MEMOIRS AND PROCEEDINGS

OF

THE MANCHESTER LITERARY & PHILOSOPHICAL SOCIETY.

1887-8.

CONTENTS.

MANCHESTER:
36, GEORGE STREET.

Price, Three Shillings and Sixpence.

ERRATA.

Page	line.	
6,	17,	*or* in *read* on.
15,	1,	*for* November 16th *read* November 15th.
—,	6,	,, ,, ,, ,, ,, ,,
35,	34,	*for* disposition *read* deposition.
36,	33,	*for* full *read* first.
37,	5,	*for* titles *read* tables.
42,	13,	*for* Light *read* Rifle.
52,	18,	*for* visible *read* invisible.
—,	24,	*for* antozene *read* antozone.
173,	33,	*for* RUFIPES *read* MONTEZUMA.

Ordinary Meeting, April 17th, 1888.

Professor OSBORNE REYNOLDS, LL.D., F.R.S., in the Chair.

Mr. CHARLES BAILEY, F.L.S., communicated a paper entitled "Descriptions of twenty-three new Species of Hymenoptera," by P. Cameron.

Mr. J. COSMO MELVILL, M.A., F.L.S., communicated a paper entitled "A Survey of the genus Cypræa (Linn.), its Nomenclature, Geographical District, and Distinctive Affinities; with descriptions of two new Species and several varieties."

Professor A. SCHUSTER, F.R.S., read a paper entitled "Memoir of the late Professor Balfour Stewart, LL.D., F.R.S."

Descriptions of twenty-three new species of Hymenoptera. By P. Cameron. Communicated by Chas. Bailey, F.L.S.

(Received April 17th, 1888.)

The chief interest of the following paper consists in its containing either descriptions of species belonging to genera or groups which have been very little studied, and which consequently are very little known; or descriptions of species of well-known genera from regions which have been hardly explored, at least as regards their Hymenopterous Fauna. Of the former class I may allude to the six new species of *Epyris*, of which three are European, including one from England, and to the six new parasitic Cynipidæ from Britain. Possibly the most important species described

is the new species of *Ampulex* from Gibraltar, there having been only one European species described, the genus itself, too, being a remarkable one, and more representative of tropical than of temperate regions.

I have to express my indebtedness to Mr. J. J. Walker, R.N., for a small, but highly interesting, collection of Hymenoptera from Gibraltar; to Mr. J. Helms, of Greymouth, New Zealand, for an equally interesting collection from his district, and to Mr. J. Cosmo Melvill for the curious *Bracon* from Bogota.

I may be allowed to make here some observations on the question of the multiplication of "genera" in the Hymenoptera, as it appears to me that the creation of so many so-called "genera" may lead not only to confusion, but may be even positively injurious to the progress of the study of the Hymenoptera.

The late Prof. Arnold Foerster is the author who initiated the principle of minute analytical analysis in splitting up the old genera. That some of these genera may have been rather too widely defined may be granted; but it does not follow that Foerster's system was an improvement. If genera are to be formed, they should be defined, not as regards the German species, but as regards the species from all parts of the world. Once commence to define genera from one or possibly two characters and you then find yourself logically bound to the creation of an endless number of genera. The objections to most of the genera carried out on the Foersterian lines are that they do not apply to exotic species, and further, that in many cases the characters employed to define the genera are found to be specific rather than generic when traced through a series of species from all parts of the world. In working out the parasitic Hymenoptera for the "Biologia Centrali-Americana," I endeavoured to arrange the species according to Foerster's

"genera," but I soon found out that it was impossible to do so—that in fact the species could not be referred to them; and that if Foerster's method was to be followed, the erection of a large number of "genera" must be attempted. There are, however, serious objections to that being done, with our present limited knowledge of exotic forms; not only so, but many of the characters employed by Foerster and his followers merge so much into one another that they are perfectly useless for purposes of generic diagnosis, *e.g.* the abdominal segments in *Pimplides*. Even as regards European species the method in many cases fails. Take, for example, Foerster's divisions of *Kleditoma*. Of these he has five, arranged according to the number of joints in the antennal club. If species were to be discovered with two- and one-jointed clubs, "genera" would logically have to be erected for them; more than that the species I have described in this paper under the name of *Kleditoma melanopoda* should form the type of a "genus," because it has no antennal club at all. Then again, the males of all these divisions have no distinctive characters; so that the "genera" are founded exclusively on the females.

As another example of the multiplication of genera, I may allude to the recent elevation by Herr Konow of some of the divisions of *Stronglogaster* and *Blennocampa* to generic rank. If these are to be accepted, a large number of genera must be formed for the American species; and I question very much if the characters employed by Herr Konow will not be found on examination to merge so much into one another as to be incapable of rigid definition. That all large genera fall into well marked groups is, of course, true; and in monographic works such groups should be defined; but it is questionable if anything is to be gained by giving them names. The naming of the species of *Blennocampa* (using the word in the Thomsonian sense), for example, is not greatly facilitated by certain of the groups being separated from it and given names.

The truth seems to be that the species of the larger genera arrange themselves differently in the various zoological regions. To carry out the present system of minute generic analysis can only lead to the creation of "genera," the characters of which are only applicable to the species of one region. With our present knowledge of the Hymenoptera, the system, to my mind, when carried to extremes, will do more harm than good, and may lead to great confusion; for it will render the identification of genera almost impossible when species are studied outside the limits of the region where such genera have been formed. Possibly in no order of insects is the question of generic definition more perplexing than in the Hymenoptera; the greater the reason, therefore, is there for care being exercised in the formation of new genera; as, unless this is done, it will simply lead to confusion and additions being made to an already too large synonymy.

TENTHREDINIDÆ.

SELANDRIA (?) ROTHNEYI, *sp. nov.*

Nigra-coerulea; coxis, trochanteribus posticis dimidioque basali tibiarum posticarum, albis; alis fere hyalinis. Long. 7 mm.

Hab. Barrackpore, Bengal (*G. A. J. Rothney*).

Antennæ shortly pilose, longer than the head and thorax united, the third joint slender, slightly curved, nearly one-fourth longer than the fourth; the 5th—8th joints produced sharply at the apices beneath; the 6th—8th much shorter than the fifth. Head: the face and clypeus covered with long white hair; clypeus truncated at apex; frontal area distinct, obscurely roughened; a short keel in the centre, which is depressed; sutures on vertex not reaching to the back of the head; eyes converging in front, reaching near to the back of the head. Body and legs shortly and

sparsely covered with white pubescence; cenchri large, white; calcari about one-fourth of the length of the metatarsus; claws bifid. Second marginal cellule a little longer than the first; first transverse cubital nervure absent; transverse basal nervure received beyond the middle of the cellule; the second recurrent nervure is received about the same distance from the second transverse cubital nervure that the transverse radial is from the second transverse cubital.

If the first transverse cubital nervure were not absent this species agrees in neuration with *Selandria*. With the material at my disposal it is impossible for me to say if the absence of this nervure is normal; and I therefore leave the species in *Selandria*. If there are species similar to the species here described, it might be referred to *Aneugmenus*, but that I suspect was found on a *Selandria* which had the first transverse cubital nervure faint or absent; and, therefore, I am inclined to regard *Aneugmenus* as synonymous with *Selandria* (*cf.* Cameron, Mon. Brit. Hym. I. p. 264.)

EMPHYTUS AZTECUS, *sp. nov.*

Niger, fusco pubescens; labro, palpis, tegulis, linea pronoti, coxis, trochanteribus, basi et apice femorum, tibiis tarsisque anterioribus, albis; alis fusco hyalinis. ♂ Long. 5 mm.

Hab. Mexico, Orizaba, December *(F. D. Godman and H. H. Smith).*

Antennæ densely, but shortly, pilose; the third joint considerably longer than fourth. Head finely punctured; frontal area and vertical sutures indistinct; apex of clypeus transverse. Thorax shining; impunctate; cenchri large, white. Abdomen considerably longer than the head and thorax united. Transverse basal nervure received near the middle of the cellule; the second recurrent nervure a little before the middle.

Emphytus improbus Cresson is the nearest relative known of this species; *improbus* may be known from it by having the third, fourth, and fifth joints of the antennæ of nearly equal length; by the abdomen being "about as long as the head and thorax"; in the metatarsus being as long as all the other joints united, &c. *E. mexicanus* (Cam.) has only the knees and fore-tibiæ white.

CYNIPIDÆ.

ONYCHIA STRIOLATA, *sp. nov.*

Nigra; capite et thorace striolatis, breviter pilosis; tibiis tarsisque anterioribus, piceis; flagello antennarum subtus fusco; alis hyalinis, nervis pallide testaceis. ♂. Long. fere 4 mm.

Hab. Barrackpore, Bengal *(G. A. J. Rothney).*

Antennæ longer than the body, of nearly uniform thickness; the third and fourth joints subequal. Head and thorax opaque, covered with a short whitish pubescence. Head rugosely punctured, striolated on the vertex and behind the eyes; front slightly depressed, finely rugose; a straight keel runs down from the direction of each ocellus; mandibles piceous. Sides of pronotum coarsely striolated; the top a little depressed, finely rugose, this central part being distinctly separated from the striolated sides. Mesonotum coarsely rugose; parapsidal furrows wide, distinct; the space between the keels at the base crenulated; mesopleuræ shining, impunctated; excavated in the centre. Scutellum channelled; keeled down the centre; the foveæ at the base shining, impunctate; the sides whitish; the apical part with stout transverse keels; the apex almost transverse. Central part of metanotum shining, impunctate; separated by stout keels from the reticulated, densely pilose sides. Abdomen shining; the apical half of the petiole striolated above. The anterior legs shortly and sparsely covered with white hair; the posterior densely; the posterior

tibiæ and femora opaque, absoletely punctured; the tibiæ channelled.

A larger species than *O. Westwoodi*, Dbm. differing from it otherwise in the front not being rugosely punctured and bearing three distinct longitudinal keels, the lateral keels, too, projecting more; in the sides of the pronotum being more strongly striolated; in the tegulæ being black, and the nervures whitish; and in the abdomen being longer, the petiole especially being as long as the hind coxæ, while in *O. Westwoodi* it is not half the length.

As bearing on the distribution of *Onychia*, I may remark that Mr. J. J. Walker, R.N., has taken *O. notata*, Fonsc., at Benzus Bay, Morocco.

KLEDITOMA NIGRIPES, *sp. nov.*

Nigra, geniculis tibiisque piceis, alis hyalinis, nervis piceis, antennis thorace longioribus, clava 3-articulata, abrupta. ♀. Long. 2·3 mm.

Hab. Dulwich (*T. R. Billups.*)

Black; knees and base of tarsi piceous; wings hyaline; nervures piceous-black. Antennæ longer than the head and thorax united; the third joint attennuate at the base, twice the length of the fourth, the fourth and fifth joints narrowed at the base, longer than broad; joints 6—10 moniliform, as broad as long; joint 11 distinctly thicker than the tenth, but shorter and thinner than the thirteenth, the three forming a well-marked club. Occiput striated. Sides of scutellum longitudinally striated; the discal fovea small, shallow, indistinct; apex of the scutellum below the cup forming a curved hook-shaped projection. Metanotum aciculate, depressed at the base, abdomen scarcely as long as the head and thorax united; the hair fringe thick, large, griseous. Radial cellule open at base and apex; the second abscissa of radius three-fourths of the length of the third.

This is the largest species of the section of *Kleditoma*

with a 3-jointed club, and with the apex of scutellum prolonged into a sort of beak (=*Rhynchacis*, Foerster). It is most nearly related to *K. nigra*, but the much darker legs and wing nervures; the striated occiput, the more elongated radial cellule, which is widely open at base and apex, and the sharper beak-shaped apex of scutellum sufficiently distinguish it from the smaller *nigra*.

KLEDITOMA CRASSICLAVA, *sp. nov.*

Black, shining; the knees and tarsi piceous; wings yellowish-hyaline, the nervures piceous; abdominal hair-fringe whitish. Antennæ nearly as long as the head and thorax united; the 3-jointed club stout, thick; its basal joint distinctly shorter and narrower that the 12th. Apical margin of wing obtusely rounded, but very slightly incised. Apex of scutellum prolonged into a beak. Length 2 mm.

Hab. Bonar Bridge, Sutherlandshire. (*Cameron.*)

May be known from *K. nigra* by being larger and stouter, by the stouter antennal club, by the blacker legs, and by the apical margin of the wings being hardly incised.

KLEDITOMA CALEDONICA, *sp. nov.*

Black, shining; the four anterior knees, tibiae and tarsi, testaceous, the posterior and the trochanters piceous; wings hyaline, the nervures testaceous; the abdominal hair fringe griseous. Antennæ longer than the head and thorax united; the flagellum before the club slender; the 3-jointed club distinct, the joints conical, distinctly attenuated at base and apex; the 11th joint perceptibly shorter than the 12th. Radial cellule elongated; the second abscissa of radius fully one-fourth longer than the first; apical margin obtusely incised. Apex of scutellum not beak-shaped. Length 1 mm.

A smaller species than *K. striaticollis*, and easily known

from it by the joints of the club being narrowed at base and apex and clearly separated.

Hab. Claddich, Loch Awe (*Cameron*).

KLEDITOMA STRIATICOLLIS, *sp. nov.*

Black, shining, the knees broadly, trochanters, base of femora, and tibiæ and tarsi, piceous; wings clear hyaline, the nervures testaceous. Antennæ as long as the head and thorax united; the three-jointed club abrupt; its joints of equal thickness; the basal a little shorter than the second; the ninth and tenth joints are thicker than the preceding and more globular. Radial cellule elongate; the second abscissa of radius perceptibly longer than the first; apical margin of wings obtusely incised. Abdominal hair fringe dense, griseous. Pronotum striolated. Apex of scutellum not beak-shaped. Length: 1½ mm.

Hab. New Galloway (*Cameron*).

KLEDITOMA MELANOPODA, *sp. nov.*

Nigra, geniculis, tibiis tarsisque, piceis, alis hyalinis, nervis testaceis; antennis longis, clava nulla. ♀. Long. 2·7 mm.

Hab. London District.

Black; the knees, and fore tibiæ, and tarsi, piceous; wings clear hyaline, the nervures piceous. Antennæ more than twice the length of the thorax; the third joint nearly one half longer than the fourth; the apical six joints longer and somewhat thicker than the preceding, but not forming a distinct club; the seventh joint shorter than the eighth. Occiput transversely striated; pronotum rather strongly longitudinally striated; sides of scutellum striolated; the cup lanceolate, the apical depression round and with two small foveæ behind it; scutellar foveæ large, deep, and longer than broad. Abdomen compressed, longer than the head and thorax united; the hair fringe long, griseous. Metanotum with an oblique slope, shining, impunctate, the centre hollowed, the sides keeled. Wings large. ♀

There is no described species with which *E. melanopoda* can be compared; nor can it be placed very well in any of Foerster's "Genera." The antennæ come nearest to those of *K. pygmaea;* but the apical six joints form a well-marked club in it, and the form of the radial cellule is very different; the radial cellule in *K. melanopoda* being formed as in *K. brevicornis, tetratoma*, &c.

EUCOILA GRACILICORNIS, *sp. nov.*

Nigra, nitida, flagello antennarum, ore, pedibusque, rufis; alis flavo hyalinis; antennis corpore longioribus; clava haud discreta. Long. 4 mm.

Hab. Banks of Clyde, near Cambuslang (*Cameron*).

Black; the flagellum and legs (except the basal three-fourths of the coxæ) red; the tegulæ piceous; wings yellowish-hyaline, the nervures testaceous. Antennæ filiform, longer than the body, the sixth and following joints not thicker than the fifth, elongated, much longer than broad; the third joint shorter than the fourth. Scutellum rugosely punctured; the cup suborbicular, narrowed at the base; the rim piceous; the fovea at apex large, wider than long. Hair on sides of metanotum moderately long, griseous. Abdomen not much longer than the thorax; its hair fringe, thick, griseous. Wings large; first abscissa of radius about three-fourths of the length of second, and both are distinctly curved; the third abscissa about the length of basal two united, slightly curved; cubitus reaching to the apex of the wing; apical fringe moderate. The male has the antennæ one and three-fourth times longer than the body; the third joint is shorter than the fourth.

Closely allied to *E. similis*, Cam., but that species has the antennæ not much longer than the body, and with the apical eight joints thicker than the preceding, and scarcely twice longer than broad; the wings are clear hyaline, the nervures paler, the cubitus does not reach to the apex of the wing, and the tegulæ are entirely red.

PROCTOTRUPIDÆ.

Epyris orientalis, *sp. nov.*

Niger, capite punctato; metanoto transverse striolato, alis fusco-hyalinis. Long. 10 mm.

Hab. Barrackpore, Bengal (*G. A. J. Rothney*).

Antennæ fuscous towards the apex; sparsely clothed with long white hairs; the third joint about one-fourth shorter than the fifth. Head shining, sparsely covered with long white hair; covered with large scattered punctures. Mandibles rufous towards the base and apex; sparsely covered with large irregular punctures and sparsely pilose. Pro- and mesothorax covered with longish fuscous hair; sparsely punctured; parapsidal furrows complete. Metanotum shining, transversely striolated, reticulated in the centre, and with two stout keels, which unite towards the apex of the metanotum; median segment transversely striolated. Abdomen at the apex covered with long hair. Legs thickly covered with white hair. Lower discoidal cellule complete; upper with the nervures obscure and faint.

Epyris hispanicus, *sp. nov.*

Niger, capite thoraceque rugoso punctatis, metanoto 7-carinato; ore, mandibulis, pro-mesothorace, cum scutello, rufis, antennis testaceis, vel apice fuscis; pedibus nigris, tarsis testaceis, coxis, trochanteribus femoribusque antecis, rufis; alis fuscis, basi fasciaque medio lacteis. Long. 4½—7 mm.

Hab. Gibraltar (*J. J. Walker*, R.N.).

Antennæ stout, scarcely so long as the thorax; the flagellum shortly and sparsely covered with a white pile, the third joint about one-fourth longer than the second; the fourth is hardly so long as the second. Head sparsely covered with white hairs; strongly rugosely punctured all over; mandibles punctured at the base, the apex black.

Pronotum quadrate, almost transverse above in front; rugosely punctured and furrowed down the middle above, the sides longitudinally rugosely punctured, almost striolated; mesonotum punctured, but not very strongly, and rather irregularly; parapsidal furrows complete, diverging towards the front; scutellum punctured, if anything, more strongly than the mesonotum; mesopleuræ rugosely punctured; metanotum shining; there is a stout central keel; one on either side of it, which converge towards its apex, so as to almost touch; at a greater distance outside this than is the second keel from the central, is another stout keel, which also converges towards the apex; and outside this again, and quite close to the marginal keel, is another which runs almost parallel with the latter. The space between the keels is tranversely rugosely striolated, this being also the case with the median segment, but it is more regular and there is only a central keel. The sides of the metanotum project into stout teeth; the apex is convex (forming almost the segment of a circle); metapleuræ irregularly reticulated. Abdomen shining, shorter than the thorax; the apex and central segments somewhat thickly covered with longish white hairs. Legs thickly covered with a stiff white pile. Wings a little longer than the thorax; the lower discoidal cellule is open at the apex.

The above is described from a specimen 7 mm. in length, and with the wings longer than the thorax; but Mr. Walker sends specimens measuring from 4½ to 5½ mm. in length, which have the wings one-half or even one-fourth of the length of the thorax. In these the punctuation is less strongly developed, and the metanotal keels less distinct (especially those on either side of the central), but otherwise I cannot find any tangible differences. In the smaller specimens the punctuation varies in intensity; the amount of red on the anterior legs varies considerably, and the antennæ may be black, dull testaceous at the base.

EPYRIS APTERUS, *sp. nov.*

Niger, alatus; thorace rufo, nigro maculato; basi flagello antennarum, mandibulis, geniculis tarsisque, rufo-testaceis, capite sparse punctato, nitido; metanoto tricarinato. Long. fere 5 mm.

Hab. Gibraltar (*J. J. Walker*, R.N.).

First joint of antennæ curved, and thickened towards the apex; second a little longer than the third, which is somewhat longer than the fourth. Head shining, sparsely pilose; marked all over with shallow, distinctly separated punctures; eyes oblong, placed almost in the centre. Thorax shining, obsoletely punctured; the prothorax quadrate, the front rounded; mesonotum and scutellum almost impunctate; parapsidal furrows distinct, but shallow and narrow; metanotum impunctate, the centre three-keeled, the central keel straight, the lateral converging towards the apex, which is almost transverse, but, if anything, retreating in the centre. Abdomen shining, the apex bearing stiff white hairs. The thorax is red, except the prosternum, an irregular splash in the centre above, the mesopleuræ in front, the metanotum, except the central keeled part and more or less of the metapleuræ. The legs are covered with stiff white hairs. There are no wings.

In general coloration this species agrees closely with *E. hispanicus*, but the second joint of the antennæ being longer than the third, the head only slightly punctured, the thorax scarcely punctured, the pronotum not furrowed in the centre, and the metanotum, only having three keels, readily separate it.

The complete absence of wings may make the generic position of *E. apterus* a little doubtful; but the fact that *E. hispanicus* shows a tendency to losing the wings, and the complete parapsidal furrows leaves no doubt in my mind that it is a true *Epyris*.

EPYRIS TRICOLOR, *sp. nov.*

Coeruleus, flagello antennarum, coxis, trochanteribus, femoribus, abdominisque apice late, nigris; tibiis, tarsisque anterioribus testaceis; tarsis posticis fuscis; abdominis basi late rufo-testaceo; metanoto tricarinato; alis fuscis, nervis testaceis; stigmate radioque fuscis. ♂. Long. fere 5 mm.

Hab. New Forest (*P. Cameron*).

Antennæ stout, three-fourths of the length of the body; the third joint fully twice the length of the second, which is a little shorter than the fourth. Head broader than long, retreating behind the eyes, which are large, reach in front beyond the base of the antennæ and beyond the ocelli behind; shining, punctured, the punctures moderately large, shallow, and distinctly separated; a shallow furrow runs down from the front ocellus. Prothorax strongly punctured, longer than broad, narrowed and rounded towards the front; the prosternum bulging out. Mesothorax shining metallic; marked with scattered shallow punctures; parapsidal furrows complete, almost parallel; scutellum very shining, obsoletely punctured. Metanotum between the keels transversely striolated; the apex rounded, the bounding keel being continued on the inner side of the projecting sides, which are placed on a lower level than the keel; the central keels narrow; the central straight, the lateral slightly curved and converging towards the apex. Abdomen shorter than the thorax, shining, impunctate. Wings nearly as long as the thorax and abdomen united; the two discoidal cellules completely closed; the cubital nervure is continued beyond the upper. Legs almost bare; tips of the tarsi pale testaceous.

Taken by myself in the New Forest early in June.

Two British species of *Epyris* were described by Haliday in Ent. Mag. V., p. 519, namely:—

E. niger. Metathorace truncato, dorso tricarinato et cancellato; abdomine convexo; nervis costalibus conjunctis, and

E. subcyaneus. Metathorace dorso reguloso, apice rotundato ; abdomine depresso ; nervis costalibus disjunctis; areola prae brachiali à stigmate remoto.

The latter species was described by Walker in Ent. Mag. IV., p. 432., pl. xvi., f. 6, under the erroneous name of *Niger* West., and Westwood (Thesa. Ent. Oxon., p. 158) changes the name to *Halidii*, on the ground that the name *Subcyaneus* is not characteristic. Westwood also describes in the above work two additional new species, namely, *E. fraternus* from Combe Wood, and *E. sæva* "ex Anglia." Thomson (Oef. af K. Vet. Akad. 1860, p. 453) describes a Swedish species *E. bilineata*, but from all these *E. tricolor* is readily known by the metallic blue head and thorax and testaceous abdomen. It may be as well to give the references to our British species.

1. *E. tricolor*, Cam. *supra.*

2. *E. niger*, Westwood, Phil. Mag. 1832. i. p. 129; Haliday, Ent. Mag. V. p. 519.

3. *E. subcyaneus*, Haliday, Ent. Mag. V. 519, *olim E. niger*, *l.c.* IV. p. 432, pl. xvi. f. 6.

E. Halidii, West., Thesa. Ent. Oxon., p. 158, pl. xvi. fig. 6.

4. *E. fraternus*, West., *l.c.*, p. 157, pl. xxx. fig. 2.

5. *E. sæva*, Westwood, *l.c.*, p. 158, pl. xxxi. fig. 6.

NOTE.—Dours (*Cat. Hymén. de France*, p. 112) records "*E. ruficollis*, Gir."; but I cannot find any reference to such a species in Giraud's papers, of which, I believe, I have the whole; and, therefore, suspect it is a manuscript name. The practice of recording species under manuscript names is not only useless, but entails endless trouble in endeavouring to find out if and where they have been described.

EPYRIS RUFIPES, *sp. nov.*

Niger, nitidus, sparse punctatus ; breviter pilosus ; metanoto aciculato ; antennis, mandibulis, tegulis, palpis,

pedibusque, rufis ; alis fere hyalinis ; stigmate fusco; nervis testaceis ♀. Long. 5 mm.

Hab. Mexico, Orizaba, December (*H. H. Smith and F. D. Godman*).

Antennæ as long as the thorax, stout, sparsely haired ; the scape curved on lower side, dilated at the apex, as long as the following three joints united ; the second joint a little longer than the third, narrowed at the base. Head shining ; sparsely punctured, the punctures widely and irregularly separated; thorax finely aciculated, irregularly punctured; scutellum impunctate ; metathorax strongly aciculated ; a keel down the centre ; and on either side of this central keel are some irregularly waved keels, most of which do not reach the apex of the metanotum, on which there is a distinct keel ; median segment finely transversely striated, hollowed in the centre. Abdomen shining and impunctate ; the apical three segments covered with pale hairs. Lower discoidal cellule entirely obliterated. Legs stout, covered with whitish hair ; the fore coxæ are for the greater part black.

EPYRIS PUNCTATUS, *sp. nov.*

Niger, crebre punctatus, albo hirtus, metanoto nitido, impunctato, tricarinato; flagello antennarum rufo-testaceis; palpis, trochanteribus, geniculis, tibiis tarsisque, testaceis; alis hyalinis; stigmato fusco, nervis testaceis. ♂. Long. fere 5 mm.

Hab. Mexico, Orizaba, December (*H. H. Smith and F. D. Godman*).

Antennæ longer than the thorax, rather densely pilose; scape curved, as long as the second and third joints united ; the second one-third the length of the following, which is longer than the fourth. Head rugosely punctured; eyes projecting; front and oral region excavated deeply, the antennæ originating from large tubercles, situated in the centre of the excavation ; mandibles large, punctured, three

toothed, reddish before the middle; the eyes are situated quite close to the base of the mandibles. Pro- and meso-thorax coarsely rugosely punctured, the pleuræ more irregularly and less strongly; scutellum shining, bearing a few indistinct punctures. Prothorax considerably narrowed in front, the sides with a slight curve, the pronotum in front transverse, projecting above the elongated prosternum. Metathorax shining, impunctate, except in the centre of the metanotum, which is aciculated and bears three keels, the central reaching a little beyond the middle, the lateral not half its length, the central towards the apex having a few transverse striæ. The apex of the metanotum has not a distinct margin; the median segment impunctate, shining, semi-perpendicular. Abdomen shorter than the thorax, the apical half sparsely covered with white hair; the apex broadly testaceous. Legs moderately stout, pilose; the tibiæ incline more or less to fuscous. Lower discoidal cellule completely traced.

PROCTOTRUPES MACULIPENNIS, *sp. nov.*

Fulvus, nitidus, fulvo hirtus, mesopleuris sternoque, nigris; alis flavo hyalinis, fusco bifasciatis. Long. 9 mm.

Hab. New Zealand, Greymouth (*Helms*).

Clypeus almost transverse, margined; front carinate, the sides depressed. Propleuræ deeply excavated; pronotum depressed in the middle, the sides broadly tuberculate; scutellum raised; a broad semi-circular furrow at its base; post scutellum not raised; a broad and wide depression on on either side of it; a broad and wide furrow at the base of the metanotum, which on either side, in front of this furrow, projects into a large stout tubercle, and there is a sharper and somewhat smaller tubercle in the centre; from the tubercles keels run down to the apex of the metanotum. Legs covered with a fulvous pubescence; the base of the hind coxæ inclining to black. The fuscous cloud in the

wings commences at the base of the stigma, and extends to the apex, but is interrupted above by a large yellow cloud, which extends to the costa, but not to the opposite side of the wing. The hind wings are yellowish, smoky at the apex.

ICHNEUMONIDÆ.

PIMPLA JASON, *sp. nov.*

Ferruginea; nitida; antennis, tibiis, tarsisque posticis, nigris; alis, hyalinis, apice violaceis. ♀ *et* ♂. Long. 15 mm.; terebra 4—5 mm.

Hab. Interior of Colombia (*Wheeler*).

Antennæ as long as the body, stout, densely pilose. Clypeus rounded at apex, depressed slightly in front of it, and with a wide and deep furrow at the base; face slightly projecting in the centre; front depressed; ocelli bordered laterally by a furrow, mesonotum bearing a sparse short pubescence; scutellum with a deep, broad, wide depression at the base, this being keeled, the keel being continued down the sides of the scutellum to near its apex, where it becomes indistinct. Metanotum with two stout transverse keels near the apex. Petiole narrow, obscurely furrowed above at the base. The second segment bears a deep depression on either side at the base, and a longer and shallower one at the apex. Areolet oblique, elongated; the curved recurrent nervure is received beyond the middle.

BRACONDIÆ.

BRACON DOLICHOURA, *sp. nov.*

Niger; abdomine pallide ochraceo; facie longe pallide hirta; alis fuliginosis. Long. 12; terebra 127 mm.

Hab. Mountains S.W. of Bogota.

Antennae densely pilose; the scape with moderately long black hairs. Head shining, the vertex sparsely covered with long black hairs; the face more thickly with pale fuscous; front moderately depressed; the furrow narrow, but

deep and distinct. Thorax shining, impunctate; the mesonotum sparsely, the metathorax more thickly and longly haired; metanotum with a very gradual slope to the apex. Base of petiole very deeply excavated; the inner furrow wide; the outer narrow and placed almost beneath the edge. The oblique depression on the second segment is wide, moderately deep, shining and impunctate; suturiform articulation shallow, curved, impunctate; the apical branch almost obsolete; the furrow on the next segment is shallow and not very distinct; ventral apical segment ploughshare-shaped. Wings longer than the body; cubital nervure curved upwards at the base. Legs stout, pilose.

The ovipositor, long as it is, is hardly so long as in the Japanese *Bracon penetrator* Smith (*Proc. Zool. Soc.*, 1877, p. 413, pl. xliv., fig. 1). Smith, it may be added, figures and describes from Bogota an ichneumon, *Dolichomitus longicauda* (*l.c.*, p. 412, pl. xliv., fig. 2 and 2*a*), which has the body from 9—11 lines, and the ovipositor from 3½—6½ inches in length.

EVANIIDÆ.

GASTERUPTION ORIENTALE, *sp. nov.*

Nigrum, thorace, basique coxarum posticarum, rufis; thorace rugoso; capite laevo, albo-argenteo piloso; alis hyalinis. Long. 15 mm.

Hab. Barrackpore, Bengal (*G. A. J. Rothney*).

Antennæ not much longer than the thorax, stout; the third joint a little longer than the fourth, which is almost of the length of the fifth. Head smooth, impunctate; the face closely covered with a short silvery pile; behind the eyes bearing (but not above) a scattered pubesence, longer and more bristly than that on the face, hinder ocelli separated by about the length of the third antennal joint, and by a less distance from the eyes, which are distant from the base of the mandibles by about the length of the second

antennal joint. Prosternum bearing long, dense, silvery hair; prothorax punctured in front. Meso- and metathorax rugosely punctured, running laterally into reticulations; sparsely covered with glistening white hair; median segment transversely rugosely reticulated; scutellum and metanotum black; the latter densely covered with white hair. Abdomen covered (especially laterally) with a depressed white pile; the second and third segments dull red above. Hind coxæ transversely striolated (but not strongly), punctured at the base. Hinder tibiæ with a white spot on the inner side above the middle; metatarsus a little longer than the other joints united. Inner discoidal cellules separated.

This is the first species of *Gasteruption* described from the oriental region.

AMPULEX RUFICOLLIS, *sp. nov.*

Niger, thorace rufo, metanoti medio nigro; mandibulis rufo-flavis; pedibus anterioribus ex parte rufis; alis hyalinis, fusco fasciatis. Long. 7 mm.

Hab. Gibraltar (*J. J. Walker*, R.N.).

Head semi-opaque, closely punctured; the carinate face transversely striated; almost bare, except a fringe of white hair over the mouth, which is testaceous. Antennæ bearing a sparse microscopic pile; the scape and the middle joints beneath rufous; the third joint twice the length of the fourth. Prothorax finely rugose; mesonotum obscurely punctured; parapsidal furrows distinct; scutellum obsoletely punctured; mesopleuræ closely punctured, striolated in front; the sternum covered with long white hair; metanotum with a central and three lateral keels; reticulated, the sides irregularly striolated; median segment semi-perpendicular, transversely striated, thickly covered with white hair. Abdomen shining, impunctate, the apex thickly covered with silvery white pubescence. The anterior coxæ,

trochanters, and the femora, tibiæ and tarsi in front, the four posterior trochanters, and the middle femora in front are reddish ; the front femora are only black in the middle behind. The wings are very clear hyaline ; the cloud extends from the base of the stigma to the end of the third cubital cellule. The hind coxæ are densely covered with silvery pubescence.

The only genera in which this species can be placed are *Ampulex* and *Dolichurus*. Comparing it with the Indian species of *Ampulex*, the only tangible point in which it differs (that is of what might be regarded as of generic value) is that the petiole is thicker and curves more upwards ; but as there is some variation in this in the known species of *Ampulex*, this can hardly be considered of much importance. There is also one cubital cellule less, the first transverse cubital nervure being obliterated. Also in this respect the oriental species are said to vary in this nervure being occasionally faint. In the form of the abdomen it probably more resembles *Dolichurus* ; but in that genus the first recurrent nervure is received in the second cubital cellule. As in *Ampulex*, there is a tooth towards the middle of the claw. In the neuration of the wings I may add it agrees with the genus *Rhinopsis*, West. (an American genus). A careful comparison of it with a Central American species of *Rhinopsis* does not show any appreciable generic difference ; and if the neuration of *A. ruficollis* be normal, *i.e.*, if there are only two transverse cubital nervures, I do not see how it can be separated from *Rhinopsis*, and must, in fact, be regarded as pertaining to that genus, unless, indeed, the difference in the neuration between the latter and *Ampulex* be not regarded as of generic importance, in which case the two may be united.

It is, however, worthy of note that this and the only described European species of *Ampulex* have only two transverse cubital nervures as in *Rhinopsis*. Further, they differ in

being smaller, and in the bodies not being metallic green or blue as in the species which have usually been regarded as typical of *Ampulex*, *e.g.*, A. *compressa*, and *A. angusticollis*. They are, indeed, so unlike that it is probable that an examination of all the species of *Rhinopsis* might reveal some other generic distinction besides the difference in the neuration, in which case the name *Ampulex* would be retained for the European species and for *Rhinopsis* (which must, in this case, be regarded as a synonym of *Ampulex*), while a new name would be required for the large metallic exotic species (*compressa*, &c.).

The only known European species of *Ampulex* is *A. fasciata*, Jurine (Nouv. Méth. d. Class. d. Hym., pl. xiv., supp.) = *europæa*, Giraud (Verh. z.-b. Ges., Wien, 1858, p. 411). This is totally black and differs otherwise in many respects from *A. ruficollis*.

GORYTES TRICHIOSOMA, *sp. nov.*

Niger, dense longe hirtus; punctatus, apice metanoti reticulato; alis fusco-hyalinis. Long. 12—13 mm.

Hab. New Zealand, Greymouth, (*Helms*).

The hair on the head and thorax is fuscous-black, long and rather dense; on the base of the abdomen it is equally long, but sparser; the hair on the rest of the abdomen is shorter and thicker. Head and thorax closely and distinctly punctured, shining; the posterior part of the mesopleuræ almost impunctate; there is a large, somewhat triangular impunctate space at the base of the metanotum, the rest of the metanotum being irregularly rugose, running into reticulations at the apex. Abdomen semi-sessile; shining; the petiole depressed in the centre at the base; the basal three-fourths with an oblique slope, the apex on a level with the second segment. There is a shallow, but distinct, furrow at the base of the latter, this furrow being irregularly crenulated. Apical segment acutely triangular, punctured like

the other segments and not differing from them. Antennæ stout, as long as the abdomen; the scape bearing moderately long, black hair; the flagellum a microscopic down; the third joint is a little shorter than the fourth. Wings hyaline at the base, the rest fuscous or fuscous-black, sometimes with a violacious tinge; the stigma and nervures deep black; the first submedian nervure interstitial; the first transverse cubital nervure received in the basal third of the cellule; the part of the cubital nervure bounded by it and the first transverse cubital being curved; the second recurrent is received somewhat behind the basal fourth; the portion of the cellule bounded by the recurrent nervures is about one-fourth longer than the top of the cellule. The third cubital cellule at the top is scarcely so long as the part bounded by the recurrent nervures; the third transverse cubital nervure is more or less curved at the bottom. Submedian cellule in posterior wings appendiculated, *i.e.*, not reaching to the end of the externo-median nervures, and before the origin of the cubital nervure = *Gorytes sensu str.* Tibiæ and tarsi densely covered with a greyish pubescence; the femora sparsely with soft black hairs.

Gorytes carbonarius, Smith (Cat. Hymen. Ins. IV. p. 366), also from New Zealand, can hardly be the species I have described, for the pubescence is said to be "thin," the metathorax "smooth," &c.

CRABO CORA, *sp. nov.*

Niger, apice femorum anteriorum, tibiis tarsisque anterioribus, articulis 2—3 tarsorum posticorum, tegulisque, flavis, alis fere hyalinis. ♂. Long. 9—10 mm.

Hab. Greymouth, New Zealand (*Helms*).

Antennæ black, the middle joints inclining to fulvous beneath; covered with a microscopic pile; joint two one-fourth longer than the third; curved, thickened, and produced at the apex; the third with the apical half con-

siderably thickened and produced, and a little shorter than the fourth, which is thicker and still more produced at the apex; the fifth narrowed at the base and nearly as long as the fourth; the sixth narrowed at the basal fourth and obliquely thickened towards the apex, which is oblique and produced on the lower side; the other joints normal. Head wider than the thorax, semi-opaque, finely and closely punctured; a wide, shallow furrow runs down from the ocelli; the front laterally, and at the middle on the apex, and the clypeus, densely covered with silvery hair. Thorax semi-opaque, finely and closely punctured; the sternum and pleuræ and apex of metathorax sparsely covered with white hairs; the metanotum almost impunctate; the centre with a deep and wide channel, which becomes wider and deeper towards the apex. Petiole half the length of the abdomen; the apex clavate; abdominal segments pale at their junction; the apical segments densely covered with long white hairs, the apical segments impunctate, truncated at the apex. The apical joint of the two hinder tarsi is black; the metatarsus is black, and the four anterior tibiæ are more or less black behind; the hind spurs are black. The tubercles and tegulæ are yellow; the scape may be more or less yellow beneath. Pronotum raised above the base of the mesonotum; this raised part depressed in the middle in front and with a distinct margin on either side of this central depression.

TACHYTES HELMSI, *sp. nov.*

Niger, opacus, breviter, argenteo pilosus; tegulis piceis; alis fusco-violaceo-hyalinis. ♀. Long. 9 mm.

Hab. Greymouth, New Zealand (*Helms.*).

Antennæ stout, as long as the thorax, densely microscopically pilose; the third joint more than twice the length of the second and about one-fourth longer than the fourth. Head covered with dull greyish hair; clypeus and sides of

the front with silvery pubescence; eyes converging at the top and separated by more than twice the length of the third antennal joint; a ∩-shaped depression on the vertex, which has no dilatations, nor has the front; clypeus broadly rounded, almost transverse at the apex. The silvery white hair on the thorax is moderately thick and long; the median segment is depressed in the centre. Abdomen with the segments brownish-white at their junction and bearing a fringe of silvery hair, which is especially thick laterally; pygidial area densely covered with bristly silvery hair; the apex almost transverse, projecting laterally into a pale tubercle. Legs densely covered with silvery hair; the bristles pale; the apex of fore tarsi dull rufous; tibiæ sparsely spinose. The second recurrent nervure is received a little beyond the middle; and the two recurrent nervures are separated by a little shorter space than the length of the second cubital cellule at the top; the second cubital cellule being there slightly shorter than the third. This species belongs to the genus *Tachysphex* (Kohl).