

1. Flügel stark bräunlich verdunkelt, gegen das Ende lichter; Hüften und Schenkel schwärzlich; Körper schwarz; Scheitel um die Hälfte breiter als lang.

1. *E. pumilus* Kl. ♂ ♀.

- Flügel hyalin, höchstens unter dem Stigma etwas verdunkelt. Beine bleich 2.

2. Flügel mit einer schwach verdunkelten Substigmatalbinde; Körper schwarz; Scheitel kurz, mehr als doppelt so breit als lang.

2. *E. Beckerin* n. sp. ♀.

- Flügel ohne Binde; Hinterleib schmutziggelb; Scheitel doppelt so breit als lang.

3. *E. Geibrischke* ♂ ♀.

Descriptions of New Genera and Species of Hymenoptera from India.

By P. Cameron.

(Continued.)

Pro- and mesothorax smooth and shining; the scutellum behind and the post-scutellum are finely rugose. Median segment rugosely punctured, running into reticulations behind; on the apex of the mesopleurae, in the middle, is a short deep furrow. Pleurae smooth and shining; the meta- obscurely punctured above and behind; on the apex of the mesopleurae, in the middle, is a short deep furrow. Wings clear hyaline, the stigma fuscous, the nervures darker. Legs testaceous-yellow; the apices of the tibiae darker. The apex of the petiole is aciculated and bears longitudinal striae.

2. *Agathis* Latr.

A. rufoplagiata sp. nov. ♂.

Black, the prothorax, mesonotum, tegulae, a mark on mesopleurae, and tubercles rufous; the 4 anterior tarsi pale testaceous; the anterior tibiae in front dirty testaceous; the palpi black; the wings dark fuscous, the nervures and stigma black. — Length 7 mm.

Hab. Sikkim.

Head and thorax smooth and covered with white pubescence. Scutellum roundly convex; its lowerside, except at the base surrounded by a distinctly bordered furrow; its top is obscure red. The post-scutellum is smooth and shining and has an oblique slope; at its apex beneath is a deep depression, which is broader than long and is rounded at the apex. There are 3 smooth areas on the base of the median segment; the

central is the smaller and is triangular, the narrowed part being at the base; the lateral are larger, wider than long, and transverse at the apex, which does not reach to the apex of the central one; at their apex on the apical slope is a smooth depression, longer than broad and slightly narrowed towards the apex. The rest of the apical slope is closely and finely rugose; on the apex in the centre is a short longitudinal keel with 2 narrower keels running obliquely into it; the segment is thickly covered with white pubescence. Legs: the coxae, trochanters and femora thickly covered with white pubescence; the 4 anterior spurs pale, the hinder black. The wings are uniformly coloured with black nervures and stigma; the 2nd transverse cubital nervure slightly projects outwardly in the middle; there is a small white cloud at the base of the stigma; there is another irregular white cloud below the 1st transverse cubital nervure and a larger one below it. The 2nd cubital cellule is wider at the top than usual; the 2 transverse cubital nervures being widely separated.

Mutillidae.

1. *Mutilla* L.

1. *M. sceva*, sp. nov. ♂.

Black; the apex of the 1st and the whole of the 2nd and 3rd segments ferruginous; the basal half of the 2nd segment with an oblique slope; the wings fusco-violaceous, paler at the base; the apex of the clypeus stoutly bidentate. — Length 15–16 mm.

Hab. Khasia Hills. (Coll. Rothney.)

Antennae black, the scape covered with long white hair. Head thickly covered with long grey hair; the front and vertex rugosely punctured. Clypeus smooth, bare and shining; the middle deeply depressed; the apex ending in two broad teeth; their apex is bluntly rounded. Pro- and mesonotum rugosely punctured; the base of the pro-pleurae coarsely punctured, the apex smooth. The central part of the mesopleurae closely, but not very strongly, punctured. The apex of the pronotum thickly covered with griseous pubescence; the mesopleurae in the middle covered with a silvery pile and more sparsely with long white hair. Mesonotum thickly covered with fuscous hair; its furrows are clearly defined. Scutellum roundly convex, but not much raised; rugosely punctured; its centre at the base smooth; its sides and apex covered with long blackish and pale hair. Median segment reticulated: the base of the pleurae smooth; it has a gradually rounded slope to the apex; the central basal area is small, irregular and not clearly defined. Legs

black, thickly covered with griseous hair; the calcaria pale, the tarsal spines rufous. Wings fuscous-violaceous, paler at the base; the stigma and nervures black; there is an oblique hyaline cloud in the 1st cubital cellule. Abdomen black; the apex of the petiole and the whole of the 2nd and 3rd segments ferruginous; the 1st segment is coarsely punctured except at the apex; the ventral keel is slightly dilated at the base; the 2nd segment, on the basal half, is obliquely depressed and is there closely, but not strongly, punctured; the apex is smooth. The middle segments are fringed with white hair; the apical more thickly with longer black. The last segment is coarsely punctured, except in the middle, where there is a smooth band, which becomes wider towards the apex. The apex of the last ventral segment is smooth and bare; the rest covered with long black hair; at the base of the smooth part are 2 rounded tubercles.

Characteristic of this species is the incised bidentate clypeus. The mandibles end in one, distinctly separated, tooth. The only Indian species of *Mutilla* with a bidentate clypeus is *M. bidens* Cam. (Ann. and Mag. of Nat. Hist. July 1899) but that species is smaller, the mesonotum is not furrowed, the scutellum furrowed and the last ventral segment bears two keels.

2. *M. gnatia*, sp. nov. ♂.

Black; densely covered with white pubescence; the wings dark fuscous-violaceous, the base hyaline; the clypeus keeled in the centre; the area on the median segment large, extending to the top of the apical slope; the last ventral segment with 2 converging keels; the apex of the 1st and the whole of the 2nd and 3rd abdominal segment ferruginous. — Long. 13 mm.

Hab. Khasia Hills. (Coll. Rothney.)

Head above the antennae closely rugosely punctured and thickly covered with white hair. Clypeus smooth and shining, bare; its middle stoutly keeled; the sides of the keel with an oblique slope. Mandibles without a distinct subapical tooth. Pro- and mesothorax closely punctured; the apex of the propleurae smooth; the middle longitudinally furrowed. The apex of the pronotum thickly covered with greyish pubescence; the mesonotum thickly with stiff blackish pubescence; its parapsidal furrows distinct. Scutellum roundly convex, its middle at the base smooth; the rest coarsely rugosely punctured; the base with black, the apex with long white hair. Median segment reticulated; the basal area large, extending to the top of the apical slope; its base widened, its

base and apex with a short keel. Wings dark fuscous-violaceous, paler at the base; the 2nd cubital cellule at the top is longer than the 3rd. Legs black; the spurs white; the tarsal spines rufous. Abdomen black; the apex of the 1st and the whole of the 2nd and 3rd segments ferruginous; the 1st segment is coarsely punctured; the 2nd is almost impunctate and has an oblique slope on the basal and apical halves; the last segment is closely punctured, except in the middle, where it is smooth; the smooth part becoming gradually wider towards the apex; beneath are two stout, converging keels. The ventral keel is slightly dilated at the apex.

Has the size and colouration of *M. sceva*, but is easily separated by the clypeus not being toothed and by the large area on the median segment.

3. *M. tiza* sp. nov. ♂.

Black, the basal 2 segments of the abdomen ferruginous, the wings fuscous-violaceous; the ventral keel almost straight; the area on the median segment keeled in the middle. — Long: 13–14 mm.

Hab. Khasia Hills. (Coll. Rothney).

Head rugosely punctured and thickly covered with grey hair. Clypeus depressed, its apex transverse; the base of the mandibles thickly covered with long grey hair; rufous before the apex. Pronotum rugosely punctured, thickly pubescent; the apex with a band of depressed pubescence. Mesonotum coarsely rugosely punctured and covered with stiff black pubescence. Scutellum coarsely and closely rugose and sparsely covered with long fuscous hair. The post-scutellum is similarly punctured and haired. Median segment reticulated; its basal area is not quite in length twice the width of the base; it is narrowed towards the apex; the keels on the apical part being curved inwardly; in the centre is a more or less distinct longitudinal keel. Propleurae almost smooth; in the centre is a stout, oblique keel. Mesopleurae punctured, but not deeply in the centre; densely covered with a silvery pile and more sparsely with long white hair. The apex of the metapleurae irregularly reticulated. Wings fuscous-violaceous, slightly paler at the base; in the 1st cubital cellule is an oblique hyaline cloud; the 2nd cubital cellule above is distinctly longer than the 3rd. Abdomen black, the 1st and 2nd segments ferruginous; the ventral keel black, almost straight; the 1st segment above is moderately thickly covered with long white hair; the 2nd is gradually rounded from the base to the apex; the middle segments are fringed with white hair; the apical thickly covered with stiff black hair; the pygidium has a

broad smooth band in the centre; below, the last segment is flat, closely punctured and without keels.

Comes into *Bingham's* Section A. a. b1. near *M. unifasciata*. It is not unlike *M. pandura* Cam. but that species has the 2nd, 3rd and 4th segments distinctly banded with white pubescence and the 2nd segment with it is not broadly rounded, but has a straight slope at the base and apex.

Scoliadae.

1. Scolia F.

S. (Discolia) erythrotrichia sp. nov. ♂. *Nigra, dense ferrugineo-pilosa; abdominis medio flavo; alis fumato-hyalinis, antice flavis; nervis stigmataeque flavis.* — Long: 15 mm.

Hab. Deesa (Nurse) and Simla.

Antennae black, bare, stout. Head entirely black, except for 2, almost continuous, transverse marks on the lower side of the vertex. The vertex is sparsely covered with large, deep punctures; its apex is smooth and is clearly separated from the front; its middle and the middle of the front are furrowed. Front closely rugosely punctured and thickly covered with long rufous hair, as are also the hinder part of the vertex and the upper part of the occiput. The face is rugosely punctured and covered (but not very thickly) with long rufous hair; the sides of the clypeus are sparsely and deeply punctured. Labrum rufous. The apex of the mandibles piceous-black. Thorax densely covered with rufous hair and closely and strongly punctured, except on the apex of the mesopleurae and the base and middle of the metapleurae. The apex of the median segment is broadly rounded above; it has an almost vertical slope; the sides are slightly oblique. The base of the wings and the radial cellules are yellowish-hyaline; the rest of the wings are fuscous-smoky, with a very slight violaceous tinge; the costa, stigma and nervures are yellow. Legs black; thickly covered with rufous hair; the calcaria blackish; the tarsal spines bright rufous. Abdomen black; the 2nd and 3rd segments bright yellow, except at the extreme base and apex; the 4th is yellow, except for a black waved band at the base; all the segments are thickly covered with bright rufous pubescence, which is longest and thickest on the apical ones. There are 2 irregular yellow oblique marks on the base of the 2nd ventral segment and a small mark on either side of the apex; a broad, yellow mark on eitherside of the 4th at the apex and a smaller one on eitherside of the apex of the 5th.

Pompilidae.

1. *Salix* F.

S. aeneus, sp. nov. ♀. *Nigra; antennis, capite, pronoto, scutello, abdomine pedibusque ferrugineis; alis fusco violaceis; abdomine nigro-batteato.* — Long: 20 mm.

Hab. Sikkim.

Claws with 1 small tooth. Antennae short, thick, ferruginous. Head ferruginous; the greater part of the occiput, the ocellar region, a line down the front and the part between antennae and clypeus black. Front and vertex sparsely punctured; the front furrowed down the centre. The apex of the clypeus is depressed, smooth and shining. Mandibles dark rufous, darker coloured at the apex. Thorax black; the pronotum, the top and bottom of the propleurae, a large mark on the centre of the mesonotum on the apical half and the scutellum, ferruginous. Median segment stoutly, irregularly transversely striated; its apical slope is depressed in the centre. Wings uniformly fuscous-violaceous; the nervures and stigma are black; the 2nd cubital cellule on the top is distinctly shorter, on the lower, if any thing, longer than the 3rd; the 3rd transverse cubitale nervure is roundly curved, its top slightly oblique. Abdomen ferruginous; the basal 4 segments black at the base and apex. Legs coloured like the abdomen; the fore coxae entirely and the 4 hinder black at the base.

Comes near to *S. indicus* Cam. which is a larger species and may be known from the present by the head and thorax being entirely black.

Pseudagenia nana (Sauss.) Bingham. This species is a *Pompilus* (cf. Kohl. Ent. Nachtr. vol. II, p. 164). There being an earlier *Pompilus nanus*, the Ceylonese *nanus* has been named, l. c. *novarae* by Kohl.

Sphegidae.

1. Nysson Latr.

N. violaceipennis sp. nov. ♂. Black the basal five segments of the abdomen red; the head, thorax and legs thickly covered with silvery pubescence, the nervures and stigma black. — Long: 10 mm.

Hab. Sikkim.

Front rugosely punctured, most strongly on the sides; the vertex sparsely punctured; the silvery pubescence is very dense on the face and clypeus and on the lower inner and outer orbits. Antennae stout, covered with a pale microscopic pile; the last joint is not much curved. Prothorax thickly

covered with depressed silvery pubescence. Mesothorax closely rugosely punctured; the punctures are round and clearly separated and are closely and more rugose on the pleurae. Scutellum closely rugosely punctured. In the centre of the median segment, at the base, is a clearly defined shining area, about three times longer than broad; it reaches to the middle of the basal portion of the segment and is narrowest at the base; its bordering keels are stout; on either side of it are stout longitudinal keels; the apical slope is coarsely reticulated. The lateral teeth are stout and longish. The basal segment of the abdomen is strongly, but not closely, punctured; the punctuation on the others are weaker and sparser; the apices of the segments are narrowly, but distinctly, banded with silvery pubescence; the last segment is transverse at the apex.

This is the largest of the Indian species and can not readily be confounded with any known species.

2. *Piagetia varicornis* sp. nov. ♀.

Black; the clypeus, the prothorax; the sides of the mesonotum at the tegulae, the petiole, the greater part of the legs, the scape and joints 4—6 of the antennae, red; the wings hyaline, clouded on the radial and 2nd and 3rd cubital cellules; the clypeus depressed; its apex not toothed. — Length 8 mm.

Hab. Sikkim.

Antennae black; the slope, 4th, 5th and 6th joints and the 7th in part red. Vertex opaque, almost bare; the front thickly covered with silvery pubescence. Clypeus red, thickly covered with silvery pubescence; it is keeled in the centre; its apex is slightly waved inwardly. Basal half of mandibles paler red. Thorax black, densely covered with silvery pubescence, the prothorax entirely and a triangular mark on the sides of the mesonotum in front red; the pile on its sides has a golden hue. The basal part of the median segment is irregularly wrinkled and has a fine keel down the centre; the apical slope is thickly covered with silvery pubescence. There is a curved longitudinal furrow on the mesopleurae; the metapleurae obscurely striated above. The anterior coxae are pale red, black on the lower half of the outside, the 4 posterior coxae are for the greater part black; their trochanters are broadly black above; the hinder tibiae are infuscated on the outside; the spines are few and slender; the femoral tooth is short and oblique. The basal half of the radial cellule, the 2nd and 3rd cubital and the discoidal along the upper half of the recurrent nervure are clouded with fuscous. The hinder femora are broadly black above.

Comes nearest to *P. ruficornis* Cam. which has only the apical two joints of the antennae black; and differs in other respects from the present species.

3. *Odontolarra nigra*, sp. nov. ♀.

Black, covered with a white pile; the wings hyaline, the stigma and nervures dark fuscous, the clypeus deeply furrowed in the middle and with 3 stout, short teeth on either side, close to the eyes. — Length 8 mm.

Hab. Sikkim.

Antennae black, pruinose. Front and vertex shining, alutaceous; the front with a narrow furrow down the middle. Clypeus closely, finely and distinctly punctured, bluntly projecting in the centre, which, at the apex, is furrowed, the furrow bluntly tuberculated laterally; there are 3 lateral teeth on either side, the inner one being small and less distinct than the outer. Mandibles dark reddish, black at the apex. The centre of the propleurae depressed and finely obliquely striated; the tubercles are bordered by thick, depressed white pubescence; below the tegulae is a perpendicular furrow; from its middle issues a short longitudinal one. The upper part of the meta-pleurae is slightly depressed on the basal half and is striated irregularly from the top to the bottom. The basal half of the median segment is alutaceous, irregularly finely striated and bears a fine keel in the middle; the apical slope is pruinose, covered with pale golden pubescence and is deeply furrowed down the centre. Legs black, pruinose, the calcaria and tarsal spines pale rufous; the hinder tibiae bear, on the outside, 8 stout, pale spines. Abdomen covered with a pale golden pile; the pygidium dark rufous, thickly covered with soft pale pubescence and bears also a few longish hairs.

The 2nd cubital cellule is narrowed at the top, being only half the length of the 3rd, not of almost equal length to it as in *O. rufiventris*; the antennae are stout and are longer than the thorax; their 3rd joint is clearly longer than the 4th. The species may be separated from the type of the genus (cf. Ann. Mag. Nat. Hist. 1900, p. 36) thus:

- Abdomen with the basal 3 segments red; the 2nd and 3rd cubital cellules equal in length; length 11–12 mm.

rufiventris Cam.

- Abdomen entirely black; the 2nd cubital cellule half the length of the 3rd; length 8 mm.

nigra Cam.

Vespidae.

1. *Eumenes parvilineata* sp. nov. ♀.

Black, except for 2 narrow yellow lines on the apex of

the petiole; the head and thorax coarsely rugosely punctured; the wings fuscous-violaceous; the petiole broad, triangularly narrowed at the base; the apex furrowed in the middle. — Length 13—14 mm.

Hab. Sikkim.

Head closely, rugosely punctured; there is a narrow longitudinal keel between the antennae. Clypeus not much longer than its greatest breadth; its apex broad, depressed, transverse. Thorax closely rugosely punctured; the parapsidal furrows are distinct on the apical half of the mesonotum; the scutellum is less closely punctured than the mesonotum and is deeply furrowed in the centre; the post-scutellum is rugosely punctured, except on the apical slope; it is separated from the scutellum by a smooth, transverse furrow. The median segment, has an oblique, almost vertical slope; it is obliquely hollowed from the sides to the centre where there is a distinct longitudinal keel; the apex of the segment is stoutly keeled all round. Pro- and mesopleurae closely rugosely punctured, except on the apical and basal slopes of the latter, which has a wide longitudinal furrow on the basal half. The base of the metapleurae is smooth and there is, on the smooth part, an oblique furrow above the middle. Legs black; the claws pale rufous. The triangular basal slope of the petiole is shining and sparsely punctured; the thickened apical slightly longer than broad, is strongly, but not very closely, punctured and is depressed in the middle. The base of the 2nd segment is narrowly depressed and coarsely crenulated; the segment is depressed at the apex; the base of the depression is bordered by a band of foveae; its base beneath has an almost perpendicular slope from the top to the bottom and is clearly separated from the rest of the segment; the apex of the petiole projects downwards and forms, with the base of the 2nd segment, a rounded incision; its apex is depressed and bounded by a row of foveae at the base like the dorsal part.

A distinct species, easily recognised by the short, very broad abdominal petiole, triangularly narrowed at the base; and by the peculiar form of the base of the 2nd ventral segment.

2. *Zethus himalayensis*, sp. nov. ♀.

Black, closely and strongly punctured; the scutellum with a smooth shining line down the middle; the post-scutellum with a deep, broad furrow in the centre; the wings fuscous-violaceous. — Length 23 mm.

Hab. Sikkim.

Mandibles broadly rufous before the middle; a rufous band before the apex. Clypeus roundly convex, coarsely

rugosely punctured, the punctures running into longitudinal irregular reticulations in the centre. Front and vertex rugosely punctured; the front in the centre irregularly reticulated. Thorax coarsely rugosely punctured, more sparsely on the sides of the mesonotum; the scutellum with large, widely separated punctures, except in the middle and on the apex; the post-scutellum with a few scattered punctures; the middle widely furrowed, the sides depressed. The median segment has an almost vertical slope; it is closely transversely rugosely reticulated and has a stout keel down the middle; the sides are smooth in the middle, punctured round the edges. Pleurae coarsely, closely rugosely punctured, the base and apex of the mesopleurae smooth; the smooth space on the mesopleurae is bordered behind and is continued on to the sternum. Fore wings uniformly fusco-violaceous; the hinder pair more hyaline; the 2nd cubital cellule is, on the top, about one fourth shorter than the 3rd; the two recurrent nervures are received in the basal third of the cellule. Tegulae piceous, black round the inner edge. The tibiae and tarsi, on the under side, are thickly covered with rufous pubescence. Petiole above, except on the narrowed base, closely longitudinally reticulated; the sides are irregularly punctured. The narrowed part of the 2nd segment is smooth; the rest finely, but not very closely, punctured; the other segments are more closely and strongly punctured; the last segment is incised slightly in the middle, with the sides broadly rounded.

This is much larger than either of the known Indian species; and is quite distinct from *Z. dolosus*, the species with black legs.

3. *Zethus 3-maculatus*, sp. n. ♀.

Black, two lines on the centre of the pronotum, three marks on the post-scutellum and a narrow line on the apex of the petiole, yellow; the wings fuscous, violaceous. — Length 13–14 mm.

Hab. Sikkim.

Head coarsely rugosely punctured, the punctures running into reticulations on the front and clypeus; the apex of the clypeus is rounded broadly in the middle. Mandibles rufous behind the teeth; they are closely punctured. Thorax rugosely punctured, except on the base and apex of the mesopleurae; and the metapleurae, except on the apex. The centre of the mesonotum, on the apical half, is less closely punctured and is bordered by furrows. The post-scutellum is more shining and less closely punctured than the scutellum; there is a yellow mark in the centre and on either side. The base of

the petiole is distinctly narrowed; and is clearly separated from the dilated apical part, which is distinctly longer than it; its top is rounded, not flattened as in the typical species. The 2nd segment is closely and distinctly punctured, except on the apex. The other segments are smooth at the base, closely punctured on the apex; the apex of the 3rd is smooth, and is distinctly curled up.

Apidae.

1. *Megachile taprobanae*, sp. nov. ♀.

Black; the head, median segment and the abdomen with transverse bands of white pubescence on all the segments; the pollen brush dark fulvous at the base, black at the apex; wings fuscous-hyaline, with a slight violaceous tinge; the stigma and nervures black. — Long: 12 mm.

Hab. Ceylon (Col. Yerbury).

Antennae black, almost bare. Front and vertex closely punctured except on the sides of the hinder and in front of the anterior ocelli, where the vertex is smooth and shining. Face coarsely, but not very closely, punctured and distinctly separated from the clypeus, which is very thickly covered with long silvery pubescence, which is longer and fulvous in colour at the apex. Mandibles smooth and shining, except at the base where there is a closely punctured opaque triangular depression; the apex in the middle projects as a large, bluntly triangular tooth; their lower side is fringed with long golden hair. The hair on the front and vertex is dark fulvous, mixed with grey. Mesonotum on the basal half coarsely, transversely, irregularly punctured and striated; the apical half is more closely rugosely punctured; the sides are more coarsely rugose than the centre. Scutellum more closely rugose than the mesonotum. The basal area of the median segment is almost smooth. The hair on the pronotum is long and soot-coloured; on the mesonotum it is sparse, short and black; on the sides of the median segment long dense and white; on the pleurae longish, dense and soot-coloured. The pubescence on the legs is long, dense and dark soot-coloured. Wings fuscous-hyaline, with a slight, but distinct violaceous tinge. Abdomen shining, smooth; the basal five segments are narrowly fringed with white pubescence on the apex; the last segment is thickly covered with long sooty-black hair. All the abdominal segments are narrowly fringed at the apex with white pubescence; the scopa is fulvous on the basal segments; on the apical two black.

In *Bingham's* arrangement (Hymen. of India I p. 472) this species would form a new group in Section F.: Pollen-brush fulvous at the base, black at the apex.

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