

DESCRIPTIONS OF NEW GENERA AND SPECIES OF
HYMENOPTERA COLLECTED BY MAJOR C. G.
 NURSE AT DEESA, SIMLA AND FERROZEPORE.

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PART II.

(Continued from page 293 of this Volume.)

ANTHOPHILA.*

LAMPROAPIS, *gen. nov.*

Wings with two cubital cellules in the forewings; the second cellule receives both the recurrent nervures; the first at a slightly greater distance than the second from the transverse cubital nervure. Radial cellule long, narrow, lanceolate, extending to the apex of the wing; the transverse median nervure is received on the outer side of the externo-median, not behind it. Antennæ stout, bare, the second joint is two-thirds of the length of the third; the last joint is about one-third longer than the preceding. Ocelli not quite forming a triangle (. . .). Clypeus transverse, the labrum large, gradually narrowed towards the apex. Mandibles long, rather narrow, hollowed on the outer side. Legs thickly covered with short pubescence; the claws are bifid; the anterior calcaria are cleft at the apex and have, on the upperside, a broad, diaphanous, rounded dilatation; the middle tibiæ have only one spur; the hinder two; they are sharp and bare; the basal joint of the hinder tarsi is stout and is longer than the following three joints united. Scutellum large, convex, depressed in the middle above. The base of the median segment forms a large triangular area. Abdomen smooth and shining, sparsely haired towards the apex; the basal segment is largely depressed at the base; the pygidium depressed; the sides raised, keeled; the apex incised in the middle. The abdomen is longer than the head and thorax united; it is narrowed at the base and apex and is distinctly curved above; there are seven dorsal segments.

This genus has no near relationship with any of the known Indian genera with two cubital cells. It comes nearest to the European genus *Dufourea* with which it agrees in having the body bare and shining; it differs from it in the transverse median nervure, being received in

* To the list of Indian Bees should be added *Epeolus fervidus*, Smith, Description of New Sp. of Hym., p. 102, from the Bombay District. Col. Bingham has overlooked the description of this species. The genus is not included in his work. The species are parasitic and are found in most parts of the world.

front of, not behind, the externo-median; the head is much more distinctly narrowed behind the eyes and the occiput is not transverse, but incised; the scutellum is convex, distinctly raised, and rugose and depressed in the middle; the radial cellule is more elongated, it reaching nearer to the apex of the wing; and there is a marked difference in the relative lengths of the discoidal cellules; in *Dufourea* the first and second are of about equal lengths; in the present genus the first is much longer and narrower compared to the second; the third also is longer and narrower, being longer than broad, not broader than long. It cannot readily be confounded with *Panurgus*. It has more the appearance of *Halictus*. I unfortunately can say nothing about the form of the trophi, not having a spare specimen to risk dissecting.

LAMPROAPIS MACULIPENNIS, *sp. nov.* (Pl. fig. 2.)

Nigra, nitida; capite thoraceque albo pilosis; alis hyalinis, apice fusco-violacis, nervis stigmataeque nigris. ♀.

Long: 8 m.m.

HABITAT: Simla.

Scape of antennæ closely punctured, and thickly covered with black pubescence; the flagellum with a pale pile. Head closely and distinctly punctured and sparsely covered with long fuscous hair; the orbits margined. Face and clypeus thickly covered with depressed silvery pubescence and strongly and closely punctured; the depressed labrum is thickly and similarly covered. The collar is smooth and depressed behind. Mesonotum closely, uniformly and rather strongly punctured; in the centre is a narrow, deep furrow; scutellum roundly convex, rugosely punctured, widely depressed in the middle and thickly covered with long black hair. The triangular area on the median segment is large, strongly aciculated, more strongly at the base than at the apex; the base is irregularly striated. Pleuræ closely punctured, the lower part and the sternum thickly covered with white pubescence. Legs black; the apex of the fore femora and the fore tibiæ in front are rufo-testaceous; the tarsi and apex of the tibiæ are thickly covered with fulvous pubescence; the rest of the legs have a sparse white pile. Abdomen smooth and shining, bare, the apex sparsely pilose.

MELANAPIS, *gen. nov.*

Last abdominal segment with a longitudinal bare rima, bordered by distinct keels; its sides thickly covered with long stiff hairs. Trophi

short; the labial 4-, the maxillary palpi 6-jointed; the basal joint of the labial is not quite twice the length of the second--about the length of the second and third united; the apical two joints are sub-equal. Ocelli in a curve (. . .). Face and clypeus not elongated; the apex of the clypeus with a distinct border triangularly projecting at the apex and slightly, but distinctly, curved. Head and thorax thickly covered with longish hair; the median segment with an area on the base. Scutellum flat. Legs thickly haired; the hair on the hinder tibiæ and tarsi long and thick; their claws have a sub-apical tooth; the front calcaria have a membranous dilatation at the base; there is only one on the middle tibiæ; the hinder are long, thin, curved and bare. Wings with three cubital cellules; the second and third are equal in length on the top; but below the third is about one-half longer, being nearly as long as the lower side of the first; both the recurrent nervures are received shortly beyond the middle of the cellules; stigma distinct, the radial cellule is narrow, longish, but not reaching to the apex of the wing. Abdomen, except on the apical segments, bare and shining; the apical segments thickly covered with long black hair; the ventral surface is almost bare.

The antennæ are bare and shining, short, about the length of the thorax; the third joint twice the length of the fourth; the mandibles are longish, stout, and end at the apex in a broad, bluntly rounded tooth which is clearly separated; the labrum is not produced, the tarsi are short and the apical joints are narrow, compared to the basal one, which is as long as the others united and enlarged; the middle joints are fringed with stiff hairs at the apex; the last joint is as long as the preceding two united. The anterior ocellus is not in a pit. The front is keeled in the middle. Eyes parallel, reaching close to the base of the mandibles.

The deep black body, large size and violaceous wings give this genus the appearance of a small *Xylocopa*, but it has no near relationship to that genus. In Bingham's table on p. 414 this genus comes into, "A. Forewings with three cubital cells, a Maxillary palpi 6-jointed, a^1 Posterior tibiæ densely pubescent, a^2 Ocelli in a curve on the vertex"; but it cannot be confounded with *Halictus*, *Nomia* or *Tetralonia*, the three genera included in the section. It has the anal rima of *Halictus*, but otherwise has no near relationship to that genus.

MELANAPIS VIOLACEIPENNIS, *sp. nov.* (Pl. fig. 1.)

Nigra, nitida, capite thoraceque nigra pilosis; alis fusco-violaceis, nervis stigmatæque nigris. ♂ et ♀.

Long : 13-14 m.m.

HABITAT : Ferozepore.

Antennæ almost bare; from the third joint rufous beneath. Head covered with long black hair; thickest on the occiput and beneath. Clypeus closely and distinctly punctured and sparsely haired; the face is less distinctly punctured and more thickly haired; the apex of the clypeus is roundly, but not deeply, incised and has a distinct margin. Mandibles smooth and covered with long black hair on the underside. Thorax thickly covered with long black hair. Mesonotum strongly and closely punctured; the centre less closely than the sides and apex. Scutellum similarly punctured, most closely towards the apex. Median segment rugosely punctured; in the centre, at the base, is a large, somewhat triangular area, formed of irregular longitudinal keels, intersected with short, irregular transverse ones. Mesopleuræ closely rugosely punctured. Wings uniformly fuscous-violaceous; the stigma and nervures black. Legs black; the four hinder thickly covered with long black hair; which is very long and thick on the hinder tibiæ and to a less extent on the metatarsus. Abdomen smooth and shining, bare except on the fifth segment, which is thickly covered with long black hair; the sixth segment is bare in the middle; the bare part being distinctly bordered or keeled; outside the border it is fringed densely with stiff black pubescence. The apical two ventral segments are fringed thickly with long black, stiff pubescence; the others are almost bare.

The ♂ is similar to the ♀ and is, if anything, more thickly haired; the legs and abdomen offer no noteworthy peculiarity.

ANDRENA SIMLÆNSIS, *sp. nov.*

Nigra, nitida, sparse albo pilosa; clypeo albo; basi metanoti punctata; alis hyalinis, stigmatæ fusco. ♂.

Long : 9 m.m.

HABITAT : Simla.

Scape of antennæ shining, sparsely covered with long white hair; the flagellum with a pale pile. Clypeus smooth and shining, yellowish-white; there is an oblique white mark on either side of its lower edge between it and the eyes; the vertex behind the ocelli is bare, smooth and shining; the rest of the vertex and the front covered, but not

thickly, with long blackish hair. Mandibles long, curved; when closed their apices reach near to the inner side of the eyes; they are black; their apex bright red; at the base of the red part, and distinct from the apex, is a rounded, clearly separated tooth. Thorax smooth and shining, sparsely covered with longish white hair; the mesonotum is minutely and closely punctured; on it are two longitudinal furrows; the punctation is closer and stronger at the apex. Median segment opaque, closely granular, the area clearly separated and not differing in sculpture from the rest of the segment. Legs black; the hair on the femora is white, sparse and long; it is thicker on the tibiæ; on the metatarsus it is still denser, long and of a fulvous tinge; the spurs are pale. Abdomen smooth and shining; the apices of the segments are brownish; the basal four dorsal segments are almost bare; the apical segments are fringed with long brownish hair, the ventral segments are sparsely covered with long pale hair. The second cubital cellule at the top is as long as the third; the first and second transverse cubital nervures are distinctly bullated at the top and bottom.

This species comes into Bingham's section "A. Enclosed space at base of median segment punctured" and "B. Median segment without a medial vertical furrow"; but is not related to either of the species included in it.

CHRYSIDIDÆ.

EUCHRÆUS CUPREIVENTRIS, *sp. nov.*

Viridis, coeruleo maculato; geniculis, tibiis tarsisque testaceis; alis fusco-violaceis. ♀ .

Long : 10 m.m.

HABITAT : Deesa.

Scape of antennæ green, closely punctured and covered with white pubescence; the flagellum black, covered with a white down. Vertex bright-green, with golden and blue tinges; strongly and deeply punctured and sparsely covered with short white pubescence; the depressed front is sparsely and shallowly punctured; above thickly covered, on either side of the middle projection, with depressed white pubescence; the sides are also covered with depressed pubescence, as well as the sides of the clypeus. The apex of the clypeus has a row of large, deep, irregular foveæ. Mandibles rufo-testaceous, darker towards apex; the base has a green patch. The front ocellus is surrounded at the back and sides by a smooth furrow, which is prolonged below them at the apex.

Pronotum closely and rather strongly punctured ; at the sides in front it projects into sharp, short teeth ; the apex laterally, broadly triangularly projects ; the base in the middle is slightly and broadly incised. The base of the mesonotum is depressed broadly on the sides ; the depression is widest on the innerside and is finely and closely punctured ; the rest of the mesonotum bears scattered, moderately large and deep punctures which are largest in the middle, close to the scutellum, it being there blue coloured. Scutellum deeply punctured ; the punctures are large and deep ; their boundary walls are mostly blue. The post-scutellum projects over the median segment ; it is large, broad at the base, becoming gradually narrowed towards the apex which is rounded ; it is coarsely and deeply punctured like the scutellum and is, for the greater part, blue. The median segment, immediately beneath it, is stoutly punctured ; the sides with three stout oblique keels. In the centre of the segment is a large area divided down the centre by a stout keel ; the top is broadly rounded on either side ; inside, above the middle on either side, are two stout, slightly oblique keels ; below is a short, irregular, stout curved keel. The sides of the segment triangularly project and are closely, rugosely punctured. Propleuræ irregularly striated and with some deep punctures ; below the middle is a curved projection ; the part below this is closely and minutely punctured. The tegulæ large and rather strongly punctured. Wings uniformly fuscous-violaceous ; the nervures black ; the radius is thick. Abdomen : the apex of the first, the base and apex of the second and the base of the third segments closely and minutely punctured ; the rest of them bear larger, more widely separated punctures ; the apical depressions are thickly and broadly covered on the basal region with depressed white pubescence ; the apex beyond the depressions is closely and strongly punctured ; the extreme edge is beset all over with stout, mostly bluntly pointed, short spines intermixed with smaller, sharper ones. The ventral surface is entirely coppery-brown in colour and is smooth and shining. The apex of the first segment in the centre and the base and apex of the second and third more broadly blue ; the green has slight golden tints ; the sides of the first and second segments at the apex are covered with white pubescence. The coxæ, trochanters and femora are bluish-green ; the fore femora at the apex, the four front tibiæ anteriorly and the hinder knees, tibiæ and tarsi are rufo-testaceous.

The apical teeth appear to be more numerous than usual ; the large apical foveæ are few in number and are mixed up with the numerous smaller punctures which beset the whole of the broad apical margin ; the mesopleuræ are clearly separated from the pro- and meta-pleuræ ; on the apex is a wide furrow, which ends below in a rounded projection.

The genus *Euchræus* is of small extent and has not hitherto been recorded from India. It is easily known by the apex of the abdomen being beset all over with numerous large and small teeth and not with a few large ones as in *Chrysis*. This form of the apex is shown by *Du Buysson* in Journ. Bomb., Nat. Hist. Soc., X., Pl. I., f. 13. The apex of the present species differs from that of the European species there figured in having a gradually rounded slope, the centre not being so much raised and separated from the base and apex.

ICHNEUMONIDÆ.

Pimplides.

GLYPTA NURSEI, *sp. nov.*

Nigra, pedibus anterioribus flavis, posticis fuscis, coxis rufis ; alis hyalinis, nervis stigmæteque nigris. ♂.

Long : 8-9 m.m.

HABITAT : Simla.

Antennæ entirely black, thickly covered with a black microscopic pile. Face closely and strongly punctured and covered with silvery pubescence ; the clypeus and mandibles yellow and smooth ; the mandibular teeth blackish ; the palpi rufo-testaceous ; the front and vertex, if anything, more strongly, but not quite so closely, punctured as the face. Thorax shining ; above covered with silvery pubescence ; the mesonotum is closely and uniformly punctured ; the scutellum is closely punctured ; its lateral slope is irregularly striated ; the lateral depression is closely, obliquely, irregularly striated. Post-scutellum closely punctured. Median segment areolated all over ; in the centre is an elongated area reaching to the apical slope, which is narrowed on the basal and longer part—the part behind the transverse keel ;—the apical slope is bounded above by a stout keel ; there is a longitudinal keel on the outer side, so that there is thus a larger central and two smaller lateral areas ; there are two large lateral areas on the basal slope ; the basal one being somewhat the larger and there is a large spiracular area. The four front legs are

lemon-yellow ; the hinder pair fuscous, with the coxæ and trochanters rufous. Wings clear hyaline, nervures and stigma black. Abdomen black ; the ventral surface pale ; the dorsal segments are closely punctured and covered with a white pubescence ; the oblique depressions are deep ; there are two longitudinal keels on the base of the petiole and one short central one on the apex. The tegulæ and the part of the pronotum next to them are yellow.

LISSONOTA APICIPENNIS, sp. nov.

Nigra, capite thoraceque flavo maculatis ; abdomine rufo, nigro-lineato ; pedibus rufis, nigro lineato ; coxis flavis ; alis hyalinis, apice fusco-maculato. ♀.

Long : 10 m.m., terebra 9-10 m.m.

HABITAT : Simla.

Antennæ black ; the scape yellow, the flagellum brownish beneath. Head black ; the face, clypeus, the orbits all round, mandibles and palpi, lemon-yellow ; the face is closely punctured and covered with a stout, white pubescence ; the clypeus smooth ; the front and vertex closely and distinctly punctured. Mandibular teeth black. Thorax black ; a large triangular mark on the side of the prothorax—the narrow end on the base,—the base of the propleuræ, the tegulæ, the scutellum, except a triangular black mark on the base, the post-scutellum and the tubercles, lemon-yellow. The thorax is closely and uniformly punctured all over ; there are no keels on the median segment. Legs testaceous ; the coxæ and trochanters lemon-yellow, the middle coxæ behind, the posterior before and behind, the basal joint of the fore trochanters above, the base of the four anterior entirely and a line on the upper side of the four front femora, black. Wings hyaline ; the apex between the radial and cubital nervures smoky ; the stigma fuscous, the nervures darker in tint ; the areolet has a long pedicle, it being not much shorter than the lower divisions ; the outer branch is largely bullated ; the recurrent nervure is received shortly behind it. Abdomen rufous, the base and apex of the petiole and the apex of the second and third segments lemon-yellow.

LISSONOTA ZANTHORIA, sp. nov.

Flava, supra nigro-maculata ; pedibus pallide fulvis, coxis trochanteribusque flavis ; alis hyalinis, nervis stigmatæque nigris. ♂.

Long : 10 m.m.

HABITAT : Deesa.

Scape of antennæ black, yellowish below; the flagellum brownish, black above. Head lemon-yellow; the ocellar region and the central part of the occiput, black. Face closely punctured and covered with white hair; the clypeus smooth, except for a few punctures on the top. Mandibular teeth black. There is an irregular mark on the base of the mesonotum, an elongated mark—roundly narrowed towards the base, the apex roundly incised—the sides and apex and two curved marks, on the base of the median segment, extending from the middle of the base to the spiracles, black. The mesonotum and the scutellum are uniformly punctured all over; the median segment is more closely and strongly punctured; there is a transverse keel above the apical slope. The pleuræ are punctured like the upper surface. Legs obscure fulvous, the posterior darker in tint; the basal joint of the hinder trochanters black; the hinder tarsi are infuscated. On the abdomen the middle of the petiole is broadly,—the band incised in the middle behind—the middle of the second, third and fourth segments broadly and the base of the others broadly, black.

The size and shapes of the black marks on the thorax vary.

LISSONOTA CLARIPENNIS, sp. nov.

Flava, capite thoraceque nigro maculatis; abdomine flavo lineato, apice rufo; pedibus flavis, femoribus posticis fulvis; alis hyalinis, stigmatibus fusco. ♂.

Long: 9 m.m.

HABITAT: Simla.

Scape of antennæ black, yellow below; the flagellum brownish, darker above. Head black; the face, oral region, the inner orbits—broadly below—and the outer still more broadly, lemon-yellow. The face is closely, but not strongly, punctured. Mesonotum black, except for a yellow line bordering the central region; the line is triangularly dilated at the base.

Scutellum yellow, the sides and base irregularly bordered with black. The median segment has two large marks, extending from the base to shortly beyond the middle, and irregularly narrowed at the apex and with an irregular yellow mark in the centre near the base; the apex is narrowly black. The whole thorax is closely and distinctly punctured. Legs yellow; the four anterior trochanters and femora

lined with black above ; the hinder legs obscure fulvous ; the innerside of the coxæ and the basal joint of the trochanters black ; the apex of the tarsi infuscated. Wings clear hyaline, the areolet appendiculated ; the pedicle longer than the lower branches. Abdomen black above, the base of the petiole, its apex more narrowly, and the apices of the second, third and fourth segments, yellow ; the apex of the fourth and the following segments entirely rufous, with their apices narrowly lined with yellow.

Tryphonides.

LAPAPHRAS, *gen. nov.*

Areolet 4-angled, longish, oblique, narrow ; the first transverse cubital nervure is short, straight and oblique ; the second is more than twice the length of the first and is roundly curved ; the two are united at the base and at the apex ; the second forms a rounded curve with the cubitus ; the recurrent nervure is at the apex of the areolet almost touching the apical abscissa of the cubitus ; the areolet is nearly three times longer than broad. Radial cellule wide ; the basal abscissa of the radius is straight and oblique ; the apical is longer and roundly curved. Antennæ stout, not tapering towards the apex ; the third and fourth joints are equal in length ; the scape is short, scarcely twice the length of the second. Head not quite so wide as the thorax ; the face projects in the centre, the sides being oblique ; the clypeus is roundly convex, separated from the face, but not by a distinct furrow ; its apex is rounded. Mandibles brought gradually to a point to the apex, which is rounded and without a subapical tooth. Eyes large, parallel, separated by a short space from the base of the mandibles. Occiput roundly, but not deeply, incised. Scutellum convex, but not raised above the mesonotum. Median segment with a gradually rounded slope to the apex ; the middle with a longitudinal keel which bifurcates at the apex ; the spiracles are small, circular. Legs of normal size ; the four hinder tibiæ armed with two spurs ; the claws are simple. Abdomen roundly convex above, not compressed laterally ; the petiole becomes gradually wider towards the apex ; the spiracles are placed shortly behind the middle ; the apical segment is bluntly rounded.

Belongs to the *Tryphonides*. The distinctive characters are the unidentate mandibles ; the oblique narrow longish areolet, the longitudinal keel on the median segment, bifurcating at the apex, and the rather short, wide, radial cellule with its straight, oblique abscissa. of the

radius. The transverse basal nervure is interstitial, above it is not united to the stigma; the cubitus has a broad, rounded curve; the ocelli are large; the head is well developed behind the eyes, but does not project there; the tarsi are spinose.

LAPAPHRAS NIGRICEPS, *sp. nov.*

Lutea, capite, antennis palpisque nigris; tarsis nigro maculatis; alis fuscis, nervis stigmatæque nigris. ♀ et ♂.

Long : 6-7 m.m.

HABITAT : Simla.

Antennæ black, thickly covered with a microscopic pile; the scape smooth and shining. Head shining, the face aciculated; the clypeus is more shining than the face; its apex bears a row of distinct punctures; the palpi dark-fuscous. Thorax smooth and shining; the pleuræ lighter in tint than the mesonotum which, as is also the metanotum, is thickly covered with fulvous pubescence. Legs coloured like the thorax; the apex of the four hinder tibiæ and of the joints of the four hinder tarsi, black. Abdomen smooth and shining, thickly covered with fulvous pubescence; the extreme base of the petiole is triangularly depressed at the base.

NOTHAIMA, *gen. nov.*

Areolet open. Face swollen as in *Exochus*. Clypeus obliquely depressed, rounded above, clearly separated from the face and forming an angle with the mandibles. Apex of the mandibles curved inwardly and having two unequal teeth, the upper being the larger. Parapsidal furrows distinct. Scutellum roundly convex, not much raised above the level of the mesonotum. Median segment with two stout keels down the centre, and a more slender one on either side of the spiracles; there are no transverse keels; the spiracles oval. Legs stout, the femora thickened; there are two spurs on all the legs; the claws are long, curved and simple. Petiole flat, becoming gradually wider to the apex, which is about four times wider than the base; the spiracles are placed near the apex of the basal third; there are no longitudinal keels on it, or on the second segment.

The basal joints of the flagellum are equal in length; the antennæ are stout and are placed well up on the head; the occiput is roundly incised, in the middle it is excavated above; the ocelli are placed near the edge and are large.

Allied, by the form of the head, to *Exochus* ; is easily known from it by the depressed clypeus, by the curved apex of the mandibles and by the two longitudinal keels on the median segment.

NOTHAIMA BICARINATA, *sp. nov.* (Pl. fig. 10.)

Nigra, pedibus anterioribus rufo-testaceis, coxis nigris ; alis hyalinis, nervis stigmatæque nigris. ♂.

Long : 10 m.m.

HABITAT : Simla.

Antennæ black, stout, the flagellum dark-brownish beneath. The face is closely and strongly punctured ; the obliquely depressed clypeus is smooth and shining. Mandibles black ; the middle with an oblique testaceous mark ; the palpi yellowish-testaceous. Thorax entirely black ; the mesonotum is thickly covered with short fuscous pubescence ; the parapsidal furrows are deep, the middle lobe being thus clearly separated. The basal half of the scutellum bears scattered punctures. Median segment irregularly rugosely punctured ; there is one central area which reaches to the apex of the segment, and is bounded by two straight keels ; its basal half is smooth ; the apical bears some stout, irregular transverse keels ; there is a narrow keel on either side of the spiracles. Mesopleuræ punctured, but not very closely or strongly ; the apex of the meta-closely, finely, obliquely striated. The four hinder legs are dark, rufo-testaceous, the coxæ black ; the hinder legs are black, the femora and tibiæ with a slight fuscous or brownish tinge ; the femora are slightly, broadly hollowed on the inner side. Wings clear hyaline ; the nervures and stigma black ; the areolet is completely open. Abdomen black ; the basal three ventral segments obscure testaceous ; the petiole is irregularly, coarsely, closely shagreened and striated, except at the apex, where it is smooth and shining ; the base in the middle is smooth, depressed and furrowed in the centre from near the base.

EXOCHUS APPENDICULATUS, *sp. nov.*

Niger, pedibus flavis, femoribus late fulvis, coxis posticis late nigris ; alis hyalinis, nervis stigmatæque nigris. ♀.

Long : fere 7 m.m.

HABITAT : Deesa.

The flagellum is brownish, the scape yellowish beneath. Face regularly and closely punctured and thickly covered with longish white hair ; the front is smooth, the vertex is sparsely punctured. Mandibles

sparsely punctured; the apex brownish. Thorax smooth and shining; the mesonotum thickly covered with fuscous pubescence; the scutellum is sparsely punctured; the post-scutellum has a round fovea on either side at the base. Median segment regularly areolated; the central area is large and extends to the base; the basal half of the keels roundly curved; the narrowed basal part is as long as the apical. Legs yellow, the femora and coxæ are fulvous for the greater part; the basal half of the hinder coxæ is black; the hinder tarsi fuscous. Wings clear hyaline; the costa and stigma are darker fuscous; the areolet is appendiculated, the cellule is small, oblique; the outer nervure is faint. Abdomen smooth and shining; the petiole is closely punctured to near the apex; the keels reach to near the middle.

EXOCHUS XANTHOPUS, sp. nov.

Niger, facie, linea pronoti late, tegulis, scutello, post-scutello maculaque. ♀.

Long : 5 m.m.

HABITAT : Simla.

Antennæ black; the scape yellowish beneath. Head black; the face, oral region, the inner orbits to near the top and a somewhat triangular mark on the hinder, inner edge of the eyes, lemon-yellow. Face strongly and distinctly punctured and covered with white pubescence; the front and vertex smooth and shining. Mandibles and palpi yellow; mandibular teeth black. Thorax black, smooth and shining; the edge of the pronotum broadly—more broadly at the apex than at the base,—the tegulæ, scutellum, the apical half of the post-scutellum, and a large mark on the mesopleuræ in the middle at the base, lemon-yellow. The suprmedian area is continued to the base of the segment; its basal part is obliquely narrowed; the other areæ are clearly defined. Legs clear lemon-yellow, the hinder coxæ black. Abdomen smooth and shining; the basal part of the petiole bears two stout keels.

EXOCHUS CURVICARINATUS, sp. nov.

Niger, scutello flavo-lineato; pedibus flavis, coxis trochanteribusque nigris; alis hyalinis, nervis stigmatibus nigris. ♀.

Long : 6 m.m.

HABITAT : Simla.

Antennæ black; the scape yellow beneath. Head black; the face and oral region, the inner orbits to near the lower ocelli and a small oblique conical mark near the top of the eyes on the innerside, lemon-yellow.

Face closely and distinctly punctured and thickly covered with short white pubescence. Front and vertex smooth and shining. Mandibles and palpi lemon-yellow; the mandibular teeth black. On the thorax the edge of the pronotum, the tegulæ, a line round the sides and apex of the scutellum and the apex of the post-scutellum are lemon-yellow. Thorax smooth and shining; the keels on the median segment are not very stout; the central area is large, wide; the basal keels are roundly curved. Legs lemon-yellow; the hinder coxæ and trochanters black. Wings clear hyaline; the stigma and nervures black; the transverse cubital nervure is short; the part of the cubitus between it and the recurrent nervure is double its own length. Abdomen smooth and shining; the keels on the base of the petiole are short.

This is a smaller species than *E. zanthopus*, and may be known from it by the scutellum being only lined along the edges with yellow, and by the keels bounding the central area of the median segment being roundly curved at the base, not straight and oblique.

EXOCHUS ERYTHROPUS, *sp. nov.*

Niger, pedibus rufis; alis hyalinis, nervis stigmatæque nigris.

Long: 7 m.m. ♀.

HABITAT: Simla.

Antennæ black; the scape rufous beneath. Face closely and distinctly punctured, covered with a depressed pale pile; the clypeus smooth, sparsely punctured above; the front and vertex are more sparsely punctured than the face; the front bears a narrow longitudinal furrow. Immediately below the antennæ is a transverse rufous band; the mandibles are rufous, except at the apex; the palpi testaceous. Thorax smooth and shining; the mesonotum is thickly covered with pale-fuscous pubescence. The areae on the median segment are clearly defined by stout keels; the supramedian is three times as long as broad; it is narrowed and rounded at the base, transverse at the apex. Legs entirely rufous; the anterior of a slightly paler, more yellowish tinge. Wings clear hyaline; the stigma and nervures black; the areolet obsolete; the apical nervures in the hind wings are faint, almost obsolete.

BRACONIDÆ.

BRACON PUNJABENSIS, *sp. nov.*

Ferrugineo; antennis tibiis tarsisque posterioribus nigris; alis fumatis, stigmatæ nigro, basi rufo. ♀.

Long : 9-10, terebra 7 m.m.

HABITAT : Ferozepore.

Antennæ black ; the scape covered with black hairs ; the flagellum with a pale down. Head smooth and shining ; the face and oral region closely and distinctly, but not strongly, punctured, and sparsely covered with pale, longish hairs ; there is a narrow longitudinal furrow in the front. Thorax smooth and shining, above sparsely covered with short pale hairs ; the oblique furrow on the base of the mesopleuræ is smooth and extends near to the middle ; the furrow on the meta-pleura is wide and deep at the base and becomes gradually narrowed. Wings uniformly dark-fuscous, except for a large oblique cloud in the first cubital cellule, this cloud being prolonged obliquely into the discoidal cellule where it extends into the middle, the basal half being much wider ; the second transverse cubital nervure is surrounded by hyaline bands ; the stigma is rufous to slightly beyond the middle. The apical central lobe of the petiole is stoutly, irregularly, longitudinally striolated ; the outer furrow bifurcates at the apex, the outer fork being wider and deeper. The second segment is coarsely, irregularly, rugosely punctured ; the basal part in the middle is irregularly, longitudinally striolated ; the lateral depressions on it are striated at the bottom ; the securiform articulation is deep, wide, is widened at the sides and is stoutly, longitudinally striated ; the apex of the segment is irregularly striated in the middle ; the other segments are closely punctured ; the fourth and fifth have oblique depressions on the sides and striated transverse furrows at the apices. Legs coloured like the body ; the front tibiæ behind and the four hinder tibiæ and tarsi fuscous-black.

BRACON DEESÆ, sp. nov. (Pl. fig. 11. wing.)

Luteus, antennis nigris, abdomine nigromaculato ; alis flavis, apice maculisque duobus fuscis. ♂ et ♀.

Long : 12, terebra 15 m.m.

HABITAT : Deesa.

Antennæ black, narrowed towards the apex ; the scape covered with blackish hair. Head smooth and shining ; the face covered with long fuscous hair ; the clypeal depression deep, smooth and shining. Mandibles with the apical half deep-black. The ocelli are bounded behind by two deep, curved furrows ; in front of them is a triangular depression. Thorax smooth and shining ; there is an oblique furrow on the base of the mesopleuræ at the base above. Wings yellowish-hyaline ;

there is a fuscous cloud between the base of the stigma and the transverse basal nervure and extending to the opposite side of the wing; a cloud at the apex of the stigma extending to shortly beyond the middle of the cubital cellule; the apex of the wing to near the second transverse cubital nervure and on the lower side extended backwards to beyond the middle of the second cubital cellule. The apex of the hinder wing and its lower side to the middle where it projects obliquely upwards along the cubital nervure, smoky. Legs luteous; the apices of the tarsi blackish. Abdomen luteous, more or less suffused with black; the basal three segments irregularly longitudinally striated, the striae in places forming reticulations; the three transverse furrows are deep and closely, stoutly, longitudinally striated; there is no keel on the second segment; the smooth basal plate is small, indistinct and triangular.

The ♂ is similar; the clouds in the wings are more suffused; the apex of the abdomen is black; the antennae are longer than the body.

DITHERUS, gen. nov.

Eyes hairy. Wings with three cubital cellules; the apical abscissa of the radius faint and curved upwards at the base; the base of the cubitus and the upper part of the recurrent nervure are interrupted, so that the first cubital, the first discoidal and first posterior cellules are not separated completely; the recurrent nervure is received in the first cubital cellule and at a distance from the first transverse cubital nervure; the transverse median discoidal is received shortly behind the middle of the first discoidal cellule; the second discoidal cellule is open at the apex. Face with a sharp keel down the middle, the clypeus is separated from the face, its apex rounded. The mandibles end in a long sharp tooth. Occiput not distinctly margined; broadly, roundly incised. Parapsidal furrows distinct, deep. Scutellum rounded, not raised above the mesonotum. Median segment areolated. Legs stout, the hinder coxæ large; the metatarsus large; thickened.

The head is well-developed behind the eyes, the part between them and the ocelli is depressed; the parapsidal furrows are deep; the petiole is broad at the base, becoming gradually wider towards the apex; there is a distinct suturiform articulation; the cubitus originates from shortly above the middle of the transverse basal nervure, the first discoidal cellule being thus smaller than usual and not so much

narrowed at the apex compared to the base ; the transverse median nervure is received near the apex of the basal third of the cellule ; the anal cellule is open. In the hind wings only the subcostal, the præbrachial and the transverse præbrachial nervures are thick, black and distinct, the others being very faint or obsolete. In the forewings the axillary cellule is not divided. The metacarpus is thickened beyond the stigma ; the radial cellule is long and narrow, extending to the apex of the wing ; the middle ocellus is bordered by furrows.

Belongs to Wesmail's division, *Polymorphi*, but does not fit very well into any of the tribes into which that group is divided. Characteristic are the hairy eyes, the long, narrow radial cellule, the radius curved upwards and the keels on the metanotum.

DITHERUS RUFICOLLIS, *sp. nov.* (Pl. fig. 14.)

Niger, pronoto mesonotoque rufis ; alis hyalinis, apice fumato ; nervis stigmatæque nigris ; capite thoraceque dense albo pilosis. ♀ .

Long : 6-7 m.m.

HABITAT : Simla.

Antennæ black ; the scape closely punctured and thickly covered with short black hair. Head smooth, shining and thickly covered with long white hair ; the clypeus is less thickly pilose. Mandibles dark-rufous before the apex ; the palpi black. The upper part of the mesopleuræ, the pronotum and mesonotum, rufous. Mesonotum thickly covered with short white hair ; smooth, the parapsidal furrows crenulated. The base and sides of the scutellum are dark-rufous ; the lateral furrows are deep and crenulated. Median segment closely punctured ; in the centre is a large area, which is sharply pointed at the top and bottom ; the sides on the upper and lower half straight, oblique ; on the side of this at the base is another area, somewhat triangular in shape, the broad end being at the base. Pro- and meso-pleuræ smooth and shining ; the base of the metapleuræ to the furrow smooth ; the rest rugosely punctured. Legs thickly covered with white hair ; the apex of the fore femora, the extreme base of the hinder and the fore tibiæ and tarsi rufo-testaceous. Wings hyaline, the apex from shortly behind the second transverse cubital nervure smoky, with a slight violaceous tinge ; the second transverse cubital nervure is largely bullated, as is also the cubitus immediately above it ; the apical nervures are pale, as are also the nervures in the hind wings. Abdomen smooth and shining ; the apex densely pilose ; the furrows along

the sides of the petiole are wide and deep ; the suturiform articulation is smooth and deep ; on either side behind it is a shallow, wide, oblique furrow.

PYCNOBRACON, *gen. nov.*

Eyes hairy. Head and wings as in *Bracon*. Abdomen ovate, the petiole broad, clearly separated from, and much narrower than, the second segment, which is enormously large, much larger than all the rest of the abdomen together ; it is rounded and narrowed at the base, transverse at the apex ; the suturiform articulation is distinct and is placed shortly beyond the middle ; the sides of the third and fourth segments project broadly ; the fifth and sixth segments are smooth and shining ; the ovipositor is nearly as long as the abdomen.

The antennæ have about 40 joints and are placed well up on the head, which is obliquely narrowed behind the eyes ; the stigma is large ; the radial cellule is distinctly bordered in front ; the posterior nervure originates from near the middle of the nervure ; the median cellule in the hind wings is large and clearly limited ; the transverse discoidal nervure is interstitial. The mandibles become gradually narrowed to the apex ; the palpi are longish ; the metathoracic spiracles are placed beyond the middle, are distinct and oval.

The form of the mouth refers this genus to the *Cyclostomi*. The form of the abdomen gives it the appearance of one of the *Cryptogastres* to which, however, it has no relationship otherwise. The abdominal form is not unlike what we find in some species of *Spinaria*. Characteristic are the hairy eyes, a feature not known to occur with any genus of the *Cyclostomi*, but which is found in *Chelonus*.

PYCNOBRÆON NIGER, *sp. nov.* (Pl. fig. 13.)

Niger, abdomine rugoso, alis fusco-hyalinis, nervis stigmatæque nigris. ♀.

Long : 5, *terebra fere* 2 m.m.

HABITAT : Simla.

Antennæ 40-jointed, moderately stout, not tapering much towards the apex, slightly longer than the body ; the scape smooth, shining and covered with short pubescence. Front and vertex smooth and shining and covered with short pale pubescence ; the face coarsely aciculated, opaque, tuberculated in the middle below and covered with short pubescence, and some long hairs. Clypeus smooth, shining and bare. Mandibles black, shining, dull piceous before the apex. Palpi

pale, black at the base. Thorax smooth and shining; the median segment thickly covered with long fuscous hairs; the depression at the base of the scutellum is deep and is stoutly crenulated. Wings hyaline, with a slight, but distinct, fuscous tinge; the nervures and stigma black. Legs black, thickly covered with a white pubescence, the coxæ with white hair. Abdomen ovate, the petiole depressed at the base; the apex raised, its base smooth and with an oblique slope; the apex coarsely reticulated; the second and third segments are closely, coarsely, longitudinally punctured; the base of the second segment is reticulated in the middle, where there is a longitudinal keel, which is widened at the base, the widened part becoming gradually narrowed and is hollowed; the suturiform articulation is wide and deep, striated, bifurcated at the sides, the hinder fork being the shorter.

Obs.—I have above compared this genus to *Spinaria*, and undoubtedly it is closely related to that genus as I have understood it when I described two Indian species, that is to say, it is to be referred to the *Cyclostomi*, but, according to some authors, *Spinaria* is related to the *Cryptogastres*—*Chelonus*, &c., Brullé (*Hymén.*, iv., 512), who described the genus for the first time, placed it in the *Cryptogastres*, in which he is followed by Marshall (*Species I.*, *Hym.*, iv., p. 307), who says that there are “*parmi les Cryptogastres exotiques des genres comme Fornicia et Spinaria que offrent une certaine ressemblance avec les Cyclostomes.*” So far as the Indian species known to me are concerned they must be referred to the *Cyclostomes*, inasmuch as they have the mouth widely and roundly incised as in *Bracon* and not transverse and entire as in *Chelonus*, &c. The form of the head, thorax and wings in our Indian species is exactly as it is with the *Cyclostomi*; the form of the abdomen has a certain resemblance to what we find with some of the *Cryptogastres*, but that, however, is hardly sufficient to warrant the genus being placed among them, considering how close is the agreement with *Bracon* in other respects. It is somewhat remarkable that neither Brullé (*l.c.*), Westwood, in his monograph of the genus (*Tijdschr. voor Entomologie*, 1882) nor any other author make any mention of the form of the mouth. We must, therefore, either assume that they have overlooked the fact that the species described by them have the oral structure of *Bracon*, or, if they really have the clypeus of *Chelonus*, then the species I have described from India must be referred to a new genus.

CHALCIDIDÆ.

SPILOCHALCIS SIMLÆNSIS, *sp. nov.*

Nigra, thorace octo-flavo-maculato, medio mesonoti reticulato ; alis fere hyalinis. ♀.

Long : 6 m.m.

HABITAT : Simla.

Antennæ stout, covered closely with a short white pubescence ; the under side of the flagellum brownish-red ; the last three joints become gradually narrowed towards the apex. Head black ; the inner orbits broadly—broadest in the middle ; the outer orbits narrowly above, the lower part of the antennæ keel and the upper side and the apex of the mandibles, yellow. Front and vertex closely and strongly punctured ; the part on either side of the ocelli bearing some large, clearly separated punctures ; the frontal depression finely and closely transversely striated. The face is bluntly keeled in the centre, the keel being closely transversely striated ; the rest is punctured, the punctures being large, moderately deep and broader than long. On the thorax there are two marks, broader than long, on the pronotum, two oblique lines on the sides of the middle lobe of the mesonotum, a shorter line, narrowed towards the apex, opposite the tegulæ, and the sides of the scutellum broadly yellow. Pronotum closely and uniformly punctured ; the mesonotum is not quite so closely and regularly punctured, the punctures being not so closely together, especially on the middle lobe. Scutellum rugosely punctured, and somewhat depressed in the middle ; the apex bears stout, clearly separated, longitudinal keels. Metanotum stoutly, irregularly reticulated. Propleuræ rugosely punctured above, below closely aciculated, and bearing a few irregular striæ. The base of the mesopleuræ is smooth and shining ; the rest irregularly rugose above, the middle with a few stout striæ. Metapleuræ coarsely rugosely punctured. Mesosternum rugosely punctured. Wings hyaline ; their middle and apex slightly, but distinctly, smoky ; the costa and nervures are black. The four front knees, tibiæ and tarsi are yellowish-testaceous ; the hinder trochanters ; the basal fifth of the hinder coxæ on the sides and above, the apex above and a mark on the sides near the apex on the lower side—this mark being dilated on the lower side—yellow. The hinder coxæ are as long as the femora and are thickly covered with white hair ; the under side of the femora is minutely and regularly toothed ; the hinder tibiæ yellow, broadly marked at the base and

middle with black; the tarsi yellow. Abdomen smooth and shining; the petiole is smooth and is half the length of the second segment.

HALTICELLA ORNATIPENNIS, sp. nov.

Nigra, basi flagello antennarum pedibusque anterioribus rufis; alis hyalinis, fusco-bifasciatis. ♀.

Long: 5-6 m.m.

HABITAT: Deesa.

The scape of the antennæ reaches to the top of the head, has a slight curve and is somewhat dilated on the top; it is more or less rufo-testaceous, as is also the base of the flagellum. The head is closely covered with silvery pubescence, closely rugosely punctured, except on the frontal depression, which is smooth in the centre, or at least only aciculated; the eyes on the inner side are bordered by a distinct keel; the antennal tubercles are smooth and shining. Thorax entirely black, closely and regularly punctured; the scutellum ends in two bluntly pointed teeth. Median segment opaque, irregularly longitudinally keeled; the two central keels are distinct and are united at top and bottom, forming thus an enclosed area, which is widest below. Pleuræ closely and distinctly punctured; the basal third of the mesopleuræ is strongly and regularly obliquely striated. Legs black; the four anterior legs, the hinder trochanters and the base of the hinder femora, rufous; the hinder femora bear no teeth, but have two curves in the middle; the part separating them being rounded and the basal curve is the larger; the apex of the hinder tibiæ is roundly depressed or incised on the outside. Wings hyaline; there is a dark cloud at the stigmal region and a larger, lighter coloured one beyond it, the space separating the two being milky-white. The sides of the abdomen, on the lower part, are more or less rufous.

Is referable apparently to Kirby's "genus" *Antrocephalus*, which was founded on two Bombay species described by Walker (*H. fuscicornis* and *H. diversicornis*).

TENTHREDINIDÆ.

FETHALIA, gen. nov.

Wings with 2 radial and 4 cubital cellules; lanceolate cellule divided by a short perpendicular nervure. Antennæ short, thickened towards the apex; the third joint distinctly longer than the fourth. Head largely developed behind and bulging out roundly beyond them; the occiput sharply margined on the top. Clypeus widely and roundly

incised at the apex. Labrum large, if anything, longer than the clypeus; its apex rounded. Mandibles roundly and widely incised at the base on the inner side; there is a large apical, a smaller sub-apical, and behind that a small rounded tubercle-like tooth. Front and vertex without furrows; the front raised broadly in the middle; the raised part is bounded laterally by a smooth furrow. Scutellum pyramidal, ending above in a distinct smooth point, which has a perpendicular slope behind. Sternum separated from the pleuræ by a wide, deep triangular furrow. Legs stout; the claws bifid. Abdomen not much longer than the thorax.

The occiput is roundly incised; the transverse median nervure is received half way between the middle and the base of the cellule; the humeral nervure is curved upwards near the base; in the hind wings the humeral nervure is received shortly behind the transverse one or is interstitial; the eyes slightly converge below and hardly reach to the top of the clypeus and are clearly separated from the base of the mandibles; the parapsidal furrows are distinct, but neither wide nor deep; the middle lobe is not raised and is furrowed in the middle; the tarsal patellæ are distinct; there is no "blotch" on the abdomen.

Belongs to the *Tenthredina*.

FETHALIA NIGRA, *sp. nov.*

Nigra, clypeo, labro, basique mandibularum flavis; alis fusco-violaceis, nervis stigmatæque nigris. ♀.

Long: 12 m.m.

HABITAT: Simla.

Antennæ not much longer than the head and thorax united, stout; if anything, becoming thicker towards the apex; the apical joints fuscous beneath; the last distinctly shorter than the preceding. Head closely and distinctly punctured; the vertex more coarsely than the rest. Clypeus and labrum smooth; the latter fringed with long pale hair. Mandibles black; the base on the upper half above and the upper side of the lower side broadly pale-yellow; behind the teeth is a rufous band. Palpi black. Thorax entirely black; opaque, closely punctured, all over; the pyramidal scutellum is more strongly and less closely punctured; its top smooth and shining. Legs: the four front tibiæ and tarsi pale-yellow below, the patellæ are large. The anterior wings are fuscous-violaceous; the costa, stigma and nervures are black; the second

and third cubital cellules are about equal in length ; the second receives the recurrent nervure shortly, but distinctly, behind the middle ; the second recurrent nervure is received near the apex of the basal fourth. Abdomen smooth and shining.

LITHRACIA, *gen. nov.*

Wings with two radial and four cubital cellules. Lanceolate cellule contracted ; the basal cellule as long as the apical, the two being separated by slightly less than their own length. Hind wings with two cubital cellules. Antennæ slender ; the third joint is slightly longer than the fourth. Clypeus roundly, but not very deeply, incised. Labrum large, somewhat longer than the clypeus. Eyes large, parallel, separated by a small space from the base of the mandibles. Scutellum rather flat ; the lateral keels are broad and reach to the base of its apical third. Post-scutellum sharply keeled down the middle ; the keel is largest at the base. The hinder coxæ are large and reach to the apex of the third segment ; the claws are bifid.

This genus has the large hind coxæ of *Macrophya* and *Pachyprotasis*, but it differs from both in the form of the lanceolate cellule, in the form of the scutellum, and in the keeled post-scutellum.

LITHRACIA FLAVIPES, *sp. nov.*

Nigra, pleuris subtus sternoque pallide flavis ; pedibus flavis, dimidio apicali femorum posticarum, tibiis tarsisque posticis fulvis ; alis hyalinis, stigmatate fusco. ♀.

Long : 7-8 m.m.

HABITAT : Simla.

Antennæ slender, black, the scape yellow beneath. Head black, the face, the lower inner orbits, the outer, on the lower half, the clypeus, labrum and mandibles pallid yellow ; the mandibular teeth piceous and black. Thorax black ; the tegulæ, a small spot before them, the apex of the middle lobe of the mesonotum, the middle and apex of the scutellum, a line between the cenchri, a larger one in the centre behind them, the lower third of the meso and meta-pleuræ and the mesosternum, pallid-yellow. Front and vertex closely rugose ; the frontal depression is raised in the middle. Mesonotum opaque, closely and minutely punctured. The four front legs are pallid-yellow, as are also the hinder coxæ, trochanters and basal half of the femora ; the apical half of the femora, the tibiæ and tarsi rufo-fulvous ; the apex of the tibiæ black, as is also the apex of the last tarsal joint. The wing

have a slight fulvous tinge; the costa is white; the greater part of the stigma dark-fuscous; the nervures blackish; the second transverse cubital nervure is largely bullated in the middle; the third is pale throughout. Abdomen deep-black; the second to sixth segments narrowly lined with white on the apex in the middle.

PACHYPROTASIS DORSIVITTATA, *sp. nov.*

Nigra, abdomine subtus flavo; pedibus flavis, femoribus tibiisque supra tarsisque nigris; alis hyalinis, stigmatè testaceo. ♀.

Long : 10-11 m.m.

HABITAT : Simla.

Antennæ black. Head black; the antennal region, the clypeus, labrum and the outer orbits from shortly above the middle of the eyes, whitish-yellow. Front and vertex coarsely shagreened, running into striations on the sides; the frontal area raised; its middle depressed, the depression keeled in the centre, except at the base; there is a black transverse line over the clypeus, which has the apex widely, deeply and roundly incised. Mandibles pallid yellow, the teeth black and piceous. Thorax black; the edge of the pronotum, tegulæ and the base of the mesopleuræ, except at the top, whitish-yellow. Mesonotum minutely and closely punctured, the scutellum sparsely punctured. Pleuræ closely and minutely punctured. The back of the abdomen is black except for an irregular fulvous mark in the middle; its apex and the ventral surface yellow. Legs pale-yellow; all the femora, the four front tibiæ and tarsi are lined with black above; the hinder tibiæ black above and at the apex all round; the posterior tarsi black; the spurs are dark-testaceous. Wings hyaline, the anterior with a slight fulvous tinge; the costa and stigma pale-testaceous, the nervures blackish.

The ♂ has the breast and the lower half of the pleuræ pale-yellow; the black on the upper part of the mesopleuræ is triangularly dilated downwards, and in the centre above is a small oval yellow mark; the apex of the propleuræ is yellow except narrowly above.

The size of the yellow mark on the back of the abdomen varies.

PÆCILOSOMA NIGRICEPS, *sp. nov.*

Luteum, capite, mesosterno, antennis tibiis tarsisque nigris; alis fusco-hyalinis, nervis stigmatèque nigris. ♀.

Long : 8 m.m.

HABITAT : Simla.

Antennæ longer than the abdomen, black, thickly covered with a microscopic down. Head black, the front and vertex shining; smooth; the front alutaceous, minutely punctured; the frontal area depressed, its sides broadly raised; the antennal keel distinct; its sides oblique. Clypeus and labrum opaque, alutaceous, thickly covered with black pubescence; the apex of the clypeus is almost transverse; the mandibles piceous before the apex. Thorax and abdomen luteous, except the depressions at the sides of the scutellum, the post-scutellum and the space between the cenchri; the sheaths of the ovipositor black. Legs luteous; the four hinder tibiæ and tarsi entirely, the base of the fore femora, the apex of the tibiæ and the tarsi, black. All the transverse cubital nervures are distinct; the second cubital cellule is slightly, but distinctly, shorter than the third; the first recurrent nervure is received near the apex of the basal third, the second in the middle of the cellule. The claws are bifid; the outer division longer than the inner.

TAXONUS NIGRITARSIS, *sp. nov.*

Niger, abdominis medio supra testaceo; pedibus pallide testaceis, tarsis nigris; alis hyalinis, nervis stigmatæque nigris. ♂.

Long : 5 m.m.

HABITAT : Simla.

Head shining, black; the clypeus white; there are two short deep furrows behind the ocelli; the ocellar region is raised; the frontal area is not defined. Clypeus widely, but not deeply, incised; the labrum is white; the palpi of a darker white. Thorax smooth and shining, black except for a narrow white line on the pronotum. Legs white, with a slight testaceous tinge; the tarsi and the extreme base and apex of the hinder tibiæ, black. Wings hyaline, highly iridescent; the nervures and stigma black; the second and third cubital cellules are about equal in length; the first recurrent nervure is received at the base, quite close to the transverse cubital nervure; the second shortly beyond the middle. Abdomen black; the middle segments down the centre and the third and fourth at the apex and the basal half on the underside, testaceous.

TAXONUS MELANOPODUS, *sp. nov.*

Niger, tibiis tarsisque anterioribus albis; alis hyalinis, nervis stigmatæque nigris. ♀ et ♂.

Long : 5 m.m.

HABITAT : Simla.

Antennæ black, stout, thickly covered with a short pile. Head smooth and shining; there is a furrow in front of the ocellus; there is a central fovea and one on either side of it over the antennæ; the apex of the clypeus is transverse; the labrum is roundly convex, is rounded at the apex and is, as is also the clypeus, thickly covered with short, black pubescence. Apex of mandibles rufous. Thorax black, smooth and shining. Legs black; the apex of the four anterior femora, their tibiæ and tarsi white; they are thickly covered with pale pubescence: the calcaria pale. The first recurrent nervure is received close to the apex of the basal third of the cellule; the second shortly behind the middle.

TAXONUS LABIATUS, *sp. nov.*

Niger, prothorace mesonotoque cum scutello rufis; pedibus nigris, coxis, trochanteribus femoribusque posticis pallide flavis; alis fere hyalinis, nervis stigmatæque nigris. ♀.

Long : 8-9 m.m.

HABITAT : Simla.

Head smooth and shining, thickly covered with short pubescence; the clypeus deeply and roundly incised; closely, but not very strongly, punctured; the labrum is white. Thorax black, shining; the prothorax, the mesonotum, the scutellum and the upper half of the mesopleuræ rufous. The back of the abdomen has bluish-violet tinge. Legs black; the apices of the four front coxæ, the hinder coxæ entirely, the hinder trochanters and the hinder femora, pallid-yellow. Wings hyaline; the anterior with a fuscous tinge on the apical half; the stigma and nervures are black.

TAXONUS FOVEIFRONS, *sp. nov.*

Nigro-cœruleo, trochanteribus albis; alis fusco-hyalinis, nervis stigmatæque nigris. ♂.

Long : 7 m.m.

HABITAT : Simla.

Antennæ stout, of the length of the abdomen; thickly covered with a black microscopic pile. Head smooth and shining, thickly covered with short pubescence; frontal area obsolete; above the antennæ is a deep fovea of oval shape. Clypeus deeply and roundly incised in the middle; the labrum is pale. Thorax smooth and shining; the parapsidal furrows are deep; the middle lobe is distant from the scutellum; its apex is sharply pointed; the scutellum at the base is surrounded by a wide

furrow. Legs black ; the apex of the coxæ, the trochanters, and the extreme base of the femora, white ; the apex of the anterior femora in front and of the tibia more broadly, white ; the anterior tibiæ and tarsi are fuscous in front. The second and third cubital cellules are almost equal in length ; the transverse basal nervure is received near the middle of the cellule.

A larger species than *T. melanopodus* ; it has a more decided blue tint ; the transverse basal nervure is received near the middle, not near the apex, of the basal third ; the trochanters are white and the frontal fovea is larger, deeper and longer than broad.

BUSARBIA ALBIPES, sp. nov.

Nigra, nitida, pedibus, linea pronoti, tegulis scapoque antennarum albis ; alis hyalinis, nervis stigmatæque nigris. ♀.

Long : 6 m.m.

HABITAT : Simla.

Antennæ black, the scape white, lined with black above. Head smooth and shining ; the furrows bounding the vertex are wide and deep ; the frontal area is depressed at the apex and bears a few longitudinal striæ ; the frontal area is largely depressed in the middle—wide above, becoming narrowed below,—the apex of the clypeus and the labrum fuscous. Thorax smooth and shining ; the edge of the pronotum and the tegulæ white. Legs clear white ; the apices of the tarsi infuscated. Wings hyaline, a very little infuscated in the middle ; the first transverse cubital nervure is largely bullated ; the first recurrent nervure is received at less distance than its own length from it. The back of the abdomen has a slight violaceous tinge.

This species comes near to *B. viridipes*, which differs from it in the clypeus, labrum and base of the mandibles being broadly white ; the pleuræ are also marked with white, and the second cubital cellule receives the recurrent nervure near the apex, not at the base as with the present species.

SELANDRIA TRIFOVEATA, sp. nov.

Nigra, pedibus albis ; apice tibiæ posticarum tarsisque posticis nigris ; alis hyalinis, stigmatæ nervisque nigris. ♀.

Long : 5 m.m.

HABITAT : Simla.

Antennæ not quite so long as the abdomen, distinctly tapering towards the apex, and densely covered with short, stiff pubescence ; the

third joint is about one-half longer than the fourth. Head smooth and shining ; frontal area is slightly raised, flat ; the apex obliquely narrowed at the sides ; there is an irregular fovea on the top of the antennal tubercle and a larger deeper one on either side of it. Clypeus and labrum thickly covered with blackish pubescence ; both are transverse at the apex. Mandibles broadly piceous before the apex ; the front and vertex are thickly covered with short pale pubescence. Thorax smooth and shining ; the mesonotum thickly covered with black pubescence. Legs white ; the apex of the hinder tibiæ and the tarsi black. Wings hyaline ; the stigma and nervures black ; the first transverse cubital nervure is indicated by a hyaline line ; the second recurrent nervure is received near the apex of the basal fourth of the cellule ; the basal nervure is received near the base of the apical fourth of the cellule.

MONOPHADNUS SIMLÆNSIS, *sp. nov.*

Niger, prothorace, mesonoto cum scutello maculaque magna subalis ferrugineis ; alis violaceo-fuscis, nervis stigmatæque nigris. ♀.

Long : 10 m.m.

HABITAT : Simla.

Antennæ short, stout, almost bare. Head smooth and shining ; the ocelli bordered by furrows ; behind them are two deep curved furrows, which extend backwards to shortly behind the middle of the vertex ; the frontal fovea is large, deep, dilated broadly behind ; the dilated part with a narrow furrow in the middle. Clypeus sparsely punctured, convex and bordered above by a curved furrow. The prothorax, mesonotum, scutellum, tegulæ and a large triangular mark on the base of the mesopleuræ extending above to the apex, rufous. Wings smoky-fuscous, with a violaceous tinge ; the nervures and stigma black ; the third cubital cellule is more than double the length of the second ; the recurrent nervure is received close to its base. Abdomen smooth and shining, the edges of the segments narrowly at the apex, and the fifth and following broadly in the middle, whitish-yellow ; the ventral segments have their apices narrowly whitish-yellow. Legs stout, covered with a stout, stiff pile ; the claws rufous.

ATHALIA NIGRO-MACULATA, *sp. nov.*

Lutea, antennis, capite metanotoque nigris ; abdominis dorso nigro maculato ; pedibus flavis ; femoribus posterioribus tibiis tarsisque nigro maculatis ; alis fusco hyalinis, basi fumatis ; nervis stigmatæque nigris. ♀ et ♂.

Long: 7-8 m.m.

HABITAT: Simla.

Antennæ 10-jointed, the third twice the length of the fourth, the terminal joint twice the length of the preceding. Head black, below the antennæ pale-luteous; the front and vertex are without distinct furrows or depressions. Mandibles black at the apex. Thorax bright luteous; the mesonotum thickly covered with depressed fulvous pubescence; the depressions at the sides of the scutellum, the metanotum, the base of the abdomen and six broad black marks on either side of the abdomen—two on each segment, except on the posterior two—black, the pleuræ under the hinder wings being also broadly black. Wings smoky hyaline, paler towards the apex; extreme base yellowish. The apices of the four posterior femora, the apices of all the tarsi and the apices of the tarsal joints, broadly black.

The transverse cubital nervures are more widely separated than in *A. antennata*; the second cubital cellule is not so much narrowed towards the apex and the wings are not so broadly yellow at the base.

In the ♂ the black marks on the abdomen are much reduced in size.

ATHALIA ANTENNATA, *sp. nov.*

Lutea, flagello antennarum, capite metanotoque nigris, tibiis tarsisque nigro maculatis; alis fusco-hyalinis, nervis stigmatæque nigris. ♀.

Long: 7-8 m.m.

HABITAT: Simla.

Antennæ 13-jointed, the apical two joints more closely amalgamated than the others; the third joint narrower than, and twice the length of, the fourth. Head shining black, luteous below the antennæ; a curved shallow furrow runs from the outside of the hinder ocelli, and a shorter, oblique one from either side of the front ocellus, there being also a shallow fovea in front of it. Mandibles luteous, black at the apex; the palpi yellow. The depressions at the sides of the scutellum the median segment and the base of the abdomen are black; the mesonotum is thickly covered with pale fulvous pubescence; there is an impressed line on the middle lobe in the centre. The back of the abdomen is infuscated. The wings have a yellowish tinge at the base; the basal nervures are luteous, the others with the costa and stigma are black; the second cubital cellule is largely narrowed at the apex. Legs

coloured like the body ; the apex of the four front tibiæ and the apices of their tarsal joints black ; the apical third of the hinder tibiæ and the tarsi, except the basal two joints at the base, black.

CLADIUS ORIENTALIS, *sp. nov.*

Niger, tibiis tarsisque anterioribus late albis ; alis fere hyalinis, nervis stigmatæque nigris. ♀.

Long : 7 m.m.

HABITAT : Simla.

Antennæ as long as the abdomen, distinctly tapering towards the apex ; the third, fourth and fifth joints with their apices sharply produced on the upper side ; the basal two joints covered with stiff black hair. Head smooth and shining, thickly covered with short black pubescence ; the frontal area flat ; transverse behind and in the middle in front ; the sides at the apex obliquely narrowed ; before the ocelli is a curved shallow furrow ; the antennal area is continuous with it ; is raised, flat above, its apex triangular. The apex of the clypeus is roundly incised ; the labrum is slightly depressed in the middle. Thorax and abdomen smooth and shining, covered with a short black pile ; the cerci are moderately large, shortly pilose and widely separated ; the blotch is indistinct. Wings hyaline, with a slight fuscous tinge ; the stigma and nervures are deep black ; the recurrent nervures are received shortly behind the middle of the cellules.

Belongs probably, like the other species here described, to *Priophorus*. It may be known from *Nigricans* by being larger, by the tibiæ being pure white, by the curved furrow in front of the eyes, by the antennal tubercle not being so deeply hollowed, by the clypeus being more deeply incised, and by the clearer, more hyaline wings.

CLADIUS NIGRICANS, *sp. nov.*

Niger, tibiis antecis geniculisque fuscis ; alis fusco-hyalinis, nervis stigmatæque nigris. ♀ et ♂.

Long : 5-6 m.m.

HABITAT : Simla.

Antennæ as long as the abdomen, tapering towards the apex and thickly covered with stiff black pubescence ; the basal joints of the flagellum not produced at the apices. Head smooth and shining ; the frontal area not clearly defined ; there is a short fovea—longer than broad—in front of the ocelli ; the antennal fovea is distinctly, but not very deeply, depressed at the apex ; the antennal tubercle is large, tri-

angular on the top and reaching to the top of the clypeus, which is transverse at the apex. The labrum is depressed in the middle. Mandibles black, broadly rufous before the apex. Legs black; the base of the tibiæ and the anterior tibiæ in front fuscous. Wings hyaline, with a slight fuscous tinge; the stigma and nervures black; the first recurrent nervure is received in a broad angle behind the middle of the cellule, the cubitus in front of it being largely bullated; the second is received at the apex of the basal fourth. The depression between the cenchri is wide at the base, becoming gradually narrowed towards the apex.

The antennæ in the ♂ are longer, thicker and more densely pilose than they are in the ♀; the third joint is distinctly shorter than the fourth.

EXPLANATIONS OF PLATE.

1. *Melanapis violaceipennis*. ♀.
2. *Lamproapis maculipennis*. ♂.
3. *Pompilus heraclides*. ♀.
4. *Nursea carinata*. ♀.
5. *Meira quadrimaculata*. ♀.
6. *Pœcilotiphia albomaculata*.
- 7, 7a. *Notogonia pulcherrima*. ♀.
8. *Mutilla regia*. ♀.
- 9, 9a. " ♂.
10. *Nothaima bicarinata*. ♂.
11. *Bracon deesæ*, wing.
12. *Lithracia flavipes*. ♂.
13. *Pyncobracon niger*. ♀.
14. *Ditherus ruficollis*. ♂.
15. *Fethalia nigra*. ♀.