

THE  
TRANSACTIONS  
OF THE  
ENTOMOLOGICAL SOCIETY  
OF  
LONDON  
FOR THE YEAR  
1903.

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LONDON:

PRINTED FOR THE SOCIETY BY RICHARD CLAY AND SONS, LIMITED,  
LONDON AND BUNGAY.

SOLD AT THE SOCIETY'S ROOMS, 11, CHANDOS STREET  
CAVENDISH SQUARE, W.,

AND BY LONGMANS, GREEN, AND CO.,  
PATERNOSTER ROW, E.C.; AND NEW YORK.

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1903-1904.

VI. *Descriptions of nineteen new species of Larridæ, Odynerus and Apidæ from Barrackpore.* By PETER CAMERON. Communicated by GEORGE ALEXANDER JAMES ROTHNEY, F.E.S.

[Read March 4th, 1903.]

LARRIDES.

VERY little attention has been paid to the smaller Indian Larridæ. In Colonel Bingham's work only one species of 7 mm. is described. Hence, it is not surprising that many small species should be undescribed.

*Notogonia anthracina*, n. s.

Nigra, alis fusco-hyalinis, nervis fuscis, cellula cubitali 1<sup>a</sup> longiore quam 2<sup>a</sup>, metanoto reticulato. ♀. Long. 7 mm.

*Hab.* BARRACKPORE (*Rothney*).

Scape of antennæ brownish in the middle beneath, shining; the front closely punctured and with a shallow, narrow furrow in the middle; the vertex alutaceous; the ocellus has a short, narrow, conical point in front, and is longer than broad, the furrow in front of it is wide and deep; the curved furrow on the vertex is wide and shallow. Pro- and mesonotum closely punctured. Median segment irregularly reticulated; the basal two-thirds of the apex irregularly transversely striated; the apex with a few longitudinal striæ in the middle; the furrow is wide and deep and does not reach beyond the middle. Propleuræ irregularly striated; mesopleuræ below the furrow strongly and closely punctured; above it aciculated. The sternum between the middle coxæ is closely longitudinally striated; the furrow is deep; the sternal process is stoutly keeled down the middle and on the sides; the apex with a small incision in the middle, the sides oblique. The apical abscissa of the radius is oblique, large; the first cubital cellule above is shortly, but distinctly, longer than the second; the first transverse cubital nervure is angled from shortly below the middle, where it is bullated; the second recurrent nervure is received shortly behind the middle; the two recurrent nervures are separated by not much more than half the length of the top of the first cubital cellule. Abdomen pruinose; the middle ventral segments covered with longish black stiff hair.

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*Notogonia intermedia*, n. s.

Long. 7 mm. ♀

*Hab.* BARRACKPORE (*Rothney*).

Is closely related to *N. anthracina*, from which it may be known by the top of the first cubital cellule being longer compared with the second; by its curved form; by the apical abscissæ being broader and rounder; and by the recurrent nervures being nearer each other, being separated by not much more than half the length of the top of the second cubital cellule.

Scape of antennæ brownish in the middle beneath, the lower part of the front of the face thickly covered with silvery pubescence; the front and vertex alutaceous, the latter closely punctured behind the keel; the ocellus circular; a narrow, pointed piece at the apex; the furrow in front of it is wide and deep; the raised part has a shallow, indistinct furrow in the middle. Palpi testaceous; pro- and mesonotum closely and distinctly punctured; the metanotum irregularly reticulated at the base, the apex irregularly transversely striated; the apical slope has a deep furrow to shortly beyond the middle; on either side of this it is obscurely striated; the apex has a few irregular longitudinal striæ. The propleuræ have some irregular striæ; the mesopleuræ closely and distinctly punctured below the furrow; the metapleuræ longitudinally striated, closely below, more widely above. Sternal process keeled down the centre, the keel widest at the base; the apical incision small, the sides slightly oblique. The apical abscissa of the radius is rounded below; the first cubital cellule is more than one-half longer than the second, the recurrent nervures are received close together at the apex of the basal third of the cellule; legs and abdomen pruinose.

In this species the recurrent nervures are more closely united than usual.

*Notogonia piliventris*, n. s.

Nigra, dense argenteo pilosa; alis hyalinis, nervis fuscis; metanoto reticulato ♂.

Long. fere 5 mm.

*Hab.* BARRACKPORE (*Rothney*).

Scape of antennæ covered with a silvery pile, the middle brownish beneath, the flagellum opaque. Head opaque, closely and distinctly punctured, the vertex behind distinctly raised, triangularly incised in the middle, the edges rounded; the front ocellus has a minute

keel in the middle before and behind, the furrow in front of it is deep, narrow; the antennal foveæ are large, smooth and shining; the lower orbits, face and oral region are thickly covered with silvery pubescence. Mandibles broadly rufous in the middle; the palpi dark testaceous. Pro- and mesonotum closely punctured, covered with a pale down; the median segment is closely transversely reticulated; the apex is irregularly transversely striated; and is thickly covered with silvery hair. Propleuræ closely and distinctly punctured; below marked with curved striæ; mesopleuræ almost smooth above the furrow, below closely punctured; metapleuræ closely striated. The mesosternum behind is stoutly keeled round the edges behind, and has a narrow keel down the middle; the metasternal process is hollowed, and is slightly roundly incised in the middle at the apex. Legs pruinose, the spines blackish. Radial cellule short, wide, the apical abscissa of the radius is oblique, and makes an angle with the lower one, which has also an oblique slope; the first cubital cellule at the top is almost equal in length to the second; the second recurrent nervure is received shortly beyond the middle, the first half-way between it and the first transverse cubital nervure, which is straight, oblique, and has a large bulla shortly below the middle. Abdomen pruinose; the pile on the pygidium silvery; the third and following ventral segments are sparsely covered with long black hair.

*Notogonia parva*, n. s.

Long. 5 mm. ♂.

*Hab.* BARRACKPORE (*Rothney*).

In size this species agrees with *N. piliventris*, but is readily separated from it by the alar neuration.

Antennæ stout, the keel on the scape fuscous; the scape is almost bare. The front and oral region thickly covered with bright silvery pubescence, the front and vertex are strongly alutaceous; the furrow below the ocellus is deep, the ocellus projects triangularly behind; the raised portion of the vertex has a narrow furrow down the middle; behind, uniting the eyes, is a -shaped furrow. Mandibles piceous at the apex. Palpi dark testaceous. Pro- and mesonotum closely and distinctly punctured. The basal portion of the median segment is transversely striated; the striæ distinctly separated, and at the base they are irregularly joined by longitudinal ones; the apical slope has a few transverse striæ; the furrow is of equal width and extends to near the apex. Propleuræ strongly aciculated, and is for the greater part striated. Except above the furrow the mesopleuræ are distinctly and uniformly punctured.

Metapleuræ closely and distinctly striated; near the base is a perpendicular furrow, divided above the middle by a fovea. The metasternal process is slightly and gradually widened towards the apex, which is incised in the middle, but not widely; there is an interrupted keel in the middle. The radial cellule is wide; the apical abscissa of the radius is rounded below; the first cubital cellule is, if anything, longer than the second; the first transverse cubital nervure is largely bullated below the middle and less distinctly at the top; the upper part has an oblique slope; the second recurrent nervure is received distinctly behind the middle; the two are separated by about one-half the length of the top of the first cubital cellule.

Abdomen pruinose, the ventral surface is covered with long black hair; the petiole below is closely strongly longitudinally acieulated.

Characteristic of this species is the shape of the radius, the apical abscissa of which does not form, on the lower side, a sharp angle, but is broadly rounded.

*Notogonia indica*, n. s.

Long. 5 mm.

*Hab.* BARRACKPORE (*Rothney*).

Comes near to *N. parca*; may be known from it by the apical abscissa of the radius not being rounded on the lower side, by the upper (and larger) part of the first transverse cubital nervure being more distinctly angled, by the first cubital cellule being slightly, but distinctly, shorter than the second; by the striation on the metapleuræ being closer; and the first recurrent nervure is more distinctly roundly curved.

Vertex and front alutaceous; the lower part of the front and the oral region densely covered with silvery pubescence. The ocellus is broader than long, rounded at the sides, and not produced in front or behind; the part behind it is distinctly raised and furrowed down the middle, the curved furrow behind this is distinct, and is produced backwards in the middle, but not very deeply. Palpi dark testaceous. Pro- and mesonotum closely and minutely punctured. The base of the median segment reticulated, more strongly at the base than at the apex; the apical slope is transversely striated; the striæ rather widely separated; the middle is deeply furrowed. Propleuræ irregularly striated. Mesopleuræ, below the furrow, strongly and distinctly punctured; metapleuræ closely longitudinally and somewhat irregularly striated. Wings hyaline.

the stigma and nervures fuscous ; the apical abscissa of the radius oblique, straight ; the first cubital cellule is slightly but distinctly shorter than the second ; the upper two-thirds of the first transverse cubital nervure has a distinct curve, and is slightly rounded ; the second recurrent nervure is received near the basal third of the cellule, the space separating it from the first is less than the length of the first cubital cellule above. Abdomen shining, the segments banded with silvery pubescence ; the pile on the pygidium dense and silvery.

*Notogonia striaticollis*, n. s.

Nigra, dense pruinosa ; metanoto reticulato ; metapleuris striolatis ; alis hyalinis, nervis nigris ♀.

Long. 7 mm.

*Hab.* BARRACKPORE (*Rothney*).

Scape of antennæ aciculated, the sides covered with silvery pubescence ; beneath it is sharply keeled laterally, the flagellum is covered with a pale pile. Front and vertex closely minutely punctured ; the front thickly covered with minute silvery pubescence ; the face and clypeus covered thickly with silvery pubescence ; the clypeus bears also some long hairs. The ocellus is sharply triangularly produced on the lower side ; below it is a wide and deep furrow. Mandibles broadly rufous on the apex. The eyes at the top are separated by the length of the third antennal joint. Pronotum alutaceous, behind thickly covered with silvery pubescence ; the mesonotum is closely and distinctly punctured all over, and covered with a minute fuscous pile ; the scutellum is more shining, and is distinctly punctured, but the punctures are not so closely pressed together as they are on the mesonotum. The basal part of the median segment is closely and distinctly reticulated in the middle, the sides transversely striated ; the apical slope is closely irregularly transversely striated ; the central furrow is narrow. The basal half of the propleuræ is covered with stout curved striæ ; mesopleuræ closely and distinctly punctured ; the metapleuræ closely obliquely striated. The metasternal process is rather deep, and is stoutly keeled down the middle. Legs thickly pruinose ; the tarsal and tibial spines black. The first cubital cellule above is shortly, but distinctly, longer than the second ; the first transverse cubital nervure is obliquely sloped at top and bottom ; both the recurrent nervures are received behind the middle of the cellule, and are close together. The basal three segments of the abdomen have broad pruinose bands ; the pygidium is thickly covered with dark silvery, almost golden, pubescence.

*Notogonia varipilosa*, n. s.

Nigra, thorace pallide fulvo pilosa, metathorace alutaceo; alis hyalinis, apice fumatis ♂.

Long. 7 mm.

*Hab.* BARRACKPORE (*Rothney*).

Antennæ stout, longish; the scape densely covered with silvery pubescence. Front and face densely covered with silvery pubescence; the vertex alutaceous, the ocellus triangularly produced in front, rounded behind.

The apices of the mandibles are rufous, the base thickly covered with silvery pubescence. Palpi dark testaceous. The upper side of the thorax is thickly covered with dark, somewhat fulvous, pubescence; the pubescence on the pleuræ is longer, brighter, and more silvery in tint. The pubescence is thicker on the median segment, which is alutaceous, and is only indistinctly striated near the apex; its apical furrow is distinct, narrow, of equal width throughout, and extends from the base to the apex. The sternal process is broad; the lateral keels are stout; there is none in the centre; the apical incision is narrow, twice longer than broad, of equal width throughout, and rounded at the base. Legs thickly pruinose; the spines black. Wings hyaline, the apex slightly, but distinctly, smoky; the two cubital cellules are equal in length above; the upper part of the first transverse cubital nervure has a more sharply oblique slope than the lower part; the second recurrent nervure is received, if anything, behind the middle of the cellule. The apices of the abdominal segments are broadly covered with silvery pile.

*Notogonia fuscistigma*, n. s.

Nigra, thorace supra dense fulvo pilosa; alis fere hyalinis, stigmatibus fuscis, nervis nigris, cellula cubitali 2<sup>a</sup> longiore quam 1<sup>a</sup> ♀.

Long. 7 mm.

*Hab.* BARRACKPORE (*Rothney*).

Comes near to *N. varipilosa*, with which it agrees in the colour of the pubescence, but the latter is stouter built, and has the first cubital cellule as long as the second, whereas in the present species it is perceptibly shorter.

Front and vertex alutaceous; the ocellus is triangularly produced in front; the clypeus is distinctly punctured; the pile on the lower part of the front has a slight golden tint. Mandibles at the base

thickly covered with silvery pubescence; from the incision they are, for the greater part, rufous. The pro-, meso-, and base of metanotum are covered densely with fulvous pubescence, the pubescence on the pleuræ and the apex of the metanotum silvery. Pro-, meso-, and base of metanotum alutaceous; there is a narrow furrow on the basal two-thirds of the metanotum; its apical slope is obscurely transversely striated and has a narrow deep furrow in the middle extending to the apex. The mesopleural furrow is distinct; the metapleuræ closely obscurely obliquely striated. The sternal process is large; the basal third has an oblique slope and is deeply furrowed in the middle; the apical laps are rounded at the apex; the incision is short. Legs densely covered with silvery pubescence. The first transverse cubital nervure is largely bullated at the top and near the bottom; above the lower bulla it has an oblique rounded slope; the first cubital cellule at the top is half the length of the second; the two recurrent nervures are separated by the length of the second cellule. Abdomen pruinose. Tegulæ brown.

*N. bengalensis*, here described, comes near to the present species, but it is a more slenderly-built insect; it may be known from it by the sternal keel not being depressed at the base and keeled down the middle; and by the second recurrent nervure being more sharply angled in the middle, the curve not being so broadly rounded.

*Notogonia bengalensis*, n. s.

Nigra, thorace dense, fulvo piloso; alis hyalinis, stigmatibus fusco; cellula cubitali 2<sup>a</sup> duplo longiore quam 1<sup>a</sup> ♀.

Long. 6 mm.

*Hab.* BARRACKPORE (*Rothney*).

Comes near to *N. varipilosa*, but is smaller, is more slenderly built, and is readily known from it by the shorter second cubital cellule, it being with *varipilosa* equal in length to the first.

Antennæ stout, covered with a pale pile; the scape shining, keeled on the under-side. Head alutaceous; the lower part of the front and the oral region thickly covered with silvery pubescence. Mandibles dark piceous in the middle. Palpi black, thickly covered with white pubescence. Pro-, meso-, and base of metanotum covered with fulvous; the apex of the metanotum and the pleuræ with bright, silvery pubescence. There is a shallow broad furrow in the centre of the metanotum; the base of the metanotum coarsely

alutaceous, and with a keel in the middle; the apical slope is thickly covered with silvery pubescence, is obscurely transversely striated, and has a narrow furrow in the middle which extends to near the apex. Pleuræ alutaceous. Sternal process large, keeled down the middle, the keel much stronger on the base; the apex in the middle incised. Legs thickly pruinose, the spines black. Wings hyaline, slightly infuscated at the base; the first cubital cellule is half the length of the second; the first transverse cubital nervure is roundly curved, the second recurrent nervure is received shortly behind the middle of the cellule. Abdomen pruinose.

*Notogonia pygmaea*, n. s.

Nigra, dense argenteo pilosa, alis hyalinis, apice nervisque fuscis, cellula cubitali 1<sup>ma</sup> duplo longiore quam 2<sup>a</sup> ♀.

Long. 5 mm.

*Hab.* BARRACKPORE (*Rollency*).

Scapæ of antennæ bare, brownish in the middle beneath. The face and the lower part of the front thickly covered with silvery pubescence; the ocellus round; the furrow below it wide and not very deep; the transverse furrow behind it is wide, shallow, its sides slightly oblique; in its middle is a shining longitudinal furrow; mandibles broadly rufous at the apex; the base thickly covered with silvery pubescence. Palpi dark testaceous. Pro- and mesonotum thickly covered with sericeous pubescence; that on the former being brighter in tint than on the latter, which is alutaceous, and has a broad shallow furrow down the middle. The basal part of the median segment is alutaceous, neither striated nor reticulated; the apex is deeply, but not widely, furrowed down the middle. Pleura alutaceous, without any striations. The metasternal process is wide, is slightly incised in the middle at the apex, and has an obscure keel down the middle. The first cubital cellule at the top is one-half the length of the second, the first transverse cubital nervure has a gradually rounded slope to near the top; the second recurrent nervure is received shortly behind the middle of the cellule, and is sharply angled in the middle; the two are separated by slightly more than the length of the top of the first cubital cellule; the apical abscissa of the radius is straight, not oblique, and forms an acute angle with the lower part. Abdomen pruinose, especially on the apices of the segments. Legs thickly pruinose; the spines and calcaria black; the apices of the anterior tarsi testaceous. Tegulae rufo-testaceous.

*Notogonia picipes*, n. s.

Nigra, femoribus posticis piceis ; alis hyalinis, stigmatе fusco ♀.  
Long. 7 mm.

*Hab.* BARRACKPORE (*Rothney*).

Comes near to *N. subtessellata*, but is not much more than half the length of the smaller examples of the latter ; the hinder femora, instead of being bright red, are only piceous-red above and almost black below ; the apex of the median segment is not so widely excavated, and not at all below the middle ; and the sternal process is not keeled down the middle, and not obliquely raised towards the apex.

Mandibles broadly rufous towards the apex. Palpi testaceous. Front and face thickly covered with silvery pubescence. Ocellus irregularly round. Thorax alutaceous ; covered with a silvery pile, the middle of the metapleuræ irregularly striated at the base ; the apical slope is indistinctly transversely striated, its upper half is furrowed in the middle ; the sides of the furrow have an oblique slope. The sternal process is wide, and is not keeled in the middle ; its apical incision is small. Wings clear hyaline, the stigma fuscous, the apical abscissa of the radius is rounded below ; the first cubital cellule at the top is about one-third shorter than the second, the second recurrent nervure is received shortly, but distinctly, behind the middle of the cellule. Legs black, pruinose ; the hinder femora for the greater part above reddish-piceous ; the hinder tibiæ have a piceous tint ; spines and calcaria black. Abdomen pruinose, the apical segment is distinctly and roundly incised.

*Notogonia pilosa*, n. s.

Nigra, dense albo pilosa ; alis fusco-hyalinis, stigmatе nervisque testaceis ♂.

Long. 12 mm.

*Hab.* BARRACKPORE (*Rothney*).

Front and vertex strongly and closely punctured, thickly covered with long fuscous hair ; the lower orbits, face and clypeus thickly with longer silvery pubescence ; the projecting apex of the clypeus smooth, shining and bare. The anterior ocellus is minute, glassy, slightly pointed in front ; in the middle of the front is a wide and shallow longitudinal furrow ; the depression on the vertex is wide, deep, transverse, and narrower at the sides. Mandibles black, at the

base thickly covered with silvery pubescence. Palpi thickly covered with silvery pubescence; the apical joints testaceous. Pro- and mesonotum strongly and closely punctured and thickly covered with short white pubescence; the scutellum is closely punctured like the mesonotum; the post-scutellum has the punctures smaller and closer. Median segment thickly covered with white pubescence, closely rugosely punctured; on the apex the punctation is stronger; its sides are transversely striated: the central furrow is distinct in the middle. Propleuræ closely punctured, the punctures more closely pressed together behind; in the middle is a wide, shallow, oblique furrow; the tubercles are thickly fringed behind with grey pubescence; the perpendicular furrow is crenulated, deep and moderately wide; the longitudinal one is narrower and not so deep. Meta-pleuræ punctured, slightly so at the base; the lower part at the base and middle striated. Pro- and the basal part of the mesosternum keeled down the middle; the metasternal process closely punctured and thickly covered with long white hair: the apical lobes rounded; coxæ and femora thickly covered with white hair; the tibiæ more thickly and shortly with white pubescence, their spines pale rufous; the tarsi thickly pruinose, their spines rufous. Wings fusco-hyaline, the nervures pallid fuscous: the first cubital cellule above is slightly shorter than the second, the first transverse cubital nervure is oblique and bulges out slightly backwards in the middle; both the recurrent nervures are received shortly behind the middle of the cellule; the second recurrent nervure has a broadly rounded curve. Abdomen thickly pruinose, especially on the apices of the segments; the basal ventral segment is rufous.

Comes near to *N. laboriosa* and *N. jaculatrix*, but is quite distinct from either.

*Tachysphæx striolata*, n. s.

Nigra, tegulis testaceis; alis clare hyalinis; nervis fuscis; segmento mediali striolato ♀.

Long. 8 mm.

*Hab.* BARRACKPORE (*Rothney*).

Head opaque, closely and distinctly punctured; the face and sides of the clypeus thickly covered with silvery pubescence; the front and vertex sparsely haired. The deformed hinder ocelli are oblique, shining, the anterior is broader than long; the ocellar region is raised and has a shallow furrow down the middle between the ocelli; behind them is a deep semi-circular furrow, behind which the vertex

is raised; behind the antennae are two distinct oblique shining tubercles. The apex of the clypeus is shining, smooth, bare; its extreme apex depressed. Mandibles broadly rufous in the middle, their base thickly covered with silvery pubescence. Pro- and mesonotum closely punctured, the former thickly covered with white pubescence. Scutellum less strongly punctured than the mesonotum. Median segment at the base closely obliquely striated; in the middle with curved transverse striae; the apex is closely transversely striated. Propleurae shining, aciculated above. Mesopleurae closely punctured; at the base is a wide perpendicular furrow which is striated above. The apex of the metanotum is longitudinally closely striated, the base above is sparsely, below closely punctured. Metasternal area with raised sides; the central keel is broad and does not quite reach the base. Legs black, covered with a white down; the tibial and tarsal spines are white; the calcaria pale testaceous; wings clear hyaline, iridescent; the stigma and nervures dark fuscous; the first cubital cellule above is about one-fourth longer than the second, the first transverse cubital nervure is oblique and is slightly elbowed on the lower side; the second recurrent nervure is received shortly beyond the middle. Abdomen shining, the apices of the segments pruinose; the pygidium shining, its apex rufous.

Comes near to *T. bituberculata*, but that species is larger; its wings have a distinct yellowish tinge and are fuscous at the apex, otherwise may easily be known by the median segment being reticulated; with the striae stouter and not oblique.

*Tachysphex puncticeps*, n. s.

Nigra, capite thoraceque dense punctatis, metanoto reticulato, apice striato; alis hyalinis, nervis fuscis ♀.

Long. 7 mm.

*Hab.* BARRACKPORE (*Rothney*).

Scape of antennae smooth and shining, the sides bearing a pale microscopic pile; the flagellum opaque. Vertex closely and distinctly punctured, the punctures distinctly separated; behind the ocelli is a large depression, which is obliquely narrowed behind, the apex is deeper and shining, the front is closely rugosely punctured. The antennal tubercles are smooth and shining, the checks, face and clypeus are thickly covered with silvery pubescence, the clypeus is distinctly depressed, smooth, bare and shining. Mandibles broadly rufous in the middle; the palpi dark testaceous. The eyes at the top are separated by slightly more than the length of the third

antennal joint. Mesonotum closely and distinctly punctured and thickly covered with a short pale down. Scutellum shining, only very minutely punctured. Median segment closely reticulated; the apex strongly and closely transversely striated: the furrow is wide and deep and does not reach the middle. Propleuræ smooth; mesopleuræ closely punctured; the metapleuræ, closely, obliquely striated. Prosternum furrowed rather widely in the middle. Metasternal process not defined. Legs pruinose, the tibial and tarsal spines are white. Wings clear hyaline, the nervures fuscous, the first cubital cellule is shortly, but distinctly, longer than the second; the upper (and larger) part of the first transverse cubital nervure has a distinct, oblique slope; the second recurrent nervure is received in the middle of the cellule. The basal three segments of the abdomen are fringed with silvery pubescence.

*Tachysphex varihirta*, n. s.

Nigra, dense argenteo pilosa, basi metanoti rugoso, apice striolata; alis hyalinis, cellula cubitali 1<sup>a</sup> duplo longiore quam 2<sup>a</sup>; nervis stigmatæque nigris ♂.

Long. fere 6 mm.

*Hab.* BARRACKPORE (*Rothney*).

Front and vertex closely punctured, the front more strongly than the vertex; the lower part of the front closely covered with silvery pubescence, the inner orbits in the middle with pale golden pubescence; the face and clypeus thickly covered with silvery pubescence; its middle with a slight rounded incision; the labrum smooth and shining. Base of mandibles thickly covered with silvery pubescence, the middle rufous. Palpi dark testaceous. The hinder part of the head is thickly covered with silvery pubescence. Pro- and mesonotum covered with silvery pubescence which is very thick and long near the tegulæ; mesonotum closely and distinctly punctured; the scutellum has the punctures more widely separated. Median segment closely rugosely longitudinally rugose; in the middle, at the base, are some irregularly waved striæ and it is thickly covered with white pubescence; the apical slope is closely transversely striated. Propleuræ strongly punctured above, below smooth and shining; mesopleuræ closely, but not very strongly, punctured; the lower part thickly covered with silvery pubescence; metapleuræ closely striated, the striæ more widely separated at the base. Mesosternum closely punctured, shining; the metasternal area closely punctured, the apex incised in the middle; the raised sides stout, the middle indistinctly keeled. Legs thickly covered with silvery pubescence; the four

anterior calcaria pale testaceous. The first cubital cellule at the top is somewhat more than twice the length of the second, the first transverse cubital nervure is oblique, straight; the second recurrent nervure is received almost in the middle of the cellule. Abdomen shorter than the thorax, the basal three segments broadly banded with silvery pubescence on the apices; pygidium smooth and shining.

*Odynerus sibilans*, n. s.

Niger, flavo maculato; clypeo flavo, nigro maculato, flagello antennarum subtus rufo; pedibus flavis, coxis, trochanteribus femoribusque posticis nigris; alis hyalinis, apice violaceis ♀.

Long. 8 mm.

*Hab.* BARRACKPORE (*Rothney*).

Antennæ black, the scape yellow, the flagellum brownish beneath; head black, the clypeus, except a triangular black mark in the centre at the apex, the lower inner orbits, the eye incision, an irregular broad line across the vertex, dilated downwards in the middle and broadly incised above, and all united together and the upper half of the outer orbits, yellow. Front and vertex strongly rugosely punctured, the centre of the front between the antennæ shining and minutely punctured. Clypeus broad above, rounded there, obliquely narrowed towards the apex, sparsely punctured. the punctures rather large and deep, the apex with a broad shallow incision. Mandibles rufous, yellow at the base, the inner side black. Thorax black, closely and rather strongly punctured; the pronotum broadly above, a round spot below the tegule, scutellum, post-scutellum and the sides of the median segment broadly yellow. Median segment rugosely punctured, the middle stoutly keeled and transversely striated; from the keel near the top, a transverse, stout, slightly curved keel runs from either side. Pleuræ closely punctured, the base of the meso- and metapleuræ smooth. Legs yellow, the fore coxæ, the others behind, the trochanters base of anterior femora and the posterior entirely, black. Wings hyaline, infuscated along the fore margin; the apex violaceous, the second cubital cellule is much narrower above, being not one-fourth of the length of the third. Abdomen black, the apex of the petiole. its sides broadly, a large mark on the sides of the second segment, its apex broadly, the sides narrowly, the apices of the third and fourth and the fifth and sixth in the middle, yellow. The ventral segments are broadly yellow.

There is an indistinct keel, more distinct on the sides than in the middle, on the petiole behind the yellow mark.

## APIDÆ.

*Halictus itincrans*, n. s.

Black, thickly covered with longish white hair; the sides and apex of the median segment closely and distinctly reticulated; the apices of the segments depressed and less strongly punctured than the base ♂.

Long. 7-8 mm.

*Hab.* BARRACKPORE (*Rothney*).

Antennæ stout, the flagellum bare, the scape covered with longish white hair. Vertex shining, sparsely and minutely punctured; the front is closely, somewhat strongly and uniformly punctured; its lower side, the face and the vertex are thickly covered with white pubescence. Clypeus strongly, but not very closely, punctured, its apex transverse. Mesonotum distinctly, but not very strongly punctured and with a narrow furrow on either side towards the apex. Scutellum shining, punctured. The area on the median segment is large and extends to the top of the apical slope; it is closely, strongly, longitudinally punctured; the apical slope and the metapleuræ are closely reticulated; the pleuræ more closely reticulated, with the reticulations less clearly defined than on the apex. Mesopleuræ rugosely punctured. The apical slope of the median segment is distinctly margined and is furrowed down the middle. Wings clear hyaline, the stigma dark fuscous, the nervures black; the first recurrent nervure is received quite close to the second transverse cubital. Legs black, rather thickly covered with white hair; the hair on the under-side of the tarsi and their spines are rufous; the spurs are pale rufous. Abdomen closely and distinctly punctured, except on the apices of the segments which are depressed; the base of the dorsal segments are covered with white hair; the ventral surface is thickly covered with longer white hair. The base of the last ventral segment is distinctly raised, the raised part forming a semi-circle; the apex of the segment is transverse. Tegulæ black.

Comes near to *H. ciris* and *H. vishnu*, but cannot well be confounded with either.

*Halictus interstitialis*, n. s.

Black, the apices of the tarsi testaceous, the mesonotum and the scutellum reticulated closely, the base of the median segment more widely and less regularly reticulated, the abdomen impunctate, the base of the second segment with a broad band of grey pubescence; the front distinctly keeled ♀.

Long. 6 mm.

*Hab.* BARRACKPORE (*Rothney*).

Antennæ black, the apical half of the flagellum brownish, black above. The clypeus is strongly, regularly but not very closely, punctured—the face is less strongly punctured—the front and vertex are coarsely alutaceous; the front has a narrow distinct keel which extends from the ocelli to the base of the antennæ; the front, face and clypeus are covered with white pubescence; the vertex more sparsely with longish pale hair. The reticulation on the mesonotum becomes stronger towards the apex; the scutellum is less strongly reticulated at the sides; the post-scutellar region is thickly covered with white hair. The apex of the pronotum is raised laterally at the base into a sharp plate-like projection, which above is thickly covered with white pubescence. Mesopleuræ obscurely reticulated. The base of the median segment is irregularly reticulated, the longitudinal striæ are regular; the transverse ones much more irregular and more or less broken, the sides and the apical slope are thickly covered with white pubescence, the hair on the sides is much longer than elsewhere. The hair on the tibiæ and tarsi are fulvous, on the femora, sparser, longer and white, the hair is fringed; the outer spur on the hinder tibiæ is armed with stout spines. Wings clear hyaline, the stigma and nervures testaceous, the first recurrent nervure is interstitial. Abdomen smooth, shining, impunctate; the base of the second segment has a band of white, depressed pubescence at the base; the other segments are broadly, but not thickly, fringed, with white pubescence on the apex, the anal fimbria is rufous, the ventral surface is covered rather thickly with long white soft hair.

The hinder tibiæ and tarsi are distinctly rufous, this being also the case with the femora beneath; the tegulæ are rufo-piceous; there are no transverse furrows on the abdominal segments.

Comes near to *H. liodomus*, Vachal.

*Halictus bengalensis*, n. s.

Long. 7 mm.

*Hab.* BARRACKPORE (*Rothney*).

This species comes near to *H. ceylonicus*, but it wants the blue tint on the head and thorax; the base of the median segment is strongly marked with stout twisted keels, the clypeus is more strongly and distinctly punctured all over, and there is a distinct transverse furrow on the basal two abdominal segments.

Antennæ black, brownish beneath towards the apex. Front closely and uniformly punctured, the vertex is less closely and

distinctly punctured especially near the ocelli. The cheeks are thickly covered with white pubescence: the face is sparsely and minutely punctured: the clypeus is much more strongly and distinctly punctured except at the apex. The punctures are large and elongate, the centre at the apex is narrowly depressed. The labrum projects slightly in the centre, it is closely and coarsely aciculated with the sides smooth. Mesonotum shining, closely punctured, more closely punctured at the sides than in the middle. There is a distinct basal central furrow which extends beyond the middle and a shorter one on the sides. Scutellum smooth, the sides and apex punctured. Post-scutellar region covered closely with white pubescence. The base of the median segment is covered with stout irregularly twisted striæ, which are more oblique laterally than in the centre. The apical slope is smooth, shining, and is distinctly bordered round the edges; its top in the centre is slightly bent downwards with the edges oblique; in the centre of the apical half is a deep, clearly defined, furrow. The lower part of the propleuræ is irregularly striated; below the middle at the base is an oblique furrow. Mesopleuræ thickly covered with white hair. Wings hyaline, the stigma testaceous, the nervures of a darker testaceous colour; the second recurrent nervure is interstitial. Legs black, the hair white; on the under-side of the tarsi fulvous, the calcaria testaceous; the spines on the hinder calcaria are long at the base and become gradually shorter towards the apex. Abdomen smooth, shining and impunctate; the segments at the base with a band of white depressed pubescence. The anal fimbria is brownish and broad: the segment is brownish and the hair covering on it is long and fuscous.

The eyes converge slightly below, there is a distinct keel on the lower part of the front, the metathoracic area is not defined at the apex by a keel or distinct margin; there is a distinct transverse furrow beyond the middle of the basal two abdominal segments; the apices of the tarsi are rufous. The pubescent band on the base of the second segment is broader than it is on the other segments.

Comes near to *H. albescens*, which may be known from it by the front not being carinate. It is related to *H. coriniifrons*, Cam.; that is a smaller, more slenderly-built insect; the striated area reaches to the top of the apical slope and the sides at the top are rounded, not straight and oblique; the basal two segments of the abdomen, too, want the transverse furrows. The calcaria are more distinctly spined than usual.