost smooth, with a narrow longitudinal groove. Eyes widely, but very shallowly emarginate. Antennæ filiform, distinctly shorter than the whole insect, the third joint about half as long again as the fourth. Thorax stout, shining; the mesonotum minutely and very closely punctured; mesopleuræ and scutellum much more strongly and rather sparsely punctured; median segment coarsely and irregularly transversely striate, the sides of the segment rugose-striate, spiracles large, elongate-ovate. Abdomen longer than the head, thorax, and median segment combined, the five basal tergites strongly and very closely punctured-granulate; first tergite not carinate, strongly excavated at the base, the middle raised and obsoletely bituberculate; the three apical tergites minutely punctured; all the tergites narrowly transversely depressed at the apex, the depressed portion smooth and luteous. Valvulæ clothed with short hairs. Tarsal unguis not pectinate and without a basal tooth. Areolet subsessile, outwardly incomplete on the right wing, complete on the left. Nervulus distinctly postfurcal.

Hab. Pang Tiac, Haut Mékong; May 14, 1918.

Described from a single female.

Closely allied to the South Indian *P. apollyon*, Morl., but the stigma and veins are black, not fulvous as in *apollyon*, the front is more strongly concave and has a sulcus, the mesopleuræ are more strongly and sparsely punctured and the sculpture of the abdomen is coarser. *P. apollyon* is without luteous apical margins on the abdominal segments.

Xylonomus vitiosus, sp. n.

♀. Nigra, opaca; palpis, facie, orbitis late, propleuris fascia horizontali, mesonoto antice macula magna utrinque fasciaque obliqua utrinque postice, tegulis, mesopleuris macula lineaque ante alas, scutello macula mediana quadrata, maculaque parva basali utrinque, segmento mediano apice late, abdomine fere toto subtus, tergitis primo, secundo, tertioque macula magna laterali triangulari utrinque, fascia anguste apicali connectis, tergitis 4-7 fascia angusta apicali, pedibusque ochraceis; antennis ante apicem late albido cinctis; alis hyalinis, venis nigris.
Long. 16 mm.; terebræ long. 10 mm.

♀. Clypeus extremely short; face finely and very closely punctured; front more finely and sparsely punctured; vertex shining, with a few small scattered punctures. Antennæ about 26-jointed, the ten basal joints black, the next nine whitish, the remainder black. Pronotum produced on each side into an acute tubercle; mesonotum closely punctured, with a tendency to irregular reticulation, notauli deep and crenulate, the lateral lobes separated at the apex by a strongly margined longitudinal groove. Scutellum with a deep transverse excavation at the base, the excavation is smooth and shining and divided by a longitudinal carina, the median portion of the scutellum finely and closely punctured, the sides apically depressed and obliquely striated. Pleuræ closely punctured. Median segment with an elongate triangular basal area which is immediately followed by a larger cordate area reaching to the base of the apical truncation; the spaces on each side of the central areas divided by a transverse carina and margined by a carina laterally and apically, the apical angles produced into a strong spine; the dorsal surface of the segment finely and closely punctured. First tergite half as long again as the second, irregularly rugose-reticulate, the apical portion indistinctly transversely strigose and with a low longitudinal carina. Second and third tergites very closely punctured, the second feebly reticulate at the base, both with oblique striated depressions from close to the base to beyond the middle, also with another oblique depression laterally cutting off a triangular area at the basal angles, a rounded striated groove joining the lateral grooves apically to the median impressions. Apical tergites microscopically punctured. Hind tibiæ black at the extreme base.

Hab. Sala San Tiôt, Luang Prabang; March 10, 1918.

1 ♀.

Allied to *annulicornis*, Cam., and *elizabethæ*, Bingh., but differs in the absence of blue colouring, in the colour-pattern, in the shorter and broader second tergite, in the spines of the median segment and pronotum, in the contraction of the central area of the median segment, which in the other species is not divided into two, though narrowed in the middle, and in the shorter terebra.

Subfamily *OPHIONINÆ*.

Dicamptus giganteus, Szép.

Dicamptus giganteus, Szépligeti, Wytsman, Genera Insect. xxxiv. p. 28 (1905).

A single female of this fine species taken at Vieng Vai, Haut Mékong, on June 10, 1918, answers well to the description. The type was from Java.

Subfamily *CRYPTINÆ*.

Vagenatha spinosa, Cam.

Vagenatha spinosa, Cam. Proc. Zool. Soc. London, p. 41 (1901). ♀.

Hab. Pak Lay, Laos ; August 2, 1918. 1 ♀.

Described from Borneo.

Family *Braconidæ*.

Subfamily *BRACONINÆ*.

Campyloneurus latesuturalis, sp. n.

♀. Nigra ; prothorace, mesonoto, scutello, mesopleurisque antice rufis ; mandibulis, apice nigris, palpisque testaceis ; sternitis flavo-ochraceis ; alis fusco-hyalinis ; stigmatibus venisque nigris. Long. 8 mm. ; terebra long. 6 mm.

♀. Face closely punctured and covered with short grey hairs, longitudinally elevated below the base of each antenna. Front and vertex microscopically punctured, the front with a broad, smooth, longitudinal groove below the anterior ocellus. Temples fully half as broad as the eyes ; head not narrowed behind the eyes, which are as far from the posterior margin of the head as from the anterior ocellus. Antennæ 47-jointed, about 6 mm. in length. Thorax and median segment shining ; the middle lobe of the mesonotum minutely punctured ; notauli smooth, extending almost to the posterior margin of the mesonotum. Median segment smooth on the dorsal surface, minutely punctured and

thinly clothed with long grey hairs on the sides. First tergite rugose, the raised median portion with a longitudinal carina, the lateral depressions transversely rugulose, the segment not much longer than its apical breadth. Second tergite as long as its basal breadth, coarsely longitudinally rugose, a median carina not reaching to the apex and dilated at the base into a small, smooth, triangular area; on each side from near the basal angles a longitudinal carina curved at the base extends nearly to the apex of the segment, outside these carinæ the segment is irregularly obliquely striolate. Suture between the second and third tergites very broad, coarsely longitudinally striated; third tergite less coarsely and more closely longitudinally striated, fourth and fifth tergites punctured-rugose, crenulate at the apex. Hypopygium cultriform, extending beyond the anus. Valvulæ covered with very short black hairs. Cubital nervure sharply elbowed close to the base; second abscissa of the radius almost as long as the third; recurrent nervure received just before the first transverse cubital nervure.

Hab. Tong King, Haut Mékong, April 13, 1918. 1 ♀.

This is related to "*Bracon*" *umbratilis*, Cam., which occurs in the Khasi and Naga Hills, but the securiform articulation is much broader, the sculpture of the abdomen is coarser and different, and the median segment is smoother. The sculpture seems to be nearer to that of "*Bracon*" *firmus*, Cam., but Cameron does not mention the sculpture of the third tergite, and the calcaria in *firmus* are said to be white, not dark as in the present species.

Subfamily EXOTHECINÆ.

Eumorpha vitalisi, sp. n.

♀. Ferruginea; mandibulis apice, antennis, abdomine supra pedibusque nigris; mandibulis basi, facie, pedibusque anticis intermediisque flavo-ochraceis; abdomine subtus albido-flavo, nigro-maculato; alis flavis, tertio apicali infuscatis; venis apice fuscis; stigmatibus venisque basi ochraceis.

Long. 18 mm.; terebræ long. 21 mm.

♀. Face opaque, delicately punctured-rugulose, sparsely clothed with long fulvous hairs. Antennæ about 15 mm. in length, 107 jointed. Front smooth and shining, shallowly concave, with a low longitudinal carina; vertex shining, with small sparse punctures. Head slightly narrowed behind the eyes, which are nearly as far from the posterior margin of the head as they are from the anterior ocellus. Thorax smooth and shining; notauli shallow,

extending well beyond the middle of the mesonotum ; median segment finely and rather closely punctured at the base, smooth at the apex, with a longitudinal median groove. Abdomen elongate, about half as long again as the head, thorax, and median segment combined, the four basal tergites longitudinally coarsely rugose-striolate ; the first tergite coarsely obliquely striate on the basal half, nearly half as long again as its apical breadth, rather strongly convex in the middle, the lateral grooves indistinctly transversely striated. Second tergite with a feebly convex and strongly longitudinally striated, but ill-defined, triangular basal space reaching to the middle ; the spaces at the anterior angles small, divided from the rest of the tergite by a smooth oblique groove, the tergite nearly as long as its apical breadth. Suture between the second and third tergites, also the two following sutures finely crenulate. Third and fourth tergites much broader than long ; with large smooth areas at the basal angles nearly reaching the apical angles and bounded by a finely crenulated groove. Fifth tergite rugose in the middle, the remaining tergites minutely punctured. Valvulæ clothed with short hairs which are black on the basal half, fulvous towards the apex ; terebra with four ill-defined joints on its apical third. Nervulus strongly postfurcal ; radial cell not quite reaching to the apex of the wing, second abscissa of the radius as long as the third, recurrent nervure interstitial.

Hab. Vieng Vai, Haut Mékong ; June 10, 1918. 1 ♀.

This genus was described by Szépligeti from an Ethiopian species, *E. nigripennis*, Szép.

The present species agrees well in structural details with that insect, though the recurrent nervure is not interstitial in *nigripennis*. Both species show the curious jointed terebra. Superficially and in colour the present species resembles *Iphiaulax halyaetus*, Cam.

Subfamily AGATHINÆ.

Cremnops mekongensis, sp. n.

♀. Testacea ; antennis, tibiis posticis apice, tarsis posticis, terebra valvulisque nigris ; alis flavo-hyalinis, venis flavis, vena basali macula ferruginea.

Long. 8 mm. ; terebræ long. 3 mm.

♀. Rostrum very long ; head smooth and shining, the front deeply excavated above the base of the antennæ, the excavation divided by a longitudinal carina ; a few small punctures on the vertex. Mesonotum finely punctured, a

distinct longitudinal furrow on the anterior portion of the median lobe; notauli deep and finely crenulate, reaching almost to the posterior margin. Scutellum convex, shining, with sparse minute punctures; a deep, broad, transverse groove at the base, in which are three longitudinal carinæ. Median segment with two strong, parallel, longitudinal carinæ in the middle, on each side of which are two rather lower parallel carinæ, between the carinæ are lower transverse carinæ giving the segment a coarsely reticulate appearance; on a slightly lower level is an oblique lateral carina on each side just below the spiracle. Mesopleuræ sparsely and finely punctured. Abdomen smooth and shining. Hind legs strongly punctured and pubescent, tarsal unguis bifid. First abscissa of the radius shorter than the second; cubital nervure separating the first cubital and discoidal cells obsolete, except at the base; second cubital cell quadrate, the second transverse cubital nervure with a feeble angle above the middle. Radial cell reaching almost halfway from the apex of the stigma to the apex of the wing.

Hab. Vien Poukha, Haut Mékong, May 11, 1918. 1 ♀.

Euagathis dubiosus, sp. n.

♂. Flavo-testaceus; flagello, abdomine pedibusque posticis nigris; alis flavis, stigmatibus venisque flavis, macula parva prope basin stigmatis nigra.

Long. 10 mm.

♂. Face finely punctured, with a short median depression below the base of the antennæ, the lamellæ between the antennæ small. Front only shallowly concave, the concave area without marginal carinæ, smooth and shining; vertex sparsely and very minutely punctured. Antennæ about 12 mm. in length. Mesonotum closely and finely punctured; the median lobe obliquely depressed anteriorly, with three low carinæ extending from the anterior margin to beyond the middle, the apex of the lobe beyond the carinæ smooth and shining; notauli deep, not crenulate. A deep, broad depression, in which are three longitudinal carinæ, at the base of the scutellum; postscutellum longitudinally striated. Median segment with a longitudinal carina above and another below the large elongate spiracle, the dorsal surface with a transverse basal depression and three almost parallel longitudinal carinæ, two oblique carinæ on each side from the basal depression almost reaching the lateral carina. Abdomen smooth and shining, a small transverse depression on each side at the base of the second segment. Hind legs very closely punctured; tarsal unguis bifid. Second cubital

cell almost pointed on the radius, the second transverse cubital nervure curved. Apex of the radial cell a little further from the apex of the wing than from the apex of the stigma.

Hab. Houei Sai, Haut Mékong, June 6-10, 1918. 1 ♂.

Possibly a form of *Agathis maculipennis*, Brullé, which it resembles in colour, but the second fuscous spot on the fore wing is absent in the present species. Brullé's description is not sufficient to indicate whether his species should be placed in *Euagathis* or *Disophrys*.

XLIII.—*A remarkable new Ball-rolling Beetle*
(Family Scarabæidæ). By GILBERT J. ARROW.

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A SINGLE specimen of the extraordinary insect here represented, bearing no label to record its origin or habitat, was in the collection of the late B. G. Nevinson, recently presented to the British Museum by his son. Probably, like its nearest allies, it inhabits the western part of Southern Africa, possibly the Bihé district of Angola, from which Mr. Nevinson received other interesting beetles. The specimen is a male, and the great enlargement of the fore legs is no doubt distinctive of that sex. The enormously thickened front femora seem to indicate great muscular power, and the strangely shrunken intermediate legs appear more singular by contrast. The insect is a striking example of specialization by successive atrophy of its members. The front tarsi have disappeared in all the ball-rolling Scarabæidæ; the wings also have gone in the present genus, and here we seem to be advancing towards a reduction in the number of legs from six to four.

I refrain from establishing a new genus for this species in view of the unsatisfactory character of several of those at present recognized in the group. I can find no sufficient reason for separating *Pachysoma* and *Mnematium*. Although *M. silenus*, Gray, has the middle coxæ apart, the type-species, *M. ritchii*, has not, and the features relied upon by Macleay for its severance from *Pachysoma* have been found to have no importance. Similarly, there seems no adequate ground for separating *Mnemotidium* from *Sebasteos*.

Mnematium cancer, sp. n.

Nigrum, nitidum, glabrum, corpus depressum, latissimum, capite antice 6-dentato, supra haud dense tuberculato, pronoto hic et illic minute punctato, lateribus serratis, basi leviter sinuato,



Turner, Rowland E. 1919. "On Indo-Chinese Hymenoptera collected by R.Vitalis de Salvaza." *The Annals and magazine of natural history; zoology, botany, and geology* 3, 425–433.

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