SECOND REVISION OF THE ORIENTAL STRATIOMYIDAE.

By E. BRUNETTI

The present paper is neither a revision of my previous one on this family[1] nor supplementary to it, but an independent effort based on a much wider experience of the group, partly due to more extensive material, but chiefly to the opportunity of examining and redescribing a considerable number of Walker's species from types or typical specimens identified by that author. These types are, in the aggregate, in good or very fair condition and in nearly all cases quite recognisable. The identification and re-establishment of these species has long been a desideratum owing to the uncertainty of their validity, and no comprehensive revision of value of the oriental species would have been possible without this elucidation.

Two genera, *Rhachicerus* and *Rhyphomorpha*, previously included by me in this family, are omitted, as they rightfully belong to the Leptidae.

In the order of subfamilies Verrall's sequence is adopted, as it seems the best; in that of the genera a rough and ready grouping of my own. The Stratiomyidae afford many pitfalls for the unwary student on account of the very great variety of structure presented by the various groups. Some of my earlier identifications of species captured by me in the Straits and the Far East in 1906 may require confirmation. An error that runs through some of my earlier papers may be corrected here, the terms "anterior" and "posterior" legs having been used to designate the fore and hind legs respectively, though in this mistake I have erred in good company. The front or fore legs are the first pair only the *anterior* legs are the first two pairs together; the hind legs are the last pair only, the *posterior* legs are the last two pairs together. Verrall drew the attention of dipterologists to this frequent error of writers some years before his death, though the terms were clearly defined as far back as 1828 and again as recently as 1864.[2]

In my first paper a few species were attributed to Bigot though the references could not be traced. These were species[3] which were present in the Indian Museum collection as types, but which subsequently proved to be only manuscript names,

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[1] *Rec. Ind. Mus.* I, 85–132 (1907).

[2] Wied., *Auss. Zweifl.* I, Introd.; Sch., *F. Austr.* I, Introd.

[3] *Acanthina auricollis*, *Microchrysa calopa* and *Eudmeta flavida*.

and some of them have since been described by me, including species belonging to other families than the Stratiomyidae. The original manuscript names have been retained unless preoccupied, in case other examples under the same name may have been distributed by Bigot. A few genera and species attributed to Schiner in Brauer's elaborate paper on the Notacantha are generally quoted as by Brauer, and these are referred to here as "Sch. in Brauer."

Endeavours have been made to include all references that impart any definite information, but bare inclusions of names in lists or catalogues that are merely recapitulatory have generally been omitted, though no hard and fast line has been followed.[1] Van der Wulp's catalogue gives practically all necessary information up to 1896. Extensive and valuable revisionary papers by Enderlein and Kertesz have appeared during the last few years, but many genera and species therein set up appear to rest on very small differences. Regarding nomenclature I have as usual observed continuity before priority, in accordance with the views of Verrall, Osten Sacken and many others, and practically all the dipterologists of the last generation. *Stratiomyia*, an emendation from *Stratiomys*, has, however, been adopted, the earlier name being obviously incorrect, although Verrall staunchly upheld it. The collector's name, appended to the various data in italics in square brackets, applies only to the immediately preceding locality unless otherwise stated. All the types of Walker's species, that are here redescribed, are in the British Museum. In cases where any species of Walker are described here from other specimens than the types, this fact is specially noted.

I must here render my special thanks to Major E. E. Austen, D.S.O., for permission to incorporate the valuable notes on synonymy and other points made by him when revising the British Museum collection many years ago. Also to Mr. J E. Collin for permission to examine a good number of Bigot's types.

Just before going to press I have been enabled (through the courtesy of Mr. Edwards in lending me a reprint of Dr. Enderlein's new paper[2] received in London before the periodical containing it) to add a number of his new oriental species including two new genera, *Archisolva* and *Spartimas*. It has, however, been found impracticable to include the species in the *tables*, but the species themselves are listed under their respective genera. I have made no attempt to ascertain their validity.

Subfamily PACHYGASTRINAE.

In his recent revision of this subfamily or those Stratiomyids with only three veins apparently issuing from the discal cell (the lower one being the upper branch of the 5th vein), Enderlein

[1] Practically all the Javan and many of the Sumatran records are abstracted from the valuable series of papers on Oriental Diptera by Dr. J. C. de Meijere.

[2] *Mitt. Zool. Mus. Berl.* XX (1920).

splits it (I think quite unnecessarily) into three subfamilies and about ten tribes mainly on antennal differences and the number of spines on the scutellum. He also wrongly refers the genus *Prosopochrysa* here; but Kertesz, the latest authority on this group, restores it to the Sarginae where it rightfully belongs.

TABLE OF GENERA

1.	Antennae ending in spray-like form ...	*Ptilocera* Wied.
	Antennae not thus formed	2.
2.	Eyes densely pubescent	3.
	Eyes bare	4.
3.	3rd antennal joint elongate	*Acanthina* Wied.
	3rd antennal joint round	*Culcua* Walk.
4.	Scutellum 4-spined	5.
	Scutellum unspined; 2 indistinct spines in *Wallacea*	9.
5.	Body distinctly elongate; thorax distinctly longer than wide, generally $1\frac{1}{2}$ times or more; abdomen as wide as or slightly wider than thorax, generally rather longer than thorax, with more or less parallel sides ...	6.
	Body short, thick; abdomen thick, rounded...	*Craspedometopon* Kert.
6.	Frons conically produced forward ...	*Trichochaeta* Big.
	Frons not at all produced	7.
7.	2nd vein originating before anterior cross-vein	*Glochinomyia* Kert.
	2nd vein originating above or beyond anterior cross-vein	8.
8.	3rd antennal joint short, subconical, *with long arista*	*Evaza* Walk.
	3rd antennal joint elongate conical, *with long bare style*	*Tinda* Walk.
	3rd antennal joint with a *long, densely pubescent style* (as in *Negritomyia*) ...	*Rosapha* Walk.
9.	Body very or at least distinctly elongate ...	10.
	Body short, thick, abdomen rounded; thorax not much longer than wide, very arched or conspicuously gibbous; abdomen a little broader than thorax and slightly longer ...	14.
10.	2nd vein originating before anterior cross-vein	11.
	2nd vein originating above or beyond anterior cross-vein. Thorax subquadrate; abdomen nearly twice as long as thorax, sharply contracted at base; insect vespiform in appearance	13.
11.	Antennal 3rd joint very short, rounded ...	*Lophoteles* Loew.
	Antennal 3rd joint, shortly spindle-shaped, cylindrical	12.
12.	2nd antennal joint produced, finger-like, over inner side of 3rd as in *Ptectica* ...	*Salduba* Walk.
	2nd antennal joint not so produced ...	12*a*.
12*a*.	Last annulation of 3rd antennal joint, joint-like: scutellum with two apical spines ...	*Discopteromyia* de Meij.
	Last annulation of 3rd antennal joint arista or lamella-like: scutellum with hind margin serrate	*Saldubella* Kert.
13.	Antennae close together at base, 1st joint slender	*Stratiosphecomyia* Brun.
	Antennae wide apart at base quite near eye-margins; 1st joint long, and very conspicuously produced downwards, 2nd joint cup-	

	shaped, 3rd consisting apparently only of a long dense style	[nov. *Parastratiosphecomyia*, gen.
14.	3rd vein unforked	15.
	3rd vein forked	19.
15.	Antennal arista with short obvious dense pubescence [1]	*Gnesiomyia* Kert.
	Antennal arista bare, or apparently so ...	16.
16.	Head in front flattened; cheeks very broad ...	*Thylacognathus* Kert.
	Head hemispherical, or globular, cheeks not conspicuously broad	17.
17.	Scutellum distinctly bordered	*Zabrachia* Coq.
	Scutellum not bordered	18.
18.	Hinder ocelli further away from vertical margin; antennae barely above middle of head in profile; arista, except tip, shortly and densely pubescent; occipital margin distinct on lower part of head. Only ♂ known	*Cechorismenus* Kert.
	Hinder ocelli on vertical margin; antennae distinctly above middle of head in profile; arista bare; occipital margin quite absent. Only ♀ known	*Paracechorismenus* Kert.
19.	2nd vein originating before anterior cross-vein	20.
	2nd vein originating above or beyond anterior cross-vein, the latter sometimes very short or punctiform	24.
20.	Anterior cross-vein punctiform	*Camptopteromyia* de Meij.
	Anterior cross-vein, even if short, distinctly present	21.
21.	3rd antennal joint round or short elliptical ...	22.
	3rd antennal joint elongate, spindle-shaped ...	*Aulana* Walk.
22.	Scutellum extremely large and arched; upper facets in ♂ eyes distinctly larger than lower; occipital margins in ♂ ♀ absent; ♀ head from in front transverse elliptical ...	*Obrapa* Walk.
	Scutellum not unusually large: facets in ♂ eyes uniform; occipital margin in ♀ distinct; ♀ head from in front nearly circular ...	23.
23.	3rd antennal joint rounded	*Pachygaster* Mg.
	3rd antennal joint kidney-shaped ...	*Abiomyia* Kert.
24.	3rd antennal joint spindle-shaped: scutellum with 2 indistinct spines	*Wallacea* Walk.
	3rd antennal joint rounded or kidney-shaped, scutellum unspined, sometimes produced as a cone or enlarged	25.
25.	Scutellum serrate, produced upwards ...	*Monacanthomyia* Bron. [2]
	Scutellum not so formed	26.
26.	Anterior cross-vein distinctly present ...	27.
	Anterior cross-vein punctiform	29.
27.	Head globular, or rather longer than high; scutellum semicircular or triangular ...	*Pachygaster* Mg. pt. and *Pegadomyia* Kert. pt.
	Head distinctly higher than long; scutellum triangular	28.
28.	Scutellum distinctly bordered	*Lenomyia* Kert.
	Scutellum not or only slightly bordered ...	*Aidomyia* Kert.
29.	Antennae in profile placed at or above middle of head...	*Dialampsis* Kert.

[1] I add the word "obvious" to this line as otherwise the genus *Cechorismenus* would appear misplaced. I understand from Dr. Kertesz's table that in *Gnesiomyia* the arista is conspicuously shortly pubescent, whereas in *Cechorismenus* it is apparently bare though microscopically pubescent.

[2] Kertesz thinks *Ceratothyra*, de Meij. and *Prostomomyia*, Kert., are probably synonymous with my *Monacanthomyia*.

	Antennae in profile placed distinctly below middle of head	30.
30.	Scutellum conically produced	*Saruga* Walk.
	Scutellum otherwise formed	31.
31.	5th abdominal segment with a hemispherical protuberance on anterior margin ; 2nd vein beginning above or a little before anterior cross-vein	*Adraga* Walk.
	5th abdominal segment smooth, without protuberance ; at most with two impressions on anterior margin ; 2nd vein beginning above or beyond anterior cross-vein	*Pegadomyia* Kert. pt.

In the latter part of the above table I have endeavoured to follow Kertesz in his most recent paper on the Pachygastrinae.

Five genera set up by Kertesz (*Ann. Mus. Hung.* XII, 1914) are not included in the above table, as although his table of species in Vol. XIV was available, I did not obtain his paper in Vol. XII until too late to incorporate these genera , but they are included in this paper itself, located as near as I can judge, according to their affinities. The genera are *Abrosiomyia*, *Gnorismomyia*, *Sathroptera*, *Asyncritus* and *Prostomomyia*.

Genus **Obrapa** Walk.

Proc. Linn. Soc. III, 82 (1859).

GENOTYPE : *O. celyphoides*, by Brauer's designation, 1882.

Generic characters. ♀ Head transverse, twice as wide as long, as wide as front part of thorax. Eyes bare, frons and face flush with eyes. Antennae short, 1st joint cylindrical, 2nd very short, cup-shaped, 3rd oval, tip slightly pointed, arista long, apical, bare ; proboscis short; occipital margin not projecting behind eyes. Thorax extremely gibbous, short, barely longer than wide, broadest behind; scutellum very large, nearly 1½ times as long as thorax, quadrate, very arched, margin well marked, unspined. Under side of thorax much reduced. Abdomen orbicular, rather flattened, curved under, shorter and rather broader than thorax, a little narrowed at base. Legs moderately long and slender. Wings normal, costal vein slightly but obviously projecting on basal half of wing , discal cell very large.

Redescribed from the type species.

Kertesz in his latest memoir on the Stratiomyidae suggests *O. perilampoides* as the type of the genus, overlooking Brauer's previous designation of *O. celyphoides.*

The two species may be differentiated as follows :—

Dull black ; body narrower ; wings with a cloudy spot ...	*celyphoides* Walk.
Shining black; body of normal width ; wings clear ...	*perilampoides* Walk.

O. celyphoides Walk.

Obrapa celyphoides, Walk., *Proc. Linn. Soc.* III, 83, ♀ (1859).
Obrapa celyphoides, Kert., *Ann. Mus. Hung.* XIV, 170, fig. 21, head profile ♀ (1916).

Aru; Batjan; Dorei. Walker adds further notes (*loc. cit.*, V, 273) and separates it from *O. perilampoides* by the characters in the above table.

REDESCRIPTION.

♀ Considerably like *O. perilampoides*. Frons with parallel sides, rather less than 1/5 width of head, shining black, with sparse microscopic hairs; a transverse band of white tomentose hair as in previous species. Antennae with 1st joint black, 2nd irregularly cup-shaped, base of 3rd orange, the colour spreading over inner and under side, rest of joint black. Face gradually widening downwards, black; proboscis dark brown; occiput black. Thorax and scutellum as in *O. perilampoides*, but distinctly less gibbous. Abdomen black, about as long as thorax and scutellum together, with microscopic black bristles. Legs principally black, about basal half of posterior femora dark brown; hind tibiae with a rather broad yellow ring in middle, all tarsi yellow. Wings pale grey, veins dark brown, halteres dull white.

Redescribed from the type ♀ from Aru, a unique specimen.

O. perilampoides Walk.

Obrapa perilampoides, Walk., *Proc. Linn. Soc.* III, 82, ♀ (1859).

Aru; Batjan; Kaisaa; Dorei; Mysol.

REDESCRIPTION.

♀ Frons forming 1/5 of head at level of antennae, mainly with parallel sides but widening a little just above antennae, hining black, bare, except for a few microscopic fine sparse hairs; ocellar triangle inconspicuous, ocelli pale yellowish. A transverse band, narrowly interrupted in middle, of white tomentose hairs across frons at the spot where it widens. Antennal 1st joint cylindrical, 2nd shallow cup-shaped, very short, 3rd shortly oval, with four annulations with well curved margins, arista apical. Proboscis brown, with a little pale hair: face, under side of head and occiput black with barely obvious pubescence.

Thorax black, bare, except for microscopic very fine sparse hairs; scutellum similar; pleura viewed in profile barely visible owing to abnormal development of dorsum and scutellum.

Abdomen black with microscopic, sparse pale pubescence. Legs blackish brown, tarsi orange yellow, a little darker at tips (fore legs missing). Wings clear, veins dark brown at base of wing, pale yellow on anterior part; stigma pale yellow; halteres milk white.

Redescribed from a ♀ in the British Museum from Mysol, apparently not the type, which came from the Aru Isles.

In my table of species (*Rec. Ind. Mus.* I, 100) the lengths given, 44 mm. and 33 mm., are obvious errors for 4 mm. and 3 mm. respectively.

Genus **Dialampsis** Kert.

Ann. Mus. Hung. XIV, 193 (1916).

GENOTYPE: *Obrapa argentata*, Wulp, by original designation.

Differing from *Obrapa* Walk., by the 2nd vein originating above the anterior cross-vein, instead of before it. Head in profile globular, barely higher than long; scutellum semi-elliptical, on same plane as longitudinal axis of thorax, gently curved, not bordered.

There is an error here in Dr. Kertesz's table of wrold genera in Pachygastrinae, as he includes both *Obrapa* Walk., and *Aulana* Walk., in his section 103 (122), ("2nd vein originating before anterior cross-vein"); but though the latter genus is correctly located here, *Obrapa* has the 2nd vein commencing distinctly beyond the cross-vein, and should have been placed in his 122 (103) ("2nd vein originating above or beyond anterior cross-vein"). The species he employs are *O. perilampoides* Walk. and *A. confirmata* Walk., the types of both being in the British Museum. The genus *Dialampsis* is a good one, the only error is the misplacement of *Obrapa* in the table of genera.

D. argentata Wulp.

Obrapa argentata, Wulp, *Term. Fuzet.* XXI, 417, pl. xx, 5, full insect ♂ 5*a*, head (1898).
Obrapa argentata, Wulp, *Tijd. v. Ent.* XLII, 47 (1899).
Dialampsis argentata Kert., *Ann. Mus. Hung.* XIV, 194, ♂ fig. 38, head ♂, profile (1916).

Tamara Is., Berlinhafen, Papua, 1 ♂, ix·1906; Deslacs Is., Bismarck Archip., 2·ii·1901 [both *Biro*]. Type and second specimen in Hungarian Museum.

Genus **Adraga** Walk.

Proc. Linn. Soc. Lond. III, 82 (1859).

GENOTYPE: *A. univitta*, Walk., n. sp., *l.c.*, 82.

Generic characters, ♂ ♀ Head transverse, twice as broad as long, as wide as thorax, frons and face flush with eyes; eyes bare, contiguous in ♂, well separated in ♀ Antennae short, 3rd joint round, arista apical. Thorax (apart from scutellum) nearly quadrate, a little wider behind, slightly arched: scutellum very large, elongate conical, rather flattened, not upturned, unspined. Abdomen as broad as thorax, as long as thorax and scutellum together, gently arched; scutellum projecting well over abdomen. Legs and wings normal, fore tarsi distinctly dilated; costa projecting very little on basal part of wing.

Described from a ♀ of *A. univitta* in the British Museum.

A. univitta Walk.

Adraga univitta, Walk., *Proc. Linn. Soc. Lond.* III, 82 (1859).
A. univicta Wulp, *Cat. Dipt. S. Asia*, 57 (*lapsus*) (1896).

♀ Frons for two-thirds of its length from vertex with parallel sides, 1/5 to 1/6 width of head at that part, thence widening gradually on lower third: upper part shining black, practically bare; ocellar triangle slightly raised, ocelli pale; lower part of frons with greyish dust. Antennae with 1st and 2nd joints pale yellow, 3rd orange brown, all joints short, 3rd round, with four annulations and long, bare arista. Face not descending below eyes, gradually widening, blackish, with greyish pubescence: proboscis and palpi short, subequal, brownish black, with a little pale pubescence. Occipital margin distinctly projecting behind middle of eyes; occiput black, a whitish edge on lower part.

Thorax, scutellum and abdomen black, moderately arched, closely punctate, microscopically pilose on dorsum of former; anterior part of dorsum nearly perpendicular; pleura with a very little sparse greyish pubescence. Scutellum with a not very well defined margin.

Abdomen barely broader than thorax; genitalia concealed.

Legs moderately long and slender, fore pair rather stouter, fore tarsi distinctly though not greatly dilated; all legs dark brown, posterior tarsi yellow. Pubescence of legs very short, greyish.

Wings grey; about proximal half brown, stigma darker brown, the colour not extending to hind margin; halteres dark brown, with a little grey dust. Long, $3\frac{1}{2}$ mm.

Described from 1 ♂ in British Museum from Mysol, named by Walker but not the type, which was from the Aru Isles and which is not in that collection.

A. crassivena Kert.

Adrag acrassivena, Kert., *Ann. Mus. Hung.* XIV, 199, ♂ fig. 40, head profile, 41 abdomen tip (1916).

The unique type from Batjan is in the British Museum. It was an undescribed species left by Walker under the name adopted by Dr. Kertesz.

Genus **Camptopteromyia** de Meij.

Tijd. v. Ent. LVI, Supp. 12 (Mar. 1914).
GENOTYPE: *C. fractipennis, id.*, sp. nov., *loc. cit.*, pl. i, 4 (given in error as 24).

C. fractipennis de Meij., ♀

Camptopteromyia fractipennis, de Meij., *Tijd. v. Ent.*, LVI, Supp. 13 (1914).

Nongkodjadgar, Java, January. Type in Amsterdam Museum.

Genus **Gnorismomyia** Kert.

Ann. Mus. Hung. XII, 533 (1914).
GENOTYPE: *G. flavicornis, id.*, sp. nov., *loc. cit.*

G. flavicornis Kert.

Gnorismomyia flavicornis, Kert., *Ann. Mus. Hung.* XII, 533, fig. 65, head profile (1914).

Takas, Formosa, one ♂, 13·iv·07. Unique type in Hungarian Museum.

Genus **Abiomyia** Kert.

Ann. Mus. Hung. XII, 529 (1914).

GENOTYPE : *A. annulipes*, *id.*, sp. nov., *loc. cit.*

A. annulipes Kert.

Abiomyia annulipes, Kert., *Ann. Mus. Hung.* XII, 531 ♀, fig. 60, head profile, 61, wing (1914) ; de Meij., *Tijd. v. Ent.* LVIII, Supp. 72 (1916).

Chip Chip, iii·1909 ; Kosempo, 21·iii·08, xi·08 ; Koshun, x·08 ; Toyenmongai, all Formosa. Fort de Kok, Sumatra, x [*Jacobson*]. Types in Hungarian Museum.

Genus **Monacanthomyia** Brun.

Rec. Ind. Mus. VII, 448 (1912).

GENOTYPE : *M. annandalei*, Brun., sp. nov., *loc. cit.*

M. annandalei Brun.

Monacanthomyia annandalei, Brun., *Rec. Ind. Mus.* VII, 448, ♂ (1912).
Monacanthomyia annandalei, Brun., *Fauna Brit. Ind., Dipt. Brachy.* I, 23 (1920).

Kurseong, Darjiling District, 4700 ft. 15·iv·11, on a bedroom window [*Annandale*]. A unique ♂ Type in Indian Museum.

Genus **Ceratothyrea** de Meij.

Tijd. v. Ent. LVI, Supp. 14 : (Mar. 1914).

GENOTYPE : *C. nigrifemur*, *id.*, sp. nov., *loc. cit.*

C. nigrifemur de Meij.

Ceratothyrea nigrifemur, de Meij., *Tijd. v. Ent.* LVI, Supp. 14, pl. i, 5 (given in error as 25) (Mar. 1914).

Described from a ♀ from Nongkodjadjar, Java. Jan. [*Jacobson*].

Air Njuruk, Dempu, Sumatra, viii. Type in Amsterdam Museum.

Dr. Kertesz suggests that both *Ceratothyrea*, de Meij. and *Prostomomyia*, Kert., may be synonymous with my *Monacanthomyia*, and notes that in the event of this being the case my genus has priority.

Prostomomyia Kert.

Ann. Mus. Hung. XII, 550 (1914).

GENOTYPE : *P. atronitens*, *id.*, sp. nov., *loc. cit.* 551.

P. atronitens Kert.

Prostomomyia nitens, Kert., *Ann. Mus, Hung.* XII, 551, ♀ fig. 83, head, profile (1914).

Toyenmongai, Formosa. one ♀ Type in Hungarian Museum.

Genus **Gnesiomyia** Kert.

Ann. Mus. Hung. XII, 548 (1914).

GENOTYPE: *Pachygaster crassiseta*, de Meij., by original designation.

Differing from *Pachygaster* principally by the unforked 3rd vein; the short, densely pubescent arista, in which, however, the separate hairs are distinctly visible; and the two elongate basal joints. Frons in ♂ broader than the distance between the antennae.

G. crassiseta de Meij.

Pachygaster crassiseta, de Meij., *Tijd. v. Ent.* LIV, 269, pl. xviii, 2, antenna (1911).
Pachygaster crassiseta, de Meij., *loc. cit.*, LVI, Supp., 12 (Mar. 1914).
Gnesiomyia crassiseta, Kert., *Ann. Mus. Hung.* XII, 549, ♂ fig. 80, head profile, 81, head, front view, 82, wing (1914).

Described originally from Srondel, Semarang, Java, xii [*Jacobson*], and a ♀ from Gunung Ungarn, ix [*Jacobson*]. Type in Amsterdam Museum.

Genus **Thylacognathus** Kert.

Ann. Mus. Hung. XIV, 158 (1916).

GENOTYPE: *Pachygaster lativentris*, Wulp, by original designation.

Differing from *Pachygaster* mainly in the head being twice as high as broad in profile, in the broadly developed bag-like cheeks, in the unforked 3rd vein and in the flattened front part of the head. It is evidently a valid genus.

T lativentris Wulp.

Pachygaster lativentris, Wulp, *Term. Fuzet.* XXI, 416, ♀ (1898).
Pachygaster lativentris, Wulp, *Tijd. v. Ent.* XLII, 47 (1899).
Thylacognathus lativentris, Kert., *Ann. Mus. Hung.* XIV, 158, fig. 14, head ♂ profile, 15, head ♂ front view (1916).

One ♂, Seleo Is., Berlinhafen, Papua. One ♀, Friedrich Wilhelmshafen, Papua, [both *Biro*]. Type and second specimen in Hungarian Museum.

Genus **Zabrachia** Coq.

Bull. N. Yk. State Mus. XLVII, 585 (1901).

GENOTYPE: *Z. polita*, Coq., sp. nov., *loc. cit.*

Z. albipes Brun.

Pachygaster albipes, Brun., *Rec. Ind. Mus.* I, 102, ♀ (1907).
Zabrachia albipes, Brun., *Fauna Brit. Ind. Dip. Brachy.* I, 21, pl. 1, full insect, 2, antennae (1920).

Pachygaster infurcata, de Meij., *Tijd. Ent.* L, 232, ♀ (1907).
Paracechorismenus infurcata, de Meij., *loc. cit.*, LVIII, Supp. 71.

My species was described from four ♀ ♀ from Calcutta (one being labelled "hatched from rotten wood," the date apparently 12·xii·07). Type in Indian Museum.

A ♂ has subsequently been acquired from Katihar, Purnea Distr., Bengal, 26·iii·09 [*Paiva*]. The eyes are comparatively widely separated for this sex.

Unfortunately I omitted to include in the description the unforked 3rd vein and thus led Dr. de Meijere astray over his *infurcata*, which is synonymous. The white tomentose stripe on the side of the thorax mentioned by him is present on the Calcutta specimens though liable to be not readily differentiated from the general whitish pubescence of the sides of the thorax. *Z. infurcata*, is from Semarang, Java i, vii [*Jacobson*]. Batavia, iv, viii. Type in Amsterdam Museum.

Dr. de Meijere has recently described a variety (*femorata*, *Tijd. v. Ent.* LVIII, Supp. 71) with the femora, except base and tips, black. Two ♀ ♀ from Fort de Kok, Sumatra, x, xi. It has a brownish post median, rather broad ring on the posterior femora. Kertesz considers *Z. albipes* should be referred to his recently erected genus *Paracechorismenus*.

Z. annulifemur Brun.

Zabrachia annulifemur, Brun., *Fauna Brit. Ind., Dipt. Brachy.* I, 22, ♂ ♀ (1920).

Annandale, Simla Distr., 3 ♀ ♀ including type sent to British Museum, "on leaves," x, 1911. One ♂ in Indian Museum, Simla, 7000 ft., 9·v·09 [*Annandale*]. Near the *femorata* var. of de Meijere's *P. infurcata* but the unforked 3rd vein makes it distinct, and the width of the frons is different in the two species.

Genus Abrosiomyia Kert.

Ann. Mus. Hung. XII, 531 (1914).
GENOTYPE: *A. minuta*, sp. nov., *loc. cit.*

A. minuta Kert.

Abrosiomyia minuta, Kert., *Ann. Mus. Hung.* XII, 532, ♂ ♀ fig. 62, head profile, 63, wing, 64, discal cell (1914).

Toyenmongai, Formosa, 3 ♂ ♂ 7 ♀ ♀ Types in the Hungarian Museum.

Genus Cechorismenus Kert.

Ann. Mus. Hung. XIV, 162 (1916).
GENOTYPE: *C. flavicornis*, sp. nov., *loc. cit.*

This genus has the facies of *Abiomyia* Kert. Only the ♂ sex is known.

C. flavicornis Kert.

Cechorismenus flavicornis, Kert., *Ann. Mus. Hung.* XIV, 162, ♂ fig. 17, head ♂ profile (1916).

Kankau, Formosa [*Sauter*]. Unique ♂ type in the Hungarian Museum.

Genus **Paracechorismenus** Kert.

Ann. Mus, Hung, XIV, 163 (1916).

GENOTYPE : *P. intermedius*, sp. nov., *loc. cit.*

Dr. Kertesz says my *Pachygaster albipes* comes here, with *infurcatus* de Meij.

P. intermedius Kert.

Paracechorismenus intermedius, Kert., *Ann. Mus. Hung*, XIV, 165, ♀ fig. 19, head ♀ profile, fig. 18, fig head ♂ profile (1916).

Toyenmongai, Formosa, 4 ♀ ♀ Type in the Hungarian Museum. Dr. Kertesz also figures (p. 18) the head of Dr. de Meijere's *Pachygaster infurcatus* ♂, in profile.

Genus **Pachygaster** Mg.

Pachygaster, Mg., *Ill. Mag.* II, 266 (1803).
GENOTYPE : *Nemotelus ater* Panz., by original designation.

Vappo, Latr., *Hist. Nat. Crust. Ins.* XIV, 343 (1804).
Neopachygaster, Aust., *Ent. Month. Mag.* XXXVII, 245 (1901).

Only two oriental species appear correctly to belong here ; they are differentiated as follows :—

Wings grey, with three conspicuous whitish spots (in middle, on hind margin and at wing tip) ; femora with apical half brown	*limbipennis* Wulp.
Wings pale yellowish grey, unmarked, stigma darker yellow ; legs yellowish to tarsi tips, a moderately broad subapical black or blackish brown ring on all femora	*annulipes* Brun.

P. limbipennis Wulp.

Pachygaster limbipennis, Wulp, *Term. Fuzet.* XXI, 417, ♂ (1898).
Asyncritus limbipennis, Kert., *Ann. Mus. Hung.* XII, 542 (1914).

Two ♂ ♂ from Friedrich Wilhelmshafen, Papua. Type in the Hungarian Museum. Kertesz sets up the genus *Asyncritus* for this species, based on a difference in relative lengths of sections of the 5th vein.

P. annulipes Brun.

Pachygaster annulipes, Brun., *Faun. Brit. Ind., Dipt. Brachy.* I, 21 (1920).

Assam. The unique ♀ type from Margherita, Assam, in the Indian Museum.

Pachygaster rufitarsis Macq. [*Dipt. Exot.* Sup. 1, 57, pl. vi, 3, wing (1846)] from Pondicherry cannot belong to the Pachygas-

trinae as the 4th vein has three endings in addition to the upper branch of the 5th vein. Kertesz suggested that it belonged to the Sarginae and Enderlein thinks it is a *Sargus*.

Genus **Pegadomyia** Kert.

Ann. Mus. Hung. XIV 182 (1916).

GENOTYPE: *P. pruinosa*, sp. nov., *loc. cit.*

P. pruinosa Kert.

Pegadomyia pruinosa, Kert., *Ann. Mus. Hung.* XIV 183, fig. 31, head ♂ profite (1916).

Fuhosho, Formosa, iii·1909; iii·1911 3 ♂♂; 2 ♀♀, Kankau, Formosa [*Sauter*]. Types in the Hungarian Museum.

Genus **Lenomyia** Kert.

Ann. Mus. Hung. XIV 186 (1916)

GENOTYPE: *L. honesta*, sp. nov.. *loc. cit.*

L. honesta Kert.

Lenomyia honesta, Kert., *Ann. Mus. Hung.* XIV 188, ♂♀ fig. 34, head ♂ profile, fig. 35, head ♀ profile (1916).

Kankau, Formosa, iv·1912 [*Sauter*]. Types in the Hungarian Museum.

Genus **Aidomyia** Kert.

Ann. Mus. Hung. XIV, 191 (1916).

GENOTYPE: *A. femoralis*, sp. nov., *loc. cit.*

A. femoralis Kert.

Aidomyia femoralis, Kert., *Ann. Mus. Hung.* XIV 193, fig. 37, head ♀ profile (1916).

Kankau, Formosa, iv, vii·1912, 3 ♀♀. [*Sauter*]. Types in the Hungarian Museum.

Genus **Saruga** Walk.

Proc. Linn. Soc. Lond. IV, 101 (1860).

GENOTYPE: *S. conifera*, Walk., sp. nov., *loc. cit.*

Generic characters. ♀ Head transverse, more than double as wide as long: eyes bare, frons very broad, 1/3 width of head. Antennae short, placed on a slight conical prominence, 1st joint a little broader towards tip, 2nd shallow cup-shaped, extended as a long finger along inner side of 3rd joint, 3rd joint short, rounded, arista apical, nearly bare. Occipital margin narrowly produced. Thorax subquadrate, very gibbous: scutellum thick, central part conspicuously produced vertically as a stout cone, the remaining part produced horizontally, thick, unspined. Lower part of thorax much reduced. Abdomen rounded, thick, no

longer than thorax, slightly wider at widest part. Legs moderately long and slender. Wings with costal vein just visibly projecting for a short distance, discal cell very large.

S. conifera Walk.

Saruga conifera, Walk., *Proc. Linn. Soc. Lond.* IV, 102, ♂ (1860).

Makessar.

REDESCRIPTION.

♀ Frons and face with nearly parallel sides, about 1/3 width of head at level of antennae, barely appreciably wider at vertex and at lowest margin of eyes, both wholly shining black Vertex distinctly raised, and divided from the upper corners by an impressed line each side; ocellar triangle bearing pale ocelli, still further elevated. Frons swollen in upper middle part, with a slight longitudinal depression in centre, continued to base of antennae; a similar transverse impressed line from eye to eye below middle of frons, and a small spot of whitish hairs at each end of it. Antennae as in generic diagnosis, orange. Face distinctly projecting below level of eyes, mouth opening deep; proboscis rather short, brown, with pale hairs; occiput and the narrow occipital margin shining black, almost disappearing at middle of eyes, broader on lower part.

Thorax black, very gibbous, with very dense microscopic black hairs and an elongate patch of bright gold yellow depressed short pubescence on each side of middle line on hind margin. Pleura apparently very restricted owing to excessive development of dorsum, bearing similar microscopic black bristles: scutellum similar, wholly black, shaped in accordance with generic diagnosis.

Abdomen black, wholly covered with short depressed greyish pubescence: belly similarly clothed; genitalia yellowish, elongate, normal.

Legs with coxae and femora black, tips of latter brownish orange; rest of legs yellow to tarsi tips.

Wings clear, veins at base of wing brown, elsewhere yellowish; stigma very pale yellow. Long, 5 mm.

Redescribed from a ♀ in the British Museum from Dorey, New Guinea, named by Walker, probably the specimen recorded by him from that place. It is not the type.

Genus **Aulana** Walk.

Proc. Linn. Soc. Lond. VII, 204 (1864).
GENOTYPE: *A. confirmata*, sp. nov., *loc. cit.*
Acraspidea, Brauer, *Denks. Ak. Wiss. Wien* XLIV, 75 (1882).
GENOTYPE: *A. felderi*, sp. nov., *loc. cit.*
Acraspidea, Kert., *Ann. Mus. Hung.* VI, 344 redescr. (1908).

Generic characters. ♂ ♀ Antennae long, cylindrical, 2nd joint projecting a long way on inner side over 3rd (as in *Ptecticus*) like a finger; style long, densely pubescent (as in *Negritomyia*).

Frons and face flush with eyes. Thorax (apart from scutellum) as long as broad, broadest on hind margin, well arched; scutellum subtriangular, large, conspicuous, obliquely ascending. Abdomen narrowed at base, wider at widest part than thorax, orbicular, a little longer than thorax. Legs short, normal. Discal cell very large.

TABLE OF SPECIES.

1.	Scutellum curved downwards	*cyrtaspis* Kert.
	Scutellum never curved downwards; either horizontal or elevated at an angle...	2.
2.	Pubescence of thoracic dorsum in the form of a median pair of nearly united stripes; large shoulder spots, and a hind marginal band. Femora blackish brown, pale at base and tips; tibiae blackish brown, pale at base ...	*radians* Walk.
	Pubescence of thoracic dorsum uniformly covering whole surface or practically so. Legs mainly yellow ...	3.
3.	Femora with a very broad blackish brown median band, rest of legs yellow	*confirmata* Walk.
	Legs entirely yellow	*sumatrana* de Meij.

A. confirmata Walk.

Aulana confirmata, Walk., *Proc. Linn. Soc. Lond.* VII, 204 (1864).
Acraspidea felderi, Brauer, *Denks. Ak. Wiss. Wien* XLIV, 75 (1882).

Mysol; Ceylon. I have seen a specimen with a broad blackish brown ring filling nearly all the femora, from Sungei Gadut, Kuala Lumpur, viii 1921 [*G. H. Corbett*], agreeing in all other respects with the type.

REDESCRIPTION.

♀ Black. Frons and face gradually widening from above downwards; at level of antennae about 1/3 width of head, shining black, frons with an impressed median line; ocellar triangle of medium size, black; ocelli pale. Antennae dull yellowish, style black, densely short pubescent, as long as rest of antennae. Face and occiput with a little grey pubescence. Thorax and abdomen with short, uniform, whitish pubesence, which is more yellowish on thorax. Scutellum large, conspicuous, elongate triangular, ascending at an angle of 45%. Legs mainly yellowish, with a very broad median brownish black ring on all femora, hind tibiae rather brownish except at base. Wings pale grey to end of basal and discal cells, thence to tip distinctly brown, the colour fading towards hind margin; halteres milk white.

Redescribed from the type ♀ in bad condition.

Acraspidea felderi Brauer differs from *A confirmata* Walk. only in the orange brown antennae and the more yellowish pubescence of the thorax. A ♂ named thus by Verrall in the British Museum received from the Bombay Natural History Society; one ♂ in the Indian Museum from Sudaganga, Matale, Ceylon, identified by Mr. White.

Type of *A. felderi* in Vienna Museum from Rambodde, Ceylon; a ♂

A. radians Walk.

Cyclogaster radians, Walk., *Proc. Linn. Soc. Lond.* I, 7, ♀ (1857).

Singapore.

REDESCRIPTION.

♀ Frons and face with practically parallel sides, at level of antennae nearly 1/3 width of head, shining black; former bare, latter with a little greyish pubescence and a silvery white, narrow side margin, beginning at a little above antennae. Antennae orange, 2nd joint projecting over inner side of 3rd (as in *Ptecticus*) to its middle like a long pointed finger; style with short, dense whitish pubescence. Proboscis, lower part of head and occiput black, with a little greyish pubescence; postocular band present only behind middle of eyes and for a short distance only.

Thorax black, mostly covered with short, pale gold yellowish pubescence which is rather more conspicuous on shoulders and hind margin: two median similar bands on anterior half of dorsum, narrowed in front. Scutellum with similar pubescence; pleura with white conspicuous pubescence in a broad stripe from suture to underside

Abdomen black, with a little whitish pubescence in patches towards sides of segments and on middle of hind margins of last two segments. Belly black, with short whitish pubescence.

Legs. Coxae black, with a little whitish pubescence; trochanters and extreme base of femora brown; about basal half of femora black, basal third of tibiae orange brown, remainder of legs black, tarsi yellowish to tips.

Wings yellowish grey; veins a little deeper yellow; halteres pale yellow. Long, 5 mm.

Redescribed from the unique type from Singapore which is in fair condition. There is no doubt of it belonging to this genus. Walker's two other oriental species of *Cyclogaster*, *detracta* and *infera*, judging from the unique types, which are in bad condition, are merely *Wallacea argentea* Dol.

A. cyrtaspis Kert.

Acraspidea cyrtaspis, Kert., *Ann. Mus. Hung.* VI, 344, ♂, pl. viii, 3, head, front view (1908).

Key Is. One ♂ Type in the Hungarian Museum.

A. sumatrana de Meij.

Acraspidea sumatrana, de Meij., *Tijd. v. Ent.* LVIII, Supp. 72, ♀ (Mar. 1916).

Fort de Kok, Sumatra, one ♀, xi [*Jacobson*]. Type in Amsterdam Museum. Said to be differentiated from *A. felderi* by the whole thorax being covered with yellow tomentum instead of the hinder half only, but I find in perfect specimens of *A. felderi*, that the pubescence is practically uniformly distributed. There is, however, the difference of colouration in the legs. Long, 4 mm.

Genus **Wallacea** Dol.

Nat. Tijd. Ned. Ind. XVII, 82 (1858),
GENOTYPE: *W. argentea*, Dol., sp. nov., *loc. cit.*
Gabaza, Walk., *Proc. Linn. Soc. Lond.* III, 80 (1859).
GENOTYPE: *G. argentea*, Walk., sp. nov., *loc. cit.*
Musama, Walk., *Proc. Linn. Soc. Lond.* VII, 205 (1864).
GENOTYPE: *M. paupera*, Walk., sp. nov., *loc. cit.*
Wallacea, de Meij., *Tijd. v. Ent.* L, 234 (1907).
Wallacea, Brun., *Fauna Brit. Ind., Dipt. Brachy.* I, 24 (1920).

TABLE OF SPECIES.

Pubescence of body dense, silvery white.
3rd antennal joint and arista white ... ... *argentea* Dol.
3rd antennal joint and arista black ... ... *argentifer* Kert.
Pubescence of body sparse, mainly yellowish.
Antennal style white.
Hind tibiae pale, at most with trace of narrow brown ring in front third ... ... *albiseta* de Meij.
Hind tibiae black, only extreme base and tips pale... *tibialis* Kert.
Antennal style black.
Median space on last abdominal segment bare, very shining: eyes in ♂ not contiguous ... ... *separata* de Meij.
Median space on last abdominal segment with dense white hair: eyes in ♂ closely contiguous ... *albopilosa* de Meij.

W. argentea Dol.

Wallacea argentea, Dol., *Nat. Tijd. Ned. Ind.* XVII, 82 (1858).
Wallacea argentea, Wulp, *Term. Fuzet.* XXI, 417, pl. xx, 5, full insect, 5*a*, head (1898).
Wallacea argentea, Wulp, *Tijd. v. Ent.* XLII, 53, synon. note (1899).
Wallacea argentea, Kert., *Ann. Mus. Hung.* VII, 384. ♂ ♀ redesc. pl. ix, 18 (given incorrectly as 19), apical half of scutellum (1909).
Wallacea argentea, Brun., *Rec. Ind. Mus.* I, 101, notes and locs., ♂ noted (1920).
Cyclogaster detracta, Walk., *Proc. Linn. Soc. Lond.* I, 108, ♀ (1857).
Cyclogaster infera, id., loc. cit., p. 157, ♀ (1857).
Musama paupera, id., loc. cit., VII, 205, ♀ (1864).
Gabaza argentea, id., loc. cit., III, 80 (1859).
Pachygaster nigrofemorata, Brun., *Rec. Ind. Mus.* VII, 449, ♀ (1912).

Amboina, not rare in April; Tamara, Berlinhafen, Papua; Aru; south end of Lake Chilka, 4·iii·10 [*Annandale*], (type of *nigrofemorata*, in Indian Museum). Generally distributed in India; Katihar, Purnea Distr., 12·x·07; Bombay, vii–ix·12; Calcutta, 8·i·06; 22·i·08; 6·ii·08; 14·iii·07; 21·iii·07 [*Brunetti*]; Pusa, 15·ii·16, on rotten papaya stem; 22·v·08, in bark of *Erythrissa* sp.; 17·xii·14, under bark of *Ficus lavica*; Pollibetta, S. India, 15–26·v·14; 24·x to 16.xi.15 [*Fletcher*]; Mergui, Lower Burma. The species is reported from Christmas Island [*Andrewes*].

The types of *Gabaza argentea* Walk., ♀, from Aru; *Cyclogaster detracta* Walk., ♀, and *C. infera* Walk., ♀, both from Sumatra, and *Musama paupera* Walk., ♀, from Mysol are all in the British Museum.

W. separata de Meij.

Wallacea separata, de Meij., *Tijd. v. Ent.* I, 235, ♂ (1907).
Wallacea separata, Kert., *Ann. Mus. Hung.* VII, pl. ix, 17, antenna (wrongly given in text as fig. 18).

Batavia, iii; Semarang, Java, i [*Jacobson*]. Type in Amsterdam Museum.

W albopilosa de Meij.

Wallacea albopilosa, de Meij., *Tijd. v. Ent.* L, 238, ♂ ♀ (1907).

Semarang, Java, i, iii [*Jacobson*]. Type in Amsterdam Museum. Batavia, viii; Salatija, Java [Dr. v. Leevwen].

Mr. White has bred this species in some numbers at Matale, Ceylon, 30·x·19–30·xi·19 from *Hevea brasiliensis*.

The yellow pubescence is not so dense or conspicuous as in 2 ♂ ♂ and 1 ♀ named by de Meijere in the British Museum from the Seychelles, and they are a trifle smaller in size.

W. albiseta de Meij.

Wallacea albiseta, de Meij., *Tijd. v Ent.* L, 236, ♂ ♀ (1907).
Wallacea albiseta, *id.*, *loc. cit.* LVIII, Supp. 71 (Mar. 1916).
Wallacea albiseta, Kert., *Ann. Mus. Hung.* VII, pl. ix, 16, antenna (wrongly given in text as fig. 17).

Semarang, i, iii, viii, the ♂ common, only one ♀ [*Jacobson*].

Sinabang, Simalur Is. off Sumatra, ii; Batavia, iii, x.

Wonosobo, Java, v; Fort de Kok, Sumatra, x; Takao, Formosa, 11·i; 13·iv; 23·iv; and 7·xii·07.

W. tibialis Kert.

Wallacea tibialis, Kert., *Ann. Mus. Hung.* VII, 385, ♀ pl. ix, 16, antenna ♀ (1909).

Kosempo, Formosa, 4·iv·08. Type in the Hungarian Museum.

W. argentifer Kert.

Wallacea argentifer, Kert., *Ann. Mus. Hung.* XII, 516, ♂ (1914).

Singapore, 4 ♂ ♂ [*Ridley*]. In British Museum. The black 3rd antennal joint and arista seems the difference from *W argentea* Dol. in which they are respectively yellowish and white.

Genus Craspedometopon Kert.

Ann. Mus. Hung. VII, 373 (1909).
Genotype: *C. frontale*, *id.*, sp. nov., *loc. cit.*

C. frontale Kert.

Craspedometopon frontale, Kert., *Ann. Mus. Hung.* VII, 375, ♂ ♀, pl. viii, 3, head ♂ front view, 4, antenna, 10, head profile.

Kosempo Formosa, iii–v·1908 common [*Sauter*].

Types in the Hungarian Museum.

Genus Acanthina Wied.

Auss. Zweifl. II, 50 (1830).
Genotype: *Clitellaria elongata*, W., by Brauer's designation, 1882.

Artemita, Walk., *List. Dipt. Brit. Mus.* V, 61 (1854).
GENOTYPE: *Clitellaria amenides*, Walk., by Brauer's designation.[1]
Acanthinomyia, Hunter, *Tr. Amer. Ent. Soc. Phil.* XXVII, 129 (1901), *nom. nov.* for *Acanthina*.
Cibotogaster, Ender., *Zool. Anz.* XLIII, 305 (1914).
GENOTYPE: *Acanthina azurea*, Gerst., by original designation.
Tetracantha, Ender., *Zool. Anz.* XLIV, 11 (1914).
GENOTYPE: *Clitellaria varia*, Walk., by original designation.

Acanthina is preoccupied by Fischer in Mollusca, 1806, but I object to changing it after it has stood for ninety years. *Cibotogaster*, with *A. azurea* Gerst. as type-species, is erected on a small difference in length of the apical antennal joint, and a slight difference in form of the thorax and abdomen. *Tetracanthina* was founded on *Clitellaria varia* Walk., which is a valid species, but is a true *Acanthina*. Kertesz in his latest paper on this family adopts Hunter's name *Acanthinomyia*, but redescribes *Artemita* (*Ann. Mus. Hung.* XII, 480) and figures (fig. 29) the side view of *C. hieroglyphica*.

TABLE OF SPECIES.[2]

Long. only 3 mm.	*argentihirta* Brun.
Long. 8-9 mm.	
♂ with distinct postocular margin of some width (♀ unknown).	*varia* Walk.
♂ with the occiput not at all extending hindwards; flush with eye-margins or concave.	
Postocular margin in ♀ very broad, yellow ...	*azurea* Gerst.
Postocular margin in ♀ very narrow, black ...	*obesa* Walk.

A. azurea Gerst.

Acanthina azurea, Gerst., *Linn. Ent.* XI, 335 (1857).
Acanthina azurea, Ost. Sack., *Berl. Ent. Zeits*, XXVI, 99, note (1882).
Acanthina azurea, Brun., *Rec. Ind. Mus.* I, 100, note and locs.
Cibotogaster azurea, Ender., *Zool. Anz.* XLII, 305, fig. 11, antennae, ♂ (1914).
Cibotagaster azurea, Kert., *Ann. Mus. Hung.* XII, 473, fig. 21, wing (1914).
Acanthina auricollis, "Big.," Brun., *Rec. Ind. Mus.* I, 100, ♂ *nom. nud.* (1907).
Acanthina auricollis, Brun., *loc. cit.*, VII, 449, ♂ ♀ descr., locs., notes (1912).

"*A. auricollis*, Big, n. sp." is the name under which the species first figured in the Indian Museum collection, merely a MS. name, and it was described by me as distinct later. Fresh specimens, however, proved its identity, in my opinion, with *azurea*. The species is known from Ceylon, Ceram, Philippine Islands, Papua. In Indian Museum from Kohima, Assam; Sadiya, Assam; Tura, Garo Hills, Assam, viii·1917; 1500 ft. and above Tura, 3500 ft. viii·17 [both *Kemp*]; Karkur Ghat, Nilgiri Hills, S. India, 1500 ft. v·1911 [*H. L. Andrewes*]; Soekaranda, Sumatra, 1 ♂ [*Dohrn*].

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[1] Kertesz states that the genotype is *C. hieroglyphica* W., but Brauer set up *amenides* as far back as 1882.

[2] *A. fumipennis* and *enderleini* both recently set up by Kertesz are not included in the above table.

Enderlein's interpretation of *azurea* Gerst. is incorrect, according to Kertesz. If so, his record from Soekaranda must be eliminated. Moreover, Kertesz thinks my *auricollis* a valid species. The latter is from Kohima, Assam and Sadiya, Assam, both specimens in the Indian Museum.

A. varia Walk.

Clitellaria varia, Walk., *List Dipt. Brit. Mus.* V, 63 (1854).
Tetracantha varia, Ender., *Zool. Anz.* XLIV, 11 (1914).

Java; Sarawak; Malacca.

Enderlein makes this species the type of his *Tetracantha* and retains it in the Clitellarinae.

It is a valid species and differs radically from both *A. azurea* and *obesa* by possessing distinct occipital margins of some little breadth, yellow and broader even than those of the ♀ in *A. obesa*, but much less broad than in *A. azurea* ♀ The scutellar spines are pale at the tip; the 3rd antennal joint is dull orange, black tipped; the discal cell is clearer. In all else as in *A. azurea*. Type in British Museum. Kertesz records a ♂ from Java in the Hungarian Museum.

A. obesa Walk.

Clitellaria obesa, Walk., *Proc. Linn. Soc. Lond.* V, 232 (1861).
Acanthina obesa, Ost. Sack., *Ann. Mus. Gen.*, XVI, 411 (1880).
Cibotogaster obesa, Kert., *Ann. Mus. Hung.* XII, 475, ♂, fig. 23, wing (1914).

Near *A. azurea* Gerst., but differing materially by the ♀ possessing a rather narrow blackish brown postocular margin behind the eyes, which in the allied species is broad and bright yellow. Also the bright yellow pubescence on the anterior part of the thorax is absent, the pubescence of the eyes is brown, or greyish brown, not bright yellow on the upper half, the middle tarsi are distinctly brownish orange, all the tarsi being paler. The frons in the ♀ at the middle of its narrowest part is about one-thirteenth of the head; the scutellar spines are pale tipped, the 3rd antennal joint mainly orange, black-tipped.

These notes are based on the type ♂ from Mysol and a ♂ from Batjan, also on a ♀ from Dorei, New Guinea, all in the British Museum. Ramoi and Andai, Papua, ii·1875 [*Beccari*]; vi, viii. 72 [*D'Albertis*]. One ♂, Sungei Gadut, Kuala Lumpur, viii·1921 [*G. H. Corbett*].

It may be noted that Walker erected a previous *Clitellaria obesa* in 1860 from Mexico, but this species is a true *Clitellaria*; there should therefore be no cause to rename his oriental species now referred to *Acanthina*.

A. argentihirta Brun., nom. nov. (1907).

Acanthina argentea, Brun., *Rec. Ind. Mus.* I, 132, ♂ (1907).

A. argentea is preoccupied by Osten Sacken in 1886. In the separata of my paper, the specific name was altered on a slip to *argentihirta*.

A. fumipennis Kert.

Cibotogaster fumipennis, Kert., *Ann. Mus. Hung.* XII, 470, ♂ ♀ fig. 18, antenna, 19, wing (1914).

Sumatra.

Kertesz thinks that the "*Acanthina azurea*, Gerst." of Osten Sacken may be this species, and he records many of both sexes from Kosempo, Toyenmongai, Kankau, Tapani and Alikang, all Formosa.

A. enderleini Kert.

Cibotogaster enderleini, Kert., *Ann. Mus. Hung.* XII, 476, fig. 24, wing (1914).
C. azurea, Ender. *nec* Gerst.

Soekaranda, Sumatra, one ♂ [*Dohrn*].

Genus Culcua Walk.

Proc. Linn. Soc. I, 109 (1857).
GENOTYPE: *C. simulans, id.*, sp. nov., *loc. cit.*
ulcua, Kert., *Ann. Mus. Hung.* VII, 370, redesc. (1909).

Generic characters. ♂ Head barely as wide as widest part of thorax; eyes closely pubescent, practically contiguous for some little distance, leaving a narrow, elongate vertical triangle and a comparatively large frontal one; occipital margin barely produced and only behind middle of eyes. Antennae short, 2nd joint shallow cup-shaped, 3rd orbicular, very short, with long, fine terminal arista. Face with rapidly widening sides; palpi nearly as long as proboscis, cylindrical. Thorax moderately arched, widest on hind part, a little longer than broad; scutellum semicircular, of normal shape; 4 distinct spines. Abdomen narrowed at base, rounded and considerably arched, much broader than thorax. Legs and wings normal, discal cell large.

C. simulans Walk.

Culcua simulans, Walk., *Proc. Linn. Soc.* I, 109, ♂ pl. vi, 1, full insect, 1*a*, head, 1*b*, antenna (1857).
Culcua simulans, Brun., *Rec. Ind. Mus.* I, 100, note (1907).
Culcua simulans, Kert., *Ann. Mus. Hung.* VII, 371, ♂ ♀ pl. viii, 5, antenna, 8, wing (1909).

REDESCRIPTION.

♂ Eyes practically contiguous for about one-fourth the distance from vertex to base of antennae, densely brown pubescent; vertical triangle elongate, narrow, black, with a few short black hairs; ocelli dirty whitish, ocellar triangle fairly conspicuous. Frontal triangle comparatively large covered with whitish tomentum except at extreme upper angle which is black. Antennae bright orange, 1st and 2nd joints short, 2nd more or less cup-shaped, 3rd rounded, with fine apical bare arista. Face with rapidly widening sides bearing, with underside of head, a little greyish pubescence; proboscis brown, with some yellow hairs,

three-fourths as long as head; palpi nearly as long as proboscis, moderately slender, cylindrical, brown. Occiput black, extreme edge whitish.

Thorax black, uniformly covered with short, whitish pubescence which is denser and a little more conspicuous behind shoulders, on hind margin of dorsum, and from ends of suture down the pleura to underside of thorax. Scutellum with dark brown pubescence on about basal half and whitish pubescence on remainder. Four orange yellow spines, bearing moderately long whitish pubescence.

Abdomen black, with uniformly greyish pubescence which is inclined to form patches towards sides of 2nd, 3rd and 4th segments, a little more conspicuous over hinder part of 4th and 5th, a microscopic covering of tiny bristles over whole abdomen. Belly black, with short whitish pubescence and tiny bristles as on dorsum.

Legs black, with short whitish pubescence, tarsi dark brown or blackish.

Wings grey, a moderately dark brown apical suffusion extending inwards far enough to include fork of 3rd vein and whole 2nd posterior cell, and reaching hind margin just clear of 4th posterior cell; stigma dark brown, a brown suffusion emanating from it extending over about apical half of 1st basal cell and narrowly along the cross veins to tip of 5th vein, the limits of the suffusion a little variable. Veins dark brown, halteres pale yellowish. Long, 7 mm.

Redescribed from type ♂ and another ♂, both from Sarawak, also a ♂ from Alikang, Formosa, vi·1909 [*Sauter*], named by Kertesz, all in the British Museum; also a ♂ in the Indian Museum from Pashok, Darjiling Dist. 2,000 ft., vii·1916 [*Hartless*]. In this latter specimen the knees are very narrowly brown, the base of the front tibiae distinctly brownish orange, the middle metatarsi yellowish. Walker described *simulans* from Borneo and subsequently recorded it also from Malacca, de Meijere records it from Serdang, N.-E. Sumatra [*Hagen*], and Kertesz redescribes both sexes from a number from Kosempo, Formosa, 31·iii–21·iv·08 [*Sauter*].

Genus **Stratiosphecomyia** Brun.

Rec. Ind. Mus. IX, 261 (1913).

Genotype: *S. variegata*, sp. nov., *loc. cit.* 261, ♂ ♀, pl. xiv, 14, 17.
Stratiosphecomyia, Brun., *Fauna Brit. Ind., Dipt. Brachy.* I, 36 (1920).

S. variegata Brun.

Stratiosphecomyia variegata, Brun., *Rec. Ind. Mus.* IX, 261, ♂ ♀, pl. xiv, 14, 17 (1913).

Described from 5 ♂ ♂ from Darjiling, 1000–3000 ft., v·1912; one ♀, above Tura, Garo Hills, Assam, 3900 ft., vii·1917 [*Kemp*]; Shillong, 4900 ft., 31·v·1918, ♂ ♀ [*Rao*], all in the Indian Museum. One ♂ in British Museum from Sikkim [*Bingham*].

Genus **Parastratiosphecomyia**, gen. nov.

Very near *Stratiosphecomyia* Brun., but structurally quite distinct by the position and shape of the antennae, which are situated widely apart, at almost the extreme edge of the frons, close to the eye-margins ; the 1st joint also being 2½ to 3 times as long as the 2nd and suddenly and greatly developed on the under side immediately after the base, thence gradually narrowing but still wide at tip. The 2nd joint is very short, as in *Stratiosphecomyia*, the 3rd flagellate, with eight annulations as in that genus. Proboscis short, moderately thick ; palpi much shorter, filiform.

GENOTYPE. *P. stratiosphecomioides*, sp. nov.

P. stratiosphecomyioides, sp. nov.

♂ ♀ Siam. Long. 10–11 mm.

♂ Remarkably like *Stratiosphecomyia variegata* Brun. Antennal 1st and 2nd joints yellow, remainder black. Hind margin of thoracic dorsum black, not yellow, hind margin of scutellum broadly yellow, not wholly black. Abdomen wholly black, a little yellowish about base of 2nd segment in individuals ; belly similar. Legs with coxae bright though rather pale yellow, rest of legs mainly orange ; fore femora narrowly at base and fore tibiae on front side only dark brown ; posterior femora for about basal two-thirds and posterior tibiae only dark brown. Middle metatarsi slender, fore pair stouter, hind pair stouter still, relatively longer and narrower than is *S. variegata*. Wings as in that species except that the suffusion is darker blackish brown.

In the ♀, frons and face with rapidly widening sides from above downwards, at middle of head, seen from in front, considerably over one-third in width : upper part of frons black, with a little whitish pubescence, the colour extending forward in triangular form ; rest of frons and most of face bright shining chrome yellow ; a small brown mark above base of antennae, rather on inner side, and a broad, dark brown margin above mouth opening : palpi in ♀ black.

Described from 3 ♂♂ 1 ♀ from Bukit Besar, Patani, Peninsular Siam, 2500 ft., 30·viii ; 1·ix, 4·ix·01 [*Robinson* and *Annandale*].

Types. In the British Museum.

The shape of the thorax and abdomen, the size of the insect and its general appearance is remarkably similar to *Stratiosphecomyia variegata* and probably both species mimic some wasp common to the Eastern Himalayas and Siam.

Genus **Ptilocera** Wied.

Nova Dipt. Gen. 7 (1820).

GENOTYPE : *Stratiomys 4-dentata* F., by original designation.

Wied., *Auss. Zweifl.* II, 58 (1830).
Brun., *Rec. Ind. Mus.* I, 90 (1907) ; *Fauna etc.*, 33.
Ender., *Zool. Anz.* XLIII, 306 (1914).
Kert., *Ann. Mus. Hung.* XIV, 202 (1916).

The species of *Ptilocera* are extremely closely allied and the validity of several seems open to doubt. So small an amount of material has come before me that a personal opinion is an impossibility.

TABLE OF SPECIES.

1. Thorax with a large conspicuous spot on each anterior corner, composed of golden yellow or greenish yellow scales, the spot markedly quadrangular on inner sides, these inner sides appearing a rich rather dark olive brown when viewed from a low angle in front	*4-dentata* F. ♂ ♀
Thorax without such quadrangular spots, but with stripes (usually four) of coloured scales ...	2.
2. Males	3.
Females	4.
3. Last annulation of 3rd antennal joint at least 5 times as long as penultimate	*smaragdina* Walk. ♂. and *violacea* Edw. ♂
Last annulation at most 4 times penultimate ...	*fastuosa* Gerst. ♂
4. Wings with a small yellowish transverse band from costa (stigmatic region) reaching to about middle of wing or beyond it	5.
Wings without such band	6.
5. Upper part of frons and vertex rather uniformly and finely punctate : 1st, 2nd and annulations of 3rd antennal joint distinctly longer than broad : 5th abdominal segment with two bare spaces forming bands amidst the thick gold tomentose pubescence, these bands open on inner side ...	*fastuosa* Gerst. ♀
Upper part of frons and vertex not uniformly punctate : 1st and 2nd annulations of 3rd antennal joint plumper than in *fastuosa*, hardly longer than broad : 5th abdominal segment with a narrow hair band near anterior margin ...	*smaragdina* Walk. ♀.
6. Frons on upper half and vertex rather sparsely punctate and haired : 5th abdominal segment with two broad hair bands	*amethystina* Sn. v. Voll. ♀
Frons on upper half and vertex very distinctly punctate and haired	*continua* Walk. ♀

P. smaragdifera, Walk. is not included in the above table as Dr. Kertesz seems to have mistaken this species, because in his table he says it has the basal half of the wings dark and the apical half clear. This is not correct.[1]

Having no specimen of *P. smaragdina* Walk., ♂, for comparison it is impossible in this table to separate Edwards' *violacea* ♂ from it. Various views are held by recent writers as to the validity of the species, and their several tables may be consulted : de Meijere, *Tijd. v. Ent.* LIV, 272; Edwards, *Tr. Zool. Soc. Lond.* XX, 391 ; Kertesz, *Ann. Mus. Hung.* XIV

P. quadridentata F.

Stratiomys quadridentata, F., *Antl.* 86, ♀ (1805).
Ptilocera quadridentata, Wied. *Auss. Zweifl.* II, 59, ♂ ♀ (1830).
Ptilocera quadridentata, Gerst., *Linn. Entom.* XI, 332 (1857).

[1] See under *P. smaragdifera* Walk.

Ptilocera quadridentata, Brun., *Rec. Ind. Mus.* I, 91 (1907).
Ptilocera quadridentata, Edw., *Tr. Zool. Soc. Lond.* XX, 394 (1915).
Ptilocera quadridentata, de Meij., *Tijd. v. Ent.* LIV, 270.
Ptilocera quadridentata, *id.*, *Bijd. t. Dierk.* pl. viii, 12, scaly hair of thorax (1904).
Ptilocera quadridentata, Kert., *Ann. Mus. Hung.* XIV, 294 (1916).

Malacca; Singapore; Amboina; Aru Is; Makessar, Celebes; Papua; Philippines; Medan, Sumatra, ii [*De Bussy*]; Fort de Kok, x; Padang, ix (both Sumatra); Barabei, S.E. Borneo [*Pool*], Bukit Besar, Patani, Peninsular Siam, 2500 ft., 31·viii·01 [*Robinson* and *Annandale*]; Salatiga [*Roepke*]; Nusa Kambangan, iii; Buitenzorg, vii [*Dammerman*]; Depok, ii, Batavia, iii, vii to ix common, x, xii; Guning Pantjar, iii; Gunung Ungarn, vi, ix, xii; Semarang i, iii, viii [*Jacobson*], Djocjakata, ii; Pasuruan [*Kobus*] (all Java).

P. samaragdina Walk.

Ptilocera smaragdina, Walk., *List, Dipt. Brit. Mus.* III, 525 (1849).
Ptilocera smaragdina, Brun., *Rec. Ind. Mus.* I, 91 (1907).

Ceylon; Celebes; Ternate; Amboina; Papua, Philippines.

Edwards thinks *P. continua* Walk. synonymous with *P. smaragdina*. The type is in the British Museum in fairly good condition and agrees with *P fastuosa* Gerst. as far as I can understand the species. If this version should prove correct Gerstaecker's species will be synonymous with *P. smaragdina* Walk. and *P. continua* Walk. may be a valid species.

P. continua Walk.

Ptilocera continua, Walk., *Ins. Saund.* II, 84, pl. iii, 2, full insect, ♀ (1851).
Ptilocera continua, Brun., *Rec. Ind. Mus.* I, 91 (1907).
P. smaragdina Walk. (*nec* Sn. v. Voll.).

Gopaldhara, Darjiling Distr., 3440–4720 ft, 21·i·17; vi·20; viii·16; 13·viii·14 [all *Stevens*].

Pashok, Darjiling, 2000 ft., 11·vi·16 [*Hartless*]; Darjiling Distr., 1000–3000 ft., v·12 [*Lord Carmichael's* collr.]; Andaman Islands, Java.

Edwards thinks that *P. amethystina* Sn. v. Voll. is synonymous with *P. continua* and that *P. fastuosa* Gerst. is also synonymous. The probable type of *P. continua* (in the British Museum in good condition) as selected by Major Austin some years ago, has wholly brown wings, without any trace of a yellow cross band.

P. smaragdifera Walk.

Ptilocera smaragdifera, Walk., *Proc. Linn. Soc. Lond.* IV 94 (1859).

Makessar; Philippines.

Edwards notes that the specimens recorded by Walker from Celebes as *P. smaragdina* Walk. are really *P. smaragdifera* Walk. He thinks *P. smaragdina* Sn. v. Voll. (*nec* Walk.) probably identical with *P. smaragdifera* Walk. Kertesz considers that *P. smaragdina* Sn. v. Voll. is an indefinite species. De Meijere has recorded a species under this name from Sangir, Celebes (*Tijd. v .Ent.* LIV,

271). His identification of *P. smaragdifera*, however, appears erroneous, as he states that the basal half of the wings is brown, and the apical half pale in both species, whereas in four specimens in the British Museum the wings are dark brown to the tips, being a little paler basally. Two in fairly good condition are ♀ ♀, the other two are headless and in very bad condition, including the type ♀ The only species I know of with the apical part of the wing pale is Edwards' recently described *P. violacea*, and this is in the ♀ only.

P. fastuosa Gerst.

Ptilocera fastuosa, Gerst., *Linn. Entom.* XI, 332, ♀ (1857).
Ptilocera fastuosa, Roder, *Ent. Nach.* XIX, 234 (1893).
Ptilocera fastuosa, Brun., *Rec. Ind. Mus.* I, 91 (1907).

Kandy, vii·93 [*E. E. Green*]; Sinabang, Simalur, ii; Malacca; Singapore; Tellschong, Nicobars; Sumatra; Gilolo; Ternate; Celebes; Manokwari, Papua, end of May; Bukit Besar, Patani, Peninsular Siam, 2500 ft., 2·x·01 [*Robinson* and *Annandale*].[1] Java; Philippines.

P. amethystina Sn. v. Voll.

Ptilocera amethystina, Sn. v. Voll., *Tijd. v. Ent.* I, 92 (1858).
P. smaragdina, de Meij., *Tijd. v. Ent.* LVI, Supp. 12 (1914).
P. smaragdina, Ost. Sack., *Berl. Ent. Zeits.* XXVI, 100 (1882).
P. smaragdina, Brun., *Rec. Ind. Mus.* I, 91 (1907).
? *P. smaragdina*, Sn. v. Voll., *Tijd. v. Ent.* I, 92 (1858).

Nusa Kambangan, Java, iii [*Jacobson*]; Tandjong Morawa, N.-E. Sumatra [*Hagen*]; Celebes; Philippine Is. (3 ♂ ♂ 6 ♀ ♀).

Osten Sacken considered *P. smaragdina* Sn. v. Voll probably the same species as this. Both *amethystina* and *smaragdina* are described by Vollenhoven on the same page, the former taking precedence, both sexes of each species being before him. Kertesz in his World Catalogue of diptera keeps them distinct.

As *P. smaragdina* the following data are recorded. Sangir, Celebes; Java; Philippines. de Meijere (*Tijd. v. Ent.* LIV, 271) and Osten Sacken (*Ann. Mus. Gen.* XVI, 412) both discuss this form.

P. violacea Edw.

Ptilocera violacea, Edw., *Trans. Zool. Soc. Lond.* XX, 394, ♂ ♀, pl. xxxviii, 2*a*, ♀ antenna; 2*b*, ♂ antenna (1915).

Mimika Riv., Dutch New Guinea, vii·1910, ♂ ♀ Also 2 ♂ ♂ and 1 ♀ in the British Museum from Aru [*Wallace*].

Genus Rosapha Walk.

Proc. Linn. Soc. IV, 100 (1860).
GENOTYPE: *R. habilis*, Walk., n. sp., *loc. cit.*
Rosapha, Kert., *Ann. Mus. Hung.* VII, 376 (1909).
Rosapha, Brun., *Rec. Ind. Mus.* I, 93, notes (1907).
Rosapha, Ender., *Zool. Anz.* XLIII, 308, notes (1914).

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[1] For numerous localities in India, Ceylon, etc., see my Fauna Vol. Syrphidae, p. 35.

TABLE OF SPECIES.

1.	Thorax partly conspicuously black	2.
	Thorax wholly orange or yellowish, at most a small black wedge-shaped mark in middle of anterior margin ...	4.
2.	Thorax wholly black; (legs nearly all yellow) ...	3.
	Dorsum of thorax orange but pleura black; tibiae brownish black; wings with two brown spots ...	*flagellicornis* Ender.
3.	Legs all yellow	*obscurata* de Meij.
	Fore tarsi wholly, hind pair at tips, dark brown ...	*variegata* de Meij.
4.	Wings with ground colour pale grey, and stigma and tip darker	*habilis* Walk.
	Wings with ground colour hyaline, and the dark markings deeper	5.
5.	Scutellum unmarked; hind tarsi with 1st and 2nd joints white; femora yellow to tips	*bicolor* Big.
	Scutellum with a brown median stripe; hind tarsi with only 1st joint white; tips of hind femora black... ...	*bimaculata* Wulp.

R. habilis Walk.

Rosapha habilis, Walk., *Proc. Linn. Soc.* IV, 100 (1860).
Rosapha habilis, Ost. Sack., *Ann. Mus. Gen.* XVI, 413 (1881): notes and generic notes on *Rosapha* and *Tinda*.
Rosapha habilis. Brun., *Rec. Ind. Mus.* I, 93 note (1907).
Rosapha habilis, Kert., *Ann. Mus. Hung.* VII, 378, ♀ redescr., pl. viii, 6, antenna; ix, 7, ♀ head, front view (wrongly given as fig. 8 in expl. of pl.) (1909).

Makessar; Kandari, Celebes, 1 ♀, iv·74 [*Beccari*].

REDESCRIPTION.

♂ *Head.* Eyes coffee brown, upper facets much larger than lower ones, distinctly but not sharply demarcated from the small, lower black ones, contiguous for a fair distance; vertical triangle mainly occupied by the well raised ocellar tubercle; frontal triangle very small and sunken, so that the eyes somewhat overhang. Face black; eye margins narrowly white; proboscis short, black, underside yellowish; palpi cylindrical, slender, as long as proboscis, tips black, all with long, isolated pale hairs. Antennal 1st and 2nd joints moderately short, 1st a little longer than 2nd 3rd elongate conical, as long as 1st and 2nd together, all three orange, style black, twice as long as antennae, microscopically tomentose, no distinct annulations. Vertex black.

Thorax all orange, with almost microscopic yellow pubescence, scutellum similar; two rather long and moderately stout, apical, barely curved orange spines, and an outer pair of much smaller ones.

Abdomen orange, microscopically punctate, a little irregularly blackish at base on 3rd, 4th and 5th segments; fine, pale yellow hairs at sides of all segments. Belly orange, with very short pale yellow, depressed pubescence.

Legs orange yellow, more than apical half of hind tibiae and all fore tarsi moderately dark brown; posterior tarsi whitish; about last three tarsal joints dark brown.

Wings pale yellowish grey; stigma dark brown, and a small

brown cloud over fork of 3rd vein, extending a little hindwards; halteres yellowish. Long, 6 mm. *Redescribed* from the type ♂ in good condition from Makessar.

R. bicolor Big.

Rosapha bicolor, Big., *Ann. Soc. Ent. Fran.* (5) VII, Bull. lxxiv, *nom. nud.* (*Calochaetis*) (1877); *loc. cit.* IX, 189, descr. (1879).
Rosapha bicolor, Ost.-Sack., *Berl. Ent. Zeits.* XXVI, 99, note (1882).
Rosapha bicolor, Brun., *Rec Ind. Mus.* I, 93, note (1907).
Rosapha bicolor, Kert., *Ann. Mus. Hung.* VII, 379, ♂ ♀ redescr., pl. ix, 5, ♂ head profile, 6, ♀ head, front view, 8, wing, 9, scutellum,[1] (1909).

On examining the type of *bicolor* I found it essentially different from specimens hitherto regarded as typical and I am inclined to think that a second species exists, but which is here admitted as a variety only, which may be termed *philippinensis*, the difference being in the shape and colour of the thorax.

In the type of *R. bicolor* the dorsum, apart from the scutellum, is *barely longer than broad*, yellow ochre in colour with pale yellow hairs, the scutellum concolorous; the wing has the black marks fainter and less extensive; the stigmatic spot clearly limited by the 2nd vein; the apical spot limited proximally by the upper branch of the 3rd vein though extending a little further into the 1st posterior cell, dying away at the upper branch of the 4th vein, the 2nd branch of the 4th vein very narrowly suffused, the 1st basal cell quite clear.

In the var. *philippinensis* the thorax is *distinctly longer than broad*, and is bright orange with the scutellum; the stigmatic spot spreads itself indefinitely over the tip of the 1st basal cell as well as the base of the 1st posterior cell; the apical spot is much deeper black and continues faintly but broadly along the outer margins of the 3rd and 4th posterior cells; the 2nd branch of the 4th vein more deeply blackish.

I have seen no ♀ of *R. habilis*, but Kertesz has compared the ♀ ♀ of *habilis* and *bicolor* and states (and figures) the frons and face in the latter species as having more nearly parallel sides than in the former.

Described originally from Manila, the type in Bigot's collection.

The following description may be taken to apply to typical *R. bicolor* as well as to the new var. except in the colouration of the thorax and scutellum and the differences in wing markings.

R. bicolor Big., var. philippinensis, nov.

♂ ♀ Very near *R. habilis* Walk., but apparently distinct. Rather larger; a small black, wedge-shaped vitta in middle of anterior margin of thorax, narrowing hindwards and disappearing before suture. Less difference in size between median and outer pair of scutellar spines. Abdomen mainly black except for a narrow orange

[1] Figs. 6, 8 and 9 given incorrectly in text as 7, 9 and 10 respectively. The figures in the explanation of the plate of *R. bicolor* appear correct.

margin, but variable (one specimen having very little more black than in *R. habilis*). Apical three-fourths of hind tibiae dark brown, with concolorous obvious pubescence. The brown suffusions over stigma and fork of 3rd vein deeper and rather more extended.

In ♀, eyes not widely separated; frons distinctly narrowing from above downwards, at narrowest point about one-eighth width of head, shining black: postocular margins moderately broad above, a little narrower at middle of eyes.

The relatively longer thorax, more distinct black vitta on the thorax, the mainly black abdomen, the more equal sized scutellar spines, the slightly larger size and the more deeply marked wing suffusions are the differential characters from typical *R. habilis*. 2 ♂♂ and 1 ♀ in the British Museum from Los Banos, Philippine Is. named by Baker. One ♀ in Indian Museum from Pashok, Darjiling District, 2000 ft., 26·v·14–vi·16 [*Gravely*]. One ♂ in my collection, Gopaldhara, Darjiling Distr., vi·20 [*Stevens*].

R. bimaculata Wulp, in de Meij.

Rosapha bimaculata, Wulp in de Meij., *Bijd. Dierk.* XVIII, 16, pl. viii, 13, 14 (1904).

Gunong Tji Salimar, W Preangar, Java, one ♂ Type in the Amsterdam Museum.

R. flagelliformis Ender.

Rosapha flagelliformis, Ender., *Zool. Anz.* XLIII, 308, fig. 13, antenna, ♀ (1914).

One ♀, Sockaranda, Sumatra [*Dohrn.*]. Type in the Stettin Zoological Museum.

R. obscurata de Meij.

Rosapha obscurata, de Meij., *Tijd. v. Ent.* LVIII. Supp. 72 (Mar. 1916).

Fort de Kok, Sumatra, X, 1 ♀ [*Jacobson*]. Type in Amsterdam Museum.

R. variegata de Meij.

Rosapha variegata de Meij., *Bijd. tot Dierk.* XXI, 19, ♀; pl. ii, 9, wing (1919).

Korinchi Peak, Sumatra, viii, one ♀ Type in the Amsterdam Museum.

Rosapha sp. A headless specimen in the Indian Museum from Tenasserim [*Doherty*] is a distinct species. Thorax wholly black; wings with a broad, brownish subapical band, leaving wing-tip and most of 3rd posterior cell clear; stigmatic spot extending indefinitely proximally and hindwards. Long., without head, 3½ mm.

Genus Discopteromyia de Meij.

Nova Guin. IX, 316 (1913).

GENOTYPE: *D. bicincta*, sp. nov., *loc. cit.*

D. bicincta de Meij.

Discopteromyia bicincta, de Meij., *Nova Guin.* IX, 316, ♂, pl. x, 9 antenna, 10, wing (1913).

Bivak Is., New Guinea. Unique ♂ type in the Amsterdam Museum.

Genus Tinda Walk.

Proc. Linn. Soc. Lond. IV, 101 (1860).
GENOTYPE: *Biastes indicus*, Walk., as *modifera*, sp. nov.
Biastes, Walk., *Ins. Saund.* II, 80 (1851).
GENOTYPE: *B. indicus*, sp. nov., *loc. cit.* 80, pl. iii, 3.
Elasma, Jaen., *Abh. Senck. Nat. Ges.* VI, 322 (1867).
GENOTYPE: *E. acanthinoidea*, sp. nov., *loc. cit.*, p. 323, pl. xliii, 3,
Phyllophora, Macq., *Mém. Soc. Sci. Lille*, 1834, p. 507 (1835).
GENOTYPE: *P. nigra*, sp. nov., *loc. cit.*, p. 508, pl. v, 1–6.
Tinda, Ender., *Zool. Anz.* XLIII, 306, notes (1914).
Tinda, Brun., *Fauna Brit. Ind., Dipt. Brachy.* I (1920).

No table of species is offered here, as it seems probable to me that there may be only one oriental species, unless *javana* Macq. is really distinct. Personally I consider *modifera, indica* and *angusta* conspecific, and though the validity of *acanthinoidea* Jaen. has not been challenged, there is nothing to prevent it being conspecific also. Three forms are admitted here subject to the above expressed opinion.

T javana Macq.

Beris javana, Macq., *Dipt. Exot.* I, 2, 188 (1838); *nec B. javana*, Wulp, 1892.
Tinda javana, de Meij., *Tijd. v. Ent.* L, 232 (1907); LIV, 273 (1911).

Dr. Kertesz has recently expressed the view that *T indica* Walk. is distinct from *T javana*, on the grounds of the eyes in *T indica* being more rounded, and the flattened part of the style being relatively shorter, compared with the 3rd joint itself than it is in *T javana*, i.e. only about three times as long instead of nearly six times as long, as it is said to be in *T javana*. de Meijere is inclined to recognise both forms as valid and says that both are common in Java. *T javana* comes from Batavia, v; Semarang, i, iii, Buitenzorg, ix [all *Jacobson*], Pasuruan [*Kobus*]; Tandjong Priok, Padang, Sumatra [*Jacobson*].

T. indica Walk.

Biastes indicus, Walk., *Ins. Saund. Dipt.* pt. II, 81, pl. iii, 1, 1*a* (1851).
Tinda indica, Wulp, *Notes Leyd. Mus.* VII, 58, note (1885).
Tinda indica, Brun. *Rec. Ind. Mus.* I, 92, notes (1907).
Tinda indica, auctt.
Tinda javana, Brun., *Fauna Brit. Ind. Dipt. Brachy.* I, 30, ♂ ♀, pl. i, 7, 8 (1920).
Tinda modifera, Walk., *Proc. Linn. Soc.* IV, 101 (1860).
Tinda modifera. Ost. Sack., *Ann. Mus. Gen.* XVI, 413, notes, var. (1881); XVIII, 17 (1882).
Phyllophora angusta, Walk., *Proc. Linn. Soc.* I, 7, ♂ (1856).
Phyllophora angusta, Brun., *Rec. Ind. Mus.* I, 97 (1907).
Phyllophora nigra, Macq., *Dipt. Exot.* I, i, 178 (1838).
Phyllophora bispinosa, Thoms., *Eug. Resa*, 454 (1868).

Apparently widely distributed in the East. I add my reference as *T javana* because the species described in the Fauna volume is certainly *T indica* Walk., whether this latter is synonymous with *T javana* or not. In the Indian Museum is a ♂ from Calcutta, 28·v·07, with an unforked 3rd vein, which agrees with *T indica* in every other way, evidently a freak.

T. acanthinoidea Jaen.

Elasma acanthinoidea, Jaen, *Abh. Senck. Nat. Ges.* VI, 323, pl. xliii, 3 (1867) and *Neue Exot. Dipt.*, 15, pl. i, 3 (1868).
Tinda acanthinoidea, Ost. Sack., *Ann. Mus. Gen.* XVIII, 17, note (1882).
Tinda acanthinoides, Brun., *Rec. Ind. Mus.* I, 92, *lapsus* (1907).

Jaennicke's description of *T acanthinoidea* is appended.

Frons and occipital margin shining black, smooth; frons above antennae and the epistome with white shimmer; palpi yellow, tips black. Antennae yellow, basal joint pale, tip of 3rd joint brown. Thorax and scutellum black, rather shining, bare, rather coarsely and thickly punctate; scutellar margin narrowly yellow, with yellow spines; pleura rather more shining, with very short fine, whitish pubescence. Abdomen somewhat less coarsely punctate, and, with belly, with uniform, fine hairs. Legs pale yellow. Wings clouded, entire margin with very fine hairs, tip and stigma yellowish brown. Long. 6 mm. Java [*Fritz*].

Type, when described, in Heyden collection (now, I believe in Frankfurt Museum), but Osten Sacken records somewhere that it is no longer in existence.

Genus Sathroptera Kert.

Ann. Mus. Hung. XII, 540 (1914).
GENOTYPE: *S. flavipes*, sp. nov., *loc. cit.*

S. flavipes Kert.

Sathroptera flavipes. Kert., *Ann. Mus. Hung.* XII, 541, ♂ fig. 70, head, profile (1914).

Makessar, Celebes. Unique type, ♂, in the Hungarian Museum.

Genus Evaza Walk.

Proc. Linn. Soc. Lond. I, 109 (1857).
Evaza, Kert., *Ann. Mus. Hung.* IV, 276 (1906).
Evaza, Brun., *Rec. Ind. Mus.* I, 97 (1907).
Evaza, Brun., *Fauna Brit. Ind., Dipt. Brachy.* I, 31 (1920).
Evaza, Ender., *Zool. Anz.* XLIII, 293 (1914).
Nerna, Walk., *Proc. Linn. Soc. Lond.* III, 81 (1859); *loc. cit.* (*Nerna*), IV, 97 (1860).
Pseudoevaza, Kert., *Ann. Mus. Hung.* XIV, 146 (1916).
GENOTYPE: *E. bipars*, sp. nov., by original designation.

TABLE OF SPECIES.[1]

1. Legs principally blackish brown (front femora with more or less pale tips) ... ... 2.

[1] *E. formosana*, recently described by Kertesz is not included in this table.

	Legs principally yellow (front femora sometimes brownish yellow)	3.
2.	Scutellar hind border yellowish	*argyroceps* Big.
	Scutellar hind border black; spines only yellowish ...	*impendens* Walk.
3.	Legs wholly yellow; at most front tarsi darker towards tips	4.
	Legs not wholly yellow, i.e. at least more dark colour in them than merely the tarsi tips ...	9.
4.	Scutellum all black; spines only yellow	*flavipes* Big.
	Scutellum with hind border yellow as well as spines.	5.
5.	Abdomen brownish yellow; legs all yellow except front tarsi a little darker	6.
	Abdomen black	7.
6.	Scutellum black; only hind margin and spines yellowish	*discolor* de Meij.
	Scutellum brownish yellow, blackish only at base ...	*javanensis* de Meij.
7.	Abdominal pubescence dark brown	*de Meijeri*[1] nom. nov.
	Abdominal pubescence fox red	8.
8.	Humeral calli and a fine line thence to wing base brown.	*bipars* Walk.
	Thorax concolorous, black	*scenopinoides* Walk.
9.	Abdomen brownish yellow	10.
	Abdomen black, centre part yellowish ...	*flavoscutellata* Ender.
	Abdomen wholly black	11.
10.	Thorax without dull, pale spots	*mollis* Ost. Sack.
	Thorax with dull, pale humeral spots, lateral line and an indefinite pleural mark	*fulviventris* Big.
11.	Larger species, 9 mm.	12.
	Smaller species, 5–6½ mm.	13.
12.	*a*. Posterior femora and tibiae both with apical half pale brown[2]	*fortis* Walk.
	b. All femora pale yellow; all tibiae dark brown ...	*tibialis* Walk.
	c. All femora yellow; all tibiae dull brown ...	*nigripennis* de Meij.
13.	Wings nearly clear; no darker marks, stigma honey yellow; femora all reddish yellow	*kertesszi* de Meij.
	Wings pale brownish; stigma and other parts distinctly darker	14.
14.	Apical half of middle femora and apical third of hind femora black	*maculifera* de Meij.
	All femora yellowish, darker towards tips ...	*indica* Kert.

The above table is built up on one formed by Dr. Kertesz. He notes the Formosan species of the genus more recently.[3] Many of the species appear to be very closely allied and doubts may be entertained as to the validity of some of them.

E. bipars Walk.

Evaza bipars, Walk., *Proc. Linn. Soc. Lond.* I, 110 ♂, pl. vi, 2 (1857).
Evaza bipars, Kert., *Ann. Mus. Hung.* IV, 284, ♂ ♀ (1906).
Evaza bipars, Brun., *Rec. Ind. Mus.* I, 98 (1907).
Evaza bipars, Ender., *Zool. Anz.* XLIII, 294, ♂ ♀ (1914).
Evaza flavipes, Wulp (*nec* Big.), *Term. Fuzet.* XXI, 416 note (1898).

Sarawak, Friedrich Wilhelmshafen, Papua; Soekaranda, Sumatra [*Dohrn*]; Darjiling, 7000 ft., 12·vi·14 [*Gravely*]; Lebong, Darjiling Distr., 13·vi·14 [*Gravely*]; Gopaldhara, Darjiling Distr., vi·20. Kertesz records a ♀ from New South Wales.

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[1] For *E. pallipes*, de Meij. preocc. Big.

[2] Walker's description of the legs is weak; the characters given in this table are from the types themselves.

[3] *Ann. Mus. Hung.* XII, 555 (1914).

The stigma seems to vary from yellowish to quite black. One specimen in the Indian Museum has an all brown abdomen.

E. bipars var. minor Ender.

Evaza bipars var. *minor*, Ender., *Zool. Anz.* XLIII, 294, ♂ ♀ (1914).

Soekaranda, Sumatra [*Dohrn*]. Type in the Stettin Zoological Museum.

E. scenopinoides Walk.

Nerua scenopinoides, Walk., *Proc. Linn. Soc. Lond.* III, 81, ♀ (1859).
Nerua scenopinoides, Ost. Sack., *Ann. Mus Gen.* XVI, 415, note (1881).
Evaza scenopinoides, Wulp, *Notes Leyd. Mus.* VII, 57 (1885).
Evaza scenopinoides, *id.*, *Term. Fuzet.* XXI, 415, note (*E. pallipes*, Big.) (1898).
Evaza scenopinoides, Kert., *Ann. Mus. Hung.* IV, 290, ♂ ♀ (1906).
Evaza pallipes, Big. (*nec* Meij.), *Ann. Soc. Ent. Fran.* (5) IX, 220 (1879).
Sargus debilis, Walk., *Proc. Linn. Soc. Lond.* V 274 (1861).

Aru, N. Ceram, Waigou, Andai, Papua, 1872; Dorei Hum, Papua, ii·75 ♂ ♀ ; Friedrich Wilhelmshafen, Papua, ♂ ; Papua, iv, ix ; Gilolo, 1 ♀ [*Forster*].

S. debilis was described from Batjan and the synonymy is by Major Austen. Moreover the name *debilis* is preoccupied by Walker himself for a North American species.

E. impendens Walk.

Nerua impendens, Walk., *Proc. Linn. Soc. Lond.* IV 97, ♂ ♀ (1860).
Nerua impendens, Ost. Sack., *Ann. Mus. Gen.* XVI, 414 (1881).
Evaza impendens, Wulp, *Notes Leyd. Mus.* VII, 57 (1885).
Evaza impendens, Kert., *Ann. Mus. Hung.* IV, 282 ♂ (1906).
Evaza impendens, Brun., *Rec. Ind. Mus.* I, 98 (1907).
Evaza impendens, Edw., *Tr. Zool. Soc. Lond.* XX, 394, pl. vi, 15.

Celebes; Pagowat, N. Celebes [*Forster*]; Aru [*v. Rosenberg*]; Kandari, Celebes, ♂ ♀ , iv·74 [*Beccari*]; Mimika Riv., Dutch New Guinea, vii, 1910.

E. tibialis Walk.

Clitellaria tibialis, Walk., *Proc. Linn. Soc. Lond.* V, 258, ♂ (1861).
Clitellaria tibialis, Wulp., *Cat. Dipt. S. Asia.* 54, note (1896).
Evaza tibialis, Kert., *Ann. Mus. Hung.* IV, 285 (1906).
Evaza tibialis, Brun., *Rec. Ind. Mus.* I, 98, note (1907).

Manado, Celebes. Type in British Museum. A ♀ from Toyenmongai, Formosa is referred with a doubt by Kertesz to this species.

E. fortis Walk.

Sargus fortis, Walk., *Proc. Linn. Soc. Lond.* VIII, 107, ♂ (1865).
Evaza fortis, Kert., *Ann. Mus. Hung.* IV. 288, ♂ ♀ (1906).
Evaza fortis, Brun., *Rec. Ind Mus.* I, 99, notes (1907).
Evaza pictipes, Big., *Ann. Soc. Ent. Fran.* (5) IX, 221, ♂ (1879).
Evaza pictipes, Wulp, *Term. Fuzet.* XXI, 416, note (1898).

Papua, Bali, Mafor, Stephansort, Simbang, Erima, Sakelberg, all Papua; Upper Jamur District, Papua, 6·viii.

Type of *E. fortis* in British Museum, that of *E. pictipes* in

Bigot's collection, from New Guinea. De Meijere notes the species as *E. pictipes* (*Nova Guin.* v, 74, 1903).

E. flavipes Big.

Evaza flavipes, Big., *Ann. Soc. Ent. Fran.* (5) IX, 219, ♀ (1879).
Evaza flavipes, Wulp, *Term. Fuzet.* XXI (1898).
Evaza flavipes, Kert., *Ann. Mus. Hung.* IV, 283, ♀ (1906).
Evaza flavipes, Brun., *Rec. Ind. Mus.* I, 98 (1907); VII, 451, note (1912).

Described from a ♀ in bad condition from India in Bigot's collection.

Darjiling, 1 ♀, 20–30·vi·12 [*Brunetti*].

E. argyroceps Big.

Evaza argyroceps, Big., *Ann. Soc. Ent. Fran.* (5) IX, 219 ♀ (1879).
Evaza argyroceps, Kert., *Ann. Mus. Hung.* IV, 281, ♂ ♀ (1906).
Evaza argyroceps, Brun., *Rec. Ind. Mus.* I, 98, note (1907).
Pseudoevaza argyroceps, Kert., *Ann. Mus. Hung.* XIV, 146 fig. 4, head ♂ profile, 5, ditto ♀ (1916).

Moluccas.

Type in Bigot's collection. Kertesz erects the genus *Pseudoevaza* (*Ann. Mus. Hung.* XIV, 146) for this species on slight differences in the shape of the front part of the thorax and the uniformity or otherwise of the pubescence on the body.

E. fulviventris Big.

Evaza fulviventris, Big., *Ann. Soc. Ent. Fran.* (5) IX, 220 (1879).
Evaza fulviventris, Kert., *Ann. Mus. Hung*, IV, 287 ♂ ♀ (1906).
Evaza fulviventris, Brun., *Rec. Ind. Mus.* I, 99 (1907).
Evaza fulviventris, Ost. Sack., *Ann. Mus. Gen.* XVI, 415 (1881).

Moluccas; Friedrich Wilhelmshafen, Stephansort, Papua, 14 vi, 24·xii [*Biro*]. Bivak, Is., Papua, i.

Type in Bigot's collection.

E. mollis Ost. Sack.

Nerua mollis, Ost. Sack., *Ann. Mus. Gen.* XVI, 415, ♂ ♀ (1881).
Evaza mollis, Kert., *Ann. Mus. Hung.* IV, 286, ♂ ♀ (1906).
Evaza mollis, Brun., *Rec. Ind. Mus.* I, 99, note (1907).

Mt. Singalang, Sumatra, vii·78 [*Beccari*].

E. indica Kert.

Evaza indica, Kert., *Ann. Mus. Hung.* IV, 289, ♂ ♀ (1906).

Bombay, 3·vii·01 [*Biro*]. Types in the Hungarian Museum.

A ♂ in the Indian Museum in indifferent condition from between Tengyueh and Tali Fu, Yunnan, W China, 1909–10 [*J. C. Brown*] may be this species, but the legs are all yellowish except the front tarsi, which are brown.

E. javanensis de Meij.

Evaza javanensis, de Meij., *Tijd. v. Ent.* LIV, 274, ♂ ♀ pl. xviii, 3, head, 4, wing (1911), and LVIII, Supp. 71, note (March 1916).

Batavia, vii·x; Wonosobo, iv, v [*Jacobson*]; Salatiga ii, v [*v. Leeuwen*]; Tjibodas, Java. Fort de Kok, Sumatra, x, xi; Padang, Sumatra [both *Jacobson*]. Types in the Amsterdam Museum.

E. maculifera De Meij.

Evaza maculifera, de Meij., *Tijd. v. Ent.* LVI, 10 ♂ ♀ (March 1914), and LVIII, Supp. 15 (March 1916).

Gunung Ungarn, ix; Wonosobo, iv; Nongkonjadjar, i; Gunung Gedeh, iii [all Java and *Jacobson*]. Sinabang, Simalur Is., ii; Sibigo, Simalur Is., Sumatra, viii [*Jacobson*]. Types in the Amsterdam Museum.

E. kerteszi de Meij.

Evaza kerteszi, de Meij., *Tijd. v. Ent.* LVI, 11, ♂ (March 1914).

Gunung Gedeh, Java, 1500--2000 metres, vi [*Koningsberger*]. The unique type in the Amsterdam Museum.

E. flavoscutellata Ender.

Evaza flaviscutellata, Ender., *Zool. Anz.* XLIII, 294, ♀ (1914).

Soekaranda, Sumatra [*Dohrn*]. Unique type in the Stettin Zoological Museum.

E. discolor de Meij.

Evaza discolor, de Meij., *Tijd. v. Ent.* LVIII, Supp. 15, ♂ ♀ (March 1916).

Sinabang, Simalar Is., Sumatra, viii [*Jacobson*]. Types in the Amsterdam Museum.

E. de meijeri, nom. nov.

Evaza pallipes, de Meij. (*nec* Big.), *Tijd. v. Ent.* LVIII, Supp. 16, ♀ and 71, note (March 1916).

Sinabang, Simalur Is , Sumatra, Fort de Kok, Sumatra, xi [both *Jacobson*]. Types in Amsterdam Museum.

E. nigripennis Kert.

Evaza nigripennis, Kert., *Ann. Mus. Hung.* VII, 372, ♂ (1909).

Kosempo, Formosa, iv and vi·08. Types in the Hungarian Museum. Kertesz describes the ♀ (*loc. cit.* XII, 557) and records both sexes from Toyenmongai, Formosa.

E. formosana Kert.

Evaza formosana, Kert., *Ann. Mus. Hung.* XII, 556, ♂ ♀ (1914.)

Toyenmongai, Formosa, many of both sexes. Types in the Hungarian Museum.

Genus Trichochaeta Big.

Ann. Soc. Ent. Fran. (5) VIII, Bull. xxii (1878).
GENOTYPE: *T. nemoteloides*, sp. nov., *loc. cit.*
Trichochaeta, Kert., *Ann. Mus. Hung.* VI, 339, redescr. (1908).

This genus is quite a valid one, differing from its allies, *Tinda*, *Evaza* and *Rosapha* by the head being nearly horizontal and flattened, and by a well produced subconical stout frons, well arched and elevated much above the level of the eyes, about as long as the first two antennal joints.

T. recedens Walk.

Tinda recedens, Walk., *Proc. Linn. Soc. Lond.* V 233 (1861).
Salduba scapularis, Walk, *loc. cit.* V, 272 (1861).
Salduba scapularis, Ost. Sack., *Ann. Mus. Gen.* XVI, 412 (1882).
Trichochaeta nemoteloides, Big., *Ann. Soc. Ent. Fran.* (5) VIII, Bull. xxii, ♀ (1878); (5) IX, 191 (1879).
Trichochaeta nemoteloides, Kert., *Ann. Mus. Hung.* VI, 341, pl. viii, 3 head, front view (1908).

Papua and Batjan.

REDESCRIPTION.

♂ *Head.* Eyes bare, closely contiguous from the moderate sized vertical triangle to the produced frons, coffee coloured, upper facets much larger than lower ones but not sharply demarcated; vertex occupied almost wholly by the black, well raised ocellar triangle, bare except for a few black hairs on extreme vertex; ocelli brownish translucent, leaving a very small vertical triangle. Frons produced forward diagonally to a distance equal to the length of the first two antennal joints, shining black, smooth, bare, deeply grooved longitudinally in middle. Antennal 1st and 2nd joints subequal, short, cylindrical, with bristly hairs, 3rd shortly oval, as long as 2nd, indistinctly annulated, all joints brown orange; style apparently very slender and visible through the long dense black pubescence covering it, about as long as the antennae. Face practically horizontal, small, proboscis and palpi moderately long, brown, with a little pale pubescence. No occipital band.

Thorax shining black, with scutellum, together a little longer than wide, dorsum broadest behind slightly arched, smooth but with microscopic black hairs: scutellum semicircular, similarly clothed; four rather short, brownish yellow bare spines. Pleura black, with a little very short and sparse pale pubescence, demarcated from dorsum by a well defined ligamentous line.

Abdomen barely longer or broader than thorax, shining black, with microscopic black bristles and a little red brown pubescence towards side margins and tip. Belly black, with fine red brown hairs.

Legs orange brown, base of fore coxae blackish, fore tibiae and tarsi darker brown, posterior tarsi yellowish: pubescence of legs pale and inconspicuous but a little longer fine hair below femora.

Wings brownish grey, from stigmatic region to tips darker brown; halteres blackish. Long. 7–8 mm.

Redescribed from the type and a second ♂ from Dorei, New Guinea, both in the British Museum. The type ♂ of *Salduba scapularis* from Batjan is also there and is conspecific, the synonymy

having been noted in the collection by Major Austen many years ago. *Trichochaeta nemoteloides*, the type of which I have examined, is apparently conspecific, the antennae appearing slightly thicker, and the 3rd joint perhaps a trifle longer.

Lophoteles Loew.

Berl. Ent. Zeits. II, 110 (1858).

GENOTYPE: *L. plumula*, sp. nov., *loc. cit.*

Lophoteles, Lw. *nec* Ender., Kert., *Ann. Mus. Hung.* XII, 510, redesc. (1914)

L. plumula Loew.

Lophoteles plumula, Loew, *Berl. Ent, Zeits.* II, 111, pl. i, 16–18 (1858).

Lephoteles plumula, Ender, *Zool. Anz.* XLIII, 309, fig. 14, antenna, 15, wing.

Lophoteles plumula, Kert., *Ann. Mus. Hung.* XII, 513, redesc. ♂ ♀ fig. 41, head, ♂ profile, 42, head, ♀ profile, 43, wing (1914).

Salduba exigua, Wulp, *Term. Fuzet.* XXI, 413, pl. xx, 3 (1898), and *Tijd. v. Ent.* XLII, 47 (1899).

Salduba exigua, Brun., *Rec. Ind. Mus.* I, 96, note (1907).

L. plumula was described from the Radak Isles. Wulp records 1 ♂ from Erima, Astrolabe Bay, Papua 1896 [*Biro*]. Type of *S. exigua* in Hungarian Museum. One ♂, 2 ♀ ♀ in British Museum from Mahé, Seychelle Is., 1868–69, identified by Dr. Kertesz. Also recorded from Silhovette, another of these Islands. Matapi, New Britain, 8·xii·1900 [*Biro*]. Enderlein's interpretation of this genus is incorrect according to Kertesz.

L. fascipennis Kert.

Lophoteles fascipennis, Kert., *Ann. Mus. Hung.* XII, 514, fig. 44, wing (1914).

One ♀, Papua. Type in the Hungarian Museum.

Genus Glochinomyia Kert.

Ann. Mus. Hung. XIV 140 (1916).

GENOTYPE: *G. albiseta*, sp. nov., *loc. cit.*

Differing from *Lophoteles* by the long, finely pubescent arista; and by the 4-spined scutellum, of which the middle pair of spines are very long.

G. albiseta Kert.

Glochinomyia albiseta, Kert., *Ann. Mus. Hung.* XIV, 140, ♂ fig. 1, head, ♂ profile (1916).

British New Guinea. Unique ♂ type in the Hungarian Museum.

Genus Salduba Walk.

Proc. Linn. Soc. Lond. III, 79 (1859).

GENOTYPE: *S. diphysoides*, sp. nov., *loc. cit.*

Salduba, Kert., *Ann. Mus. Hung.* VI, 348, copious notes, genus redescr. 350, tab. spp, 351 (1908).

Enoplomyia, Big., *Ann. Soc. Ent. Fran.* (5) VIII, Bull. xxxv (*Euplomyia*) (1878), and IX, 191 (*Enoplomyia*) (1879).

Genotype: *E. cothurnata*, sp. nov., *loc. cit.*

Generic characters. *Head* as broad as thorax, rounded in front; frons and face nearly flush with eyes, with nearly parallel sides. Eyes in ♂ contiguous for some distance, all facets practically of uniform size, in ♀ eyes wide apart. Antennae placed at middle of head in profile, each seated on a separate slight prominence; 1st and 2nd joints short, 2nd extending over inner side of 3rd like a finger (as in *Ptecticus*); 3rd elongate, cylindrical, about as long as 1st and 2nd together, style long, twice as long as 3rd joint, with dense, short pubescence.

Thorax, apart from scutellum, twice as long as broad, gradually widening hindwards, moderately arched; scutellum unspined, rather elongate, with rounded hind margin.

Abdomen a little longer than thorax and scutellum together, cylindrical, distinctly narrower than thorax, 5 segmented; 1st and (generally) last joints rather shorter, the rest subequal.

Legs longer than usual, especially femora, which are distinctly slender; hind femora relatively longer still, more or less thickened towards tips and with a row of small spines on underside. Metatarsi as long as or longer than remaining four tarsal joints; hind metatarsi distinctly swollen, middle metatarsi thinner than those of fore legs.

Wings with normal venation, as long as or a little longer than abdomen.

Redescribed from the type and other species in the British Museum.

Table of Species.

1.	Frons in middle, on outer side of antennae with a process	2.
	Frons without such process	4.
2.	Hind femora with two rows of spines (10 in each) on under side	*maxima* Kert.
	Hind femora without spines below	3.
3.	Long. 8½ mm.	*austeni* Kert.
	Long. 4¾ to 6½ mm.	*inermis* Kert.
4.	Dorsum of thorax with four broad stripes of gold tomentum or very short, depressed pubescence; i.e. one on each extreme side margin and a pair of median ones (the latter possibly in individuals united) from anterior to posterior margins, and extended to the scutellum which is uniformly covered with similar vestiture ...	5.
	Dorsum of thorax without such stripes	6.
5.	Hind femora spined on underside	*diphysoides* Walk.
	Hind femora unspined	*confusa* Kert.
6.	Antennal style black on basal half, white on apical half	*elegans* Kert.
	Antennal style wholly black	7.
7.	Wings rather pale grey, veins and stigma indefinitely suffused	*areolaris* Walk.
	Wings uniformly dark brown	*lugubris* Walk.

S. diphysoides Walk.

Salduba diphysoides, Walk., *Proc. Linn. Soc. Lond.* III, 79, ♂ (1859).
Salduba diphysoides, Kert., *Ann. Mus. Hung.* VI, 362, ♂ ♀ (1908).

Salduba hilaris, Walk., *Proc. Linn. Soc. Lond.* V, 271, ♂ ♀ (1860).
Euplomyia cothurnata, Big., *Ann. Soc. Ent. Fran.* (5) VIII, Bull. xxxv (1878).
Enoplomyia cothurnata, *id.*, *loc. cit.* (5) IX, 191 (1879).
Salduba cothurnata, Kert., *Ann. Mus. Hung.* VI, 359, ♀ pl. viii, 4, head, profile (1908).

REDESCRIPTION.

♀ *Head* black. Frons and face with parallel sides, about 1/4 of head at level of antennae, shining black, practically bare; face with a little snow white tomentum on eye margins: ocellar triangle small, barely raised, ocelli pale: antennae black, 3rd joint more or less yellowish.

Thorax black; a pair of stripes of pale gold pubescence in median line from just behind anterior margin to hind margin, and a much brighter similar gold pubescent strip from shoulder to suture, placed on extreme edge of dorsum. A similar perpendicular stripe on mesopleura; humeri and a spot in front of wing base shining black; pleura and scutellum black, with short pale gold yellow pubescence.

Abdomen black, with microscopic bristly yellow hairs and a little longer yellowish hair on 4th and 5th segments. Belly black, shining, with short, sparse white hairs.

Legs long and slender; coxae shining black, bare; anterior femora and tibiae orange yellow; base of femora rather paler; hind femora pale yellow at base, more orange in middle part and more or less narrowly black at tips. Hind tibiae all shining black; all tarsi whitish, last three joints brown or black.

Wings nearly clear, distinctly longer than abdomen; veins very distinct, blackish brown, halteres yellowish. Long. 10–11 mm.

Redescribed from a ♀ of *diphysoides* (not the type), named by Walker, and also from his type ♀ of *hilaris* which is obviously conspecific (as noted some years ago by Major Austen in MS.), both in the British Museum in indifferent condition.

The exact location of Walker's type is unknown. Bigot's *Enoplomyia cothurnata* from his description agrees in every particular. It was from Batchian. Kertesz records a specimen under Bigot's specific name from Simbang, Huon Gulf, Papua [*Biro*].

S. areolaris Walk.

Salduba areolaris, Walk., *Proc. Linn. Soc. Lond.* VII, 204. ♂ (1860).

Mysol. The type ♂, the only specimen available, is in indifferent condition.

Head black, frontal triangle with a little white tomentum. Antennae black, 3rd joint dull red brown, a little paler on inner side. Thorax black, with very short, depressed, pale golden yellow pubescence. Abdomen a little broader hindwards, microscopically punctate, a little very sparse pale pubescence towards tip; belly shining black, with a little longer whitish pubescence.

Legs with coxae black; anterior femora orange yellow, brownish towards tips, especially middle pair; hind pair dark brown, basal third yellowish. Fore tibiae brownish yellow, middle pair a little darker at tip, hind pair wholly black: tarsi whitish, last three or four joints blackish brown. Wings pale grey, veins and stigma blackish brown; halteres yellowish. Long. 9 mm.

The abdomen is not well described by Walker as "clavate," but it is true that the sides are not quite so linear as in the other species. He also says it is "allied to *hilaris* and *diphysoides*." It is quite distinct from *diphysoides* by the absence of the very conspicuous yellow tomentose stripes on the thorax and by the much clearer ground colour to the wings.

S. lugubris Walk.

Salduba lugubris, Walk., *Proc. Linn. Soc. Lond.* V, 271, ♂ (1861).
Salduba lugubris, Kert., *Ann. Mus. Hung.* VI, 354, ♂ pl. viii, 7, head in profile (1908).
S. singularis, Walk., *Proc. Linn. Soc. Lond.* V, 272, ♂ (1862).
S. singularis, Ost. Sack., *Ann Mus. Gen.* XVI, 412, notes (1881).
S. singularis, Brun., *Rec. Ind. Mus.* I, 95, notes (1907).
S. singularis, Kert., *Ann., Mus. Hung.* VI, 354 (1908).
Salduba gradiens, Walk., *Proc. Linn. Soc. Lond.* VII, 203, ♀ (1864).
Salduba gradiens, Ost. Sack., *Ann. Mus. Gen.* XVI, 412, note (1881).
Salduba gradiens, Wulp, *Term. Fuzet*, 412, note, pl. xx, 1 *a* (1898).
Salduba gradiens, Brun., *Rec. Ind. Mus.* I, 96, note (1907).
Salduba gradiens, Kert., *Ann. Mus. Hung.* VI, 356, ♂ ♀ pl. viii 11, head in profile (1908).

Batjan, Ramoi, Papua, ii·75 [*Beccari*].

REDESCRIPTION.

♂ ♀ *Head.* Eyes in ♂ practically contiguous for a barely appreciable distance; vertical triangle elongate, shining black; ocellar triangle rather long, the pale ocelli well separated. Antennae black, 3rd joint bright orange; frontal triangle small, shining black, with snow white tomentum on each side; face widening rapidly, black; eye margins on upper part very narrowly snow white, on lower part more broadly so, tomentose. Proboscis rather large; palpi small, cylindrical, half as long as proboscis, all black; occiput black.

Thorax black, wholly covered with almost microscopic pale yellow pubescence; pleura and scutellum similar.

Abdomen black, microscopically punctate, a little grey pubescence towards hinder part; belly black, apparently similar.

Legs: (lugubris), femora moderately dark brown, middle pair more yellowish at base, hind pair black below at tip; tibiae dark brown, fore pair rather yellowish about middle of hinder side, middle pair with a broad yellow ring there, hind pair with reddish brown middle part and also narrowly so coloured at base; all tarsi whitish yellow, last three joints dark brown. In *singularis*, coxae blackish brown, with a little pale pubescence; anterior femora on basal two-

thirds brownish yellow ; middle pair a little paler, hind pair brownish orange except about apical sixth black, the colour broader below, and a black streak on basal two-thirds on underside which also bears a row of minute spines. Tibiae black, posterior pairs with a broad yellow ring in middle. Tarsi whitish yellow, last three joints blackish brown ; middle metatarsi more slender than, and hind metatarsi thicker than fore metatarsi. Pubescence of legs pale and short.

Wings uniformly dark brown ; halteres blackish brown. Long 9–10 mm.

Redescribed from ♀ of *lugubris* and the type ♂ of *singularis*, both in bad condition but obviously conspecific in spite of the slightly different colouration of the legs. The identity of these two forms was noted in the British Museum collection some years ago by Major Austen.

The following notes are gleaned from the type of *S. gradiens*, which is in bad condition.

♀ Frons shining black ; face bare, broader than frons, side margins extremely narrowly white. Antennae missing, the two small basal prominences very distinct, dark brown. Dorsum of thorax and scutellum with microscopic red brown bristly hairs ; pleura with a little grey pubescence here and there. Abdomen microscopically punctate, a little greyish pubescence towards tip ; belly shining black, with a little longer whitish pubescence. Legs brownish orange, coxae black, with a little grey pubescence ; fore tibiae blackish brown, posterior pairs broadly brown at base and tip. All metatarsi whitish yellow, 2nd joint yellow at base on fore legs, and all yellow on middle legs ; remainder of tarsi brown. Wings rather dark brown. Long. 8 mm.

A second (headless) specimen in the British Museum from Mysol is also in bad condition. The species in my opinion is probably synonymous with *S. lugubris*, as the differences of colouration in the legs are the only obvious ones and they appear to be variable.

As both *S. singularis* and *gradiens* the species is recorded by Osten Sacken with a doubt from Ramoi, Papua, ii·75, one ♂, [*Beccari*], and Wulp recorded it from Erima, Astrolabe Bay, Papua, one ♀.

S. maxima Kert.

Salduba maxima, Kert., *Ann. Mus. Hung.* VI, 352, pl. viii, 5, head profile (1908).

Simbang, Huon Gulf, Papua, 1 ♂. Type in the Hungarian Museum.

S. austeni Kert.

Salduba austeni, Kert., *Ann. Mus. Hung.* VI, 353, ♂ pl. viii, 10, head, profile (1908).

Kinigunang, New Pomerania, one ♂ Type in the Hungarian Museum.

S. confusa Kert.

Salduba confusa, Kert., *Ann. Mus. Hung.* VI, 357, ♀, pl. vii,[1] 2 wing, pt. viii, 9, head, profile (1908).

Erima, Astrolabe Bay Papua, x·96 2 ♀ ♀; [*Biro*]. This species has the facies of the Asilid *Dioctria lata* Lw. Type in the Hungarian Museum.

S. inermis Kert.

Salduba inermis, Kert., *Ann. Mus. Hung.* VI, 360, ♀ pl. viii, 8, head, profile (1908).

Sattelberg, Huon Gulf, Papua, 1899, 2 ♀ ♀ [*Biro*]. Type in the Hungarian Museum.

S. elegans Kert.

Salduba elegans, Kert., *Ann. Mus. Hung.* VI, 361, ♀, pl. viii, 6 head profile, 12 head from above (1908).
Salduba elegans, de Meij, *Tijd. v. Ent.* LVIII, 106 (1915).

Type in the Hungarian Museum.
Between Biwak and Hussin, Papua, vii, one ♀.

Genus Saldubella Kert.

Ann. Mus. Hung. XIV, 123 (1916).
GENOTYPE: *Salduba signatipennis* Wulp, by original designation.

This genus differs from *Salduba* mainly in the 3rd joint of the antennae not being produced finger-like over the inner side of the 3rd, and is quite valid.

S. signatipennis Wulp.

Salduba signatipennis, Wulp, *Term. Fuzet.* XXI, 412, ♂ ♀ pl. xx, 2, head, 2*a*, wing (1898).
Salduba signatipennis, *id. Tijd. v. Ent.* XLII, 47 (1899).
Saldubella signatipennis, Kert., *Ann. Mus. Hung.* XIV, 144. fig. 2, head, profile; 3, wing (1916).

Friedrich Wilhelmshafen, Papua, ♂ ♀ Types in the Hungarian Museum.

S. yombae Kert.

Saldubella yombae, Kert., *Ann. Mus. Hung.* XIV, 145, ♀ (1916).

Yomba, near Friedrich Wilhelmshafen, Papua [Biro].

Subfamily CLITELLARINAE.

TABLE OF GENERA.

1.	Head flattened, almost horizontal in profile; much produced forwards	*Coenacephala* Wulp.
	Head not flattened perpendicular or nearly so ...	2.
2.	Epistome produced forwards, distinctly snout-like ...	*Nemotelus* Geoff.
	Epistome not snout-like	3.

[1] Incorrectly given as pl. viii.

3.	Thorax with a strong side spine	4.
	Thorax without such spine	5.
4.	Antennal style bare	*Ephippium* Latr.
	Antennal style thickly and conspicuously pilose ...	*Negritomyia* Big.
5.	Scutellum 2-spined	6.
	Scutellum unspined.	8.
6.	3rd antennal joint very long, filiform ...	*Ampsalis* Walk.
	3rd antennal joint elongale or conical, not filiform	7.
7.	3rd antennal joint with distinct style ...	*Clitellaria* Mg.
	3rd antennal joint with arista	*Oxycera* Mg.
8.	Abdomen globose, much broader than thorax ...	*Ruba* Walk.
	Abdomen elliptical or linear	9.
9.	Antennae not longer than head, 3rd joint conical ...	10.
	Antennae longer than head, 3rd joint very long almost filiform	11.
10.	Eyes pubescent; upper branch of 5th vein (apparent 4th veinlet from discal cell) arising from near (or actually from) 2nd basal cell	*Lasiopa* Brullé.
	Eyes bare; above vein arising distinctly from lower margin of discal cell	*Brachycara* Thorus.
11.	Abdomen linear, considerably longer than thorax, cylindrical or rather flattened	*Hermetia* Latr.
	Abdomen elliptical, barely longer than thorax ...	*Eudmeta* Wied.

Genus **Nemotelus** Geoff.

Hist. Nat. Ins. II, 542 (1764).

GENOTYPE: *Musca pantherina* L. by designation of Latreille.

N. albiventris Thoms.

Nemotelus albiventris, Thoms., *Eugen. Resa, Dipt.*, 462, ♂ (1868).

Manila.

Genus **Oxycera** Meig.

Illig. Mag. II, 265 (1803).

GENOTYPE: *Musca hypoleon* L. as *trilineata* F. by designation of Curtis 1833.

TABLE OF SPECIES.[1]

1.	Thorax (dorsum and pleura) with ground colour all black.	
	Thorax (dorsum and pleura) with ground colour yellow; three dorsal black stripes; long. 4½ mm.	*albomicaps* Brun.
2.	Abdomen all black	3.
	Abdomen not wholly black	4.
3.	Tibiae brown, hind pair with pale median ring; long. 6 mm.	*manens* Walk.
	Tibiae black, posterior pairs pale on about basal half; long. 4 mm.	*tibialis* de Meij.
4.	Abdomen black, with two large yellow spots on 3rd segment; spots also on 4th and 5th segments; long. 5 mm.	*signata* Brun.
	Abdomen all black except side margins of 4th and 5th segments rather narrowly pale; also abdomen tip pale and a yellow spot below wing base; long. 3⅓ mm. ...	*whitei*, sp. nov.

My *Oxycera indica* is synonymous with *Odontomyia minuta* F. Its facies is extremely *Oxycera*-like but the structure of the

[1] *O. excellens*, *O. fenestrata* Kert., and *O. apicalis* are not included in this table. This author gives a table of five species, including these two, in *Ann. Mus. Hung.* XII, 495.

antennae and the presence of the posterior cross-vein relegate it to the Stratiomyinae.

O. manens Walk.

Oxycera manens, Walk., *Proc. Linn. Soc. Lond.* IV, 96, ♂ ♀ (1860).

Makessar.

REDESCRIPTION.

♂ A nearly wholly black species. *Head.* The small frons and the face all black, with short greyish pubescence. Antennae and arista wholly orange yellow. Ocellar triangle well raised, occupying entire vertex, black, ocelli rather large, brownish; proboscis yellowish, with a little white pubescence; lower part of head with longer whitish pubescence; occiput black, with short white pubescence.

Thorax black; dorsum with short bright yellow pubescence; pleura with whitish pubescence; scutellum as dorsum, spines long, brownish yellow (missing in type).

Abdomen black, with short, inconspicuous yellowish or whitish pubescence; side margins on apical half with a trace of brown. Belly black, with short whitish pubescence.

Legs brownish yellow; posterior femora a little paler basally; tibiae brown, especially posterior pairs, an indistinct pale median ring on hind pair; fore tarsi wholly brown above, posterior metatarsi yellowish, remainder brown.

Wings clear; veins and stigma yellowish; halteres brownish yellow.

Redescribed from the type ♂ from Makessar and a second ♂ from Celebes, both in the British Museum, the type ♀ not being in the collection. There is nothing white and shining about the eyes, as Walker asserts, and his description of the legs is incorrect.

O. tibialis de Meij.

Oxycera tibialis, de Meij., *Tijd. v. Ent.* L, 230, ♀ (1907).

Semarang, Java, 1 ♀ [*Jacobson*]. Type in the Amsterdam Museum.

O. signata Brun.

Oxycera signata, Brun., *Faun. Brit. Ind., Dipt. Brachy.* I, 54, ♂ (1920).

Probably from Mussoorie, W. Himalayas, about 6000 ft. Type (unique) sent to British Museum.

O. albomicans Brun.

Oxycera albomicans, Brun., *Faun. Brit. Ind., Dipt. Brachy.* I, 55, ♀ (1820).

Two ♀ ♀, Abbottabad, N.W Frontier Prov., India, vi·1916 [*Fletcher*]. Type sent to British Museum, cotype in Pusa coll.

O. whitei, sp. nov.

♀ Ceylon. Long. about $3\frac{1}{3}$ mm

Very near *O. tibialis* de Meij. Differing by the side margins of the 4th and 5th abdominal segments being rather narrowly though conspicuously yellow; as is also the extreme tip of the abdomen, and by the presence of a rather small yellowish spot on the mesopleura just below and in front of wing base.

One ♀ in Mr. White's collection, taken by him at Matale, Ceylon, 20·iv·21.

O. apicalis Kert.

Hermione apicalis, Kert *Ann. Mus. Hung.* XII, 495, ♂ ♀ fig. 34, wing (1914).

Toyenmongai, Formosa, a single pair. Types in the Hungarian Museum.

O. excellens Kert.

Hermione excellens, Kert., *Ann. Mus. Hung.* XII, 497, ♀ (1914).

Kosempo, 20·iv·08 [*Sauter*]; Formosa. Type in the Hungarian Museum.

O. fenestrata Kert.

Hermione fenestrata, Kert., *Ann. Mus. Hung.* XII, 498, ♀ (1914).

Kosempo, Formosa; vi·1908 [*Sauter*]. Type in Hungarian Museum.

Genus Lasiopa Brullé.

Exped. Morée III 307 (1832).
GENOTYPE: *Lasiopa peleteria*, Brullé, sp. nov., *loc. cit.*, 308.

Lasiopa villosa F. var. himalayensis, Brun.

L. villosa var. *himalayensis*, Brun., *Rec. Ind. Mus.* I, 117, ♀ (1907).

Mussoorie, three ♀ ♀, May 12th and 31st, 1905, a ♂ and ♀ in British Museum from Mussoorie [*Middleton*]. Lichtwardt thinks this form a good species (*Deuts. Ent. Zeits.* 1909, p. 124).

Walker's three species *Cyclogaster radians*, *C. dctracta* and *C. infera* referred to *Lasiopa* by some authors belong to the Pachygastrinae; the former is a valid species and falls in *Aulana*, the other two are synonymous with *Wallacea argentea* Dol.

Genus Brachycara Thoms.

Eugen. Resa, Dipt. 460 (1868).
GENOTYPE: *B. ventralis* Thoms., the only species.

Kertesz removes the genus from the Stratiomyinae and places it here.

B. ventralis Thoms.

Brachycara ventralis, Thoms., *Eugen. Resa, Dipt.* 461, pl. ix, 4, full insect (1868).
Brachycara ventralis, Brun., *Rec. Ind. Mus*, I, 104, note (1907).

Ross Is. (Andamans), Seleo, Berlinhofen, Papua. Seychelles, a ♂ and ♀ in the British Museum.

Genus **Clitellaria** Mg.

Illig. Mag. 11, 265 (1803).

GENOTYPE: *Clitellaria dahlii* Mg., by designation of Bezzi.

The two species are differentiated thus:—

Thorax without any definite hair stripes, but with a darker median stripe surrounded by four spots arranged in a square	*heminopla*, Wied.
Thorax with two distinct stripes of short, golden brown hairs	*bistriata*, Brun.

C. heminopla Wied.

Clitellaria heminopla, Wied., *Zool. Mag.* I, 3, 30 (1819): *Auss. Zweifl.* II, 48 (1830).

Common throughout the greater part of the year in most parts of India except late November to early February inclusive. Calcutta, 18–24·xi·05; Meerut, 25·iv·05; 13–19·vii·05; Jhansi, 31·iii·05; Jullundur, 5·v·05; Lucknow, 7·ix·05 [all India and *Brunetii*]; Karachi, W India; Trincomalee, 18·ii·91; 12·vii·90; 19·viii·90; Trincomalee, Hot Wells, 23·viii·90; Colombo, 8·vi·91 [Ceylon and *Yerbury*]; South Shan States, Upper Burma, 4000 ft., ix·99 [*Bingham*]. Found in rotten stems of the papaya, plantain, wood-apple and in the bark of *Erythrissa* sp. It has been bred at the Pusa Agricultural Research Institute.

C. bistriata Brun.

Clitellaria bistriata, Brun., *Rec. Ind. Mus.* VII, 452, ♂ (1912).

Bhowali, Kumaon, W Himalayas, a single ♂, 5700 ft. [*Imms*]. Type in the Indian Museum.

Clitellaria varia, Walk. is made the type of a new genus, *Tetracantha*, by Enderlein. It belongs, however, to the Pachygastrinae.

Genus **Ruba**, Walk.

Proc. Linn. Soc. IV, 100 (1860).

GENOTYPE: *R. inflata*, Walk., sp. nov., *loc. cit.*, 101.

Ruba, Ender., *Zool. Anz.* XLIV, 21.

Thylacosoma, Sch. in Brauer, *Denks. K. Ac. Wiss. Wien.*, XLIV, 77 (1881).

TABLE OF SPECIES.

Abdomen wholly black	*opponens* Walk.
Abdomen all yellow.	
Legs wholly yellow	*inflata* Walk.
Hind tibiae with apical half black	*cincta*, sp. nov.
Hind tibiae wholly black	*fuscipennis* Ender.

R. inflata Walk.

Ruba inflata, Walk., *Proc. Linn. Soc.* IV, 101 (1860).

Ruba inflata, de Meij., *Tijd. v. Ent.* LIV, 269, note (1911).

Ruba inflata, Brun., *Rec. Ind. Mus.* I, 118, note (1907).
Thylacosoma amboinense, Sch. in Brauer, *Denks. K. Ac. Wiss. Wien.* XLIV, 77 (1881).
Eudmeta flavida Brun., *Rec. Ind. Mus.* VII, 454 (1912).
Eudmeta flavida Big., Brun., *loc. cit.* I, 123, *nom. nud.* in table (1907).

REDESCRIPTION.

♂ Whole body pale orange, with short, concolorous pubescence. Eyes closely contiguous for a considerable distance, vertex and frontal triangle very small and, with face, pale yellowish; palpi tips black, mouth a little deeper orange. Antennae orange yellowish, 1st and 2nd joints subequal, with a little stiff hair, 3rd about 1⅓ times as long as 1st and 2nd together, indistinctly annulated, elongate, cylindrical, slightly narrowed at tip, style black, nearly as long as 3rd joint, with two small basal joints all shortly pubescent.

Thorax and abdomen absolutely unmarked. Legs orange yellow to tips, pubescence of tarsi tips black. Wings pale yellow, distal half distinctly yellowish brown, the colour dying away gradually hindwards and inwards. Halteres orange yellow.

Redescribed from the type ♂ from Makessar and another ♂ from Celebes, both named by Walker.

Eudmeta flavida though figuring in my table of species in my first paper was overlooked in the text. It was one of Bigot's undescribed species in the Indian Museum in which there is a single ♂ from Margherita, Assam. It is absolutely identical with *Ruba inflata* Walk. I have a specimen from the Darjiling District taken by Mr. Stevens, and the species has been recorded with a doubt from Tandjong Morawa [*Hagen*].

R. opponens Walk.

Ruba opponens, Walk., *Proc. Linn. Soc. Lond.* VIII, 107, ♂ (1865).
Ruba opponens, Wulp, *Term. Fuzet.* XXI, 415, note and ♀ descr. (1868).

REDESCRIPTION.

♂. Head, thorax and scutellum pale brownish yellow, with distinct, moderately dense bright yellow pubescence; labella a little more orange; last joint of palpi black. Antennae as in *inflata* except tip of 3rd joint black as well as style wholly black. Eyes closely contiguous for a considerable distance, pale brown, the lower facets not clearly demarcated from upper ones. Inner and lower eye margins narrowly edged with white; ocellar triangle well raised, black, with black pubescence; ocelli comparatively large, whitish.

Abdomen above and below wholly black, with short whitish pubescence. Legs orange yellowish; posterior tibiae and all tarsi brown, becoming darker towards tips; pubescence of legs pale yellow. Wings moderately dark brown anteriorly, fading away to grey hindwards, halteres yellowish. Long. 6½ mm.

Redescribed from two ♂ ♂ from Papua (Brit. Mus.), one specimen having the wings much paler, the anterior part being at most dark grey, fading posteriorly.

Walker described the ♂ only, from Papua; Wulp notes the ♀ from Friedrich Wilhelmshafen, Papua.

R. fuscipennis Ender.

Ruba fuscipennis, Ender., *Zool. Anz.* XLIV, 22 (1914).

Sapit, Lombok, 2000 ft., v, vi·96, 1 ♂, 1 ♀ [*Fruhstorfer*]. Type in the Stettin Zoological Museum.

R. cincta, sp. nov.

Ruba inflata, Brun., *nec* Walk., *Faun. Brit. Ind. Dipt. Brachy.* 49, ♀ (1820).

My previous identification of Walker's *R. inflata* has been incorrect, the ♀ noted by me (*Rec. Ind. Mus.* I, 118) and the species described as such in my Fauna volume representing an undescribed form. A ♂ of this new species is in the British Museum from Darjiling, iv·01 [*Bingham*]. The type must be the ♀ specimen in the Indian Museum from Ghumti, Darjiling Distr., 1000 ft., vii·1911 [*Gravely*]. A second specimen from Kohima, Assam.

The ♂ has the eyes absolutely contiguous for a considerable distance, coffee brown above, the lower small facets very sharply demarcated, chocolate brown; vertex well raised, small, black; ocelli brown. The small frontal triangle and the face, under side of head, mouth border, palpi and occiput pale yellowish, with concolorous moderately long and dense pubescence; last palpal joint black. Antennae exactly as in *inflata* ♂ Thorax with no sign of dorsal stripe.[1] Hind tibiae as in the ♀, last joint of all tarsi whitish. In all else as in the ♀

Genus **Ephippium** Latr.

Gen. Crust. Ins. IV, 276 (1809).

GENOTYPE: *Stratiomys ephippium* F., by definite designation of Verrall (1909) though practically designated by Fabricius at erection of genus.

Ephippiomyia, Bezzi, *Zeits. Hym. Dipt.* II, 191 (1902), nom. nov. for *Ephippium*, preocc. Bolton in Moll. 1798.

Engonia, Brauer, *Denks. K. Ac. Wiss. Wien.* XLIV (188).

GENOTYPE: *Stratiomys bilineatum* F., by original designation.

TABLE OF SPECIES.

3rd antennal joint stylate	*stylatum*, sp. nov.
3rd antennal joint normal.	
Wings absolutely clear; small species ...	*nigerrimum* Dol.
Wings wholly blackish brown, except costal cell and narrowly at base	*bilineatum* F.

[1] On closer inspection the traces of the dorsal stripe noted by me in the "Fauna" description appear to be an irregular and individual darkening.

Wings grey, with distinct black markings.
Thorax and abdomen with spots or patches of fiery reddish pubescence ... ... *igniferum*, sp. nov.
Thorax and abdomen without any such coloured pubescence ... ... *cinereum* Dol.

E. bilineatum F.

Stratiomys bilineatum, F., *Antl.*, 79 (1805).
Ephippium bilineatum, Macq., *Dipt. Exot.* I, i, 191 (1838).
Ephippium bilineatum, Wulp., *Mid. Sum. Dipt.*, 14 (1881).
Ephippium bilineatum, Brun., *Rec. Ind. Mus.* I, 115, notes (1907).
Ephippiomyia bilineata de Meij., *Tijd. v. Ent.* LVIII, Supp. 70 (Mar. 1916).
Negritomyia bilineata, Wulp, *Notes Leyd. Mus.* VII, 59 (1885).
Clitellaria bivittata, Wied., *Auss. Zweifl.* II, 46 (? lapsus), (1830).
Ephippium angustum, Macq., *Hist. Nat. Dipt.* I, 252 (1834).
Rhaphiocera spinithorax, Macq., *Dipt. Exot.*, Supp. 3, 17, pl. i, 7 (1848).
Clitellaria tenebrica, Walk., *List. Dipt. Brit. Mus.* VII, 522 (1849).
Ephippium spinigerum, Dol., *Nat. Tijd. Ned. Ind.* X, 407, pl. ix, 2 (1856).

Apparently widely distributed in the East, extending from India, through the East India Islands to Japan. Singapore, Tenasserim, Semarang, i, viii; Buitenzorg; Djocjakata, ii; Depok, ii, iv, v; Srondol; Gunung Ungarn, Wonosobo, v [all Java and *Jacobson*]; Serdang [*Hagen*]; Palaboean, Preangar [*Corporaal*]; Air Njuruk, Dempo, viii; Fort de Kok, ii and xi; Air Tarbis, xii; Kalung xii; [all three locs. *Jacobson*]; Korinchi Valley, 3100 ft., iii·14; Korinchi Lake, 2450 ft., v, vi·14, Tandjong Ning, [*H. O. Forbes*, all Sumatra], Bukit Besar, Patani, Peninsular Siam, 2500 ft., 1·ix·01 [*Robinson* and *Annandale*]; Amboina, Gilolo.

E. cinereum Dol.

Odontomyia cinerea, Dol., *Nat. Tijd. Ned. Ind.* XIV, 403 (1857).
Ephippium cinereum, Ost. Sack., *Ann. Mus. Gen.* XVI, 411 (1882).

Body and legs all black. Eyes with white tomentum; face silvery white. Thorax black, with two indistinct, whitish longitudinal stripes; 3rd antennal joint with five annulations, of which the last two with short black hairs, the three first being brown. Scutellum and spines black, tips of latter brownish red. Abdomen flattened, dilated, steel blue, with white side spots and a longitudinal stripe towards tip. Posterior tibiae brownish. Wings clear, a brownish spot in neighbourhood of discal cell and another one towards tip of wing. Long. about 9 mm.

Probably a true *Ephippium* from Doleschall's observation that the abdomen is broad. The above notes are from the original description. Described from Amboina and apparently not seen since.

E. nigerrimum Dol.

Ephippium nigerrimum, Dol., *Nat. Tijd. Ned. Ind.* XVII, 81 (1858).

Black. Antennae blackish brown, as long as head. Thorax with short pubescence; scutellar spines very slender; halteres pale

green. Abdomen transversely oval, broader than thorax, very shining. Legs very short and slender; upper side black, remainder all yellowish brown. Wings wholly clear, veins brown. Long. about 6 mm.

The above notes from Doleschall's description. Probably a true *Ephippium*, judging from the broad abdomen. Easily recognized by its clear wings though not recorded since its inception.

Amboina, on a mountain, found in April.

E. stylatum, sp. nov.

♀ Kangra Valley. Long. about 7½ mm.

A shining, coal black species. *Head.* Eyes with short black pubescence. Frons and face distinctly widening from above downwards, fully one-third of head just above antennae; lower part of frons and all face with white, moderately long pubescence. A small snow-white hair spot on each side on lower part of frons, exactly at a spot where the eye margins appear slightly indented. Antennae black, 2nd joint barely half as long as 1st, 3rd with about the first four, perhaps five annulations indistinctly separable, the next annulation quite short and narrower, followed by the remainder of the style, not resolvable into annulation, considerably less pointed than in the other species and bearing a snow-white dust. Postocular borders rather broad; narrowing rapidly downwards.

Thorax. Dorsum and scutellum with short brownish pubescence; pleura with short, greyish white pubescence. Side spines very short; scutellar spines yellowish brown.

Abdomen oval, as long and as broad as thorax, with short whitish pubescence towards sides of segments, longer on basal part: remainder of dorsum with short, inconspicuous brownish pubescence. A short, median, longitudinal stripe of white pubescence at tip. Belly shining black, with very short whitish pubescence.

Legs black, knees very narrowly orange; posterior tarsi brownish orange, black towards tips; pubescence of legs whitish, that below fore tarsi yellowish brown, the tips of each joint orange.

Wings grey; stigma dark brown; a small brown cloud over discal cell, extending a little above and before it; halteres whitish.

Described from a unique ♀ in the British Museum from the Kangra Valley, 4500 ft., vi·99 [*Dudgeon*].

E. igniferum, sp. nov.

♂ Assam; Tenasserim. Long. 11–12 mm.

Head. Vertex occupied by the well raised ocellar triangle with blackish brown pubescence. Eyes closely contiguous for a considerable distance, with dense, dark brown pubescence. Head parts wholly black, with brown pubescence on frons and face, and

more greyish on proboscis and around mouth opening, and whitish on occiput. Face obviously produced into a blunt cone of medium size.

Thorax shining black, finely punctate; dorsum with fiery red brown pubescence which forms a distinct, conspicuous, moderately wide median stripe from anterior margin to suture, the pubescence sparser and less obvious on remainder of surface. In addition, some very short, similarly coloured pubescence running irregularly along side margins, suture and hind margin of dorsum. Pleura finely punctate, with very short whitish pubescence and some longer greyish or whitish pubescence in parts. Scutellum large, conspicuous, mainly dull orange brown, with brown pubescence; upper surface black, with dense black stiff pubescence and a short median stripe of short yellow hairs; spines bright red brown, tips shortly black.

Abdomen elongate, a little longer and not wider than thorax, barely narrower at base; shining black, with long stiff black and yellowish hairs, finely punctate. Dorsum with short black pubescence in centre and greyish pubescence towards sides, a little longer towards base, 2nd, 3rd and 4th segments towards side each with a successively larger patch of fiery reddish orange pubescence; 5th almost covered thus, except on hind margin which bears black pubescence. Belly black, with very short whitish pubescence.

Legs black, with mainly reddish brown pubescence, which is conspicuous below tarsi, middle tarsi brownish orange except tips.

Wings rather dark brownish grey; stigma and discal cell region a little darker brown. Extreme base of wing, more than basal half of both basal cells, basal part for some distance of 2nd and 3rd posterior cells, tips broadly of 2nd, 4th and 5th cells paler in colour, to a varying extent in individuals (being more extensive in type than in second specimen). Halteres yellowish.

Described from 2 ♂ ♂ in good condition in the British Museum, the type from Salween Hill Tracts, Tenasserim, i·98 [*Bingham*], the second specimen from Assam [*Cameron*]. The species approximates to *E. bilineatuus* F., but is readily recognized by the patches of fiery pubescence on the thorax and abdomen.

Genus **Negritomyia** Big.

Ann. Soc. Ent. Fran. (5) IX, 190 (descr.) (1879).
Id. loc. cit. VI, Bull. lxxiv, *nom. nud.* (1877).

GENOTYPE: *Ephippium maculipennis* Macq., by original designation.

Negritomyia, Brun., *Rec. Ind. Mus.* II, 114 (1907).
Engonia, Sch. in Brauer, *Denks. K. Ac. Wiss. Wien.* XLIV, 76 (1881), pt.
GENOTYPE: *E. aurata*, sp. nov., *loc. cit.*
Engonia, Ender., *Zool. Anz.* XLIV, 12, note (1914).

TABLE OF SPECIES.

Femora and tibiae all yellow; abdomen with conspicuous golden yellow hair spots ... ... *festinans* Walk.

Femora with at most basal half yellow; tibiae mainly black; abdomen with or without whitish (never yellow) hair spots.
  Wings wholly pale grey ... ... *responsalis* Walk.
  Wings with a large brown band and a more or less distinct large spot over anal cell.
    Basal half of femora pale ... ... *maculipennis* Macq.
    Femora wholly black ... ... *consobrina* Big.
Femora mainly black; only at base of former and tips of fore pair; also a ring on all femora yellow; tibiae mainly black ... ... *fulvicollis* Kert.

N. maculipennis Macq.

Ephippium maculipennis, Macq., *Dipt. Exot.*, Supp. 4, 54 (1849).
Ephippium maculipennis, Sch., *Nov. Reise*, 53 (1868).
Ephippium maculipennis, Ost. Sack., *Ann. Mus. Gen.* XVI, 410, ♂ ♀ (1881). and *Berl. Ent. Zeits.* XXVI, 99 (1882).
Ephippium maculipennis, Wulp, *Term. Fuzet.* XXI, 445 (1898).
Negritomyia maculipennis, Brun., *Rec. Ind. Mus.* VII, 451 ♀ redesc. (1912).
Ephippium albitarsis, Big., *Ann. Soc. Ent. Fran.* (5) IX, 207 (1879).
Ephippium albitarsis ?, Froggatt, *Proc. Linn. Soc. N.S. Wales*, XXI, 84, pl. ix, 12, 13 (1896).

Kandy, Ceylon, viii·08 [*Green*]; Heneratgoda, 10·v·92, 16·vi·91, Haragam, i·vi·92, Velverry, 18·i·91, [all Ceylon and *Yerbury*]; Ramoi and Dorei Hum (both Papua); Ternate, 1875 [*Beccari*]; Erima, Papua; Manokwari, Papua, v, Alkmaar, Papua, ii; Manila, several ♂ ♂ ♀ ♀ Ceram.

Type in Paris Museum.

N maculipennis Loew, described from Guinea, appears to be the same species, judging from four specimens in the British Museum under this name. Loew makes no mention of Macquart's species but he appears by a coincidence to have selected the same specific name. Apparently the species is widely distributed in the East.

N. consobrina Big.

Ephippium consobrina, Big., *Ann. Soc. Ent. Fran.* (5) IX, 208, ♂ (1879).
Egnonia consobrina, Sharp in Willey, *Zool. Res.* IV, 389 (1900).

Papua. Type in Bigot's collection. Two ♂ ♂ in British Museum from Papua, one from Ceram and a ♀ from Darwin, North Australia.

This is a good species, characterised by the wholly black femora. Other lesser characters are the subapical wing suffusion, limited proximally by the discal cell, extending broadly to the costa, around fork of 3rd vein, and fading away hindwards in the 4th posterior cell. The stigmatic region is narrowly brown, the base of the 5th posterior cell and both branches of the 5th vein are narrowly but distinctly brownish.

N. festinans Walk.

Clitellaria festinans, Walk., *Proc. Linn. Soc.* IV, 95, ♂ (1860).
Ephippium festinans, Ost. Sack., *Ann. Mus. Gen.* XVI, 410, ♂ ♀ (1882).
Ephippium festinans, Ost. Sack., *Berl. Ent. Zeits.* XXVI, 373 (1882).

Clitellaria gavisum, Walk., *Proc. Linn. Soc. Lond.* IV, 95 (1860).
Engonia aurata, Sch. in Brauer, *Denks. K. Ac. Wiss. Wien.* XLIV, 76 (1881).

Makessar; Amboina; Kandari, Celebes, iv·74 [*Beccari*] Walker notes what he considers the ♀

REDESCRIPTION.

♂ *Head.* Eyes with dense brown pubescence; vertex almost wholly occupied by ocelli with a little brown hair; frontal triangle shining black, with bright yellow pubescence on upper part and at sides. Antennae orange brown, style black. Face with rather dense, bright yellow pubescence; proboscis dull orange, bearing with lower part of head also, a little grey pusbescence. Occiput black, on postocular margin, a narrow whitish margin to the eyes themselves behind lower half.

Thorax black; a pair of moderately broad longitudinal stripes of bright yellow pubescence from anterior to hind margin, well separated, a little widened at each end; some similar pubescence at ends of suture, narrowly on side margins at that spot and on hind corners of dorsum contiguous to dorsal stripes; rest of dorsum with brownish grey pubescence. Pleura with short yellow pubescence, much thicker and longer in the form of a broad vertical stripe in front of wing base. Scutellum with brown pubescence on dorsum and yellow pubescence on hind margin; spines with yellow pubescence and orange tips.

Abdomen black, 2nd segment with considerable yellow pubescence towards sides; 3rd and 4th with a large triangular yellow hair spot in middle of hind margin and one on each hind corner; 5th with a more elongate triangular similar spot reaching nearly to anterior margin. Pubescence on rest of dorsum brown. Belly black, with short yellow pubescence.

Legs. Coxae black, with a little greyish pubescence; fore pair with a conspicuous bare shining black spot in front at base, tips dull orange; hinder side of hind pair similarly coloured; remainder of legs orange yellow, with short yellow pubescence; tarsi tips a little darker.

Wings distinctly yellow anteriorly up to beyond discal cell, fading hindwards to grey; a brown apical suffusion on remainder of wing, extending hindwards filling 2nd and 3rd posterior cells except at bases; 5th vein narrowly brown infuscated. Halteres dull orange.

Redescribed from the type ♂ from Makessar and a second ♂ from Celebes, both in the British Museum, the ♀ which Walker queried as being that sex of *festinans* being apparently not in that collection.

N. responsalis Walk.

Clitellaria responsalis, Walk., *Proc. Linn. Soc. Lond.* VIII, 106 (1865).

REDESCRIPTION.

♀ Body shining black. Upper half of frons with almost parallel sides, thence gradually widening to about one-fourth of

head at greatest width of head; vertex bare; ocellar triangle small, inconspicuous, ocelli whitish; frons below vertex with whitish pubescence, below which again is a bare space, below which again is a spot of white pubescence on each side, contiguous to eye margins but not meeting in median line, rest of space just above antennae bare. Face gradually widening from antennae, with rather conspicuous moderately long white pubescence. Proboscis and palpi brownish. Antennae with 1st and 2nd joints black, 3rd pale brown, pale yellow on inner side, with three annulations, style black. Eyes and occipital margin with short white pubescence.

Thorax black, with very short whitish pubescence; leaving four comparatively bare spaces, two in front of and two behind suture. Pleura and scutellum with similar whitish pubescence, spines mainly brown, black at base.

Abdomen black, with short whitish pubescence which is longer and in the form of irregularly shaped spots towards sides of first four segments, and also forming a median line on hinder half of abdomen, most conspicuous on last segment. Belly black, with short white pubescence.

Legs. About basal half of femora and of tibiae pale brown, remainder blackish; two basal joints of middle tarsi and hind metatarsi yellowish white, remainder of tarsi brownish black.

Wings pale grey, without suffusion; halteres whitish.

Long. 8 mm. Type in fair condition in British Museum except for the slightly torn wings. A second ♀ in the same collection is conspecific, coming probably from Mysol. In this the wing is a perceptible shade darker grey than in the type, the discal cell appearing by comparison clearer. Long. 6½ mm.

A ♂ in indifferent condition (Brit. Mus.) from Sula with a manuscript name in Walker's handwriting is probably of the same species. It differs only in having all black femora and in being a little larger.

N. fulvicollis Kert.

Negritomyia fulvicollis, Kert., *Ann. Mus. Hung.* XII, 514, ♂ ♀ (1914).

Kosempo, Koshun, Kankau, Pilam, Tapani, Taihorin, Suiharyo, Sokotsu, all Formosa, mostly iii to v, remainder vi to x. Types in the Hungarian Museum.

Genus Hermetia Latr.

Hist. Crust. Ins. XIV, 338 (1805).
GENOTYPE: *Musca illucens*, L., by original designation.
Hermetia, Brun., *Fauna Brit. Ind., Dipt. Brachy.* I, 39 (1920).
Thorasena, Macq., *Dipt. Exot.* I, i, 178 (1838).
GENOTYPE: *Hermetia pectoralis* W., by original designation.

TABLE OF SPECIES.

1. Scutellum unspined ... ... 2.
   Scutellum with two spines ... ... *armata* Wulp.
2. Abdomen wholly red except 2nd segment all whitish 3.

	Abdomen never wholly red; mainly black, but apical half sometimes reddish in individuals ...	4.
3.	Thorax with several conspicuous yellow callus-like spots	*borneensis*, sp. nov.
	Thorax without such spots	*rufiventris* Walk.
4.	Thorax without conspicuous yellow spots on either dorsum or pleura	5.
	Thorax with such spots on dorsum, pleura or on both	8.
5.	Frons wholly shining black; (hind margins of abdominal segments narrowly pale)	*albitarsis* Macq.
	Frons with yellow markings	6.
6.	Abdomen wholly unmarked	7.
	Abdomen with a pair of yellow spots on 1st segment	*nigra* de Meij.
7.	Face black except eye margins narrowly pale and an elongate space below antennae; abdomen black. Eyes shortly and densely pubescent	*remittens* Walk.
	Face uniformly dull yellowish; abdomen dull brownish violet. Eyes almost bare	*malayana*, sp. nov.
8.	Sides of thoracic dorsum *with* a yellow stripe as well as one on pleura	9.
	Sides of thoracic dorsum *without* yellow stripe; pleura with a vertical yellow spot	10.
9.	Abdominal 2nd segment whitish, black in middle and at sides; femora red on under side (no yellow spot on anterior margin of thorax contiguous to humeri)	*laglaizei* Big.
	Abdominal ground colour black; 2nd segment never whitish, last segments may be reddish in individuals	11.
10.	Antennae black; 2nd abdominal segment whitish, with black median stripe and side margins; rest of abdomen black with white pubescent hind margins to 3rd and 4th segments; yellow longitudinal spot on 5th segment	*inflata* Walk.
	Antennae reddish; 2nd abdominal segment green, marked as in *inflata*; hind third of 3rd and 4th segments dirty yellow, sides greenish, 5th segment (presumably) without yellow spot	*virescens* Ender.
11.	No yellow spot on anterior margin of thorax contiguous to humeral spot	*cerioides* Walk.
	Such spot present	*laeta* de Meij.

H. armata Wulp.

Hermetia armata, Wulp, *Notes Leyd. Mus.* VII, 68, ♀ (1885).

Morotai Is. [*Bernstein*].

The unspined scutellum easily separates this species from all others.

H. rufiventris Walk.

Hermetia rufiventris, Walk., *Proc. Linn. Soc. Lond.* V 145, ♀ (1861).

REDESCRIPTION.

Sex uncertain. *Head.* Frons and face gradually widening from above downwards, about one-third of head in width at level of antennae, dull yellowish; former with blackish brown, rather dense pubescence, and latter with similar pubescence with which is mixed some whitish pubescence on its upper part. A black spot on each eye margin just above level of antennae, a similar,

more elongate one on eye margins each side below middle of frons, a third on lower part of face on each side above mouth opening. Antennal 1st and 2nd joints and base of 3rd yellowish, rest black. Proboscis and palpi black, with short pale pubescence.

Thorax black, with almost tomentose bright yellow pubescence which is a little denser on anterior margin, shoulders and posterior corners and forms a median stripe from anterior margin, disappearing at about suture. (Possibly when in good condition, whole dorsum sparsely so covered.) Humeri just perceptibly yellowish, a small orange yellow spot at ends of suture; hind corners of dorsum broadly brownish yellow. Pleura black, with pale yellow and white pubescence; a vertical yellowish stripe in front of wing, the lower horizontal spot which is present in some species on sternopleura hardly visible (possibly varying with the individual). Scutellum all brownish yellow, with almost microscopic yellow hairs; metanotum black, with short whitish hairs.

Abdomen with 1st segment black, 2nd whitish, moderately narrowly black on anterior corners, the colour disappearing before hind margin; rest of abdomen bright orange with rather dense short gold yellow pubescence. (The abdomen remaining is a mere upper shell so that the belly and genital organs are absent).

Legs black; apical third of femora dull red brown; tibiae yellowish, a little paler at base, hind pair with an obvious blackish mark in middle on outer side, tarsi pale yellowish to tips. Pubescence of legs whitish except more or less brown in parts on basal half of femora.

Wings uniformly dark grey, base and basal part of costal cell and 1st basal cell nearly clear. Halteres pale yellowish with green knobs.

Redescribed from the unique type in the British Museum from Amboina, in indifferent condition though recognisable.

H. borneensis, sp. nov.

Near *H. rufiventris* Walk., differing as follows:—

An oblong transverse callus-like spot on anterior margin of thorax, just touching humerus, another barely contiguous to latter, on side margin, reaching suture; a perpendicular oblong one on mesopleura in front of wing base, and a horizontal contiguous one on sternopleura, all yellow. All these spots are absent in *rufiventris*.

Frons and face more flush with eyes than in *rufiventris*, yellowish, former mainly with parallel sides but widening just above antennae, forming $\frac{1}{3}$ of head at that part, with a narrow brown transvese band there from eye to eye and a more indefinite one above it. Face as wide as lower part of frons, yellowish. Coxae, basal half of anterior femora and hind pair wholly except tips, black; rest of legs orange yellow; fore tarsi a little darker. Wings pale grey.

A smaller, slimmer species, obviously distinct when placed

side by side with *rufiventris*, especially through the callus-like spots on the thorax.

Matang Rd., Sarawak, 3·x·10. Type sent to British Museum.

H. albitarsis Wulp.

Hermetia albitarsis, Wulp, *Term. Fuzet.* XXI, 409, ♀ (1898).
Hermetia albitarsis, Wulp, *Tijd. v. Ent.* XLII, 47 (1895).

Friedrich Wilhelmshafen, Papua. Type in the Hungarian Museum.

H. remittens Walk.

Hermetia remittens, Walk., *Proc. Linn. Soc. Lond.* IV 94, ♀ (1860).

REDESCRIPTION.

♂ ♀ *Head.* Eyes closely and shortly pubescent. Frons and face with parallel sides, at level of antennae one-third the width of the head. Frons black, the centre part obviously curved and elevated; upper corners and a transverse stripe above antennae dull yellowish, the stripe giving the false appearance of being depressed on account of the rounded central part of the frons and the rather prominent upper part of the face. Frons with comparatively long and dense dark brown pubescence. Face shining black, with white pubescence, but ground colour towards eye margins narrowly yellowish, with white pubescence. An elongate yellowish space below antennae, vertically placed, with a median impressed line. Proboscis black, with whitish pubescence and a narrow, orange brown median line on under side. Antennae and occiput all black, latter with sparse, short white pubescence, longer and brown behind vertex.

Thorax black, with very short grey pubescence; pleura and scutellum similar, without yellow spots of any kind. *Abdomen* black, with very short grey pubescence, which is more obvious on hind corners; extreme hind margins of segments orange brown; belly black, shining, with very short, depressed brown pubescence.

Legs black, with short greyish pubescence; nearly basal half of tibiae yellowish; all tarsi pale yellowish, tips a little darker.

Wings dark brown; extreme base and anal angle paler; halteres pale yellowish, with green knobs.

Long. 12–15 mm. *Redescribed* from three specimens in the British Museum; a ♀ from Makessar, which is possibly one of Walker's types, two ♂ ♂ from Celebes, one of which shews a little variation, the discs of the 2nd and 3rd segments being mainly semi-translucent, with a narrow black median line, the 4th and 5th segments being a little reddish. Walker described both sides.

H. malayana, sp. nov.

Differing from *H. remittens* by the still more prominent central bump on the shining all black frons; by the almost bare eyes and

by the all dull yellowish face, with whitish pubescence, the latter longer than usual and more conspicuous towards sides. Thorax apparently rather more humped. Abdomen with a dull, brownish violet tinge; last segment distinctly though dull reddish orange at tip. Long. 17 mm. 2 ♂ ♂ in British Museum.

Singapore [*Ridley*]. The very sparsely pubescent eyes in this species form a link between the type of the genus (*illucens* L.) with entirely bare eyes and the oriental species, of which all seen by me possess densely pubescent eyes in both sexes. The existence of this species, therefore, invalidates Enderlein's genus *Scammatocera.*

H. nigra de Meij.

Hermetia nigra, de Meij., *Tijd. v. Ent.* LVIII, Supp. 69 (1916).

A black species, with five yellow spots on the frons; pleura without spots, 1st abdominal segment with two yellow transparent spots, tibiae whitish at base, the first three tarsal joints white, of hind legs only the metatarsus white; wings mainly blackish brown with extreme base and hinder part of anal cell clearer.

Long. 12 mm. Sumatra. A second specimen, also from Sumatra, is noted by Dr. de Meijere as being slightly differently marked.

Near *H. albitarsis* Wulp, but this latter species has the frons and abdomen all shining black except only the hind margins of the segments of the latter.

It seems to be also near *H.* (*Scammatocera*) *virescens* End.

H. laglaizei Big.

Hermetia laglaizei, Big., *Ann. Soc. Ent. Fran.* (6) VII, 21, ♀ (1887).

Amberbaki, Papua.

Many of Bigot's characters are embodied in my table of species; others are as follows. Eyes shortly and densely pubescent; antennae and proboscis black; face pale yellow; a wide transverse band on frons, dilated in middle near base of antennae Thorax black, the spots on humeri, side margins of dorsum to suture, hind calli, mesopleura and sternopleura and scutellum wholly yellow. 1st abdominal segment all black, 2nd whitish yellow, a large median spot and side margins narrowly black, rest of segments reddish, as in *laeta*, 3rd segment with yellow hind margin.

Long. 14 mm. Type in Bigot's collection in bad condition. I have examined it and think it is a distinct species.

H. cerioides Walk.

Massicyta cerioides, Walk., *Proc. Linn. Soc. Lond.* III, 78 (1859).
Hermetia cerioides, Ost. Sack., *Ann. Mus. Gen.* XVI, 411, note (1881).
Hermetia cerioides, Wulp, *Term. Fuzet.* XXI, 409 (1898).
Hermetia cerioides, Brun., *Rec. Ind. Mus.* I, 122, notes (1907).
H. melanaesiae, Big., *Ann. Soc. Ent. Fran.* (5), IX, 202 (1879).
H. batjanensis, Wulp, *Tijd. v. Ent.* XXIII, 161 (1880).
H. batjanensis, id., *Notes Leyd. Mus.* VII, 67, notes (1885).

Moluccas; Aru; Gilolo; Batjan; South Halmaheira [*Bernstein*]; Sorong, Papua, v'72 [*D'Albertis*]; Ternate 1875 [*Beccari*]; Morotai Is. [*Bernstein*]; Andar [*von Rosenberg*]. Seleo, Erima, Astrolabe Bay, Papua; Bivak Is., Papua, i, x.

The series of ♀ ♀ in the Indian Museum originally attributed by me to this species turn out to be *H laeta*, Meij. Osten Sacken notes that living specimens are green, not yellow.

REDESCRIPTION.

♂ ♀ Eyes densely and shortly pubescent. Frons with parallel sides till about level of antennae, at which point it very slightly but sharply widens, being here just ⅓ width of head, dull brownish yellow, with short black pubescence; a more or less triangular, rather small black spot on upper part on eye margins, and a row of three larger ones placed transversely across middle part, sometimes united in an irregularly shaped band. Ocellar triangle slightly raised, comparatively small, ocelli whitish. An impressed transverse line just above antennae. Face dull brownish yellow, as wide as lower part of frons, with short black and dark brown pubescence. Proboscis and palpi black, with greyish pubescence. Antennae all black, except 2nd joint dull reddish brown or orange brown, the colour extending a little over tip of 1st joint and base of 3rd. Occiput black, with concolorous pubescence but yellowish on and behind vertex, with stiff black hairs: lower part of occiput with short yellow pubescence.

Thorax black, with very short yellowish pubescence mixed with short brownish black bristly hairs on dorsum; greyish pubescence on pleura. A yellow spot on humeri, a broad yellow stripe from humeri to suture on side margins of dorsum, a vertical, elongate spot on mesopleura in front of wing base, and a horizontal one immediately below it on sternopleura, all yellow. Scutellum all bright yellow, with short, stiff black hairs; metanotum black, with black hairs.

Abdomen black, with microscopic reddish brown pubescence, only visible from a low angle in front; 2nd segment with a pair of medium sized brownish yellow spots in middle of front margin and one on each hind corner; hind margins of 3rd and 4th segments with distinct orange brown margins; 5th segment a little reddish brown about middle part of hind margin. Extreme side edges of abdomen more or less orange brown. Belly black.

Legs. Femora and tibiae both with about basal half dark reddish brown, nearly black, and remainder black; tarsi varying from brownish yellow to whitish. Pubescence of legs mainly whitish but yellow in parts on tibiae on major portion of tarsi.

Wings rather dark brown in front, becoming paler hindwards anal cell and hindwards of it, also alulae, still paler. Halteres dull yellowish with a greenish tinge. Long. 12–16 mm.

Redescribed from a ♂ and two ♀ ♀ in British Museum from

Papua, Batchian and Ternate, the Papuan ♂ representing a variety described herewith.

Frons and face all yellowish, with an indistinctly outlined though quite obvious large dark spot in centre of former; pubescence of face paler, and brownish colour of antennae extended further on inner side of antennae than in typical form. Some short gold yellow pubescence on anterior part of thoracic dorsum, and forming also a short stripe from front margin; hinder part of pleura yellowish. 2nd abdominal segment with a pair of large triangular yellow spots towards sides of front margin and joined to the large elongate hind corner yellow spots, which latter nearly meet in the middle of the segment, extending over side margins on hinder half of segment; hind margin of 3rd segment broadly yellow; 4th without sign of such a band; hinder part of 3rd at sides, and 4th and 5th wholly reddish brown as in *laeta*. Whole abdomen with dense, short depressed golden yellow pubescence. Belly similarly reddish with similar pubescence; 2nd segment yellowish. Femora mainly dark reddish brown, with median part blackish.

Long about 12 mm. One ♂ from Papua in British Museum in good condition.

H. laeta de Meij.

Hermetia laeta, de Meij., *Bijd. t. Dierk.* XVIII, 93, pl. viii, 8 (1904).

Bengal. A series of ♀ ♀ in the Indian Museum first recorded by me as *H. cerioides* Walk., bred from the betel-nut palm, belong to this species. It differs from *H cerioides* in possessing a distinct yellow spot on the anterior margin of the thorax contiguous to the humeri, which spot is absent in the three specimens of Walker's species examined by me. The proboscis and palpi are practically all yellow in *H. laeta* but black in *H cerioides*. The eyes are shortly and densely pubescent.[1] One ♀ Teluk Anson, Kuala Lumpur, viii·21 [*G. H. Corbett.*] Bred from larva from decaying vegetable matter caused by bud-rot in coconuts.

H. inflata Walk.

Massicyta inflata, Walk., *Proc. Linn. Soc. Lond.* III, 78 ♀ (1859).
Hermetia fenestrata, de Meij., *Tijd. v. Ent.* LVI, Supp. 19 (March 1914).

REDESCRIPTION.

♀ Eyes densely and shortly pubescent. Frons and face with practically parallel sides, but fractionally wider at level of antennae, forming 1/3 of head; yellowish, with black, fairly long and dense black pubescence on former and on vertex, and yellow similar pubescence on latter: ocellar triangle black, rather small; a large, transverse black spot in middle of frons, extending narrowly to eye margins; a round, black spot each side between base of

[1] See note under *H. cerioides* Walk.

antennae and eye margin. Antennae black, inner side all reddish brown except towards base and tip. Proboscis and palpi pale yellow, with concolorous pubescence. Occiput black, with very short greyish pubescence.

Thorax black, with short whitish pubescence which is longer on pleura and more yellowish at sides of dorsum: humeri and ends of suture narrowly yellowish, posterior corners more broadly so; a vertical mesopleural and horizontal sternopleural spot whitish yellow. Scutellum black, with black pubescence and yellowish hind margin; metanotum black, with greyish pubescence, rather long greyish pubescence below hind corners of dorsum.

Abdomen black, with a slight reddish brown tinge and black pubescence; 2nd segment whitish, with a narrow median black line and side margins; hind margins of 3rd and 4th segments, also 5th segment wholly, a little paler reddish brown, 3rd segment with whitish pubescence. Belly black, hind margins of segments reddish brown, 1st and 2nd segments all whitish.

Legs black. Femora narrowly at tips, about basal half of hind tibiae, a streak on inner side of fore tibiae and front side of middle pair, black; tarsi pale yellow to tips, pubescence of legs whitish.

Wings moderately dark brownish grey; base, costal cell, both basal cells, discal and anal cells clearer; stigma darker brown; halteres yellowish.

Redescribed from the type ♀ from Aru also from a ♂ from Singapore [*Ridley*] and two ♀ ♀ in British Museum; Perivipancheram, Ceylon, 21·i and 10·iii·92 [*Yerbury*]; the description mainly from the latter three, the type being in bad condition but all are obviously conspecific. The type has the abdomen quite black, the hind margins of 3rd and 4th segments more distinctly brown and a good sized, longitudinally placed, elongate reddish brown spot on the 5th segment.

Dr. de Meijere's *H. fenestrata* is from Banjuwangi, Java, a unique ♀ [*Mac Gillavry*].

H. virescens Ender.

Scammatocera virescens, Ender., *Zool. Anz.* XLIV 5, ♀ (1914).

Soekaranda, Sumatra, 1 ♀ [*Dohrn*]. Type in the Stettin Natural History Museum. Enderlein erects the genus *Scammatocera* on this species and suggests that *H albitarsis* Wulp, *cerioides* Walk., *fenestrata* de Meij., *laglaizei* Big., *laeta* de Meij. and *remittens* Walk. belong to it. The last five mentioned (assuming, as I suspect, that *H. fenestrata* de Meij. = *inflata* Walk.) possess pubescent eyes, which is, I believe Enderlein's principal generic character, but, as noted under my *H. malayana*, sp. nov., the presence of that species seems to unite all the forms under one genus, especially if other species exist with sparsely or partly pubescent eyes.

Genus **Massicyta** Walk.

Proc. Linn. Soc. Lond. I, 8 (1857).

GENOTYPE: *M. bicolor*, Walk., *loc. cit.*, sp. nov.

Lagenosoma, Sch. in Brauer, *Denks. K. Ac. Wiss. Wien.* XLIV, 81 (1881).

GENOTYPE: *L. picta*, Sch. in Brauer, sp. nov., *loc. cit.*

Massicyta, Enderlein, *Zool. Anz.* XLIV, 8.

This genus is quite a valid one, though Walker's second species referred to it, *inflata*, is a *Hermetia*. The abdomen is conspicuously slender, subcylindrical, at no part as wide as the thorax, being narrower still at the base. The eyes are bare. It has the *facies* of *Baccha* in Syrphidae and presents quite a different appearance to the robust form of typical *Hermetia*. Certain species of *Hermetia* from South America with conspicuously contracted basal abdominal segments and considerably clubbed hinder segments should be deleted from this genus.

M. bicolor Walk.

Massicyta bicolor, Walk., *Proc. Linn. Soc. Lond.* I, 8 ♀, pl. i, 1.
Massicyta bicolor, Ost. Sack., *Ann. Mus. Gen.* XVI, 411 (1882).
Massicyta bicolor, de Meij., *Tijd. v. Ent.* LVI, Supp. 18 (March 1914).
Massicyta bicolor, Ender., *Zool. Anz.* XLIV, 8 (1914).

REDESCRIPTION.

♂ Eyes bare. Frons and face gradually and distinctly narrowing from above downwards, at middle of head less than one-third of head; vertex and more than upper part of frons shining black, with bright yellow pubescence which is much longer and denser across vertex; ocellar triangle barely raised, black; ocelli large, brown; lower part of frons and all face bright yellow, with concolorous pubescence. Proboscis orange, with yellow hairs. Antennal 1st and 2nd joints very short, bright orange, 2nd only half as long as 1st, 3rd twice as long as 1st and 2nd together, shining black, all the joints slender, cylindrical; style longer than 3rd joint, distinctly wider, lanceolate at each end, dull black, tip rather broadly white. Occiput shining black, with short yellow pubescence.

Thorax. Dorsum black, with very short, depressed, bright yellow pubescence, distinctly longer on anterior margin, shoulders and anterior part at sides, hind corners pale yellowish, almost translucent. Pleura yellowish, with long bright yellow pubescence, the major portion of mesopleura blackish, ends of suture narrowly yellowish. Scutellum yellow, base narrowly blackish, with short yellow pubescence; metanotum shining, moderately dark chestnut brown, with long yellow hairs.

Abdomen twice as long as thorax but at no part even nearly as broad; 2nd segment still further narrowed, hind part of 1st and basal part of 3rd narrowed. 1st segment whitish, with colour of 2nd segment running forwards over it to beyond middle; 2nd and 3rd moderately dark brown, 4th and 5th black; hind

margin of 2nd narrowly, of 3rd, 4th and 5th more broadly yellowish. Pubescence of abdomen generally following ground colour, but sides of 1st and 2nd segments with long, fine, outstanding pale yellow hairs. Belly yellowish; genitalia concealed but certainly male.

Legs (fore pair missing) pale yellow; apical three-fourths of hind femora brown, apical half of hind tibiae slightly brownish; hind coxae brown.

Wings uniformly pale yellowish grey; stigma rather more yellowish; halteres pale yellowish.

Redescribed from the type, which is obviously a ♂ though said to be a ♀ by Walker. Meijere describes a ♀ from Nusa Kambangan, Java, iii [*Jacobson*], his description agreeing very closely.

Osten Sacken doubted this species being congeneric with *H cerioides*, of which latter he had seen examples. The single character of the long outstanding pubescence at the sides of the abdomen does not occur in any species of *Hermetia* known to me.

Genus **Coenocephala** Wulp.

Term. Fuzet. XXI, 413 (1898).
GENOTYPE: *Salduba melanaria*, Walk., by original designation.
Coenocephala, Kert., *Ann. Mus. Hung.* VII, 386, notes, fig. 1, antenna (1909).

C. **melanaria** Walk.

Salduba melanaria, Walk., *Proc. Linn. Soc.* V, 272 (1861).
Coenocephala melanaria, Wulp, *Term. Fuzet.* XXI, 414, pl. xx, 4, full insect, 4*a*, head, 4*b*, tip of abdomen, ♀ (1898).
Coenocephala melanaria, *Tijd. v. Ent.* XLII, 54 (1899).

Batjan. The type is not to be found.

C. **scapularis** Walk.

Salduba scapularis, Walk., *Proc. Linn. Soc.* V, 272 (1861).
Coenocephala scapularis, Wulp, *Tijd. v. Ent.* XLII, 54 (1899).

Batjan.

Genus **Eudmeta** Wied.

Auss. Zweifl. II, 43 (1830).
GENOTYPE: *Hermetia marginata*, F., by original designation.
Eudmeta, Ender., *Zool. Anz.* XLIV, 7 (1914).
Eudmeta, Kert., *Ann. Mus. Hung.* VII, 387, notes (1909).

TABLE OF SPECIES.

Mainly black species.		
Femora black	...	*marginata* F.
Femora yellow	...	*brunnea* de Meij.
Mainly yellow species; (femora yellow)	...	*diadematipennis*, sp. nov.

E. **marginata** F.

Hermetia marginata, Fab., *Syst. Antl.* 63 (1805).
Eudmeta marginata, Wulp, *Notes Leyd. Mus.* VII, 69, note (1885).

Eudmeta marginata, Kert., *Ann. Mus. Hung.* VII, 388 (1899).
Eudmeta marginata, de Meij., *Tijd. v. Ent.* L, 219 (1907); *l.c.* LIV (262) notes (1911); *loc. cit.* LVIII, Supp.
Eudmeta marginata, Brun., *Rec. Ind. Mus.* I, 123, notes (1907).
Eudmeta marginata, Ender., *Zool. Anz.* XLIV, 7 (1914).
Hermetia cingulata, Guer., *Voy. d. l Coq. Zool.* II. 2, 290 (1830).
Hermetia cingulata, *id.* *Icon. Megn. an.*, 543, pl. 98, 1 (1835).
Toxocera limbinervis, Macq., *Dipt. Ex. Supp.* 4, 45, pl. v, 3.
Toxocera limbinervis, Sn. v. Voll., *Hand. Ned. Ent. Ver.* 107 (1856).

Rather widely distributed in the East. Amboina, Singapore; Nieuwenhuis, Borneo; Gunung Ungarn, Java, x [*Jacobson*]; Lawang, E. Java; Sukabumi [*Kramer*]; Sinabang (Simalur Is., Sumatra), ii [*Jacobson*]; Deli, Sumatra [*De Bussy*]; Sibogo, Sumatra, viii; Tandjong Morawa (Serdang, N.-E. Sumatra, Hagen). Dr. de Meijere (*Tijd. v. Ent.* LIV) describes four forms of this species to two of which he gives the names *obscura*, from Darjiling, and Borneo, and *pallida*, from N.-E. Sumatra. The remaining two forms are from Java and Sumatra. In the Indian Museum from Darjiling, 1000–3000 ft., vi·1912. In the British Museum from Singapore, v·1902 [*Ridley*]; [*Muller*]; Scolak Daras, W Sumatra, 1914 [*Robinson* and *Kloss*]; Sungkie, Malaya, 16·ii·02 [*Robinson* and *Annandale*]; Bhamo Hills, Upper Burma, v·16 [*Mackwood*].

E. brunnea de Meij.

Eudmeta brunnea, de Meij., *Bijd. Dierk*, XVIII, 94, pl. viii, 10, full ins. col. (1904).
Eudmeta brunnea, Kert., *Ann. Mus. Hung.* VII, 388 (1909).

Bengal. Type in the Amsterdam Museum. One ♀ in the Indian Museum from Kohima, Assam.

E. diadematipennis, sp. nov.

♀ Assam. Long. 12–13 mm.

A bright orange species. *Head* all orange, face barely broader than frons, both with nearly parallel sides, flush with eyes except for the usual antennal prominence, practically bare; ocellar triangle very small, black, ocelli pale. Antennae all black; occipital margin quite broad, rather narrower behind vertex.

Thorax orange, with microscopic yellow pubescence; pleura and scutellum similar, former with a little obvious yellow pubescence in parts. *Abdomen* orange, 4th and 5th segments shining black, except side margins narrowly orange. Pubescence of abdomen and belly microscopic, a little obvious pale yellow pubescence at sides. *Legs* orange; hind tibiae and tarsi wholly, and anterior tarsi narrowly black at tips. *Wings* with basal half distinctly yellowish, remainder brownish, the line of demarcation falling just before inner side of discal cell.

Described from two ♀ ♀ in the British Museum from the Lower Ranges, N. Khasi Hills, Assam, 1878 [*Chennell*].

A very distinct species, with the general impression of a *Ptecticus* of the *P. aurifer* group, except for the long filiform antennae.

Genus **Campeprosopa** Macq.

Dipt. Exot., Supp. 4, 46 (1857).
GENOTYPE: *C. flavipes*, sp. nov., *loc. cit.*
Campeprosopa, Ender, *Zool. Anz.* XLIV, 15 (1914).

This is a good genus, distinguished from *Ampsalis* by the frontal prominence bearing the antennae, which are placed directly on the frons in *Ampsalis*, of which latter *Tracana* is an absolute synonym. Macquart's figure of the head in *Campeprosopa* shews this prominence, though the annulations of the 3rd antennal joint are probably exaggerated. These annulations may be 8 or 9 in number. Mr. Edwards' three species have the 1st antennal joint twice as long (or even longer) than the 2nd, though Macquart's figure shows the two basal joints as subequal. My *Ampsalis longispinus* is a *Campeprosopa.*

TABLE OF SPECIES.

Wings practically all clear (at most slightly greyish at tip and on hind margin).
  Hind tibiae black, with median yellow band... ... *flavipes* Macq.
  Hind tibiae all black ... ... *munda* Ost. Sack.
Wings distinctly brown infuscated towards tips: (hind tibiae always all black).
  Femora all orange to tips ... ... *longispina* Brun.
  Femora (at least hind pair) with apical third black.
    Hind tarsi all black ... ... *pulchra* Edw.
    Hind tarsi yellowish white except basal half of metatarsi black.
      Basal third of hind femora black ... ... *ornata* Edw.
      Basal two-thirds of hind femora orange, apical third black ... ... *bella* Edw.

C. flavipes Macq.

Campeprosopa flavipes, Macq., *Dipt. Ex. Supp.* 4, 46, pl. v, 4 (1849).
Campeprosopa flavipes, Ost. Sack., *Ann. Mus. Gen.* XVI, 410 (1882).
Campeprosopa flavipes, de Meij., *Tijd. v. Ent.* L, 219 ("Meig." vice Macq. *lapsus*).
Campeprosopa flavipes, de Meij., *Bijd. tot Dierk.* XXI, 21 (1919).

Type in Bigot's collection.

Java, Sukabumi [*Kramer*]; Pangerango x, Nongkodjadjar, Java; Sungai Kumbang, Sumatra, ix.

C. munda Ost. Sack.

Campeprosopa munda, Ost. Sack., *Ann. Mus. Gen.* XVI, 409, ♂ (1881).
Campeprosopa munda, Ender., *Zool. Anz.* XLIV, 15 (1914).

Mt. Singalang, Sumatra, vii·78, Soekaranda, Sumatra [*Dohrn*].

C. longispina Brun.

Ampsalis longispinus, Brun., *Rec. Ind. Mus.* IX, 264, ♂ ♀ (1913).

Darjiling, 1000–3000 ft., v·vi·1912; Singla, Darjiling Distr., iv·1913; Gopaldhara, Darjiling Distr., 4720–6100 ft., 16·vii·17, 18·v·18, ix·20, 26·vi·17 [all *Stevens*]; Khasi Hills, Assam.

C. bella Edw.

Campeprosopa bella, Edw., *Jour. Fed. Malay Sts. Mus.* VIII, 24, ♂ ♀ (1919).

Scolak Daras, West Sumatra, 3000 ft., iii·1914, Bukit Besar, Patani, Malaya, 1 ♀ [*Robinson* and *Annandale*].

Types in British Museum.

C. pulchra Edw.

Campeprosopa pulchra, Edw., *Jour. Fed. Malay Sts. Mus.* VIII, 25, ♂ fig. 15, wing (1919).

Scolak Daras, West Sumatra, 3000 ft. 1 ♂, 1914. Unique type in the British Museum.

C. ornata Edw.

Campeprosopa ornata, Edw., *Jour. Fed. Malay Sts. Mus.* VIII, 26, fig. 16, wing (1919).

Sungei Kumbang, Korinchi, West Sumatra, 4500 ft., iv·1914. Type in the British Museum.

Genus **Ampsalis** Walk.

Proc. Linn. Soc. Lond. IV, 98 (1860).

Genotype: *A. geniata*, sp. nov., *loc. cit.*

Tracana, Walk., *Proc. Linn. Soc. Lond.* IV, 90 (1860).

Genotype: *T. iterabilis*, sp. nov., *loc. cit.*

A. geniata Walk.

Ampsalis geniata, Walk., *Proc. Linn. Soc. Lond.* IV, 99 (1860).

Redescription.

♀ *Head.* Frons and face with nearly parallel sides, not quite 1/3 of head at level of antennae; shining pale yellowish, with short black pubescence; ocellar triangle black, rather small. Antennae brownish orange, 2nd joint rather shorter than 1st; 3rd twice as long as 1st and 2nd together, with two impressed lines dividing the joint subequally into three sections; style longer than the three joints together, black, with two small basal joints. Occiput yellowish; occipital orbit only appreciable narrowly and for a short distance behind upper part of eyes.

Thorax brownish yellow, the colour sharply demarcated at suture from the blackish hinder part. Two narrow, well separated paler yellow median stripes on anterior half; lower part of thorax irregularly black; scutellum brownish yellow, tip narrowly black, metanotum blackish.

Abdomen brownish yellow; 1st segment with a subtriangular blackish mark towards each side; 2nd segment all black except anterior corners, a narrow median line and hind border; 3rd, 4th and 5th occupied mainly by a broad black dorsal stripe, leaving side margins and tip of 5th segment rather broadly pale. Belly

brownish yellow, major part of disc of each segment blackish. Pubescence of abdomen pale yellow, short.

Legs brownish yellow, coxae a little darker brown; basal half of posterior femora and the fore tibiae wholly just perceptibly paler yellow, extreme tarsi tips a little darker. Pubescence of legs pale yellow.

Wings pale grey, just perceptibly darker a little before tips, fading away hindwards; stigma yellowish; halteres brownish yellow. Long. 11 mm.

Redescribed from the type from Celebes. A second specimen (headless and of uncertain sex), named by Walker, is darker, the thorax having three distinct black stripes on the anterior part, the dorsum covered with short dense yellow pubescence. The belly is nearly all black, the colour extending further upwards over the pleura, the black scutellar margin is more definite; the extent of black in the abdomen is no greater but is deeper; the legs are more uniformly orange yellow and the tarsi paler yellow.

The genus *Tracana* is an absolute synonym of *Ampsalis*.

A. iterabilis Walk.

Tracana iterabilis, Walk., *Proc. Linn. Soc. Lond.* IV 90 (1860).

REDESCRIPTION.

Very near *Ampsalis geniata* Walk. and possibly synonymous. 1st and 2nd antennal joints and the two basal annulations of the 3rd pale yellow. Frons and face a little darker brown; occiput black except just behind vertex. Thorax all black except a narrowly yellowish band on upper part of mesopleura from shoulder to wing base, thence turning downwards a little. Posterior corners of dorsum and towards base of wings rather brownish orange. Abdomen practically all black except about basal half or a little more of 1st segment yellowish, also side margins of remaining segments narrowly brownish orange. Belly black, side margins rather narrowly and central part towards base, pale. Legs brownish yellow; hind tibiae with basal three-fourths darker brown, hind tarsi whitish yellow. Long. 10 mm.

Redescribed from a ♀ in the British Museum, named by Walker but apparently not the type.

Subfamily STRATIOMYINAE.

TABLE OF GENERA.

3rd antennal joint of at most six annulations.	
1st antennal joint 3 to 4 times as long as 2nd	.. *Stratiomyia* Geoff.
1st antennal joint at most twice as long as 2nd	.. *Odontomyia* Mg.
3rd antennal joint of seven or eight annulations	... *Cyphomyia* Wied.

The principal character of Bigot's *Euceromyia*, the 1st antennal joint being shorter than the 2nd, does not seem sufficient to separate it from *Odontomyia*, and his other characters are present

in at least some species of the latter genus. The relative length of the first two antennal joints varies: in most of the oriental species they are subequal, Verrall admitting species to the genus with the 1st joint as long as twice the length of the 2nd.

Genus **Cyphomyia** Wied.

Zool. Mag. I, 3 (1819).

GENOTYPE: *C. auriflamma* Wied., by Brauer's designation, 1882.

TABLE OF SPECIES.

1.	Palpi yellow ochre	2.
	Palpi black, possibly with a little pale pubescence ...	3.
2.	Scutellar spines exceedingly curved; wings brown, darker anteriorly, basal fourth hyaline. Legs brown anterior tarsi pale reddish yellow	*curvispina* Ender.
	Scutellar spines (presumably) straight or only slightly curved; wings clear, distal-half with brownish tinge; legs moderately dark brown, two basal tarsal joints whitish	*albispina* Ender.
3.	Long. 7 mm.; (thorax unstriped; scutellar spines slightly curved, white haired; knees narrowly, fore metatarsi, and most of middle tarsi brownish orange; wings grey, more brownish anteriorly and distally).	*flaviceps* Walk.
	Long. 9–13 mm.	4.
4.	Thorax without trace of median stripe (all knees narrowly, basal half of fore metatarsus, hind metatarsus wholly and most of rest of hind tarsi brown orange; epistome white haired)	*indica* Brun.
	Thorax with a median yellow tomentose stripe, sometimes visible on anterior half only	5.
5.	Legs all black; abdomen dark purple; epistome yellow haired; scutellar spines white haired ...	*notabilis* Walk.
	Middle metatarsi brownish yellow, rest of legs black; epistome yellow haired	*obscuripalpis* de Meij.
	Fore femora yellow tipped; fore metatarsi yellow, rest of legs black: abdomen metallic blue; scutellar spines black haired; epistome snow-white haired...	*orientalis* Kert.
	Legs all black; scutellar spines white haired; abdomen deep purple; epistome yellow haired ...	*nigripes* de Meij.

The above table is drawn up mainly from description as only *C. flaviceps* Walk, *notabilis* Walk. and my own *indica* have come before me. Kertesz gives a table drawn up on different characters (*Ann. Mus. Hung.* XII, 505) but not containing all the species.

C. flaviceps Walk.

Clitellaria flaviceps, Walk., *Proc. Linn. Soc. Lond.* I, 7, and 108, ♀ (1857).

Singapore; Borneo. Type in the British Museum.

REDESCRIPTION.

♀ *Head.* Frons and face distinctly narrower at level of antennae, at which point forming $\frac{1}{5}$ of head. Frons bright chrome yellow, with a little inconspicuous pale pubescence; ocellar triangle very small, behind the line of the eyes, brown; ocelli yellow.

Antennae black; 1st joint about 1⅓ times as long as 2nd, 3rd about 2½ times as long as 1st and 2nd together, with 9 indistinct annulations. Proboscis and palpi about the same as in *notabilis*. Face chrome yellow with distinct whitish pubescence at sides, reaching upwards almost to level of antennae. Occipital margin broad, yellow, narrowing a little towards lower part, with pale yellow pubescence.

Thorax dark purple blue, minutely pubescent, with microscopically bristly black pubescence and obvious, longer greyish pubescence; shoulders narrowly brownish orange, with a short, barely obvious ligatous brown line along anterior margin; region of hind corners of dorsum brownish orange; pleura and below shoulders with obvious whitish pubescence. Scutellum similar to dorsum, spines concolorous, moderately curved, with whitish pubescence

Abdomen brilliant dark blue, minutely punctate and with microscopic black bristles, also generally distributed short whitish pubescence, more or less in patches towards sides of all segments. Belly concolorous, with short, whitish pubescence, close and conspicuous on central region.

Legs black, knees narrowly brownish orange, tips of anterior tibiae narrowly, and more or less of fore metatarsi, and the first two joints of middle tarsi, dull brownish orange. Pubescence of legs mainly whitish.

Wings pale brown, a little deeper anteriorly and a little paler towards base and in anal and axillary cells; halteres pale yellow.

Redescribed from the unique type in the British Museum.

C. notabilis Walk.

Clitellaria notabilis, Walk., *Proc. Linn. Soc. Lond.* I. 108, ♀ (1857).

Borneo. Type in the British Museum.

REDESCRIPTION.

♀ *Head.* Frons and face just appreciably narrower at level of antennae (⅕ of head at this point) than above and below, dull yellowish; vertical region produced beyond hind margin of eyes, so that the small black ocellar triangle is almost entirely behind this line; ocelli yellowish, upper part of frons barely raised above level of eyes; lower part with a medium sized, oval, conical swelling on each side contiguous to eye margins, longitudinally placed. Antennae all black, 2nd joint half as long as 1st, 3rd three times as long as 1st and 2nd together, cylindrical, 8-annulated.

Thorax deep blue, minutely punctate, with very short, black bristly pubescence; an indistinct, narrow, median yellow hair stripe on about anterior half. Fairly long whitish pubescence on greater part of pleura, on shoulders and below them and on hind corners of dorsum. Scutellum concolorous, punctate, with stiff black pubescence; spines barely curved, with whitish hairs.

Abdomen brilliant dark blue, but not so deep as thorax, minutely punctate, with microscopic black pubescence and longer whitish pubescence on anterior corners, shorter on side margins; similar pubescence forming an irregular patch towards each side of 3rd and 4th segments; 5th segment almost wholly thus covered. Genitalia yellowish. Belly concolorous with dorsum, a little whitish pubescence about hinder part of centre.

Legs black; tips of fore femora brownish orange below; middle metatarsi with a brownish tinge. Pubescence of legs mainly whitish, inconspicuous.

Wings rather dark brown, a little deeper in stigmatic region and on anterior margin; fading hindwards to grey in anal and axillary cells and on extreme base. Halteres yellowish. Long. about 13 mm.

Redescribed from the unique type, ♀, in the British Museum from Borneo.

C. orientalis Kert.

Cyphomyia orientalis, Kert., *Ann. Mus. Hung.* XII, 505, fig. 36, head, 37, antenna (1914).

Toyenmongai, Formosa, many of both sexes.

C. curvispina Ender.

Cyphomyia curvispina, Ender., *Zool. Anz.* XLIII, 598, ♂ ♀ (1914).

Soekaranda, Sumatra [*Dohrn*]. Types in the Stettin Zoological Museum.

C. albispina Ender.

Cyphomyia albispina, Ender., *Zool. Anz.* XLIII, 599, ♀ (1914).

Soekaranda, Sumatra [*Dohrn*]. Types in the Stettin Zoological Museum.

C. obscuripalpis de Meij.

Cyphomyia obscuripalpis, de Meij., *Bijd. tot Dierk.* XXI, 19, ♀ (1919).

Air Njuruk, Dempu, Sumatra, 1400 met., viii. One ♀.

Unique type in the Amsterdam Museum.

C. nigripes de Meij.

Cyphomyia nigripes, de Meij., *Bijd. tot Dierk.* XXI, 20, ♀ (1919).

One ♀ taken in company with *C. obscuripalpis*. Type in the Amsterdam Museum.

C. indica Brun.

Cyphomyia indica, Brun., *Fauna Brit. Ind., Dipt. Brachy.* I, 57, ♀ (1920).

Type in the Indian Museum from Kalimpong, Darjiling Distr., 600–4500 ft., iv–v·1915 [*Gravely*]. A second ♀ from Darjiling District, 1000–3000 ft., v·1912 [*Lord Carmichael's collr.*].

Genus **Stratiomyia** Geoff.

Hist. abr. d. Ins. II, 475 (1764) (*Stratiomys*).

GENOTYPE: *Musca chamaeleon*, L., by designation of Latreille, 1810.

Though I agree with Verrall that names of long standing should never be altered it seems permissible to accept the emendation [1] in this particular instance, *Stratiomys* being obviously incorrect.

TABLE OF SPECIES.

1. Legs principally yellow. Thorax unstriped, densely pubescent; antennae black; long. 15 mm. ...	*flavoscutellata* Wulp.
Legs principally black	2.
2. Abdominal 3rd, 4th and 5th segments reddish brown	*dissimilis*, sp. nov. ♂
Abdomen mainly black	3.
3 Side margins of 2nd, 3rd and 4th abdominal segments broadly yellow	*dissimilis*, sp. nov. ♀
Side margins of abdomen not broadly yellow ...	4.
4. Hind margins of 3rd and 4th abdominal segments with uninterrupted yellow band	*fulvescens* Brun.
Hind margins of 3rd and 4th segments with a pair of well separated elongate spots	5.
5. Thoracic pubescence moderately long and thick: scutellum black, except the narrow yellow hind margin and spines: ♀ with two conspicuous yellow post-vertical spots, sometimes united	*approximata*, nom. nov.
Thoracic pubescence extremely short and sparse; scutellum all yellow; ♀ with no post-vertical yellow spots	*micropilosa* Brun.

Three non-oriental species figured in my first paper, through being included in Van der Wulp's Catalogue. These are now withdrawn, viz. *S. apicalis* Walk. from Shanghai, *apicalis* Walk. (II) and *inanimis* Walk. from China.

S. approximata, sp. nov

Stratiomyia barca, Brun. nec Walk., *Fauna Brit. Ind., Dipt. Brachy.* I, 59, ♂ ♀ (1920).

This form was introduced by me as *S. barca* Walk. but a comparison with the type proves it distinct. Types in the Indian Museum.

Jhelum Valley, 5200 ft., and Srinagar, 6000 ft., both Kashmir, vii·ix·1916 [*Pease*].

The specimens taken by me at Hankow, China, 22·iv·06, and Shanghai, 9·v·06, are not available for comparison but may prove identical with *S. approximata*.

S. flavoscutellata Wulp.

Stratiomyia flavoscutellata, Wulp, *Notes Leyd. Mus.* VII, 60, ♂ (1885).

Java, a single ♂ [*Müller*]. Type in the Leyden Museum.

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[1] *Stratiomyia*, Macq., *Dipt. Exot.* I, i, 179 (1838).

S. micropilosa Brun.

Stratiomyia micropilosa, Brun., *Fauna Brit. Ind., Dipt. Brachy.* I, 60 (1920).

Described from a unqiue ♀ in the Indian Museum, from Maymyo, Burma, v·1910 [*Andrewes*].

S. fulvescens Brun.

Stratiomyia fulvescens, Brun., *Fauna Brit. Ind., Dipt. Brachy.* I, 60 (1920).

Described from a unique ♂ from Taro, Peshawar Distr., N.-W. India, 16–19·v·1915 [*Fletcher*]. Type in the British Museum.

Near *S. barca* Walk. but differing in the markings of the abdomen and legs.

S. dissimilis, sp. nov.

♂ ♀ Upper Burma. Long. 10–11 mm.

Head. ♂ Eyes bare, not quite contiguous on upper part, a line of black hairs between them for some distance, vertex occupied by the black ocellar triangle, with a few very short black hairs and brown ocelli. Frons and face shining black, former with short greyish pubescence, latter with much longer similar pubescence; sides of face viewed from in front broadly dull yellowish. Antennae black, 3rd joint with five fairly well marked annulations. Proboscis dull brown, with sparse, bright yellow hairs; under side of head and the occiput with grey pubescence. In ♀ sides of frons and face gently diverging from above downwards, at level of antennae distinctly wider than $\frac{1}{3}$ of head. A pair of irregularly pear-shaped spots on frons (orange brown in one specimen, yellow in type ♀, the spots larger and almost united).

Thorax black; dorsum with short yellow inconspicuous pubescence; pleura with longer, mainly whitish pubescence; scutellum and spines bright yellow; narrowly black at base in ♂; metanotum blackish.

Abdomen in ♂; 1st segment and anterior two-thirds of 2nd black, an elongate yellow spot each side on hind margin, narrowing inwards; 3rd, 4th and 5th segments red brown, traces of a similar pair of spots on 3rd segment; a narrow, short longitudinal yellowish white stripe on 5th segment. In ♀, black; sides of 2nd, 3rd and 4th segments rather broadly yellow, with a contiguous elongate spot on hind corners of each segment, the spots smallest on 4th segment. 5th segment with a small longitudinal yellowish white spot and narrow side margins. Belly in ♂ orange brown, with short, yellow inconspicuous pubescence; 1st and basal half of 2nd segment blackish. In ♀ black; hind margins of segments (except 5th) yellowish; broadest on 2nd segment.

Legs black, with pale yellow pubescence; knees in ♂ barely perceptibly pale; all tarsi yellowish brown; hardly darker at tips.

Wings pale yellowish grey; a little darker about discal cell region, stigma brown; halteres apple green (in one specimen yellow).

Described from 1 ♂ and 2 ♀ ♀ in the British Museum. Kalaw, S. Shan States, Upper Burma, 4000 ft., iv·16 [*Mackwood*].

Genus **Odontomyia** Mg.

Illig. Mag. II, 265 (1803).

GENOTYPE: *Musca hydroleon*, L. by designation of Westwood, 1840.

Odontomyia, Brun., *Fauna Brit. Ind., Dipt. Brachy.* I, 61 (1920).
Opseogymnus, A. Costa, *Il Giamb. Vico Napoli* II, 443 (1857).
Psellidotus, Rond., *Arch. p.l. Zool. Modena* III, 78 (1863).
Eulalia (Mg.) Kert., *Kat. Dipt.* III, 62 (1908).

TABLE OF SPECIES.

1.	Scutellum unspined	*mutica* Wulp.
	Scutellum spined	2.
2.	Abdomen metallic blue	3.
	Abdomen never metallic blue	4.
3.	Steel blue sp., antennae and thorax black; long. 12 mm.	*luteiceps* de Meij.
	Deep blue sp., antennae orange, thorax deep metallic blue; long 6½–8 mm.	*cyanea* Brun.
4.	Thorax and abdomen with dense, conspicuous pubescence	*rufoabdominalis* Brun.
	Thorax and abdomen never thus; with moderate pubescence or practically bare	5.
5.	Dorsum of thorax with well defined spaces of shining black and red brown	*pulcherrima* Brun.
	Thorax never thus	6.
6.	Dorsum of thorax with 4 conspicuous gold or silver pubescence stripes (*i.e.* 2 median and one on each side margin)	7.
	Dorsum of thorax never with 4 such stripes (the median ones always absent); but sometimes side margins yellow or with yellow pubescence ...	10.
7.	Legs mainly black	8.
	Legs mainly yellow	9.
8.	Thorax on all margins with a yellow hair stripe and with two median dorsal ones also: epistome reddish brown; abdomen uniformly "red brown," (tip black); legs all black except base of femora and knees	*siderogaster* Wied.
	Thorax ground colour obviously black, with four *very narrow* gold hair stripes; epistome shining black; abdomen orange, with moderately broad dorsal band; legs mainly black, femora pale at base	*parallela* Walk.
9.	(*a*) Abdomen all black except side margins very narrowly pale; ground colour of thorax obviously black, with 4 *very narrow* yellow stripes ...	*confertissima* Walk.
	(*b*) Abdomen yellow, with transverse black bands; (pleura with pale, callus-like spots) ...	*viridana* Wied.
	(*c*) Abdomen uniformly pale or with indistinct traces of a row of small black dorsal spots: (dorsum of thorax with 4 *very broad* gold hair stripes; pleura without pale, callus-like spots; pale brown orange with a large black spot on sternopleura)	*finalis* Walk.
10.	(*a*) Thorax with *ground colour* of side margins of dorsum broadly and conspicuously yellow: dorsum black	*transversa* Brun.

	(*b*) Thorax yellowish—with three longitudinal black stripes	*notatifrons*, sp. nov.
	(*c*) Thorax with *ground colour* of side margins of dorsum *not* yellow, but sometimes with dense yellow pubescence there (*aequalis, lineata*) ...	11.
11.	Pleura with distinct, pale, callus-like spots ...	12.
	Pleura without such spots	14.
12.	Very small species, 3–5 mm.; abdomen with black marks; pleura with a yellow spot on upper part; all femora and hind tibiae with a very broad median black ring	*minuta* F. ♀
	Larger spp. 11–12 mm.	13.
13.	(*a*) A black transverse band above mouth: abdomen considerably black in ♂ ♀	*maculata* de Meij.
	(*b*) A round black spot above mouth: abdomen practically all yellow	*punctifacies*, sp. nov.
	(*c*) No such band or spot on face	*ochropa* Thoms.
14.	(*a*) Abdomen almost wholly black; side margins and hind margins of segments narrowly pale, side margins of thoracic dorsum black; abdomen with side and hind margins of segments narrowly yellow; femora with broad median black band, incomplete on upper side on anterior pairs	*angusti limbata*, sp. nov.
	(*b*) Abdomen mainly black; only side margins of segments narrowly pale	15.
	(*c*) Abdomen with ground colour yellow, surface sometimes considerably blackish in individuals	17.
15.	Thorax with rather dense dark brown pubescence; femora black except tips	*atraria* Walk.
	Thorax with short pale or gold pubescence; legs considerably pale	16.
16.	(*a*) Long. 13 mm.; side margins of thoracic dorsum with dense gold yellow pubescence; femora mainly yellowish	*aequalis* Walk.
	(*b*) Long. 9 mm.; side margins of thoracic dorsum with a narrow gold yellow tomentose stripe; middle femora black except at base; hind femora all black.	*lineata* de Meij.
	(*c*) Long. 7 mm. at most; side margins of thoracic dorsum not conspicuously yellow; legs probably mainly yellowish.[1]	*nexura* Walk.
17.	Legs partly black	18.
	Legs all yellow	21.
18.	(*a*) Hind femora distinctly black in parts ...	19.
	(*b*) Hind femora all yellow, but hind tibiae black except at base	*consobrina* Macq.
	(*c*) Hind femora all yellow; anterior femora with a more or less complete median brown ring; middle tibiae and sometimes fore pair, also, with a blackish streak on inner side; legs otherwise yellow	*rubrithorax* Macq.
19.	(*a*) Hind femora and tibiae dark brown, except at base and tips; legs otherwise yellow ...	*aurata* de Meij.
	(*b*) Hind femora and tibiae brown below at tips; legs otherwise yellow	*claripennis* Thoms.
	(*c*) Hind femora with broad apical band; legs otherwise yellow	20.
	(*d*) All femora with a black streak below, a small streak on hind tibiae; legs otherwise yellow ...	*fascipes*, sp. nov.

[1] Walker says tibiae and tarsi yellowish, inferring the femora are black, but in the British Museum specimen the only leg remaining is wholly pale yellowish.

20.	Long. 11 mm.; face shining dark brown, with white pubescence; dorsum and upper part of pleura with *white* pubescence	*immiscens* Walk.
	Long. 8½ mm.; face bright brownish orange, with yellow pubescence, dorsum and upper part of pleura with *yellow* pubescence	*cohaerens*, sp. nov.
21.	Abdomen uniformly brownish yellow	*lutatius* Walk.
	Abdomen with distinct markings	22.
22.	Smaller spp., at most 6 mm. long; (face wholly shining black, ♂ ♂ only known)	23.
	Larger spp., 7 mm. upwards	24.
23.	Abdomen mainly black, except narrowly pale side margins and hinder half of 2nd and 3rd segments orange	*bifascia* Walk.
	Abdomen orange, a diamond-shaped black spot in centre of each segment	*restricta* Walk.
24.	Frons in ♂ black; facial bump small, blackish postocular orbits in ♀ moderately broad	*kashmirensis* Brun.
	Frons in ♂ orange; or if black, then facial bump more or less orange; postocular orbits in ♀ inappreciable	25.
25.	Frons and face all orange in ♂ ♀	*dorsoangulata* Brun.
	Frons and face black in ♂ ♀; ♀ with facial bump brownish orange	*solennis* Walk.

O. mutica Wulp.

Odontomyia mutica, Wulp, *Notes Leyd. Mus.* VII, 62 ♂ (1885).
Odontomyia mutica, Brun., *Rec. Ind. Mus.* I, 130, note (1907).

Ternate. Distinct by its unspined scutellum from all other oriental species in the genus.

O. luteiceps de Meij.

Odontomyia luteiceps, de Meij., *Tijd. v. Ent.* LIV, 267, ♀ (1911).

Mahakkam, Borneo. [*Nieuwenhuis*]. Type in the Amsterdam Museum. A steel blue species, something like my *O. cyanea*, but much larger.

O. cyanea Brun.

Odontomyia cyanea Brun., *Fauna Brit. Ind., Dipt. Brachy* I, 63 (1920).

Pusa, India. Described from a long series of both sexes, mostly bred, 26·iii·1908, 2·ii·1909, 3–18·iii·1909. Types in the British Museum, cotypes in Indian Museum and my collection. The deep metallic blue colouration of the body gives the insect the appearance of a *Lucilia*. Apparently the only oriental metallic species except *O. luteiceps* de Meij., which, however, has a black, non-metallic thorax.

O. rufoabdominalis, Brun.

Odontomyia rufoabdominalis, Brun., *Rec. Ind. Mus.* IX, 265, ♂ (1913)

Darjiling, 1000–3000 ft., one ♂, vi·12 type; Singla, Darjiling Distr., 1500 ft., v·1913. Teesta Valley, Sikhim, 4000 ft. [*Müller*]. Types in the Indian Museum. A very handsome and conspicuous species.

O. pulcherrima Brun.

Odontomyia pulcherrima, Brun., *Fauna Brit. Ind., Dipt. Brachy.* I, 65, ♀ (1920).

Pashok, Darjiling Distr., 2000 ft., v and 14·vi·1916 [*Gravely*]. ♀ type in Indian Museum. The conspicuous markings of the bare black and brown thorax differentiate this species from all others. The male is unknown.

O. siderogaster Wied.

Stratiomys siderogaster, Wied., *Anal. Ent.* 29 ♀ (1824). *Auss. Zweifl.* II, 65, ♀ (1830).
Odontomyia siderogaster, Brun., *Rec. Ind. Mus.* I, 128 (1907).

Java. Type in Westermann's coll. The species is also in the Leyden Museum.

O. confertissima Walk.

Stratiomys confertissima, Walk., *Proc. Linn. Soc. Lond.* III, 79, ♀ (1859).

Described from the Aru Islands and apparently not recorded since. Walker's unique type is in good condition.

REDESCRIPTION.

♀ Head all brownish orange, a little white pubescence below; ocellar triangle rather blackish; antennae brownish orange, 2nd joint a little longer than 1st, 3rd about 1½ times as long as 1st and 2nd together. Eyes bare; proboscis black; occiput black except orange behind vertex. Thorax black; four narrow, well defined yellowish stripes formed of pale gold yellow pubescence, outer ones placed on side margins of dorsum, the other two median, equidistant, all reaching both front and hind margins. Pleura rather shining brownish orange, with a little whitish pubescence; a good sized black spot on mesopleura; under side of thorax black. Scutellum brownish orange, brownish at base, spines brownish orange; under side of thorax black. Abdomen black, extreme side margins yellowish; belly black, brownish yellow about the base. Legs brownish yellow; hind coxae black, hind femora and tibiae mainly dark brown, paler at extreme base and tips; front tibiae brown towards tips. Wings clear, rather yellowish anteriorly; stigma black, 5th vein and those forming discal cell blackish brown. Long. 9 mm.

O. parallela Walk.

Stratiomys parallela, Walk., *Proc. Linn. Soc. Lond.* VIII, 107, ♂ (1865).

The single ♂ in the British Museum is probably the type.

REDESCRIPTION.

Eyes bare; vertex black; frontal triangle almost reduced to a small, silver white spot; head below antennae shining black,

a small white hair spot midway on each eye margin, oral region brownish yellow; cheeks with a fringe of white hairs; proboscis black. Antennal 1st and 2nd joints subequal, brownish orange, nearly cylindrical, 3rd black, a little longer than 1st and 2nd together, apical style pointed. Occiput black. Thoracic dorsum and scutellum black, hind margin of latter brownish orange, as are the spines; dorsum of thorax with four gold yellow hair stripes as in *confertissima*; pleura shining black, mesopleura with whitish reflections in certain lights, and a pale spot above fore coxae with whitish reflections; a patch of yellowish pubescence in front of wing base. Underside of thorax with a little whitish pubescence. Abdomen brownish orange, 2nd, 3rd and 4th segments with a dorsal black stripe composed of a large diamond-shaped spot on each, largest on 1st segment and on this segment continued narrowly along front margin to the sides; all the spots contiguous. A smaller, irregularly shaped median contiguous spot on 5th segment. Belly uniformly brownish orange. Legs black; middle knees broadly, and all metatarsi wholly, brownish orange. Wings clear, stigma brownish yellow, halteres pale yellow. Long. 11 mm. New Guinea.

The dorsum of the thorax in this species exactly resembles that of *O. confertissima*.

O. viridana Wied.

Stratiomys viridana, Wied., *Anal. Ent.*, 29 (1824).
Stratiomys viridana, *id.*, *Auss. Zweifl.* II, 66 (1830).
Odontomyia ruficornis, Macq., *Dipt. Exot.*, Supp. IV, 48 (1849).
Odontomyia viridana, Wulp, *Notes Leyd. Mus.* VII, 61, notes (1865).
Odontomyia viridana, Brun., *Fauna Brit. Ind., Dipt. Brachy.* I, 72 (1920).

Bengal; Tibet.

There are four species which evidently bear considerable resemblance to each other, *O. siderogaster* Wied., *viridana* Wied., *garatas* Walk.,[1] and my *transversa*, all characterized by broad yellow side margins to the thoracic dorsum, with gold (in *O. siderogaster*, silvery) tomentum or short pubescence. In *O siderogaster* all four sides of the dorsum are yellow ("sandy yellow with silver shimmer"); in *O. viridana* the sides and hind margin only; in *O. garatas* and *transversa*, only the side margins. *O. siderogaster* and *viridana* have in addition two conspicuous median gold or silvery hair stripes which are absent in the other two species. In *O. siderogaster* the abdomen is brownish red, with a narrowly black tip, in the other three species it bears transverse black bands. These in the four ♀ ♀ in the British Museum are remarkably constant though the character itself is in most species a variable one. *O. garatas* and *transversa* bear distinct black spots on the frons which are absent in both of Wiedemann's species. *O. viridana* and *transversa* have distinct brown spots on the pleura of which Wiedemann makes no mention in *siderogaster* but there is a fairly

[1] From China, but closely allied to *O. viridana* and *transversa*.

obvious brown spot on the mesopleura in *garatas*. *O. siderogaster* is definitely and easily distinguished by its black legs, pale only at the base of the femora and the knees, the legs in the other three species being all yellow. Wiedemann does not mention the *width* of the median dorsal stripes in his two species. In two other oriental species with a four-striped thorax, *O. confertissima* and *parallela*, both Walk., these stripes are *very narrow*, though well defined, in *finalis* Walk., the remaining oriental species with such stripes they are so broad that, with the side marginal stripes, the gold yellow pubescence occupies the greater part of the surface.

There are seven species with broad or tolerably broad yellow side margins; *O. finalis*, with broad median stripes also; *O. confertissima* and *parallela* with very narrow median stripes; *O. siderogaster* and *viridana* with median stripes of unstated width, and finally *O. garatas* and *transversa* without median stripes. The side stripes referred to above are those of the extreme margins of the dorsum and do not apply to the pleura. The specimens of this species taken by me in Calcutta require confirmation, and are not available for examination at the time of writing.

O. finalis Walk.

Stratioyms finalis, Walk., *Proc. Linn. Soc. Lond.* IV, 94, ♀ (1860); V, 258 (1861).
Odontomyia finalis, Brun., *Rec. Ind. Mus.* I, 128, note (1907).
Odontomyia finalis, de Meij., *Tijd. v. Ent.* L, 227, ♀ descr. (1907); LIV, 266, note (1911).

Makessar, Manado, both Celebes; Semarang; Batavia, i, ♀ [both *Jacobson*]. Rangoon, one ♀, 18·viii·06 [*Brunetti*], identity of latter specimen requiring confirmation.

A ♂ and ♀ ♀ of this species are in the British Museum, the two latter bearing labels in Walker's handwriting. He described it from a ♀ from Makessar, subsequently recording it from Manado (Celebes), and one of these two specimens may be the type. The ♂ is also from Celebes and obviously of the same species.

REDESCRIPTION.

♂ ♀ In ♂ upper part of frons and the vertex black, a minute white spot above antennae; face black, mouth region and proboscis brownish yellow, labella large, black. Antennae orange; 1st and 2nd joints subequal, 3rd about 1¼ times as long as 1st and 2nd together. Occiput black. Thoracic dorsum covered with close golden yellow pubescence, with three long black stripes (caused by the absence of pubescence there), all slightly narrowed at each end and not attaining either front or hind margin; the middle stripe much narrower. Pleura black, with short gold yellow pubescence on upper part and, whitish pubescence below; scutellum black, hind margin orange yellow, with gold pubescence; spines brown. Abdomen brownish yellow, traces in ♂ of small

blackish spots in median line: belly brownish yellow. Legs brownish yellow, a well defined, broad, brownish black ring on basal half of hind femora in ♂, just clear of extreme base (less distinct in ♀): hind tibiae with slight traces of darkening in ♂ Wings clear, stigma pale brown. Long. 9 mm.

In ♀ the frons about $\frac{1}{3}$ width of head at level of antennae; middle third horizontally with bright yellow pubescence, lower third mainly occupied by two large, shining black calli; lower part of head shining black, covered with bright yellow pubescence but bare in spots, giving the appearance of shining black calli, an elongate one on each side of antennae, a rather smaller, similar one towards lower corners of eyes, and the median line of the face also shining black. Rest as in ♂

O. notatifrons, sp. nov.

♀. Singapore. Long. about 12 mm.

Head subtriangular seen from above through production forwards considerably of frons and face. Eyes bare, rather pale brown; frons and face rather rapidly widening from above downwards, dull yellowish, half width of head at level of antennae, upper part of frons and vertex with a shining black transverse band, its lower margin irregular. A little above the antennae, a transverse row of four small, elongate, rather diagonally placed black spots. A shining black callus-like spot from eye to eye, a little broader in middle, immediately above base of antennae. Whole under side of face, proboscis and palpi dull yellowish, almost bare. Postocular margins narrow but obvious, dull yellowish, almost bare; occiput similarly coloured, central part black.

Thorax dull yellowish, dorsum with a pair of moderately wide outer stripes towards side margins, narrowed anteriorly, just reaching hind margin; also a broad black median line from front to hind margins, greatly contracted from a little in front of suture nearly to its hinder end where it suddenly widens again. Pleura, scutellum and the small spines dull yellowish, all unmarked. Pubescence of thorax very short, yellowish.

Abdomen dull yellowish; a broad, median black band from base to tip, leaving a broad pale side margin the whole distance. Pubescence microscopic, black, uniform, a little obvious greyish pubescence towards sides at base. Belly concolorous, practically bare.

Legs all dull yellowish, unmarked.

Wings absolutely colourless; veins and stigma pale yellow; halteres yellowish.

Described from a unique ♀ in the British Museum from Singapore, mostly devoid of pubescence and possibly a little faded but obviously of a different species to any that have come before me.

O. transversa Brun.

Odontomyia transversa, Brun., *Fauna Brit. Ind., Dipt. Brachy.* I, 71 (1920).

Palur, Madras, viii·1915. From the Pusa collection; the unique ♀ sent to the British Museum. Possibly a variety of *O. viridana* W

O. minuta Fab.

Stratiomys minuta, Fab., *Ent. Syst.* IV, 268 (1794); *Antl.* 86 (1805).
Stratiomys minuta, Wied., *Auss. Zweifl.* II, 74 (1830).
Odontomyia minuta, Brun., *Rec. Ind. Mus.* I, 126 (1907).
Odontomyia minuta, *id.*, *Fauna Brit. Ind., Dipt. Brachy.* I, 65 (1920).
Odontomyia ochracea, *id.*, *loc. cit.*, I, 129, ♂ (1907).
Odontomyia submutica, *id.*, *loc. cit.*, I, 130, ♀ (1907).
Stratiomys pusilla, Fab., *Ent. Syst.* IV, 271 (1794); *Antl.* 89 (1805).
Stratiomys pusilla, Wied., *Auss. Zweifl.* II, 75 (1830).
Odontomyia pusilla, Brun., *Rec. Ind. Mus.* I, 128, note (1907).
Oxycera indica, *id.*, *loc. cit.*, I, 119, ♀ (1907).

Tranquebar; Ranchi; Siliguri; Rampore-Chaka, 23-31·ii·1907; Calcutta, iii; 4, 22·vi·1907 [*Paiva*]; 23·viii·1907; 28·ix·1907; Trincomalee, Hot Wells, Ceylon, 31·viii·90, 7·ix·90, 26·x·90; Nilaweli, 31·vii·90, Periakulam, 1·iii·91 [all Ceylon and *Yerbury*].

Type ♂ of *O. ochracea* from Calcutta, two other ♂ ♂ in my collection from Calcutta. Type ♀ of *O. submutica* from Siliguri; two other ♀ ♀, Calcutta, 5·iii·1905, 1·ii·1907 [both *Brunetti*]. Type of *O. indica* from Bareilly, 15–22·iii·1907. The types of all three species in Indian Museum. A ♂ in the British Museum labelled simply "India." Apparently a widely distributed species in India from February to September and a very variable one in its abdominal markings.[1] Both sexes have a broad median band on all the femora, the ♀ possessing one on the hind tibiae also.

It is strange that I did not recognize *O. minuta* F. in both my *ochracea* and *submutica*, as its small size, the four conspicuous black spots on the front of the head in the ♀, the bands on the legs (though these are sometimes much paler than usual), the very reduced discal cell and very small scutellar spines combine to characterize this species very distinctly. Its undoubted variability must be my excuse, being led away by Fabricius's description of the abdomen being mostly black, whilst the very minute scutellar spines in *O. submutica* seemed to make it specifically distinct. It varies from an entirely yellowish abdomen with the exception of a single spot at the base of the 2nd segment, to forms nearly entirely black. The former form is represented by a ♂ in the Indian Museum and is probably the *pusilla* of Fabricius also. Fabricius himself considered the latter an uncertain species.

O. maculata de Meij.

Odontomyia maculata, de Meij., *Tijd. v. Ent.* L, 229, ♂ ♀, pl. vi, 15, abdomen ♂, 16, abdomen ♀ (1907).

Etna Bai, Merauke, Papua, common [*Koch*]. Types in the Amsterdam Museum. Resembles the European *O. ornata* Mg. in size and appearance.

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[1] The *O. incomplata*, referred to by me in my first paper, was merely a manuscript name of a supposed different species, and it must be suppressed.

O. punctifacies, sp. nov.

♂ Ceylon. Long. 4½ mm.

Head. Upper, rather dull red facets sharply demarcated from the small black lower ones; eyes not quite contiguous at point of nearest approach. Vertex, upper and lower frons black; ocelli whitish. 1st and 2nd antennal joints yellowish, 2nd joint nearly as long as 1st, 3rd black, 4-annulated with stylate apical joint. Face whitish yellow with some concolorous pubescence. A moderately large black, rounded, shining bare spot just below antennae, and slightly but distinctly projecting. Proboscis and occiput black.

Thorax black, covered with pale gold yellow, short, rather sparse pubescence; pleura and scutellum similar, latter with rather broad yellowish hind margin and spines. A yellowish spot on humeri, a larger one below it, a lateral one on mesopleura, in front of wing, and one on hinder part of sternopleura.

Abdomen rather pale yellow; a little brownish towards sides and tip; normally a small, median black spot on front margin of each segment from 2nd onwards, the upper one generally round, the others, round, diamond or irregularly shaped, varying in size and shape; sometimes only the uppermost spot present. Belly yellowish.

Legs mainly yellow, coxae blackish except towards tips; a broad black median ring on femora, that on fore pair sometimes incomplete below; a broad, subapical black ring on hind tibiae. Pubescence of legs inconspicuous, pale yellow.

Wings quite colourless, veins and stigma pale yellow; halteres whitish yellow.

Described from 5 ♂ ♂ in the British Museum. Trincomalee, 28·ii·91, type; Kuchavilla, 27·iii·91; 6th milepost, Nilaweli Road, 2·iii·92 [all Ceylon and *Yerbury*].

A small *Nemotelus*-like species; with also a resemblance to *O. minuta* and *O. rubrithorax*, partly on account of similarity of size. Very distinct from all other species known to me.

O. ochropa Thoms.

Odontomyia ochropa, Thoms., *Eugen. Resa.*, 456 (1868).
Odontomyia ochropa, Brun., *Rec. Ind. Mus.* I, 130, note (1907).

Manila [*Thoms.*]. The species in the Indian Museum referred to by me in my first paper as allied to this one is my *O. dorso-angulata.*

O. atraria Walk.

Stratiomys atraria, Walk., *Proc. Linn. Soc. Lond.* VIII, 106, ♂ ♀ (1865).
Odontomyia atraria, de Meij., *Nov. Guin.* IX, 317.

Described from both sexes from Papua. A ♂ and ♀ in the British Museum are probably the types, especially the ♀

Redescription.

♂ ♀ In ♂ eyes bare: vertical triangle very narrow, with vertex shining black, latter with stiff black pubescence; face and rest of head brilliantly shining black; cheeks and proboscis with some brownish pubescence. Antennal 1st and 2nd joints subequal, 1st cylindrical, brownish yellow, 2nd rather broader at tip, blackish in ♂, brownish yellow in ♀; 3rd as long as 1st and 2nd together, blackish, with minute apical style. Thorax and scutellum all black, with rather dense, dark brown pubescence; scutellar spines brownish. Abdomen black, with black pubescence; side margins irregularly brownish orange, belly wholly brownish orange, with pale yellow pubescence. Coxae black, also femora, except extreme tips, brownish orange; tibiae and tarsi brownish, tibiae a little darker. Wings yellowish; stigma darker brownish yellow; veins dark brownish yellow or brown; veinlets from discal cell practically imperceptible; halteres pale yellow.

♀ Frons and face gradually widening from above downwards, very shining black, two large shining contiguous black calli just above antennae, reaching eye margins; a small whitish spot formed of a few hairs on each side of antennae, contiguous to eye margins, another one further upwards and two others below, all on eye margins and about equidistant from one another. Thorax (denuded) with a little pale gold pubescence towards sides of dorsum. Anterior tibiae and metatarsi rather paler than in ♂ Long. $7\frac{1}{2}$ mm.

Dr. de Meijere redescribes 3 ♀ ♀, from Alkmaar, Papua, December, as this species; but I think he is mistaken, as he notes the face and frontal calli as yellowish red, and the legs principally so. His species is also larger (10 mm.).

O. aequalis Walk.

Stratiomys aequalis, Walk., *Proc. Linn. Soc. Lond.* V, 271, ♀ (1861).

Batjan.

Redescription.

♀ *Head.* Eyes bare, width of head, viewed from in front, distinctly longer than height, the outer angles of the eyes bluntly conical. Frons and face gradually widening from above downwards, at level of antennae, more than $\frac{1}{3}$ width of head. Vertex and upper frons shining black, former with a little yellow pubescence, rest of frons and all face and lower part of head brownish yellow. Demarcation of black and yellow on frons occurring across middle of frontal calli. Three small white hair spots on eye margin on each side, one placed just above level of antennae, one at level of upper part of mouth opening, the third intermediate. Antennal 1st and 2nd joints and base of 3rd brownish orange, rest of 3rd black, tip pointed. Proboscis black, a little white pubescence on cheeks and lower part of occiput, upper part of latter black.

Thorax black in ground colour, except hind corners brownish

orange, covered with dense gold yellow, very short pubescence broadly on side margins and more sparsely on anterior margin, (disc bare of pubescence but possibly denuded). Scutellum bright lemon yellow, narrowly black in middle at base, practically bare; spines yellow with extreme tips black.

Abdomen black, side margins irregularly orange yellow; a small round, brownish orange spot towards sides of 2nd segment, well clear of margins. Belly yellowish (apparently green in life).

Legs mainly orange; fore and hind coxae with black marks; femora with a long black streak below towards tip, continued apparently irregularly and rather indefinitely up the sides but not meeting above (Walker describes it as a "ring"). Anterior tibiae obviously but rather indefinitely darker about the middle; hind tibiae almost wholly more brownish and the outer side distinctly blackish: tarsi mainly blackish.

Wings yellowish; costal cell and stigma moderately dark brown; discal cell rather large and distinct; 1st and 2nd veinlets sufficiently distinct, 3rd not noticeable: halteres pale green. Long. 13 mm.

Redescribed from the type, the species seemingly unrecorded since its erection.

Walker's expression that the scutellum has four small spines is incorrect, as there are only two, and of normal size.

O. lineata de Meij.

Odontomyia lineata, de Meij., *Nova Guin.* IX, 317, ♀ (1913).

Bivak Island, Papua, i; Regen Island, Papua, ii:

O. nexura Walk.

Stratiomys nexura, Walk., *Proc. Linn. Soc. Lond.* III, 80, ♂ ♀ (1859).
Euceromyia nexura, Big., *Bull. Ent. Soc. Fran.* LXXIV (1877).
Euceromyia nexura, Brun., *Rec. Ind. Mus.* I, 131 (1907).
Stratiomys cinctilinea, Walk., *Proc. Linn. Soc. Lond.* VI, 4, ♀ (1862).

Aru Islands; Mysol.

REDESCRIPTION.

♀ Head distinctly broader than thorax. Eyes bare; frons and face very gradually widening from above downwards; at level of antennae more than ⅓ of the head, wholly shining black except brownish yellow around mouth region. Antennal 1st and 2nd joints brownish yellow, 1st and 2nd subequal, 3rd black, a little longer than 1st and 2nd together, with minute style. Occiput black. Thorax black, with whitish pubescence apparently confined to side margins. Pleura black, with a little similar pubescence. Abdomen black, hind margins of segments and extreme side margins narrowly brownish orange. Belly brownish orange. Legs (only one remaining, a damaged hind one) pale yellowish; all coxae yellowish. Wings practically clear, stigma yellowish. Long. 7½ mm.

Described by Walker from a ♂ and ♀ from the Aru Islands, but neither specimen is in the British Museum.

The above description is from a ♀ in the same collection thus named by Walker. Walker describes the species as black, and that the tibiae and tarsi are tawny, thus inferring that all the femora are black, but the only leg remaining in the above specimen is wholly pale yellowish.

Bigot set up his *Euceromyia* on this species, mainly on the 1st antennal joint being shorter than the 2nd, but the relative lengths of the 1st and 2nd joints are so nearly equal in most species that the character has no generic value, all his other characters coming easily within the ordinary range of *Odontomyia*. As a matter of fact in the specimen described above the two first joints are practically equal in length. Bigot had a ♂ example from Mysol in the Paris Museum and noted the eyes as hairy and contiguous; but in the above ♀ they are quite bare, though this is sometimes a sexual character in the genus. Walker's type of *S. cinctilinea* is certainly conspecific, and there is a third specimen under the manuscript name of a new species by him which is also obviously conspecific.

O. consobrina Macq.

Odontomyia consobrina, Macq., *Dipt. Exot.*, Supp. III, 16, ♂ pl. i, 8 (1847).
Odontomyia consobrina, Wulp., *Mid.-Sum., Dipt.*, 14 (1881).
Odontomyia consobrina, Brun., *Rec. Ind. Mus.* I, 129, note (1907).
Odontomyia consobrina, de Meij., *Tijd. v. Ent.* L, 225, ♂ ♀ desc., pl. vi, 14, abdomen.

Java; Semarang; Batavia viii, xii [*Jacobson*], Buitenzorg, Java i [*Dammerman*]; Serdang, Sumatra.

Macquart notes the affinity of this species to *O. hydropota* Mg. of Europe, and de Meijere makes some comparative notes on Van der Wulp's specimen from Sumatra.

O. rubrithorax Macq.

Odontomyia rubrithorax, Macq., *Dipt. Exot.* I, 1, 185, ♂ (1838).
Odontomyia rubrithorax, de Meij., *Tijd. v. Ent.* L, 224, ♂ ♀ redesc. (1907).
Odontomyia rubrithorax, Brun., *Rec. Ind. Mus.* I, 128, note (1907).
Odontomyia rubrithorax, *id.*, *Fauna Brit. Ind., Dipt. Brachy.* I, 67, ♂ ♀ (1907).
Odontomyia immaculata, *id.*, *Rec. Ind. Mus.* I, 130, ♂ (1907).

Bengal; Bhim Tal, W Himalayas, 4500 ft., 22–27·ix·06 [*Annandale*]; Bareilly [*Brunetti*]; Asansol, Bengal, 13–14·ii·10; Calcutta, 31·iii·07 [*Brunetti*]; 12·iv·08, 5·v·07, Port Canning, 24·xi·07. Trincomalee Hot Wells, 17·viii and 7·ix·90; Trincomalee, 29·xii·91; Kanthalia, 15·x·90; [all Ceylon and *Yerbury*]. Biserat, Siam, 20·x·21, ♂ [*Robinson* and *Annandale*]; Semarang, i, iv, vii, viii [*Jacobson*]. Type of *O. rubrithorax* in Paris Museum, of *immaculata* in Indian Museum.

Dr. de Meijere compares this species with the common European *O. viridula* F. One ♂ in the British Museum has a

black spot below the fore femora near the base, the middle femora with a broad black median band, and the hind femora with the remainder of the legs all yellow. It bears some resemblance in the ♂ (through not being much larger) to *O. minuta* F., but may be distinguished by the absence of pale calli on the pleura, the wholly yellowish abdomen, all black scutellum and, as a rule, wholly yellow legs except the black coxae.

The femoral black rings appear to be variable in this species, and at times absent, one ♂ in the Indian Museum having wholly yellow legs. Others of the same sex have incomplete rings and one ♀ has a distinct ring on all four anterior femora, these rings being much fainter in another ♀

De Meijere speaks of the *tibiae*, not femora; is this a *lapsus* or a mistaken identification of species? Amongst the Indian Museum specimens there is no trace of any ring on the tibiae.

O. fascipes, sp. nov.

♂ ♀ Ceylon. Long. 7 mm.

Head in front view distinctly transverse, twice as broad as high, eyes narrowed at ends. Eyes in ♂ practically contiguous for some distance; upper facets sharply demarcated from small black lower ones. Head black; ocelli brownish yellow, rather large in ♂; some white pubescence above antennae, face rather thickly covered with snow white moderately long pubescence which is continued along under side of head; mouth opening pale yellow; proboscis black. Antennae 1st and 2nd joints brownish orange, 3rd blackish, 5-annulated, apical joint stylate; occiput shining black, no postocular band; extreme margin of eyes with a little very short yellowish grey pubescence. In ♀, frons with nearly parallel sides, one-third of head in width, black, with short yellowish pubescence.

Thorax black, minutely punctate, some longer, fine greyish pubescence in centre of dorsum; very short gold yellow hairs on anterior margin, longer white pubescence on side margins with which is mixed a number of small, thread-like silvery scales. Pleura with rather long, greyish white pubescence. Scutellum black, punctate, with rather narrow yellow hind margin and spines, and a little long fine hair.

Abdomen normally apple green. In ♂ with a broad dorsal stripe formed by a large median spot on each of 2nd and 3rd segments, with the sides indented, contiguous, the stripe thence continued uniformly wide to abdomen tip, but not reaching side margins. In ♀ upper half of median stripe very narrow, of uniform width on 2nd and 3rd segments, thence filling all the rest of the surface except a pale narrow side margin. Belly green or greenish, slightly darker towards tip.

Legs yellow; a black streak on under side of femora about the middle or rather more distally, not reaching tips, the spot on the hind pair always much smaller. A trace of a short blackish

streak on basal part of hinder side of hind tibiae; 3rd and 4th anterior tarsal joints blackish on upper side of hind tarsi, 2nd and 5th joints darker also. Pubescence of legs short, pale, inconspicuous.

Wings quite clear, anterior veins and stigma pale yellowish; halteres apple green, stems yellowish.

Described from 3 ♂♂ and 4 ♀♀ in British Museum. Trincomalee, 16·ii·92 and 20·vii·90 (type), 9·x·90, 13·ix·90, Kanthalia, 15·x·90 [both Ceylon, all *Yerbury*].

O. aurata de Meij.

Odontomyia aurata, de Meij., *Tijd. v. Ent.* LIV, 268, ♂ (1911).

Sindanglaja, Java [*Bolsius*]; Merauke, S. Papua [*Koch*].

The species has affinities with *O. claripennis* Thoms. and *rubrithorax* Macq. according to the author. The leg markings distinguish it from both species.

O. claripennis Thoms.

Odontomyia claripennis, Thoms., *Eugen. Resa*, 456, ♂ (1868).
Odontomyia claripennis, Brun., *Rec. Ind. Mus.* I, 129, note (1907).

Manila. Said to be near *O. albipennis* Macq., from Senegal.

O. immiscens Walk.

Stratiomys immiscens, Walk., *Proc. Linn. Soc. Lond.* IV, 94 ♂ (1860).
Odontomyia immiscens, Ost. Sack., *Ann. Mus. Gen.* XVI, 411 (1882).
Odontomyia immiscens, Brun., *Rec. Ind. Mus.* I, 130, note (1907).

Makessar, Kandari, Celebes, ♀, vi·74 [*Beccari*].

REDESCRIPTION.

♂ Eyes bare; vertical triangle black; face shining blackish brown, mouth region brownish yellow, with white pubescence, proboscis black. Antennae comparatively short, brown, 1st joint a little longer than 2nd, 3rd a little longer than 1st and 2nd together. Thoracic dorsum and pleura black, with dense, rather short whitish pubescence; scutellum black, hind margin broadly yellowish, spines yellowish. Abdomen brownish yellow; 1st segment (apparently) all black, 2nd, 3rd and 4th with a broad blackish brown band on anterior margin, not reaching sides, produced hindwards slightly in middle and towards each end. Belly uniformly yellowish. Legs (very damaged, front pair missing) apparently brownish yellow; hind femora broadly blackish brown at tip; hind tibiae blackish brown with a narrow yellowish band in middle. Wings practically clear; stigma hardly obvious, yellowish; veins and halteres yellowish.

Osten Sacken stated his doubt as to the correct identity of his ♀ from Kandari as the species was described from a ♂ only.

O. cohaerens, sp. nov.

♀ *Head.* Eyes bare; head distinctly broader than high. Frons and face gradually widening from above downwards, at level of antennae about one-third width of head, shining black; former with bright yellow, very short pubescence as far down as the two prominent orange calli, which are shining and bare. Face all bright shining orange, with a little gold yellow pubescence; mouth border pale yellowish, bare; cheeks black, with yellowish pubescence, but eye margins narrowly white. A small white hair spot contiguous to eye margins at about middle of face. Antennae bright orange, 1st and 2nd joints subequal, 3rd about 1½ times as long as 1st and 2nd together; occiput black, with a narrow edging of bright yellow pubescence.

Thorax black, with short bright yellow pubescence; pleura similar, pubescence on lower part whitish; a small patch of greyish pubescence below shoulders on a pale orange spot. Scutellum brownish orange, practically bare, broadly black at base in middle, spines brownish orange, tips very narrowly black.

Abdomen with ground colour yellowish (probably green in life), an indefinite blackish transverse mark in middle of 2nd and 3rd segments, and nearly filling 4th and 5th except at sides and hind margins. Belly pale yellowish.

Legs orange, outer side of hind coxae brownish; a broad brown apical ring on hind femora; hind tibiae brown except a moderately wide yellowish ring before middle; tarsi on upper side a little brownish.

Wings clear; costal and stigmatic region pale brownish; discal cell with 1st and 2nd veinlets distinct; halteres rather dull yellow. Long. 9 mm.

The unique ♀ is in the British Museum, from Mysol, bearing a label with the above specific name in Walker's handwriting.

O. lutatius Walk.

Odontomyia lutatius, Walk., *List. Dipt. Brit. Mus.* III, 532, ♀ (1849).
Odontomyia lutatius, Brun., *Rec. Ind. Mus* I, 129 (1907).
Odontomyia lutatius, id., Fauna Brit. Ind., Dipt. Brachy. I, 70 (1920).
Stratiomyis diffusa, Walk., *List. Dipt. Brit. Mus.* V 53 (1854).
Odontomyia diffusa, Brun., *Rec. Ind. Mus.* I, 129 (1907).
Odontomyia diffusa, Wulp, *Mid. Sum. Dipt.*, 14 (1881).
Odontomyia diffusa, de Meijere, *Tijd. v. Ent.* L, 228, ♀ desc. (1907), LIV 266, notes (1911).

Described from Malacca as *O. lutatius* and from Java as *O. diffusa*. Both types are in the British Museum and are conspecific. Siliguri, N. Bengal, 30·vi·06; Semarang [*Jacobson*], Sumatra.

As *O. diffusa* Walk. this species is recorded from Semarang [*Jacobson*]; v, [*Drescher*], vii, ix, Deli, Sumatra [*De Bussy*].

O. bifascia Walk.

Stratiomys bifascia, Walk., *Proc. Linn. Soc. Lond.* V 232 (1861).

REDESCRIPTION.

The one ♂ in the British Museum, in fair condition, must be the type. Eyes bare, contiguous almost to base of antennae, where there are a few short white hairs; vertex raised, black. Antennae comparatively long, 1st and 2nd joints subequal, yellowish, 2nd a little narrowed at base, 3rd black, 1½ times as long as 1st and 2nd together, a distinct apical style. Face, lower part of head and occiput shining black; oral region yellowish. Thorax and scutellum black, both covered with rather dense bright yellow pubescence; pleura with yellow and whitish pubescence. Abdomen black, with a little pale pubescence, more obvious towards sides of 2nd segment; 2nd and 3rd segments with a moderately large orange spot on each hind corner, joined by a narrow orange line on hind margin; whole side margins of abdomen orange. Belly orange; genitalia small but prominent, yellowish, with black marks. Legs orange yellow, extreme tarsi tips darker. Wings clear, stigma and veins pale yellow, halteres yellowish.

Long. barely 6 mm. Dorei, Papua.

O. restricta Walk.

Stratiomys restricta, Walk., *Proc. Linn. Soc. Lond.* VII, 203 (1864).

REDESCRIPTION.

♂ Eyes bare; vertical triangle and vertex shining black; head below antennae all shining black except the brownish yellow oral region. Antennal 1st and 2nd joints short, subequal, brownish yellow, 2nd rather broader at tip; 3rd black, nearly double as long as 1st and 2nd together, with small conical apical style. Proboscis rather large, black, with whitish pubescence; occiput rather deeply concave, black. Thorax black, with very short, sparse yellow pubescence, a little denser on shoulders, hind margins and sides; pleura black, with similar pubescence; scutellum black, pale hind margin and spines. Abdomen brownish orange; 2nd, 3rd and 4th segments with a moderately large black, diamond-shaped spot on each, broader than long, transverse, that on 2nd segment the largest, the spots nearly contiguous, 5th segment with an irregularly shaped median black spot. Belly brownish yellow. Legs all brownish orange except coxae black. Wings quite clear; anterior margin and veins yellowish; halteres brownish yellow. One type ♂, from Mysol, in the British Museum.

O. kashmirensis Brun.

Odontomyia kashmirensis, Brun., *Fauna Brit. Ind., Dipt. Brachy.* I, 67 (1920).

Kashmir, a few specimens of both sexes, 1915 [*Pease*]; Jhelum Valley, Kashmir, 5200 ft., vii–ix·1919 [*Pease*].

This species closely resembles *O. solennis* Walk. in the ♂ but the females of the two species are quite distinct.

O. dorsoangulata Brun

Odontomyia dorsoangulata, Brun., *Fauna Brit. Ind., Dipt. Brachy.* I, 68, larva, 69 (1920).

Pusa, Bihar, 10·viii·15; Chapra, Bengal; Calcutta, iii·iv, ix·x·xii common on chrysanthemums; Port Canning, 24·xii·1907 on Euphorbia; Coimbatore, Madras, "bred from aquatic larva" 7 and 10·x·1913; Bangalore [*Cameron*]. Type ♂ ♀ in Indian Museum.

O. solennis Walk.

Odontomyia solennis, Walk., *Ins. Saund. Dipt.* pt. I, 79, ♂ (1851).
Odontomyia solennis, Big., *Ann. Soc. Ent. Fran.* (5), IX, 186 (1879).

East India. A series of both sexes at Pusa, Bengal, 29·ii to 28·v in various years, on *Justicia*, indigo and sugar-cane. Chapra, Bengal.

Walker's description is not good; the term "brassy" not applying to the single ♂ type; the abdomen is longer than the thorax, although the tip is curled below the belly and is easily overlooked. My description in the "Fauna" volume agrees very well, though in the type the pubescence of the face does not appear dark when viewed from above. The 3rd antennal joint has four annulations, of which the first three possess small, whitish, scale-like spots, the 4th is darker grey with a minute pale style. The type has the appearance of seeming smaller than it really is.

Subfamily SARGINAE.

TABLE OF GENERA.

1.	3rd vein unforked; 4th vein with only two branches.	*Prosopochrysa* de Meij.
	3rd vein forked; 4th vein with three branches ...	2.
2.	2nd antennal joint prolonged, finger-like, over inner side of 3rd joint	3.
	2nd antennal joint without such prolongation ...	4.
3.	Anterior cross vein present	*Ptecticus* Loew.
	Anterior cross vein absent, through punctiform contact of praefurca with discal cell	*Gongrozus* Ender.
4.	Eyes densely pubescent in both sexes	*Chloromyia* Dunc.
	Eyes bare, or practically so	5.
5.	3rd antennal joint considerably elongate ...	*Chrysochlora* Latr.
	3rd antennal joint rounded or kidney-shaped ...	6.
6.	Eyes in ♂ very narrowly separated	*Sargus* F.
	Eyes in ♂ closely contiguous for a long space ...	*Microchrysa* Lw.

Genus Ptecticus Loew.

Verh. Zool. bot. Ges. Wien. v. 152 (1855).
GENOTYPE: *Sargus testaceus*, F., by original designation.

TABLE OF SPECIES.

1.	Species non-metallic in colouration (dorsum of thorax metallic green or blue in *aeneithorax*; shining violet blue in *assamensis*); 2nd vein originating exactly at anterior cross vein	2.
	Species brilliantly metallic, as in *Sargus*; 2nd vein	

	originating some distance beyond anterior cross vein	25.
2.	(*a*) Body mainly or wholly black	3.
	(*b*) Body rich dark brown, wings dark brown ; long. 21 mm.[1]	*aurobrunneus* Brun.
	(*c*) Body generally brownish yellow or orange, at least in ground colour, usually with transverse spots or bands	4.
3.	Dorsum of thorax with shining reddish blue tints ; abdomen black, with very small pale spots on hind corners of segments	*violaceus* Ender.
	Body wholly black, also legs ; wings dark brown ...	*remeans* Walk.
4.	Wings with basal half conspicuously orange yellow and apical half blackish	5.
	Wings practically unicolorous yellowish, grey or brownish (wing tip distinctly infuscated in *longipennis and sumatranus*)	8.
5.	5th and 6th abdominal segments with the *ground colour* (also genitalia) orange [2] (wing tip suffusion beginning well beyond discal cell)	*aurifer* Walk.
	5th and 6th abdominal segments all black or (*wulpii*) dark purple brown ; (wing tip suffusion beginning at or immediately beyond discal cell) ...	6.
6.	Genitalia tulvous	*wulpii* Brun.
	Genitalia black	7.
7.	Hind tibiae and hind metatarsi all black ...	*melanurus* Walk.
	Hind tibiae at tip, and hind metatarsi rather grey, with yellow ochre pubescence	*ochraceus* Ender.
8.	Wing tip rather broadly infuscated	9.
	Wing tip not conspicuously darker	10.
9.	Thorax deep metallic blue ; wings unusually long ; long. 12–14 mm.	*longipennis* W.
	Thorax reddish yellow ; wings of normal length ; long. 7½ mm.	*sumatranus* Ender.
10.	Thoracic dorsum yellowish with 3 distinct black stripes, or with other dark markings	11.
	Thoracic dorsum yellowish, without definite dark stripes ; at most traces of them, generally unicolorous ; (wholly dark brown in *rogans*, dorsum and scutellum purple brown in *albitarsis*, violet blue in *assamensis*)	13.
11.	Long. 8–9 mm. ; wings pale grey ; femora yellowish.	12.
	Long. 14 mm. ; wings yellowish brown ; basal half of femora yellow, apical half black	*tricolor* de Meij.
12.	Thoracic stripes narrow, well defined ; a prescutellar black spot ; pleura brownish yellow with large dark mesopleural spot ; hind femora brownish yellow	*brevipennis* Rond.
	Thoracic stripes broad, less well defined ; no prescutellar spot ; pleura shining black brown with broad yellow band ; basal ⅓ or ½ of hind femora black	*kambangensis* de Meij.
13.	(*a*) Hind legs entirely black	*papuanus* Big.
	(*b*) Hind femora yellowish, with a distinct black streak on outer side	14.
	(*c*) Hind femora unmarked...	17.

[1] This may seem a weak differentiation but the species is so large and striking that it cannot be confused with any other.

[2] Though most of the segments have a blackish brown large or medium size transverse spot, the *ground colour* of the 5th and 6th is always obviously orange or brownish orange, whereas in *melanurus* and *wulpii* it is equally obviously wholly dark.

14.	Thorax unicolorous brownish yellow	15.
	Thorax dorsum metallic blackish green or blue ...	*aeneithorax* de Meij.
15.	Hind tarsi black except 2nd joint and about basal half of 3rd	*cingulatus* Lw.
	Hind tarsi all white or orange, except about basal third to two-thirds of metatarsus	16.
16.	1st abdominal segment with 2 contiguous dark spots; 2nd, 3rd and 4th mainly black; 5th and 6th all black	*rectinervis* de Meij
	Abdomen all orange, with a small or medium sized transverse blackish brown spot on each segment...	*complens* Walk.
17.	Thorax wholly dark brown, also pleura and scutellum	*rogans* Walk.
	Thorax brownish yellow or orange; sometimes with indistinct traces of stripes on dorsum; dorsum purple brown in *albitarsis*, violet blue in *assamensis*	18.
18.	All legs unicolorous, "red", (? brownish yellow or orange) [1]	*rufus* Dol.
	Legs not unicolorous; hind legs with brownish yellow or orange femora and all black hind tibiae; hind tarsi either all black, or partly black and partly whitish, or yellowish	19.
19.	Hind tarsi wholly black	*ferrugineus* Dol.
	Hind tarsi not wholly black	20.
20.	Larger species, 17 to 20 mm. long	21.
	Smaller species, at most 12 mm. long	22.
21.	Abdomen all orange; wings pale yellowish grey; hind tarsi all black except 2nd and 3rd joints yellowish.	*repensans* Walk.
	Abdomen with a large blackish spot on each segment; three-fourths of hind metatarsus black, rest of hind tarsus whitish	*tarsalis* Walk.
22.	Abdominal 4th, 5th and 6th segments all black ...	*quadrifasciatus* Walk.
	Abdominal 4th, 5th and 6th segments not all black.	23.
23.	*a.* Dorsum of thorax and scutellum dark brown; (hind metatarsus black, rest of hind tarsus snow-white; abdominal 2nd and 3rd segments black brown on anterior half; 5th and 6th mainly black brown)	*albitarsis* de Meij.
	b. Dorsum of thorax and scutellum shining violet blue; hind metatarsus black at extreme base only, rest of hind tarsus yellowish white; first four abdominal segments with very broad violet black band on or near front margins; 5th and 6th all violet black except front margin of 5th narrowly pale	*assamensis*, sp. nov.
	c. Thorax unicolorous, brownish yellow ...	24.
24.	Hind metatarsus black at base only; rest white; abdomen with definite transverse black bands, generally reaching side margins, sometimes reduced to transverse very elongate spots not quite reaching side margins; posterior cross vein practically absent	*australis* Sch.
	Hind metatarsus black on basal half, rest whitish, abdomen with smaller elongate, transverse blackish spots, quite clear of all margins	*connectens*, sp. nov.
25.	Legs brownish orange; hind legs with apical half of femora and basal half of tibiae black or blackish, sometimes hind legs mainly blackish ...	*gemmifer* Walk.
	Legs wholly black or blackish	26.

[1] Doleschall describes them as "red," probably what would now be called brownish yellow. Walker's "tawny," Macquart's "fauve" and Verrall's orange" usually also apply in such cases.

26. Wings yellowish grey, stigmatic region rather dark brown ... ... *cyaneus* Brun.
Wings all dark brown, distinctly broader than usual, stigmatic region not obviously darker ... *latipennis*, sp. nov.

In using this table it must be remembered that species with the *ground colour* of the thorax yellowish (i.e. the pleura, and generally the extreme side margins of the dorsum) are classified as non-metallic, even though the dorsum is mainly or wholly metallic. Such species are *P. aeneithorax, assamensis* and *longipennis*. It has been very difficult to draw up a table that is satisfactory in all respects.

Gongrozus Ender. is, to my thinking, possibly synonymous with *Ptecticus*. Of the three species referred to it *G. nodivena, with its variety,* is allied to *P. violaceus* Ender., *vulpianus* to *quadrifasciatus* Walk. and *sauteri* to *aurifer* Walk., possibly identical with it.

The oriental species of *Ptecticus* form themselves into four fairly well marked groups, of which the first two may be regarded as the most typical. 1st, the *aurifer* group, yellow bodied, large species with the basal half of the wings bright yellow, the distal half blackish. Four species are recognised here, one (*ochraceus* Ender.) being possibly synonymous with *melanurus* Walk. 2nd, the *cingulatus* group, yellow bodied species of from large to rather small size, mostly with transverse black spots or bands on the abdomen, and yellowish grey, mainly unicolorous wings. 3rd, a single species (*remeans* Walk.) with wholly black body and legs. 4th, brilliantly metallic species, as in *Sargus*, only three in number, *gemmifer* Walk., *cyaneus* Brun., and *latipennis*, sp. nov. The majority of the species fall in the *cingulatus* group. Three are regarded here as more or less intermediate, *tricolor* de Meij., *violaceus* Ender. and *aurobrunneus* Brun.

The group of yellow and black winged forms which I call the *aurifer* group now appears to me to be restricted to only four species, *aurifer* Walk., *melanurus* Walk. (with *luridus* Walk., *leoninus* Rond. and *apicalis* Lw. as synonyms), *wulpii* Brun. (*apicalis* Wulp, preocc. Lw.), and *ochraceus* Ender., the latter possibly a variety of *melanurus*. The decision has only been made possible by an examination of Walker's types. *P. aurifer* is distinct from the other three species by its orange ground colour of the 5th and 6th abdominal segments. There are transverse dark spots on all the segments varying considerably in size, but the essential feature is the orange ground colour of these two particular segments. *P. wulpii* and *melanurus*, both with these segments wholly black, are easily separated from one another by the former possessing orange, and the latter black genitalia. The character of the colour of the 5th and 6th abdominal segments is quite distinct from that of the genitalia. Probably nearly fifty specimens of the group have come before me whilst in India, and the British Museum contains nearly twenty more.

In the type of *P. aurifer* the genitalia also are orange, the

hind tibiae bear a moderately broad blackish *ring*, in which they differ from the usual pattern of colouration of these parts, and a further difference is in the wing tip suffusion which does not commence until some distance beyond the discal cell. In a second specimen of *aurifer* named by Walker, the legs are wholly orange to the tip.

P. melanurus Walk. is represented in the British Museum by two headless males forming part of a series labelled by Walker as the "Hardwicke bequest," one of them being also marked as the type, which was headless at the time of describing the species and was placed in *Ctenophora* (Tipulidae). The type has faint traces of three dorsal thoracic stripes; an indistinct large transverse darker spot on each of the first four abdominal segments, the 5th and 6th being quite black, the apical half of the hind tibiae and the hind metatarsi barely darkened. The 2nd specimen has the first four abdominal segments wholly orange and the hind tibiae apically and the whole hind tarsi black.

P. luridus Walk. is represented in the British Museum by a ♂ bearing a label with the specific name in Walker's handwriting and is almost certainly named by him. It is probably the type, although another label bears the letters "Sar" (probably a contraction for Sarawak), although the type was recorded as coming from Singapore. In this specimen there are no traces of thoracic stripes, the first four abdominal segments are all orange, the 5th and 6th all black, the apical half of the hind tibiae and the greater part of the hind tarsi black. A number of more recently acquired specimens of both sexes in good condition are obviously conspecific and they shew the several variations attributed by me to *P. melanurus*.

The principal character of *P. leoninus* Rond. is the all orange colour of the first four abdominal segments but it is certainly only an individual feature. In some specimens of this form the hind tibiae and tarsi are all orange but others have these parts to a greater or less extent black or blackish.

The claim of *P. apicalis* Lw. (*nec* Wulp) to specific distinctness rests on the prominent, large, round black spot on the 4th abdominal segment, lying clear of the all black 5th and 6th segments, but closely approximate specimens have come before me, one of them a ♂ in the British Museum from Kasauli, though in this specimen the spot is neither so deep nor so clearly outlined as in Loew's figure. The specimens taken by me at Mussoorie and referred to in a previous paper[1] were definitely assigned to *P. apicalis* but my acquaintance with this group was at that time very limited.

There seems no doubt that these four forms *P. melanurus*, *luridus*, *leoninus* and *apicalis* represent but a single fairly common

[1] *Rec. Ind. Mus.* I, 111. These specimens are now packed away and are not available for comparison. Moreover, I wrongly translated Loew's remark on the tibiae, as that author says, "hind tibiae becoming gradually darker from base to tip." They may, however, ultimately prove to be this form.

species, widely distributed throughout the Orient. It must be known as *P. melanurus* Walk. and not *aurifer* as I have hitherto supposed.[1]

Its essential characters are 1st, an orange coloured body, sometimes a little darker on the disc of the thorax, sometimes bearing in that part three indistinct darker stripes; 2nd, large brownish transverse marks on the first four abdominal segments, often indistinct and frequently absent on the basal segments, not infrequently wholly absent; 3rd, the 5th and 6th abdominal segments, with the genitalia, wholly black; 4th, the tips of the hind tibiae and the whole hind metatarsi black or blackish, the colour often extending to the hind tarsi tips; 5th, a wing with, roughly speaking, the basal half or up to a little beyond the discal cell bright orange yellowish, the apical half blackish, the hind marginal region being generally dark greyish.

The species are grouped in the following notes according to their apparent affinities, but *P. remeans* is difficult to locate satisfactorily.

P. aurifer Walk.

Sargus aurifer, Walk., *List Dipt. Brit. Mus.* V, 96 (1854).
Ptecticus aurifer, Brun., *Rec. Ind. Mus.* I, 110 (1907).
Ptecticus aurifer, Kert., *Ann. Mus. Hung.* VII, 389, pl. ix, 4 text fig. 2, antenna (1909).

I now consider the two specimens in the British Museum, referred to in my notes above, as the only ones that have come before me of this species except a ♂ in the Indian Museum from Parambikulam, Cochin State, 1700–3200 ft., 16–24·ix·14 [*Gravely*]. *Gongrozus sauteri* Ender. must be closely allied to this species. Walker's differentiation of his species from *cuprarius* L. the common European species of *Sargus* is illuminating, considering that the two forms have nothing in common.

P. melanurus Walk.

Ctenophora melanura, Walk., *List Dipt. Brit. Mus.* I, 78 (1848).
Sargus melanurus, Ost. Sack., *Berl. Ent. Zeits.* XXX, 166, note (1886).
Sargus melanurus, Wulp, *Tijd. v. Ent.* XXVIII, 81 (1884).
Sargus melanurus, de Meij., *Bijd. tot Dierk.* XVIII, 95 (1904).
Sargus luridus, Walk., *Proc. Linn. Soc. Lond.* I, 8 (1856).
Sargus leoninus, Rond., *Ann. Mus. Gen.* VII, 454 (1875).
? *Ptecticus apicalis*, Loew., *Verh. zool. bot. Ges. Wien.* V 142, pl. figs. 3, 4 (1855).
Ptecticus apicalis, Brun., *Rec. Ind. Mus.* I, 110, notes (1907).
Ptecticus apicalis, Ender., *Zool. Anz.* XLIII, 582, note; fig. 2, antenna (1914).

Further data are as follows: Kasauli, N.-W. India, 28·vii·02 [*H J W Barrow*]; Darjiling District, 1000–3000 ft. v·12 [*Lord Carmichael's collr.*]; Runjit Valley, Sikkim, v·94 [*Bingham*]; Lower Ranges and Dibra, N. Khasi Hills, 1878 [*Chennell*]; Singapore

[1] All my previous references to and determination of specimens as *P. aurifer* must be understood to apply to *melanurus*.

[*H. N. Ridley*]; Bukit Besar Patani, Malaya [*Robinson* and *Annandale*].

P. wulpii Brun.

Ptecticus wulpii, Brun., *Rec. Ind. Mus.* I, 111, *nom. nov.* for *P. apicalis* Wulp, preocc. Loew, 1855; and *loc. cit.* IX, 263, note (1913).
Ptecticus apicalis, Wulp, *Notes Leyd. Mus.* VII, 62, ♂ ♀ (1885).
Ptecticus apicalis, de Meij., *Tijd. v. Ent.* LVIII, Supp. 70, note (March 1916).

Darjiling, 1000—3000 ft., v·1912; Singla, Darjiling District, iv·1913; Margherita, Assam; Sumatra, ♂ [*van Landsberge*]; Borneo, 1 ♀ [*Müller*]; Simalur; Sibolga, Sumatra, vii [*Jacobson*].

The species is easily recognised by the all black 5th and 6th abdominal segments in conjunction with the all orange genitalia.

P. ochraceus Ender.

Ptecticus ochraceus, Ender., *Zool. Anz.* XLIII, 582 ♂ (1914).

Soekaranda, Sumatra, ♂, Deli, Sumatra [both *Dohrn*].

Type in the Stettin Natural History Museum.

This species only differs from *P. melanurus* by having the hind tibiae at tips and the hind metatarsi rather grey, though bearing yellow ochre pubescence. It may be but an individual variation. One ♀, Darjiling. Unique type in the Stettin Nat. Hist. Museum.

P. aurobrunneus Brun.

Ptecticus aurobrunneus, Brun., *Fauna Brit. Ind. Dipt., Brachy.* I, 76 (1920).

From the large size, dark brown wings, body and legs, this species seems best placed between the *aurifer* and *cingulatus* groups. *P. tricolor* de Meij. is also apparently intermediate between the groups, and is a well characterised species.

P. tricolor, Wulp in de Meij.

Ptecticus tricolor, Wulp in de Meij., *Bijd. Dierk.* XVIII, 95, pl. viii, 11 (1904).
Ptecticus tricolor, *loc. cit.*, XXI, 21 (1919).
Ptecticus tricolor, Brun., *Rec. Ind. Mus.* I, 112, note (1907).

Sukabumi, Java, 1 ♂ Type in the Amsterdam Museum. The description is attributed to Van der Wulp. A ♂ and ♀ in the Indian Museum are from Rangamati, Chittagong Hill Tracts, Bengal, 11–6·vii·15 [*Hodgart*], and Pashok Spur, Darjiling Distr. [*Lister*] respectively. Suban Ajam, Sumatra, vii.

The cingulatus group.

Many of the species collected under this heading have prominent characters of identification but the others mainly follow a typical pattern presenting the following features. Body orange or brownish yellow; frontal triangle pale yellowish or whitish, frons above this with vertex black; thorax in individuals a little darker; abdomen generally with transverse black bands or spots

(an inconstant character); hind tibiae wholly and part of hind tarsi black; wings pale yellowish grey.

P. longipennis and *sumatranus* are easily recognised by the suffused wing tips; *P. brevipennis* and *kambangensis* by the conspicuous black marks on the thorax; *P. papuanus* by the wholly black hind legs; *P. aeneithorax* by the metallic thoracic dorsum; *P. rogans* by the all dark brown thorax; and *P. rufus* by the uniformly "red" legs, all these characters being peculiar to these particular species. The remainder are not at all easy to differentiate, especially in single or damaged specimens. As a matter of convenience the notes on the various species are arranged in the order given in the table of species.

P. longipennis Wied.

Sargus longipennis, Wied., *Anal. Ent.*, 31 (1824).
Sargus longipennis, *id.*, *Auss. Zweifl.* II, 34 (1830).
Sargus longipennis, Macq., *Dipt. Exot.* Supp. 5, 47, pl. i, 11 (1855).
Sargus longipennis, Rond., *Ann. Mus. Gen.* VII, 454, note (1875).
Sargus longipennis, Brun., *Rec. Ind. Mus.* I, 106, note (1907).
Ptecticus longipennis, de Meij., *Tijd. v. Ent.* LIV, 265, notes (1911).

Sarawak; Pulu Balei, Sumatra, iv; Sinabang, Simalur, Sumatra, iv; Tandjong Morawa (Serdang, N.-E. Sumatra) [*Hagen*]; Java, Malacca, Pulu Babi, Papua. A ♂ in the Indian Museum from Sadiya, Assam, and both sexes in the British Museum from Singapore and Malacca [both *H. N. Ridley*]; Singapore, 30·i·08 [*G. Meade Waldo*].

Easily known from all others in the group except *P. sumatranus* by the broadly infuscated wing tips. Eyes in ♂ almost touching, frontal triangle varying from white to brownish yellow; upper part of frons with vertex deep black. Ground colour of thorax yellowish, dorsum shining metallic deep blue, a large shining deep blue black lateral spot on mesopleura and another on sternopleura, scutellum, metanotum and hypopleura also metallic blue black. Abdomen with ground colour brownish yellow, a wide blue black band or large transverse spot on or near anterior border of each segment nearly filling the whole surface, 5th segment all black except that individuals may have the front or hind corners (or both) pale. Long. 12 to 14 mm., length of each wing rather more.

Though *P. longipennis* was placed with a brilliantly metallic species, *P. cyaneus* Brun., in my Fauna volume it seems more allied to the *cingulatus* group, especially as the anterior cross vein occurs at the tip of the praefurca as in the other species of this group. In *P. cyaneus* and its allies the 2nd and 3rd veins diverge much beyond this cross vein.

Type in Westermann's collection.

P. sumatranus Ender.

Ptecticus sumatranus, Ender., *Zool. Anz.* XLIII, 583, ♂ (1914).

Soekaranda, Sumatra, 1 ♂ [*Dohrn*]. Type in the Stettin Natural History Museum.

P. brevipennis Rond.

Sargus brevipennis, Rond., *Ann. Mus. Gen.* VII, 454, ♀ (1875).
Ptecticus brevipennis, Wulp, *Notes Leyd. Mus.* VII, 63, note and redescr. ♂ (1885).

This species may be easily recognised as the only one in this group except de Meijere's *P. kambangensis* with distinct black stripes and spots on the thoracic dorsum and the pleura.

Van der Wulp gives an excellent redescription from 3 ♂ ♂ from Java. Sarawak, Soekaranda, Sumatra, 1 ♂ [*Dohrn*]; Sula, 1 ♀ [*Brit. Mus.*], Java, 3 ♂ ♂ [*Blume*]. Type in the Genoa Museum.

REDESCRIPTION.

♀ Sula. Long. 8½ mm.

Head. Eyes separated at nearest approximation by about one-tenth the diameter of the head, the frons thence gradually widening to the vertex, shining blue black; frontal protuberance above antennae whitish, antennae yellowish, arista black; face and lower parts of head yellowish; occiput blackish.

Thorax shining brownish orange, three very distinct narrow black stripes, medium one from anterior margin to suture; outer ones from just behind humeri to wing bases; a transverse spot in front of scutellum; mesopleural region and metanotum also black. Pubescence of thorax and abdomen pale yellowish.

Abdomen. Ground colour yellowish, 2nd, 3rd and 4th segments with a broad black band filling anterior half of each segment, 5th segment to tip, with genitals, black. Belly mainly yellowish.

Legs orange yellow to tips of anterior pairs; hind tibiae and base of hind metatarsi black, rest of hind metatarsi whitish.

Wings very pale grey; stigma just perceptibly pale yellowish, anterior cross vein exactly at tip of praefurca; halteres brownish.

Redescribed from a ♀ in the British Museum from Sula bearing in Walker's handwriting a manuscript specific name, which need not be perpetuated.

The above description agrees almost exactly with that of Rondani, and the identity is practically certain as the thoracic marks fix the species.

P. kambangensis de Meij.

Ptecticus kambangensis, de Meij., *Tijd. v. Ent.* LVI, Supp. 16, ♂ (Mar. 1914).

Nusa, Kambangan, iii [*Jacobson*]. Type in the Amsterdam Museum.

This species is, as its author notes, closely allied to *P. brevipennis* Rond. The differences appear to be as follows:—

In *P. brevipennis* the thoracic stripes are narrow, deep black and clearly cut; there is also an equally distinct transverse black spot in front of the scutellum. Pleura brownish orange, con-

colorous with thoracic dorsum, with a rather well defined blackish brown, nearly oblong spot over the mesopleural region, close under the narrow yellow line separating it from the dorsum. A moderately large brown spot on hinder part of pleura, almost contiguous to posterior calli and scutellum. Black abdominal bands on 2nd, 3rd and 4th segments just reaching side margins, 5th and 6th segments all black. Hind legs with coxae and femora brownish yellow, tibiae and base of metatarsi black, rest of hind tarsi whitish yellow.

In *P. kambangensis* the dorsal thoracic stripes are very broad, less distinct and not clearly cut; the hind marginal dark spot is absent; the ground colour of the pleura is shining blackish brown with a broad yellow band; the 6th abdominal segment is all yellow with only the trace of a median spot; the hind legs have the femora black with the apical $\frac{1}{3}$ to $\frac{1}{2}$ yellow, the extreme tibiae tips, the metatarsi and base of next joint whitish.

The two species therefore appear clearly distinct.

P. papuanus Big.

Sargus papuanus, Big., *Ann. Soc. Ent. Fran.* (5) IX, 223 (1879).
Ptecticus papuanus, de Meij., *Nova Guin.* IX, 319 (1913)

Dr. de Meijere redescribes both sexes of this species from Papua and the following notes from that redescription may be of service. ♂ Frons narrow, shining black, black haired; yellowish white above antennae; antennae reddish yellow, arista black, epistome yellow; proboscis reddish yellow. Thorax reddish yellow; dorsum purplish brown. Abdomen reddish yellow at base; 2nd segment with a darker cross band, the remainder mainly all blackish brown; 3rd with more or less distinct yellow hind margin; genitalia blackish brown. Legs reddish yellow; last four joints of anterior tarsi blackish brown. Hind femora, tibiae and tarsi wholly black; basal half of middle tibiae black. Wings mostly distinctly brown, often almost uniformly so, sometimes darker about middle of anterior margin. Long. 13 mm.

In the ♀ the frons is very little broader than in the ♂ One of the specimens measures only 9 mm. Other notes of interest are added. His localities are Birak Is., i, ii; Lorentz Fluss, ix; Rivierkamp, ii; Alkmaar, x, all Papua. He again records it from Papua, 22·ix·12 [*Nova Guin.* XIII]. The type, which was headless and otherwise damaged at the time of description is in Bigot's collection. The wholly black hind legs distinguishes this species from all others in this group.

From an examination of the headless and damaged type I may note that the thoracic dorsum is wholly orange yellow, the 2nd and 3rd abdominal segment have an indefinite though obvious transverse large blackish spot on each and from the 4th segment inclusive the rest of the abdomen is black; wings uniformly pale brown. Long, without head, 9 mm.

P. aeneithorax de Meij.

Ptecticus aeneithorax, de Meij., *Bijd. Dierk.* XXI, 20, ♂ ♀ (1919).
P. lacteitarsis, Edw., *Jour. Fed. Malay Sts. Mus.* VII, 23 (1919).

Suban Ajam, Sumatra, vii, ♂ ♀ ; Sungei Kumbang, Korinchi, Sumatra, 4500 ft., iv·1914 ; Bukit Kutu, Selangor, 3500 ft. [*Robinson*].

Type of *P. aeneithorax* in the Amsterdam Museum, that of *P. lacteitarsis* in the British Museum.

P. cingulatus Loew.

Ptecticus cingulatus, Loew., *Verh. zool. bot. Ges. Wien.* V, 143. ♂ (1855).
Ptecticus cingulatus var. *ceylonicus*, Brun., *Fauna Brit. Ind., Brachy*, I, 80 (1820).
Sargus latifasciatus, Walk., *Proc. Linn. Soc. Lond.* I, 110 ♂ (1857).
Ptecticus latifasciatus, Wulp, *Notes Leyd. Mus.* VII, 64, notes ♂ ♀ (1885).
Ptecticus latifasciatus, Brun., *Rec. Ind. Mus.* I. 113 (1907).
Ptecticus latifasciatus, de Meij., *Tijd. v. Ent.* I. 219 (1907).

Soekadana, Lampongs, Sumatra, ♂ [*van Hasselt*]; Java Srondol, Semarang, Java, i [*Jacobson*]; Singapore [*Ridley*]; Tutong Riv., N.-W Borneo, v·95 [*Everett*]; Sarawak.

Six ♂ ♂ and 1 ♀ in the Indian Museum from Peradeniya, Kandy, North Coorg and another locality with an illegible label. Four ♂ ♂ and 1 ♀ in the Sarawak Museum; one ♂ from the Federated Malay States. Several authors record it under the name *latifascia* Walk.

The type of *S. latifascia* agrees closely with Loew's description of *P. cingulatus* and with specimens identified by me as this species from various parts of India and Ceylon. Walker's type of *latifascia*, from Sarawak is 13 mm. long, though he quotes the species as 5 lines in length. The other specimens seen by me were about 16 or 17 mm.

My var. *ceylonicus* is apparently the typical form of *cingulatus*, my first interpretation of Leow's species being incorrect as regards the colouration of the wings. The four specimens in the British Museum under *P. latifascia* show the following characters :—

Brownish orange, 2nd to 5th abdominal segments with a moderately broad black band on or near anterior margin, sometimes broader, taking the form of large, transverse oval spots: genitalia comparatively small, black. Legs brownish yellow, anterior tarsi tips narrowly black; hind femora with a blackish streak on outer side, its hinder end curving on to the upper side; hind tibiae and tarsi black, with the 2nd and 3rd joints white or whitish: wings pale yellowish grey. They are from Singapore and the Tutong River, as noted above, and 12 to 17 mm. long. Further specimens are from Peradeniya, 17·v·92, Henaratgoda, 16·vi·91; Hinaduma, 28·iv·02; [all Ceylon and *Yerbury*]. They include one ♀, which sex appears much less common than the ♂

P. cingulatus has a general resemblance to *P. australis* Sch., but is very much larger and differs in other important characters.

P. rectinervis de Meij.

Ptecticus rectinervis, de Meij., *Tijd. v. Ent.* LVI, Supp. 15, ♂ (Mar. 1914) and LVIII, Supp. 70, note (Mar. 1916).

Nongkodjadjar, Java, i [*Jacobson*]; Sibolga, Sumatra, viii. Type in the Amsterdam Museum.

This species presents the following characters :—

Scutellum tip blackish brown. 1st abdominal segment with two large contiguous black spots; 2nd, 3rd and 4th segments each with a broad black band just clear of anterior margin but leaving a broader hind margin pale; 5th and 6th segments all black. Legs yellow; anterior tarsi darker; hind tibiae black; hind femora, except at tip, black on outer side, hind tarsi white, basal $\frac{1}{3}$ of hind metatarsi black. Wings rather brown, stigma a little darker. Long. 11 mm. Java.

From *P. cingulatus* it differs by the 1st abdominal black band being broken into two contiguous spots, by the other bands being more definite as such instead of approximating to large oval spots, by the all white hind tarsi (except the basal black third of the metatarsus), and by the rather smaller size. The specific distinctness does not seem certain.

P. complens Walk.

Sargus complens, Walk., *Proc. Linn. Lond.* III, 81, ♀ (1859).

Two ♂ ♂ labelled *complens* in Walker's handwriting (Brit. Mus.), the type from Aru, the second specimen from Papua. Walker described the species from an alleged ♀ but he may have mistaken the sex as the ♂ genitalia in some Sarginae, when closed, often appear elongate and narrow. The species is orange; head black above the nearest approximation of the eyes, which do not quite touch. 2nd to the 5th abdominal segments bearing on each a transverse, rather oval, distinct, though not clearly outlined blackish spot. Genitalia and legs orange; an indistinct dark streak on basal half of outer side of hind femora, hind tibiae and about basal half of hind metatarsi black; wings yellowish grey, deeper on apical half of anterior region, the colour disappearing gradually hindwards. Long. 15 mm.

This species is very near *P. cingulatus* Lw. but apparently distinct when the two forms are placed side by side; the wing suffusion starting rather abruptly in the stigmatic region; the indistinct femoral streak showing no trace of continuation on to the upper side, the all orange hind tarsi except the basal half or two-thirds of the metatarsi, and the more restricted and brownish abdominal spots which in *cingulatus* are larger, blacker and more band like, and serve to give it specific rank. In the nearly wholly pale hind tarsi it is akin to *P. rectinervis* de Meij., but in this latter species the abdomen is mainly black.

P. rogans Walk.

Sargus rogans, Walk., *Proc. Linn. Soc. Lond.* III, 81 (1859).
Sargus rogans, Ost. Sack., *Ann. Mus. Gen.* XVI, 416 (1882).
Ptecticus rogans, de Meij., *Nova Guin.* IX, 320 (1913).
Ptecticus doleschalli, Big., *Ann. Soc. Ent. Fran.* (5) IX, 231, ♂ (1879).
Ptecticus doleschalli, Wulp, *Term. Fuzet.* XXI, 411 (1898).
Ptecticus doleschalli. Brun., *Rec. Ind. Mus.* I, 113 (1907).

Aru Mysol, Tamara, Berlinhafen, Papua, 4 ♂ ♂, Dorei Hum, Papua, ii·75, 1 ♂ [*Beccari*], Lucknow, 7·ix·05, ♂ ♀ [*Brunetti*] Philippine Is.

Walker described both sexes but only the type ♀ is now present, badly mouldy. The head appears to be of the normal pattern in this group, the thorax is wholly dark brown, the abdomen probably in life fairly bright orange, with a narrow, transverse dark brown streak on each segment just behind the anterior margin and also traces of a narrow dorsal stripe. Apical segment and the small genitalia black. Legs orange yellow, posterior coxae dark brown, tips of anterior tarsi blackish, hind tibiae and metatarsi all black.

Type from Aru, in British Museum, that of *P. doleschalli* in Bigot's collection Dr. de Meijere has identified *P. rogans* from Papua and he notes its characters. The wholly rather dark brown thorax distinguishes it from all the species in this group that have come before me. The specimens taken by me at Lucknow require confirmation of identity.

The type of *P. doleschalli* has the whole thorax uniformly brownish yellow, the coxae wholly yellow, and the last abdominal segment also, but it otherwise agrees closely and the identity of the two forms would rest on the difference in colour of the thorax. The type of *P. rogans* is in very bad condition but nevertheless the colour of its thorax seems natural and not stained.

P. rufus Dol.

Sargus rufus, Dol., *Nat. Tijd. Ned. Ind.* XVII, 83 (1858).

Amboina, rare during dry season.

No definite recent information can be obtained about this species but as the legs are described as unicolorous and " red " it must be ranked as valid. Doleschall allies it with *P. latifascia* Walk.

P. ferrugineus Dol.

Sargus ferrugineus, Dol., *Nat. Tijd. Ned. Ind.* XVII, 83 (1858).
Sargus ferrugineus, Brun., *Rec. Ind. Mus.* I, 112 (1907).
Ptecticus ferrugineus, Wulp, *Term. Fuzet*, XXI, 410 (1898); XLII, 54 (1899).
Ptecticus atritarsis, Edw., *Trans. Zool. Soc. Lond.* XX, 396 (1915).

Amboina ; Friedrich Wilhelmshafen, Tamara and Seleo, Berlinhafen [all Papua and *Wulp*].

Said to be allied to *P. rogans* Walk., *rufus* Dol., and *latifascia* Walk. The chief features appear to be an all orange (" pale

ferrugineous") body, with nearly clear wings and all black hind tibiae and tarsi, it not being evident whether Doleschall means only the hind pair of the legs or the hind four legs as he uses the word "posteriorum" in his Latin diagnosis and "hind" in the Dutch translation, the latter being more likely right. Osten Sacken (*Ann. Mus. Gen.* XVI, 416) states that it is near *P. rogans* with an unmarked abdomen and no brown cloud near the wing tip. Long. 10 mm.

The type of Edwards *P. atritarsis* in the British Museum agrees closely with Doleschall's description. In the same collection are a ♂ and ♀ from Mysol and New Guinea, the latter with the abdomen missing. The ♂ has a short, narrow, transverse blackish band on segments 2 to 5 clear of all margins, and is 10 mm. in length. The presence or absence of these abdominal marks, also their size and intensity is by no means a constant character.

P. repensans Walk.

Sargus repensans, Walk., *Proc. Linn. Soc. Lond.* IV 96, ♂ (1860).
Sargus repensans, Ost. Sack., *Ann. Mus. Gen.* XVI, 416, notes *re* wings (1881).
Ptecticus repensans, Brun., *Rec. Ind. Mus.* I, 112 (1907).

Makessar; Kandari, Celebes, ♂ ♀, iv·14 [*Beccari*].

Type ♂ in excellent condition and perfect (*Brit. Mus.*). Wholly orange yellow; frontal triangle dirty white, upper part of frons deep violet black; thorax and abdomen with short bright yellow pubescence; genitalia black; legs all orange, tips of anterior tarsi black, hind tibiae and tarsi black except 2nd and 3rd joints of latter which are yellowish white; wings uniformly yellowish grey. Long. 18 mm. Walker allies it with his *P. aurifer*, but the unicolorous wings easily separate it and it seems better placed in the present group.

P. tarsalis Walk.

Sargus tarsalis, Walk., *Proc. Linn. Soc. Lond.* V 274, ♀ (1861), VI, 4 (1862).
Sargus rufescens, Wulp, *Tijd. v. Ent.* XI, 104, pl. iii, 7, 8, 9 (1868).

Batjan, Gilolo, Waigiou.

One ♂ in good condition (*Brit. Mus.*) named by Walker, but not the type. The latter I cannot trace. Head nearly as usual in this group, orange yellow, frons dirty white, above its narrowest part, with vertex, shining black with black pubescence; antennae orange with black arista, thorax brownish yellow, dorsum a little darker with just a suspicion of three narrow blackish stripes; abdomen brownish yellow, each segment with a large blackish transverse oval spot, the 5th segment almost wholly black; genitalia concolorous; legs orange, coxae a little darker, anterior tarsi tips narrowly blackish, hind tibiae and nearly all the hind metatarsi black, rest of hind tarsi whitish; wings distinctly brownish yellow, a little darker over discal cell and on anterior margin. Long 19 mm. Gilolo.

This specimen is obviously the one recorded by Walker from this island. (*Proc. Linn. Soc.* VI, 4). Wulp's *S. rufescens* from Waigiou appears to me synonymous. He allies it with *S. apicalis* Wulp (=*wulpii mihi*) and there is considerable resemblance in both colour and size, but the nearly unicolorous wings definitely relegate the species to this group.

P. quadrifasciatus Walk.

Sargus quadrifasciatus, Walk., *Proc. Linn. Soc. Lond.* V 146, ♂ 275, ♀ (1861).
Sargus quadrifasciatus, Ost. Sack., *Ann. Mus. Gen.* XVI, 416, note (1882).
Ptecticus quadrifasciatus, Brun., *Rec. Ind. Mus.* I, 112, notes (1907).

The identity of this species is not clear to me. Walker described the ♂ from Amboina and recorded both sexes from Batjan. These specimens are not in the British Museum but there is a ♂ labelled "*quadrifascia*" in Walker's handwriting, bearing also a small label which generally signifies New Guinea. There is a second ♂ obviously conspecific in every way bearing an MS. label in Walker's handwriting with a different specific name, but no description of it has been published.

Osten Sacken saw the type (he does not state where) and simply noted the probable variability of the abdominal markings and the occurrence of a ♂ from Papua and a ♀ from Ternate. Walker's second description (he admitted the first one was incorrect), does not apply well to the species before me, as he says, "3rd antennal joint round," which is not the case, and his remark on the abdomen does not apply except as regards the colour of the genitals.

REDESCRIPTION.

♂ Eyes distinctly separated though very approximate; vertex and upper frons shining black, with distinct, rather long black pubescence; ocellar triangle comparatively small, ocelli livid; frontal triangle dirty white. Antennae bright orange, 3rd joint nearly truncate at tip, arista brown, black tipped. Face and lower part of head pale yellowish, proboscis bright orange, occiput yellowish. Thorax and scutellum wholly brownish yellow. Abdomen brownish yellow, 1st segment narrowly black at base, 2nd and 3rd black on rather more than anterior half, 4th, 5th and 6th wholly black (the 4th having in individuals the hind margin just perceptibly pale). Genitalia black, of medium size, with brown pubescence; belly yellowish, blackish on about apical half. Legs orange, hind tibiae and metatarsi all black, remainder of hind tarsi whitish, anterior tarsi orange to tips in ground colour but last three joints with rather conspicuous black pubescence. Wings pale grey; posterior cross vein distinct, halteres yellowish. Long. 10–11 mm. Papua (*British Museum.*).

P. assamensis, sp. nov.

Assam. Long. 12 mm.

♀ *Head.* Frons moderately wide, shining black, with fine black pubescence, ocellar triangle inconspicuous; frontal tubercle prominent, lemon yellow. Antennae and proboscis deep orange; a little pale pubescence around mouth border; occiput very concave, black.

Thorax orange; dorsum (except towards margins), a large spot on mesopleura, scutellum and metanotum shining violet blue; under side of thorax pale yellowish. Dorsum rather densely, pleura more sparsely covered with short yellow pubescence. *Abdomen* deep orange, first four segments with a violet black band on each placed on or near anterior margins, nearly attaining hind margins, and extending on all segments to side margins; 5th segment violet black, only front and hind margins narrowly orange; 6th all black. Dorsum of abdomen with very short brownish yellow pubescence apparently longer and more yellowish on margins of segments. Genitalia small, concealed, only the usual terminal filaments visible. Belly dull yellowish, with black marks. *Legs* comparatively slender, pale orange yellow practically to tips; hind tibiae and extreme base of metatarsi black, rest of hind tarsi whitish. *Wings* pale yellowish grey, vitreous, venation normal; posterior cross vein absent; halteres yellowish, clubs darker.

Described from a single ♀ in the Indian Museum from Tura, Garo Hills, Assam, 1200–1500 ft., vii·17 [*Kemp*].

P. albitarsis de Meij.

Ptecticus albitarsis, de Meij., *Nova Guin.*. IX, 319, ♂ (1913).

Alkmaar, Papua, 1 ♂, February.

The dark brown thoracic dorsum and scutellum should separate this species from *P. australis* Sch. with which it seems allied. Further differences exist in the abdominal markings.

P. australis Sch.

Ptecticus australis, Sch., *Novara Reise, Dipt.*, 65 (1868).
Ptecticus australis, Brun., *Rec. Ind Mus.* I, 113 (1907).

A number of specimens have come before me from time to time that appear to be this species. It was described from a single ♀ from Fani Island, Nicobars. Both sexes exist in the Indian Museum from Sadiya and Margherita, Assam; Dehra Dun; Coonoor, Nilgiri Hills, 6000 ft., vi·12 [*Sewell*]; Rajmahal, Bengal, 31 vii·07. A redescription is offered from both sexes in the British and Indian Museums from Assam, Siam and Ceylon.

Redescription.

Head. ♂ Eyes not quite touching at nearest approximation; vertex and upper part of frons black with brownish yellow pubescence; frontal callosity prominent, whitish; antennae bright

orange, tip of 3rd joint truncate, arista black; face yellowish white, labella large, yellowish with reddish brown marks. In ♀ frons uniformly broad, about one-tenth width of head, shining black, with fine black hairs.

Thorax uniformly brownish orange with short, pale yellow pubescence; in ♀ with a short violet black median stripe in front.

Abdomen similar, 1st segment with a distinct narrow, violet black band across middle; 2nd to 4th segments with similar bands clear of anterior and hind margins, sometimes not reaching sides, 5th segment all black or with only anterior margin narrowly pale, or with band as on other segments; 6th all black (in one specimen orange on hinder half). Genitalia black; in ♀ rather large and comparatively broad, with a pair of two-jointed hairy apical filaments.

Legs pale orange yellow; anterior tarsi brown or blackish for a varying distance from tips, sometimes almost wholly brownish. Hind tibiae and extreme base of hind metatarsi black, rest of hind tarsi white.

Wings pale yellowish grey; anterior cross vein at, or fractionally beyond tip of praefurca; contact of 5th vein with discal cell generally practically punctiform, 3rd veinlet from discal cell distinctly shortened. Halteres yellowish, clubs blackish. Long. 8–10 mm.

Redescribed from 6 ♂♂ in good condition. Dehra Dun; Margherita and Sadiya, Assam; Khasi Hills, Assam; Biserat, Siam and Talum, Malaya, 18-i-02 [both *Robinson* and *Annandale*]; Peradeniya, Ceylon, ix·1901 [*E. E. Green*]; 30-iv; Kanthalia, 18·xi; Nuwara Eliya, 9·v; Heneratgoda, 16·iv, 10-v [all Ceylon, 1891 and *Yerbury*].

It should be noted that Schiner says the hind metatarsi have the basal half brown, and not the extreme base only.

This species resembles *cingulatus* to some extent but differs considerably in size, in the absence of the posterior cross vein and in the extent of black in the hind metatarsi.

P. connectens, sp. nov.

♀ Mysol. Long. 9 mm.

Head. Eyes separated at nearest approximation by about one-tenth diameter of head, frons thence gradually widening to vertex, shining blue black, frontal bump whitish, antennae yellowish; arista black, face and lower part of head yellowish, occiput blackish.

Thorax and *abdomen* pale yellowish, almost bare, former wholly unmarked, latter with 2nd to 5th segments with a rather narrow, elongate, dark brown transverse spot on or just below anterior margin, the spots slightly narrowed at the ends and not quite attaining side margins. Last segment very narrow, and with genitals, dark brown.

Legs pale yellowish, hind tibiae and basal half of hind metatarsi black, rest of hind metatarsi whitish.

Wings clear, stigma just perceptibly pale yellowish; halteres yellowish.

Described from a unique ♀ in the British Museum bearing the name *connectens* in Walker's handwriting.

P. remeans Walk.

Sargus remeans, Walk., *Proc. Linn Soc. Lond.* IV, 96, ♀ (1860).
Sargus remeans, Ost. Sack., *Ann. Mus. Gen.* XVI, 416, notes, 417 (1882).
Ptecticus remeans, Brun., *Rec. Ind. Mus.* I, 109, notes (1907).

Makessar; Kandari, Celebes iv·74 [*Beccari*].

Walker says, "allied to *S. tenebrifer*." The headless type is in the British Museum, a ♀, though he described a perfect specimen of what he considered the ♂. This is the only oriental species belonging to the all-black-body group, though an allied species, *P. tenebrifer* Walk., is common in China and Japan.

The group seems somewhat out of place in *Ptecticus* yet it fulfils its two principal characters, the shape of the 2nd antennal joint and the position of divergence of the 2nd and 3rd longitudinal veins.

P. violaceus Ender.

Ptecticus violaceus, Ender., *Zool Anz.*, XLIII, 582, ♂ (1914).

Soekaranda and Deli, Sumatra. One ♂ from each [*Dohrn*]. Type in the Stettin Natural History Museum. A somewhat aberrant species, apparently, perhaps best located between the all black species and the metallic ones.

P. gemmifer Walk.

Sargus gemmifer, Walk., *List Dipt. Brit. Mus.* III, 516 (1849).
Sargus gemmifer, Brun., *Fauna Brit. Ind. Dipt.* I, 81 (1820).
Sargus magnificus, Big., *Ann. Soc. Ent. Fran.* (5) IX, 222 (1879).
Sargus magnificus, Brun., *Rec. Ind. Mus.* I, 106 (1907).
Sargus pubescens, Wulp, *Notes Leyd. Mus.* VII, 67, ♀ (1885).

Sylhet (type ♂, *Brit. Mus.*); Penang; Rangoon [*J. G. Scott*]; Assam; Mergui, Tenasserim [*Doherty*]; Pyinmana, Burma, vi·10 [*H. L. Andrewes*]; Talum, Malaya, 18·i·02 [*Robinson* and *Annandale*]; Biserat, Siam [*Robinson* and *Annandale*].

A very large and handsome metallic species, apparently confined principally to Sylhet, Assam and Burma.

Four ♂♂ in the Indian Museum attributed to *P. magnificus* Big. and Bigot's own type, a ♀, are conspecific; Wulp's *P. pubescens* is to my thinking probably the ♀ of *P. gemmifer*. It was described from Gorontalo. Though apparently a *Ptecticus*, the 2nd antennal joint is not so conspicuously finger-shaped in *P. gemmifer* as in the other species of the genus, in fact, in some specimens it simply curves upwards in the middle and extends but little further on the inner than on the outer side. In my *P. cyaneus* it is pronouncedly finger-shaped.

A striking feature of all the oriental metallic species in *Ptec-*

ticus is the origin of the 2nd vein, which occurs as far beyond the anterior cross vein as it does in *Sargus*. In the yellow species in this genus the 2nd and 3rd veins diverge exactly at the cross vein. This is not a generic character, as in an unnamed species of *Ptecticus* in the British Museum from Port of Spain the divergence occurs a little *before* the cross vein, whilst there is an unnamed species of *Sargus* with the divergence occurring exactly at the cross vein as in normal species of *Ptecticus*.

Type of *P. gemmifer* in the British Museum, of *P. magnificus* in Bigot's collection, of *P. pubescens* in the Leyden Museum.

P. cyaneus Brun.

Ptecticus cyaneus, Brun., *Rec. Ind. Mus.* VII, 453 (1912).
Ptecticus cyaneus, *id.*, *Fauna Brit. Ind. Dipt.* I, 75 (1920).

Described from a single ♀ in the Indian Museum from Ukhral, Manipur, Assam, 6400 ft. [*Pettigrew*]. A ♀ in the British Museum from the Nilgiri Hills, v·07, 6000 ft. [*Andrewes*] is closely similar except being rather smaller and more purple in colour. The frons in this species is about $\frac{1}{7}$ the width of the head, at a point a little above the antennae.

P. latipennis, sp. nov.

♀ Burma. Long. 18 mm.

Head metallic purple. Frons with mainly parallel sides except towards vertex, about one-ninth width of head just above antennae, with black pubescence; ocelli placed well forward, livid white, ocellar triangle inconspicuous, barely raised, frontal prominence dull yellowish; face and mouth parts yellowish. Antennae black, with some pale pubescence, 3rd joint nearly round, brown with yellowish dust, arista brown, tip black. Occiput black, with a little pale pubescence.

Thorax wholly brilliant purple with bluish green reflections and rather dense yellow pubescence on dorsum, becoming more brownish on hinder part. Pubescence of pleura and under side of thorax pale yellowish, comparatively dense and long; shoulders, extreme side margins of dorsum and hind corners more or less orange; scutellum and metanotum violet, with black pubescence.

Abdomen with 1st, 2nd and 3rd segments purple, with dense, short, blackish brown pubescence; 3rd with the pubescence whitish in front, 4th and 5th segments deep cupreous, with very dense, deep orange yellow pubescence. Belly purple with very short, dense black pubescence. Genitalia small, withdrawn.

Legs mainly blackish; front pair more dark brownish, posterior knees rather orange brown: pubescence of legs very short and sparse, pale; that of under side of tarsi yellowish brown.

Wings obviously abnormally broad through the anterior margin projecting forward somewhat, just beyond the base, dark brown, a little deeper in front and a little paler behind. Halteres yellowish.

Described from a unique ♀ from Burma in perfect condition in the British Museum.

Genus **Gongrozus** Ender.

Zool. Anz. XLIII, 585 (1914).
GENOTYPE: *G. nodivena*, sp. nov., *loc. cit.*

This genus is erected on the absence of the anterior cross vein, owing to the punctiform contact of the 3rd vein with the discal cell, and its author is doubtful if it represents more than a subgenus of *Ptecticus*.

I agree with this view, although no species of this group of genera with this cross vein absent has come before me.

G. nodivena Ender.

Gongrozus nodivena, Ender., *Zool. Anz.* XLIII, 585, ♂ ♀ (1914).

Soekaranda, Liangagas, Sumatra [*Dohrn*].

Types in the Stettin Natural History Museum.

Allied to *Ptecticus violaceus* Ender., from which the author differentiates it as follows: Smaller; abdominal 1st, 2nd, 3rd and 4th segments above and below with dusky reddish yellow cross-bands covering hinder third of each segment as well as the front margin narrowly of each following segment. The brown apical wing suffusion is not so dark and reaches inwards nearly up to or slightly proximad of the anterior branch of the 3rd vein. In *P. violaceus* the apical fourth of the wing is dark brown.

G. nodivena var. striginotum Ender.

Gongrozus nodivena var. *striginotum*, Ender., *Zool. Anz.* XLIII, 586 (1914).

Soekaranda, Sumatra, one ♀ Type in the Stettin Natural History Museum.

G. vulpianus Ender.

Gongrozus vulpianus, Ender., *Zool. Anz.* XLIII, 586, ♂ ♀ (1914).
Ptecticus quadrifasciatus. Wulp nec Walk., *Mid. Sum. Exped., Dipt.* 15 (1881).
nec quadrifasciatus, Walk., 1861.

Both sexes from Soekaranda, Sumatra [*Dohrn*].

Types in the Stettin Natural History Museum.

Enderlein claims that Van der Wulp's interpretation and redescription of *P. quadrifasciatus* Walk. is incorrect and that he had a new species before him. From Enderlein's description of the species it appears to be very near my conception of *P. australis* Sch. except that the abdominal marks do not quite agree, nor does the extent of black in the hind metatarsus, but I have not found any specimens corresponding precisely with Schiner's description and most of the species in this group show variation in some part or other.

G. sauteri Ender.

Gongrozus sauteri, Ender., *Zool. Anz.* XLIII, 586, ♂ (1914).

Kosempo, Formosa, one ♀, 23·i·08 [*Sauter*].

Type in the Stettin Zoological Museum.

From the all yellow legs, apical *third* of the wing blackish, and the yellow 5th and 6th abdominal segments I suspect this species may be *aurifer* Walk., or merely a variety of it.

Genus Sargus F.

Ent. Syst. Supp. 566 (1798).

GENOTYPE: *Musca cuprarius*, L., by designation of Latrielle, 1810.

Geosargus, Bezzi, *Wien. Ent. Zeit.* XXVI, 53 (1907) nom. nov. for *Sargus* F. preocc. Walbridge, 1792.

TABLE OF SPECIES.

1. Abdomen (though metallic) with 2nd and 3rd segments with a brown transverse band on each	*laetus* Wulp.
Abdomen without such bands	2.
2. Femora with distinct black or brown parts ...	3.
Femora wholly unmarked	5.
3. Larger species, 16 mm. long	*splendens*, sp. nov.
Smaller species, at most 10 mm.	4.
4. (*a*) All femora with about apical half brownish, at least on upper side. Anterior cross vein much before fork of 2nd and 3rd veins...	*redhibens* Walk.
(*b*) Hind femora black except narrowly pale at base and tip, but sometimes reduced to an indistinct brown streak above on basal half. Hind tibiae, and basal ¼ to ½ of hind metatarsi black, rest of hind tarsi white. Hind coxae with a large black spot on outer side. Anterior cross vein exactly at fork of 2nd and 3rd veins [1]	*longipes* Walk
(*c*) Posterior femora black on apical half; (hind tibiae yellowish white)	*albopilosus* de Meij.
5. Hind tibiae with basal ⅓ to ½ blackish	*mactans* Walk.
All legs unicolorous, pale	6.
6. (*a*) Long. 15 mm.	*pubescens* Wulp.
(*b*) Long. 3 mm.	*inficitus* Walk.
(*c*) Long. 7–10 mm.[2]	7.
7. Eyes in ♂ nearly touching; abdomen blackish brown with a green tinge; knees darkened	*mandarinus* Sch.
Eyes in ♂ distinctly though narrowly separated; abdomen cupreous in ♂ purplish in ♀; legs wholly yellow...	*metallinus* F.

S. laetus Wulp.

Sargus laetus, Wulp, *Notes Leyd. Mus.* VII, 66, ♂ (1885).

Sumatra. The brown transverse bands on the 2nd and 3rd abdominal segments, in spite of the metallic colouration of the body, should render the species easily distinguishable.

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[1] These characters drawn up from a headless specimen in the British Museum named by Walker.

[2] *S. inactus* Walk. comes here but the description is unrecognizable. The species is described as whitish testaceous.

S. splendens, sp. nov.

♂. Assam. Long. 16 mm.

Head metallic: frons very narrow, widening very considerably towards vertex, with black pubescence; mainly brilliantly green but with blue and purple reflections on upper part; frontal prominence rather dark sulphur yellow. Face yellow, with purple tinge in middle, and black pubescence on upper part, and yellowish white longer pubescence on lower part; mouth and proboscis orange. Antennae rather dark brown, with black pubescence, 3rd joint short, rather truncated, a little paler, arista dark brown, moderately thick at base with some stiff black hairs. Occiput very concave, aeneous, with a little pale pubescence.

Thorax peacock blue with purple reflections and rather dense brown pubescence, which is whitish on anterior part; pleura with blue and purple reflections and white pubescence. Scutellum purple, metanotum bright green, both with mainly brown pubescence, with which a little whitish pubescence is mixed. A small, bright green spot on dorsum in front of scutellum.

Abdomen bright purple, with whitish, comparatively long and dense pubescence, that on centre of segments dark brown and shorter. Belly purple, with short brownish pubescence: genitalia blackish brown, with concolorous and pale pubescence.

Legs. Femora black; rest of legs principally moderately dark brown; knees, inner sides of tibiae, especially of the front pair and under sides of tarsi a little paler.

Wings distinctly yellowish brown, costal cell more yellowish, more greyish on hinder part; halteres yellowish.

Described from a type ♂ in the Indian Museum from Tura, Garo Hills, Assam, 1500 ft., vii·17 [*Kemp*], and 2 ♂ ♂ in the British Museum, one labelled simply "Assam," the second, headless, from the Khasi Hills, 1878 [*Chennell*].

S. pubescens Wulp.

Sargus pubescens, Wulp, *Notes Leyd. Mus.* VII, 67, ♀ (1885).

Described from a single ♀ from Gorontalo [*Forster*]. There is nothing definite in the description to prevent this being *Ptecticus gemmifer* Walk. Van der Wulp says the frontal triangle is pale green; the hind tibiae are mentioned as curved and the stigma is testaceous. In the four ♂ ♂ of *gemmifer* in the Indian Museum the frontal triangle is yellowish, the hind tibiae not curved and the stigma barely darker than the wing and there is only a yellowish line *below* the hind margin of the scutellum. These differences, except perhaps the curved hind tibiae, might well exist in a specimen from a distant locality, and the great size, dark brown wings, dense orange yellow pubescence on the thorax, scutellum and abdomen are conspicuous characters, and especially the distinct yellow stripe from the shoulder to the wing base.

S. redhibens Walk.

Sargus redhibens, Walk., *Proc. Linn. Soc. Lond.* IV, 97, ♀ (1860).
Sargus redhibens, Brun., *Rec. Ind. Mus.* I, 107, notes (1907).
Sargus concisus, Walk., *Proc. Linn. Soc. Lond.* V, 273, ♂ (1861).

A specimen of each form, named by Walker but apparently not the types, in the British Museum shew *redhibens* and *concisus* to be conspecific. The former, a ♀, is only 6 mm. in length. In addition to the brownish apical half of all the femora, the hind tibiae are distinctly so at the base. A ♂ and ♀ taken by me respectively at Rangoon 23·xii·04 to 3·i·05 and Singapore 17·ii·06 were referred to this species but may require confirmation. A ♀ in the Indian Museum from Kurseong, 5000 ft., 3·vii·08 [*Annandale*], nearly 10 mm. in length. The specimen of *concisus* is headless, but agrees with *redhibens* except that the tibiae are a little brownish on the basal half and that it is rather larger, 7 mm. without the head. *S. redhibens* was described from Celebes, *concisus* from Batjan, Walker noting its affinity to the former.

♀ Frons comparatively broad, brilliantly shining violet, a small slightly prominent white spot above antennae (latter missing), under side of head brownish with a little whitish pubescence. Thorax: dorsum metallic blue green with purplish reflections, pleura blue green. Abdomen purple; thorax and abdomen with obvious whitish pubescence. Legs pale yellow, fore femora slightly brownish except at base; posterior femora brownish on about apical half; hind tibiae rather broadly brownish at base, hind tarsi brownish on about apical half. Wings on about basal half nearly clear, remainder pale grey; stigma rather large, dark brown; posterior cross vein distinct.

The above redescription is from Walker's named ♀ of *redhibens* from Makessar. His specimen of *S. concisus* agrees closely but the brown in the legs is much deeper on all the legs, and the anterior tibiae and the fore and hind tarsi are also distinctly brownish or brown. The white pubescence of the body is more copious and conspicuous and the wings rather more uniformly grey. The species varies considerably in size if the above three specimens are conspecific.

S. longipes Walk.

Sargus longipes, Walk., *Proc. Linn. Soc. Lond.* V 232, ♂ (1861).
Sargus longipes, Wulp, *Term. Fuzet.* XXI, 410, notes (1898).
Sargus longipes, Brun., *Rec. Ind. Mus.* I, 108 (1907).
Sargus tibialis, Walk., *Proc. Linn. Soc. Lond.* V, 273, ♂ (1861).

Dorey, Papua; Erima, Astrolabe Bay, Papua; Batjan; Gilolo.

S. longipes was described from Dorei, New Guinea, and the type possessed a head at that time, the length being given as 5½ lines. A headless ♀ is in the British Museum, only 7 mm. long, named by Walker and coming from New Guinea, though probably not from Dorei and therefore presumably not the type. *S. tibialis* was described from Batjan and a British Museum specimen from Gilolo named by Walker is headless, the tip of the abdomen being

also gone. When placed side by side there can be no doubt of the identity of the two forms.

In *S. longipes* the anterior legs are pale yellowish except a very slight darkening of the extreme tarsi tips; the hind femora have an indistinct brown streak on the basal half; the hind tibiae and about the basal fourth of the metatarsi are black, the rest of the tarsi white.

In *S. tibialis* there is an indistinct brownish streak on the under side of the fore femora, and about the apical half of the front tibiae are distinctly brownish. The middle legs are missing. The hind femora are all black except narrowly pale at base and tips; the hind tibiae all black and about the basal half of the hind metatarsi, the remainder of the hind tarsi white. The thorax and abdomen in both forms are practically identical, shining violet, a narrow yellowish pleural ridge between the dorsum and the pleura, the hind margins of the 1st to the 4th abdominal segments, mainly towards the sides, yellowish. The hind coxae in both forms have a large black spot on the outer side, and the anterior cross vein is exactly at the divergence of the 2nd and 3rd veins, which is not the case in any other oriental species of true *Sargus* known to me, though as the heads of both the specimens referred to are missing there is no proof that the species does not belong to *Ptecticus*. The nature of the veinlets from the discal cell is identical in both specimens and apparently identical with those in *S. albopilosus* de Meij.

S. albopilosus de Meij.

Sargus albopilosus, de Meij., *Nova Guin.* V, 73 ♀ (1906).

The principal characters appear to be the slightly hairy eyes, the slightly increased distance of the front ocellus from the others, the black pleura with white pubescence, the arrangement of pubescence on the abdominal dorsum into bands on the anterior and posterior margins leaving the median space bare, the punctate nature of the thorax and abdomen, the black apical half of the posterior femora, and the yellowish white hind tibiae.

Described from a single ♀ from Manokwari, Papua, 31·v·03. Type in Amsterdam Museum. Long. 9 mm. Subsequently recorded by de Meijere from Semarang, v [*Jacobson*] and Djocjakata, ii, both Java.

S. mactans Walk.

Sargus mactans, Walk., *Proc. Linn. Soc. Lond.* IV, 97, ♂ (1860).
Sargus mactans, Ost. Sack., *Ann. Mus. Gen.* XVI, 417, note on allied species (1881).
Sargus mactans, Wulp, *Notes Leyd. Mus.* VII, 65, note, ♀ descr. (1885).
Sargus mactans, Wulp., *Term. Fuzet.* XXI, 410 (1898).
Sargus mactans, Brun., *Rec. Ind. Mus.* I, 107 (1907).
Sargus mactans, de Meij., *Tijd. v. Ent.* LIV, 263, ♂ ♀ descr. (1911) and LVIII, Supp. 71 (March 1916).

Katmandu, Nepal. 4500 ft., x; Bhim Tal, W Himalayas, 19–22·ix·06, 4500 ft.

Kandy, 16·vii·92; Bentota, 13-vi-90 [both Ceylon and *Yerbury*]; Ceylon, 29·iv·92 [*Yerbury*]; Rambodde, Ceylon [*Felder*]; Singapore [*Ridley*], Amboina; Borneo, Ternate; Makessar; Kandari, Celebes, iv·74 [*Beccari*], Tanara (Berlinhafen, Papua); Batavia, all the year round [*Jacobson*], Medan, N. Sumatra, ii [*de Bussy*]; Fort de Kok, Sumatra, xi, Kalung, Sumatra, xii [*Jacobson*]; Rimbo, Pengadang, Sumatra vi.

In the Indian Museum from Bhim Tal, W Himalayas, 4500 ft., 19–22·ix·06 [*Annandale*]; Almora, Kumaon 5,500 ft. 10–21·ix·11 [*Paiva*]. Dr. de Meijere has identified it from Batavia, Sumatra and Papua (Rivierkamp, ii, 2 ♀ ♀). In the British Museum from Celebes, Peradeniya Ceylon, i·1902; North Queensland and other localities (*nom. illeg.*) and I have identified several specimens from time to time from various parts of India. It is perhaps the commonest species there after the widely distributed *S. metallinus* F. and differs from it only in the broad brown or blackish ring at the base of the hind tibiae.

S. metallinus F.

Sargus metallinus, F., *Syst. Antl.*, 258 (1805).
Sargus metallinus. W., *Auss. Zweifl.* II, 36 (1830).
Sargus metallinus, Wulp, *Notes Leyd. Mus.* VII, 65 (1885).
Sargus metallinus, Brun., *Rec. Ind. Mus.* I, 106 (1907).
Sargus metallinus, de Meij., *Tijd. v. Ent.* LIV, 265 (1911).
Sargus formicaeformis, Dol., *Nat. Tijd. Ned. Ind.* XIV, 403, pl. iii, 5 (1857).
Sargus pallipes, Big., *Ann. Soc. Ent. Fr.* (5) IX, 222 (1879).

The commonest and most widely distributed of the Sarginae in the East. Common on the Indian plains and around Calcutta in March, and from May to October. Outside of India I have taken it at Rangoon, i·1906; Singapore, 17·ii·06; and Shanghai, v·06, Simla, x·08 [*Howlett*]; Mussoorie, vi, Meerut, v, vii; Lucknow, viii, ix [all *Brunetti*]; Bandra, India [*Jayakor*]; Dehra Dun; Naini Tal; Siliguri, Khasi Hills, 3000–5000 ft., 15·v·05, Katmandu, Nepal, Maymyo, Upper Burma, 3500 ft., 19–21·vii·14 [*Fletcher*]; Kangra Valley, 4500 ft., viii, ix·94 [*Dudgeon*]. Common in Ceylon. Recorded from Borneo, Amboina and Aru; common at Batavia and Semarang, i to iii. Batavia, ii, xii; Buitenzorg, Java, vii [*Dammerman*]. I examined Bigot's type, a ♀, and have no hesitation in sinking his *S. pallipes* as synonymous. It is slightly smaller than normal specimens. He described a second species as *S. pallipes* from Mt. Hood, U.S.A. and I propose the name *bigoti* for this.

S. mandarinus Sch.

Sargus mandarinus, Sch., *Reise Novara, Dipt.*, 62 (1868).

Described from a single ♂ from Hongkong. The eyes very nearly touch and it is allied to *S. flavipes* of Europe, differing only in this character and the rather darker knees; the shining blackish brown abdomen with a greenish tinge on the upper side and

the yellow antennae and epistome immediately below them. The species, however, may be out of place in the present paper. It differs from *S. metallinus* in the almost contiguous eyes in the ♂, and the darkened abdomen and knees.

S. inficitus Walk.

Sargus inficitus, Walk., *Proc. Linn. Soc. Lond.* V, 274, ♂ (1861).

Batjan.

The smallest of the oriental species, measuring only 3 mm. in length. Walker says the eyes are united above, so his type, which is apparently no longer in existence, must have been a male. The thorax has a black stripe and the abdomen an abbreviated one so the species should be easily recognizable, though from the contiguous eyes and small size it is probably referable to *Microchrysa*.

S. inactus Walk.

Sargus inactus, Walk., *Proc. Linn Soc. Lond.* IV, 97, ♀ (1860).

Described from Makessar but the type is not to be found. Walker calls it whitish testaceous, with black vertex and purple thoracic dorsum and scutellum tip and with a cupreous spot on each side of the breast. Wings cinereous with dark brown stigma, the discal cell shorter than in *S. redhibens* and *mactans*. The characters given do not afford any definite distinction from *S. metallinus*.

S. debilis Walk.

Sargus debilis, Walk., *Proc. Linn Soc. Lond.* V, 274, ♀ (1861).

This species is synonymous with *Evaza scenopinoides* Walk. and I am indebted to Major Austin for the information. Walker previously (1851) described a *Sargus debilis* from the United States, of which the type is in the British Museum, but the abdomen is missing. It is recognized in Aldrich's catalogue as a valid species.

Genus Chrysochlora Latr.

Régne Anim. V, 486 (1829).
GENOTYPE: *Sargus amethystinus*, F., by original designation.

C. baccoides Rond.

Chrysochlora baccoides, Rond., *Ann Mus. Gen.* VII, 454, ♀ (1875).
Chrysochlora baccoides, de Meij, *Tijd. v. Ent.* I, 221 (1907).

Sarawak. Type in Genoa Museum.

C. vitripennis Dol. forms the type of *Prosopochrysa*, de Meij.

C. lineata de Meij.

Chrysochlora lineata, de Meij., *Nova Guin.*, IX, 318 (1913).

Alkmaar, Papua. One ♀, September. Unique type in the Amsterdam Museum.

Genus **Chloromyia** Dunc.

Mag. Zool. Bot. I, 164 (1837).

GENOTYPE: *Musca formosa*, Scop., by Verrall's designation, 1909.

Chrysomyia, Macq., *Hist. Nat. Dipt.* I, 262 (1834).

GENOTYPE: *Musca polita*, L., by designation of Westwood.

Myochrysa, Rond., *Dipt. Ital. Prod.* IV, 11 (1861), nom. nov. for *Chrysomyla*, Macq.

C. sapphirina Walk.

Chrysomyia sapphirina, Walk., *List Dipt. Brit. Mus.* III, 519, ♀ (1849).

♀ *Head* slightly broader than thorax, almost semicircular Frons very broad, nearly twice as wide at upper corners of eyes as it is just above antennae; vertex large and open, owing to the broad occipital margin on upper part of head: vertex and frons punctulate, deep metallic blue with purple reflections; ocellar triangle black, slightly raised, ocelli shining brown; a tranverse, creamy white, callus-like spot from eye to eye, a little above base of antennae, frons from that spot to antennae brown. Antennal 1st joint black, 2nd mahogany brown, 3rd dull mouse brown, arista pale at base. Face with very narrow chalk white margins and whitish pubescence; proboscis pale yellowish brown. Occipital margin very broad, brilliant deep blue; disappearing completely at middle of eyes on side margins; occiput very concave, black.

Thorax punctulate deep blue with purplish reflections and short greyish pubescence; pleura, scutellum and metanotum similar; a yellow line from shoulders to wing base; yellowish around wing base.

Abdomen, including belly, concolorous with thorax.

Legs black, tibiae mainly whitish but posterior pairs more or less black, especially middle pair on inner side. Pubescence of legs whitish.

Wings clear, veins black, posterior cross vein distinct; stigma brownish.

Long. 9 mm. *Redescribed* from the unique ♀ in excellent condition in the British Museum, labelled "E. Ind."

C. stigmatica Wulp.

Chloromyia stigmatica, Wulp, *Term. Fuzet.* XXI, 411, ♀ (1898).

Friedrich Wilhelmshafen, Papua. Type in the Hungarian Museum.

Genus **Microchrysa** Loew.

Verh. Zool. bot. Wien. V, 146 (1855).

GENOTYPE: *Musca polita*, L., by original designation.

TABLE OF SPECIES.

a. Stigma pale yellow.

b. Abdomen wholly pale yellow, normally unicolorous.

c. Hind femora with a dark ring; (sometimes with a subapical ring on hind tibiae also) ... ... *flaviventris* Wied. ♂
cc. Hind femora without a dark ring ... *bipars* Walk. ♂
bb. Abdomen never wholly yellow; metallic blue, green or violet; (hind femora and tibiae blackish-brown ringed).
c. Abdomen unicolorous ... ... *flaviventris* Wied. ♀
cc. Abdomen violet, side margins distinctly pale brownish yellow ... *calopa* Brun.
ccc. Abdomen with 1st segment yellowish, 3rd with broad yellow hind border; 4th and 5th with side margins yellow; remainder bluish violet ... *flavomarginata* de Meij.
aa. Stigma brown ... ... *fuscistigma* de Meij.

M. flaviventris Wied.

Sargus flaviventris, Wied., *Anal. Ent.*, 31 (1824).
Sargus flaviventris, *id.*, *Auss. Zweifl.* II, 40 (1830).
Microchrysa flaviventris, Ost. Sack., *Ann. Mus. Gen.* XVI, 417 (1881).
Microchrysa flaviventris, Brun., *Rec. Ind. Mus.* I, 103, locs (1907).
Chrysomyia annulipes, Thoms., *Eugen. Resa*, 461 (1869).
Sargus affinis, Wied., *Anal. Ent.*, 31 (1824); *Auss. Zweifl.* II, 41 (1830).
Chrysomyia affinis, Macq., *Dipt. Ex.* I, 1, 208 (1838).
Chrysomyia affinis, Walk., *List Dipt. Brit. Mus.* V, 100 (1854).
Chrysomyia affinis, Brun., *Rec. Ind. Mus.* I, 103, note (1907).
Microchrysa affinis, Brun., *Rec. Ind. Mus.* I, 103 (1907).
Microchrysa gemma, Big., *Ann. Soc. Ent. Fran.* (5) IX, 231, ♀ (1879).
Microchrysa gemma, Brun., *Rec. Ind. Mus.*, I, 103, note (1907).

The commonest and most widely distributed species of the genus in the East. It is somewhat variable but should be recognized by the specific characters given in the table. E. and W Himalayas, Punjab, Bengal, Calcutta, South India. Taken by me at Mussoorie, 26·vi·05, Bareilly, 1·ix·05; Meerut, 13–19·vii·05; and Lucknow, 8·viii·05. Trincomalee Hot Wells, Ceylon 8·xi·91 [*Yerbury*], a ♂ with tip of abdomen bluish and a small black spot on each side of 4th segment, the abdominal pubescence black; Batavia, ii, viii, xi; Semarang, very common, i–iii, viii, xi; Wonosobo, iv, v; Gunung Pantjar, vi; Nongkodjadjar, i [all Java, mostly *Jacobson*]; Salatija, Java, v [*v. Leeuwen*]; Pasuruan, Java [*Kobus*]; Simalur Is., Sumatra, ii [*Jacobson*]; Fort de Kok, Sumatra, x–xi [*Jacobson*], Sibogo, Sumatra, iii; Krakatua.

Types of *M flaviventris* and *affinis* in Copenhagen Museum, the latter form also in Wiedemann's collection. Type of *M gemma* in Bigot's collection, a ♀ from Ceylon. I have seen it and it is identical with typical *M. flaviventris* though only 2½ mm. in length. Osten Sacken records *M flaviventris* from Java, 1874 [*Beccari*] and also (as *M. annulipes*] a ♀ from Ternate, 1875 [*Beccari*]. *M annulipes* type came from Manila.

The species is recorded from Papua by Wulp, and more recently from Mahé, Seychelle Is., ♂ ♀, 1908–09.

M. bipars Walk.

Chrysomyia bipars, Walk., *Proc. Linn. Soc. Lond.* V 273, ♂ (1861).
Microchrysa bipars, Brun., *Rec. Ind. Mus.* I, 103 (1907).

Batjan.

M. calopa Brun.

Microchrysa calopa, Brun., *Rec. Ind. Mus.* VII, 453, ♀ descr. (1912).
Microchrysa calopa, Brun., *loc. cit.* I, 103 (*calopus*, Big.) *nom nud.* (1907).

Margherita, Assam, Paresnath, Chota Nagpur, India, 4400 ft., v·1909 [*Jenkins*], Mussoorie, 18–26·vi·05 [*Brunetti*]. Type in the Indian Museum.

M. flavomarginata de Meij.

Microchrysa flavomarginata, de Meij., *Tijd. v. Ent.* LIII, 65, ♀ (1910) and LVI, Supp. 17 (Mar. 1914).

Krakatua, May, 1 ♀ [*Jacobson*], Tosari, E. Java [*Kobus*]; Nongkodjadjar, Java, i [*Jacobson*], all recorded by de Meijere. Type in Amsterdam Museum.

M. fuscistigma de Meij.

Microchrysa fuscistigma, de Meij., *Nova Guin.* IX, 321 (1913) and *Tijd. v. Ent.* LVI, Supp. 17 (1914).

Rivierkamp, Papua, ii, 2 ♀ Nongkodjadjar, Java, i, one ♀ [*Jacobson*], Air Njuruk, Dempu, Sumatra, viii. Type in the Amsterdam Museum.

Genus **Prosopochrysa**, de Meij.

Tijd. v. Ent. L, 220 (1907).
GENOTYPE: *Chrysochlora vitripennis*, Dol., (*Chrijsochlora*) by original designation.

P. vitripennis Dol.

Chrijsochlora vitripennis, Dol., *Nat. Tijd. Ned. Ind.* X, 408, pl. xi, 2 (1856).
Prosopochrysa vitripennis, de Meij., *Tijd. v. Ent.* I, 221 (descr.) pl. vi, 13, head profile (1907).
Prosopochrysa vitripennis, de Meij., *loc cit.*, LVI, Supp. 18 (March 1914).
Prosopochrysa vitripennis, Ender., *Zool. Anz.*, XLIII, 293, note (1914).
Microchrysa albitarsis, Brun., *Rec. Ind. Mus.* VIII, 156, ♀ (1913).

Kanthalia, 15 and 17·x·90; Trincomalee Hot Wells, 2-ii, 7·ix·90 [both Ceylon and *Yerbury*]. Dibrugarh, Assam, Java; Semarang, Java, iii, viii [*Jacobson*].

Enderlein in his recent revision of the family makes this genus the type of a new subfamily on the strength of the venation but overlooks the character of the numerous abdominal segments. Its affinities, moreover, are certainly with the Sarginae.

Subfamily BERINAE.

TABLE OF GENERA.

Scutellum unarmed, smooth margined	*Allognosta* Ost. Sack.
Scutellum with four or more marginal spines.	
Palpi minute or obsolete; eyes hairy; contiguous in ♂	*Beris*, Latr.
Palpi rather long and distinct; eyes bare, not contiguous in ♂	*Chorisops*, Rond.

Genus **Beris** Latr.

Hist. Nat. Crust. Ins. III, 447 (1802).

GENOTYPE: *Musca chalybeata*, Forst. as *Stratiomys 6-dentata* F., by original designation.

Oplacantha, Rond., *Arch. Zool. Modena* III, 87 (1863).
Hexacantha. Lioy, *Atti. Ist. Ven.* (3) IX, 586 (1864).
Octacantha, Lioy., *loc. cit.*

Hexacantha was first used as a generic name by Meigen, (*Illig. Mag.* II, 264, 1803) for *Beris clavipes* L. and *6-dentata* F., the latter being synonymous with *chalybeata* Forst. It was used again by Lioy in 1864 when he placed in it *chalybeata* Forst., *clavipes* L. attributing the species to Meigen, *vallata* Forst. and *nigritarsis* Latr. (=*vallata* Forst.). *Octacantha* Lioy was set up for *guscipes* Mg. and *flavipes* Macq. (=*chalybeata* Forst.).

TABLE OF SPECIES.

Legs black, knees yellow	*geniculata* Curt.
Legs yellow.	
Femora with apical broad brown ring; hind tibiae similar, anterior tibiae more or less darkened apically..	*annulipes* Brun.
Femora with only hind pair with traces of a dark ring	*javana* Wulp.

B. geniculata Curt.

Beris geniculata, Curt., *Brit. Ent.* VIII, 337 (1830).
Beris geniculata, Brun., *Fauna Brit. Ind., Dipt. Brachy.* I, 91, ♂ ♀ (1920).

Darjiling, 5000–7000 ft., 12 and 14·vi·14 [*Gravely*]; Darjiling, 6900 ft., 2·x·08 [*Brunetti*].

B. javana Wulp.

Beris javana, Wulp (*nec* Macq.) *Mid-Sum. Dipt.*, 13 (1892).
Beris javana, Wulp, *Tijd. v. Ent.* XXIII, 163; *Cat. Dipt. S. Asia*, 58.
Beris javana, Brun., *Rec. Ind. Mus.* I, 89, notes (1907).

Rawas, Sumatra. The name *Beris javana* is preoccupied by Macquart [1] for a species which is now referred to *Tinda*, and according to de Meijere the common *Tinda indica*, Walk. is a synonym of it. Wulp's specific name can stand as there is no other valid species of the genus known by it.

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[1] *Dipt. Exot.* I. 2, 188 (1838).

B. annulipes Brun.

Beris annulipes, Brun., *Rec. Ind. Mus.* VII, 455, ♀ (1912).
Beris annulipes, id., Fauna Brit. Ind., Dipt. Brachy. I, 92, ♀ (1920).

Darjiling, 7000 ft., 27·v·10 [*Brunetti*]. The unique type in the Indian Museum.

Genus **Allognosta** Ost. Sack.

Berl. Ent. Zeits. XXVI, 297 (1883).
nom. nov. for *Metoponia* Lw. *nec* Macq.
GENOTYPE: *Beris fuscitarsis*, Say, by Coquillett's designation, 1910.
Metoponia, Leow, *nec* Macq., *Dipt. Faun. Sudafr.* I, i (1860).
Allognosta, Brun., *Fauna Brit. Ind., Dipt. Brachy.* I, 93 (1920) and *Rec. Ind. Mus.* VII, 455.

TABLE OF SPECIES.

Femora wholly brown except extreme tips (occasionally also at base)	*vagans* Loew. (*inermis* Brun.)
Femora yellow; at most hind pair brown apically.	
Middle tibiae black: (wing clear, except for the blackish brown stigma)	*crassa* de Meij.
Middle tibiae yellow (wing with brown marks in addition to the stigma).	
No yellow side stripe on thorax; (proboscis black; palpi black with yellow tips; wings differently marked to *assamensis*) ...	*crassitarsis* de Meij.
A broad conspicuous yellow side stripe on thorax; (proboscis yellow; palpi all black; wings differently marked to *crassitarsis*) ...	*assamensis* Brun.

A. vagans Loew.

Metoponia vagans, Lw., *Besch. Eur. Dipt.* III, 71 (1873).
Allognosta vagans, Ost. Sack., *Berl. Ent. Zeits.* XXVI, 297, ♂ (1882).
Allognosta vagans, Brun., *Fauna Brit. Ind., Dipt. Brachy.* I, notes, 94 (1820).
Allognosta inermis, Brun., *Rec. Ind. Mus.* VII, 455 (1912).

Originally described from Siberia. My *A. inermis* (type in Indian Museum) is from Darjiling, 7000 ft., 29·v·10 [*Brunetti*], and I subsequently recognised that the same species had fallen to my net at Hankow, China, 22–26·iv·06, where it was not uncommon.

A. crassa de Meij.

Allognosta crassa, de Meij., *Tijd. v. Ent.* LVI, Supp. 20, ♂ ♀ (March 1914).
Allognosta crassa, de Meij., *loc. cit.*, LVIII, Supp. 69 (1916).

Batavia, iii [*Jacobson*]; Fort de Kok, Sumatra, x.

A. crassitarsis de Meij.

Allognosta crassitarsis, de Meij., *Tijd. v. Ent.* LVI, Supp. 20, ♂ ♀ (March 1914).
Allognosta crassitarsis, de Meij., *loc. cit.*, LVIII, Supp. 69 (March 1916).

Batavia, iii; Fort de Kok, Sumatra [both *Jacobson*].

A. assamensis Brun.

Allognosta assamensis, Brun., *Fauna Brit. Ind., Dipt. Brachy.* I, 95, ♀ pl. i, 25, 26 (1920).

Tura, Garo Hills, Assam, 3500–3900 ft., viii·1917 [*Kemp*]. Unique ♀ in the Indian Museum.

A. annulifemur Ender.

Allognosta annulifemur Ender., *Mitt. Zool. Mus. Berl* X 183, ♀ (1920).

One ♀ from Ceylon [*Nietner*], from Loew's collection,

A. maxima Ender.

Allognosta maxima Ender., *Mitt. Zool. Mus. Berl.* X 183, ♂ ♀ (1920).

Toyenmongai, Formosa, 1 ♂ 2 ♀ Types in Budapest and Berlin Museums.

A. fuscipennis Ender.

Allognosta fuscipennis Ender., *Mitt. Zool. Mus. Berl.* X 183, ♂ ♀ (1920).

Toyenmongai, 1910, Tapani, iii, 1911; Koshun, x, 1908; Chip Chip ii, 1909, [*Sauter*] all Formosa. Described from specimens in the Berlin and Budapest Museums.

A. partita Ender.

Allognosta partita Ender., *Mitt. Zool. Mus. Berl.* X, 184, ♂ ♀ (1920).

Toyenmongai 1910, Chip Chip, 1909, Koseinpo, vi·08 [*Sauter*], all the localities in Formosa. Described from specimens in the Berlin and Budapest Museums.

A. stigmaticollis Ender.

Allognosta stigmaticollis Ender., *Mitt. Zool. Mus. Berl.* X, 184, ♂ ♀ (1920).

Darjeeling, June, 1900 [*Fruhstorfer*].

Genus Spartimas Ender.

Mitt. Zool. Mus. Berl. X, 196 (1920).

GENOTYPE: *S. ornatipes*, sp. nov., *loc. cit.*

S. ornatipes Ender.

Spartimas ornatipes Ender., *Mitt. Zool. Mus. Berl.* X, 196, ♂ ♀ (1920).

Toyenmongai, Formosa, 1 ♂ [*Sauter*], another specimen from Formosa, Oct. 1913. Types in Berlin and Budapest Museums.

S. formosanus Ender.

Spartimas formosanus Ender., *Mitt. Zool. Mus. Berl.* X, 197, ♀ (1920).

Mount Hoozan, Formosa, viii·1910, 3 ♀ ♀ collected by Sauter. Types in Berlin and Budapest Museums.

Hoplacantha Rond.

Arch. Zool. III, 87 (*Oplachantha*) (1864).
GENOTYPE: *Beris mexicana*, Bell, by original designation.

H. amoena Ender.

Hoplacantha amoena, Ender., *Mit Zool. Mus. Berl.* X, 202, ♀ (1920).

Toyenmongai 1910, Koshun viii·08 [*Sauter*], both Formosa also a ♀ from Formosa iv·14 [*Sauter*]. Described from specimens in Berlin and Budapest Museums.

H. compta Ender.

Hoplacantha compta Ender., *Mitt. Zool. Mus. Berl.* X, 203, ♀ (1920).

Darjiling, vi·1900 [*Fruhstorfer*], 1 ♀

Genus Chorisops Rond.

Dipt. Ital. Prod. I, 173 (1856).
GENOTYPE: *Beris tibialis*, Mg., by original designation.
Chlorisops, Brauer, *Denks. Ak. Wien*, XLIV, 72 (1882).

C. tibialis Mg.

Beris tibialis, Meig., *Syst. Beschr.* II, 3, pl. xii, 8 (1820).
Actina hyaliventris, A. Costa, *Il Giamb. Vico Napoli.* II, 455 (1857).
Chorisops tibialis, Brun., *Rec. Ind. Mus.* VII, 456 (1912).

Binsar, Kumaon, W Himalayas, 28·v·12, 1 ♀ in perfect condition in the Indian Museum agreeing perfectly with Verrall's description.

Subfamily XYLOMYINAE.

Genus Xylomyia Rond.

Dipt. Ital. Prod. IV, 11 (*Xylomya*) (1861).
GENOTYPE: *Xylomyia* is a nom. nov. for *Subula* Mg., of which Rondani gave *varia* Meg. in Mg. as the type.
Solva, Walk., *Proc. Linn. Soc. Lond.* IV, 98 (1860).
GENOTYPE: *S. inamoena*, sp. nov., *loc. cit.*
Solva, Ender., *Zool. Anz.* XLII, 542 (1914).
Macroceromys, Big., *Ann. Soc. Ent. Fran.* (5) V, Bull. lxxiii (1877).
GENOTYPE: *M. gulviventris*, sp. nov., *loc. cit.*
Subulaomyia, Will., *Man. N. Amer. Dipt.*, 43 (1896) nom. nov. for *Subula.*
Xylomyia, de Meij., *Tijd. v. Ent.* L, 217 (1907).
Xylomyia, Brun., *Faun. Brit. Ind., Dipt. Brachy.* 96 (1920).
Xylomyia, *id.*, *Rec. Ind. Mus.* I, 86 (1907).
? *Hanavia*, Ender., *Mitt. Zool. Mus. Berl.* X, 170 (1920).
GENOTYPE: *Xylophagus marginatus* Mg., by original designation.

TABLE OF SPECIES.[1]

1. Abdomen all black: emarginations whitish in *completa*; yellowish basal spot in *nigra* .. 2.

[1] The new species referred here to *Xylomyia*, set up recently by Dr. Enderlein under *Solva* and his new genus *Hanavia*, are not included in the above table.

	Abdomen not all black; (legs mainly yellow, at least anterior femora nearly always so) ...	4.
2.	Legs mainly yellowish	3.
	Legs mainly black	*nigra*, sp. nov.
3.	Hind femora with black streak below; hind tibiae tips dark	*completa* de Meij.
	Hind femora without black streak below; hind tibiae blackish brown on apical half ...	*nigriventris*, sp. nov.
4.	Scutellum all black; (hind margin yellow in *longicornis*)	5.
	Scutellum all yellow; (extreme base narrowly black in some species, and extreme sides sometimes black)	9.
5.	(*a*) Apical half of wing pale brownish ...	*nigroscutata* de Meij.
	(*b*) A subapical brownish band on wing ...	*fascipennis* de Meij.
	(*c*) Wing uniformly grey or clear	6.
6.	Coxae blackish brown: 4th posterior cell (presumably) closed on wing border	*javana* de Meij.
	Coxae yellow: 4th posterior cell ending normally, *i.e.* some distance from wing border ...	7.
7.	Hind margin of scutellum yellow: apical half of hind femora and tibiae black: antennae longer than thorax	*longicornis* Ender.
	Scutellum all black; hind femora all yellow; antennae as long as or shorter than thorax ...	8.
8.	1st abdominal segment with a triangular yellowish spot at base; side margins of segments narrowly pale; hind tibiae and middle tarsi brown ...	*ichneumoniformis* Ender.
	1st abdominal segment (presumably) without yellowish spot at base; side margins of segments broadly yellow; hind tibiae brown except basal half on outer side	*cylindricornis* de Meij.
9.	(*a*) Coxae all black	*calopodata* Big.
	(*b*) Coxae partly black	10.
	(*c*) Coxae all yellow (middle pair brownish at base in *hybotoides*; extreme sides sometimes black)	11.
10.	(*a*) Hind tibiae all blackish brown; all tarsi blackish brown	*tinctipes* de Meij.
	(*b*) Hind tibiae pale on basal third	*nigricornis* Brun.
	(*c*) Hind tibiae all yellow	*inconspicua*, sp. nov.
11.	Tibiae all yellow; (4th posterior cell in punctiform contact with 1st basal and discal cells) ...	12.
	Hind tibiae partly black; (anterior pairs all yellow)	13.
12.	1st and 2nd abdominal segments black to side margins, remaining segments with obvious, yellow side margins	*inamoena* Walk.
	Whole abdomen with obvious yellow side margins	*flavipes* Dol.
13.	Ground colour of abdomen yellow, with transverse bands or spots (hind tibiae wholly dark brown), 4th posterior cell in punctiform contact with 1st basal and discal cells	*hybotoides* Walk.
	Ground colour of abdomen black; hind margins of segments yellow	14.
14.	4th posterior cell truncate; hind femora considerably wider in middle than at base and tip; tip narrowly black; black below for only a short distance at tip; no yellow streak above; hind tarsi all black	*intermedia*, sp. nov.
	4th posterior cell at base in punctiform contact with 1st basal and discal: hind femora more uniformly widened, more broadly black at tip,	

sides and below; a distinct *yellow* streak on apical half above, hind tarsi all white ... *similis*, sp. nov.

Ceratosolva de Meij. (*Tijd. v. Ent.* LVI, Supp. 21, 1914) constructed mainly on the elongate antennae with the annulations of the 3rd joint longer than broad, in contrast with those of *Xylomyia*, in which the reverse is the case, seems a valid genus, as all the species of this group that have come before me fall definitely into *Xylomyia* or de Meijere's genus, but whether *Xylomyia* and *Solva* can be separated is another question. The former is supposed to have the hind femora not conspicuously thickened and to have no teeth on the underside, the latter has them well thickened with a row of small teeth below, especially conspicuous on the apical half. This character does not appear to be so constant; therefore, as no information on these points is available regarding several of the oriental species, it has seemed advisable to retain all the species under one generic heading in this paper, for the purpose of shewing their relationships better. Moreover, of several species no information is given as to whether they would come in *Xylomyia* or *Ceratosolva*; also three of the new species herein described have the 3rd antennal joint missing. Enderlein recently (*Mitt. Zool. Mus. Berl.* X, 169, 1920) sinks *Prista* as synonymous with *Solva* Walk., which latter he admits as distinct from *Xylomyia*. He also (*loc. cit.* 170) erects a genus *Hanavia* on *Xylophagus marginatus* Mg. (a *Xylomyia* in my sense) and refers to it *X. longicornis* Ender. and *ichneumoniformis* Ender. with additional new species from Oriental localities and also one from Paraguay.

The type-species of *Ceratosolva* is *cylindricornis*, sp. nov. (*loc. cit.* p. 22, ♀). Other species that will come in *Ceratosolva* are *C. longicornis* and *ichneumoniformis* Ender., *calopodata* Big., *nigricornis* Brun. and *nigra*, sp. nov. Species that are true *Xylomyia* are *inamoena* Walk., *hybotoides* Walk., *tinctipes* de Meij., and *similis*, sp. nov.

X. nigra, sp. nov.

♀ Sikhim. Long. 9 mm.

Head. Frons very narrow, sides practically parallel, forming one-seventh width of head at level of antennae, ocellar triangle very inconspicuous, ocelli large, dark, shining. Antennae long, cylindrical, blackish, 2nd joint and 1st annulation of 3rd a little brownish; 1st joint a little longer than 2nd, 1st annulation of 3rd as long as 1st scapal joint, remaining annulations subequal. Face black, a little wider than frons; proboscis brownish yellow, with a black stripe below, palpi orange, black at base, with a few short pale hairs. Occiput black, more or less grey dusted, some whitish pubescence at sides.

Thorax black, punctate, with short whitish pubescence; pleura similar; scutellum yellow, base narrowly black; sides black. Humeri brownish, side stripe to wing base similar but hardly visible.

Abdomen black, punctate; 1st segment with a large yellow-

ish basal spot, its apex reaching middle of segment. Pubescence of abdomen blackish brown, short, inconspicuous on major part of surface, whitish on hind margins and at sides, and a little longer towards base of abdomen. Extreme hind margins of segments just perceptibly pale yellow. Belly black, with apparently irregular transverse yellowish marks. Genitalia pale yellow.

Legs black; tips of fore coxae, apical half of middle pair and hinder side of hind pair yellow; fore femora yellow except a long black streak on upper side and a short apical one on under side, more or less united by a narrow line each side. Fore tibiae narrowly at base and tips, middle trochanters and middle tibiae tips yellow, also a broad pale yellow ring before middle on hind pair. Pubescence of legs mainly whitish, but dark brown on at least inner side of hind tibiae and hind tarsi.

Wings pale grey; halteres yellowish.

Described from a unique ♀ from Sikkim, 1903 [*F. A. Müller*]. In the British Museum.

X. completa de Meij.

Xylomyia completa de Meij., *Tijd. v. Ent.* LVI, Supp. 23, ♀ (1914).

Near *X. javana* de Meij., but differing in the palpi being gradually enlarged from the base onwards instead of cylindrical.

Gunung Ungaran, Java, ix [*Jacobson*].

Type in the Amsterdam Museum.

X. nigriventris, sp. nov.

♀ Lower Burma. Long. 8 mm.

Head. Frons decidedly broader below, about $\frac{1}{4}$ width of head at level of antennae; black, with a little whitish pubescence. Antennae reddish brown (3rd joint missing). Face barely broader below than above, upper part dull black, lower part projecting a little beyond level of eyes; shining black, bare. Proboscis yellowish, with black marks; palpi rather longer than in most species, cylindrical, barely narrower at base; pale yellow. Occiput blackish.

Thorax black, punctate, covered with short whitish pubescence which is a little more obvious towards sides and on hinder part in front of scutellum. Scutellum black, punctate, with similar pubescence. Pleura black, punctate, finely pale pubescent; greyish white on sternopleura. At a low angle the mesopleura are seen to be covered with greenish yellow dust.

Abdomen black, finely punctate; a very slightly raised triangular space at base of 2nd segment and an impressed line before hind margin of all segments. *Hind edge* of segments brownish orange, visible only from behind. Microscopic black pubescence on dorsum of abdomen, a little whitish towards hind margins. (Belly missing, only the upper surface of the abdomen remaining); genitalia small, inconspicuous, black.

Legs all yellowish; hind coxae black, yellowish behind; hind femora tips rather narrowly blackish brown; underside narrowly so; a row of small peg-like teeth on nearly entire length. Hind tibiae dark brown, basal third yellowish. All tarsi more or less brown. Pubescence of legs pale yellowish, very inconspicuous.

Wings moderately dark grey, veins dark brown, halteres yellowish.

Described from the unique type in the British Museum from Taungoo, Lower Burma, v·98 [*Bingham*]. Distinct from all other oriental species except *X. completa* and *nigra*. The 3rd antennal joint being missing its exact generic position is uncertain but from its general appearance and size it will probably come in *Ceratosolva*.

X. nigroscutata de Meij.

Solva nigroscutata, de Meij., *Tijd. v. Ent.* LVIII, Supp. 17, ♀ (Mar. 1916).

Sinabang, Simalur Is., Sumatra, ii; Kalung, Sumatra, xii.

X. fascipennis de Meij.

Ceratosolva fascipennis, de Meij., *Bijd. tot Dierk*, XXI, 21 (1919).

Suban Ajam, Sumatra, vii.

X. javana de Meij.

Subula javana, de Meij., *Tijd. v. Ent.* L, 218, ♀ (1907).
Xylomyia javana, *id.*, *loc. cit.*, LIV 261 (1910).

Semarang, Java, i, ii, x, xi, xii [*Jacobson*], Batavia, ii, ix [*Jacobson*]. Fort de Kok, Sumatra, xi.

X. longicornis Ender.

Solva longicornis, Ender., *Zool. Anz.* XLII, 543, ♂ ♀ fig. 4 ant. 5, wing (1913).

Soekaranda and Liangagas, Sumatra [*Dohrn*]. Types in the Stettin Natural History Museum.

X. ichneumoniformis Ender.

Solva ichneumoniformis, Ender., *Zool. Anz.* XLII, 544, ♂ ♀ fig. 6 antenna (1913).

Soekaranda, Sumatra ♂ ♂ ♀ ♀ [*Dohrn*]. Types in the Stettin Natural History Museum.

X. cylindricornis de Meij.

Ceratosolva cylindricornis, de Meij., *Tijd. v. Ent.* LVI, Supp. 22, ♀ (1914).

Buitenzorg, ix; Gunung Ungarn, xii; Nusa Kambangan, iii, all Java and ♀ ♀ [*Jacobson*]; Rimbo Pengadang, vi; Muara Sako, x; Suban Ajam, vii (all Sumatra).

This species seems closely allied to *X. ichneumoniformis* Ender. and I think may possibly be identical with it. Type in the Amsterdam Museum.

X. calopodata Big.

Subula calopodata, Big., *Ann. Soc. Ent. Fran.* (5) IX, 195, ♀ (1879).
Subula calopodata, de Meij., *Tijd. v. Ent.* LVIII, Supp. 68 (1916).

Ternate; Fort de Kok, Sumatra, xi. Type in Bigot's collection.

REDESCRIPTION.

♀ *Head.* Frons distinctly but only a little wider above antennae, where it forms $\frac{1}{5}$ width of head; black, with greyish pubescence, ocellar triangle placed well in front of vertex, small, a little raised, ocelli inconspicuous, brownish. Face slightly wider than frons, with similar greyish pubescence and a narrow, elongate, bare space towards each side shewing the shining black ground colour. Frons and face both very narrowly margined with very short, yellowish grey pubescence. Antennal 2nd joint about half as long as 1st, orange yellow, 1st joint black, orange tipped, 3rd joint blackish, a little pale yellowish on three basal annulations; the eight annulations rather distinct, the 1st and last a little longer than the others. Palpi large, pale yellow, proboscis brownish red, with short pale yellow hairs. Occiput black, centre and lower part with greyish dust, latter with greyish pubescence also.

Thorax black, finely punctate; two median, moderately broad, well separated stripes from anterior nearly to hind margin, composed of grey pubescence, not very distinct but quite visible if viewed from behind, the anterior half being a little more yellowish; a little very short, greyish pubescence towards side margins. Pleura black, with moderately long whitish pubescence on hinder part of mesopleura, sternopleura and behind wing base. Scutellum all yellow, practically, bare, a few short yellow hairs; metanotum black.

Abdomen black; 1st segment with a large, triangular yellowish spot at base, the apex reaching beyond middle of segment; hind corners more or less yellowish, hind margins of 2nd to 6th segments narrowly chrome yellow, with yellow pubescence; rest of abdominal pubescence blackish brown; 7th segment black on basal half, on remainder yellow; genitalia yellowish. Belly yellowish, blackish at tip.

Legs. Coxae black, with obvious white pubescence, hind pairs with the flattened hinder sides yellowish. Trochanters black. Rest of legs mainly orange yellow; hind femora finely serrate below for practically their full length; under side black to tip, more broadly so at base, an elongate longitudinal spot on each side at base. Hind tibiae blackish on apical half; tarsi scarcely darker towards tips. Pubescence of legs uniformly pale yellow, short but obvious on femora and hind tibiae, inconspicuous elsewhere.

Wings pale grey, iridescent; venation normal, veins blackish, halteres orange.

Redescribed from the type ♀ in Bigot's collection, from Ternate.

X. tinctipes de Meij.

Solva tinctipes, de Meij., *Bijd. tot Dierk.* XXI, 21 (1919).

Suban Ajam, Sumatra, vii; Korinchi Peak, Sumatra, ix.

Allied to *X. calopodata* Big. and *completa* de Meij.

X. nigricornis Brun.

Xylomyia nigricornis, Brun., *Fauna Brit. Ind., Dipt. Brachy.* I, 99 (1920).

Type in the Indian Museum. This species differs from *X. tinctipes* de Meij by the hind end of the dorsal yellow side stripe forming almost a distinct spot near the wing base. Posterior corners of dorsum brownish orange with black centres. Anterior legs, except tarsi, all yellow. It is also larger, 11 mm. compared with 8 mm.

X. inconspicua, sp. nov.

♀ Siam. Long. 6 mm.

Closely allied to *X flavipes* Dol., *inamoena* Walk. and *hybotoides* Walk. but differing from all three by the black hind coxae. Abdomen almost red brown in colour, not yellowish. Its size, 6½ mm., differentiates it from *flavipes*. 1st abdominal segment all black, with the basal yellowish triangular spot common to many species, 2nd nearly all black, front and hind corners pale. Scutellum wholly yellow, no trace of basal black band or side spots. Antennae missing.

Described from a single ♀ in the British Museum. Phrapatoon, Siam, vii·06 [*Woolley*].

X. inamoena Walk.

Solva inamoena, Walk., *Proc. Linn. Soc. Lond.* IV 98 (1860).
Solva inamoena, Ost. Sack., *Ann. Mus. Gen.* XVI, 407 (1880).
Xylomyia inamoena, de Meij., *Tijd. v. Ent.* L, 218 (1907).

REDESCRIPTION.

♀. *Head.* Frons very gradually widening from above downwards, barely ⅕ of head at level of antennae, black, a little grey hair on upper part and two small spots of white pubescence just above antennae. Face deeply receding, black, proboscis orange brown, palpi very pale yellow, narrowed at base, gradually widening to the rounded tips. Occiput black, lower margin with a fringe of pale hairs. Antennae of truly *Xylomyia* form, 1st and 2nd joints subequal, yellowish, 1st annulation as long as scapal joints together, pale yellowish, remaining seven annulations very distinct, blackish, gradually narrowing, apical joint elongate conical.

Thorax blackish, with depressed yellowish grey pubescence, pleura similar, humeral spots large, chrome yellow, a yellow side

line to base of wing. Scutellum yellow, with some very short, pale yellow hairs.

Abdomen with 1st, 2nd and 3rd segments all black, a large subtriangular yellowish spot at base of 1st, the apex nearly reaching hind margin; 2nd, 3rd and 4th segments equal in breadth, ground colour brownish yellow, a large black transverse spot filling all the surface except the hind margin narrowly and side margins more broadly; 5th and 6th segments much narrowed, apparently telescopic, similar to the others. Genitalia elongate conical, yellowish., with two terminal circi. Belly all yellowish.

Legs pale yellow; tibiae and tarsi more whitish yellow; hind femora very thickened, with a row of small black teeth on apical half of under side, which is also black. Pubescence of legs very short, pale yellow.

Wings quite clear grey; halteres brownish.

Long. 6 mm. *Redescribed* from the type ♀ in the British Museum from Makessar.

Java; Kandari, Celebes, iv·1874 [*Beccari*]; Tosari [*Kobus*]; Wonosobo, iv, v [*Jacobson*], both Java; Nongkodjadjar, Java, i; Gedeh, 1500–2000 metres, vi; Fort de Kok, Sumatra, x. Enderlein recently records a ♂ from Ceylon [*Nietner*].

In spite of the difference in size (6 mm. to 4 mm.) *X. inamoena* may quite possibly be identical with *X. flavipes* Dol.

X. flavipes Dol.

Subula flavipes, Dol., *Nat. Tijd. Ned. Ind.* XVII, 85 (1858),
Xylomiya flavipes, Brun., *Rec. Ind. Mus.* I, 87 (1907).

Amboina; Papua.

Frons, humeri, scutellum, abdomen and legs luteous; antennae, eyes and a dorsal spot on each abdominal segment, brown; wings clear. Antennae longer than head, head broader than thorax; hind femora thickened and elongate. Length 2 lines; Amboina.

The above notes are from Doleschall's brief description of a ♂ from Amboina collected by Felder. Enderlein records a ♂ and ♀ from Sikkim [*Bingham*].

X. hybotoides Walk.

Solva hybotoides, Walk., *Proc. Linn. Soc. Lond.* VI, 5 (1862).

REDESCRIPTION.

♀. *Head.* Frons distinctly widening from above downwards, ⅓ of head at level of antennae; black, with a little uniform, greyish pubescence, a fringe of it just above antennae. Antennae as in *inamoena*.

Thorax as in *inamoena*.

Abdomen bright yellowish, segments gradually narrowing from 5th onwards; a transverse dorsal black spot on base of each

segment, diminishing gradually in size, leaving a narrow yellow hind margin to each: side margins of abdomen broadly yellow. Belly yellowish.

Legs yellow; middle coxae brown at base; posterior trochanters all brownish, hind femora very thickened though rather compressed laterally (? shrunken); base and tip very narrowly blackish brown, under side (rather towards outer side) blackish brown narrowly from base to tip, with a uniform row of small peg-like teeth the whole distance. Hind tibia wholly moderately dark brown; fore tarsi brown; middle tibiae rather brownish (middle tarsi missing).

Wings pale grey; halteres yellow. Long. 7 mm.

Redescribed from the type ♀ from Gilolo in the British Museum. Walker described both sexes originally but the ♂ is not in the collection. Walker described both sexes from Gilolo, nor does the species appear to have been recorded from any other locality. There is no evidence that the type ♂ was ever in the British Museum but the ♀ there is practically certain to be the type ♀ The contact of the 4th posterior cell with both the 1st basal and the discal is punctiform, thus making the species intermediate between *Xylomyia* and *Prista*, in fact the species has been referred to the latter genus by one author.

X. intermedia, sp. nov.

Xylomyia calopodata, Brun., *Fauna Brit. Ind., Brachy.* I, 98 (1920).

♀ W Himalayas. Long. 8-9 mm.

This species was recorded by me as *X. calopodata* Big. but on comparing it with Bigot's type it is seen to be certainly distinct. The position of the species in the table gives most of its characters. It is of the *flavipes* and *inamoena* type. Palpi absolutely cylindrical, pale yellow. The Kumaon specimen has the antennae intact and is a *Ceratosolva* but the joints are barely longer than broad. 1st and last annulations of 3rd joint about twice as long as the other joints, but this proportion of these two particular annulations is common to many species. The antennae are almost of an intermediate nature though tending towards the form in *Ceratosolva*, as they are nearly parallel sided. The 1st abdominal segment possesses the triangular yellow basal spot, the rest of the abdomen being black except for the hind margins being extremely narrowly pale yellow.

Head and thorax as in the *flavipes* and *inamoena* group; abdomen rather pointed. Legs yellow except a hind femoral narrow black streak below on apical half, widening considerably at tip where it forms a short apical ring. Apical half with small black teeth; hind tibiae black on apical half; fore tarsi brown, middle pair brown except metatarsi pale; hind tarsi black.

Differing from my *similis*, sp. nov., by the truncate base of the 4th posterior cell. Type in the Indian Museum from Naini Tal, Kumaon, 6000 ft., 5·vi·09. A second specimen in the British Museum from Mussoorie, 1911 [*Middleton*].

X. similis, sp. nov.

Very near my *X. nigricornis*.

Antennae more *Xylomyia* like than in *Ceratosolva*, distinctly narrowing to tip. 1st annulation of 3rd joint as long as scape, also as long as next two annulations together, a little pale, remainder of antennae blackish. Scutellum very narrowly black at base in both species but the colour narrower in *similis*; it is also black at the sides in both species. Less black about 1st and 2nd abdominal segments. Hind femora rather reddish orange, with a conspicuous, lemon yellow streak on apical half of upper side, not reaching tip. The black in the hind femora confined rather broadly to tip, more broadly so below. Hind tarsi all whitish yellow. Contact of 4th posterior cell with 1st basal and discal cells almost punctiform in one wing but posterior cross vein distinctly present though very short in the other.

Described from a unique ♀ in the Indian Museum. Sureil, Darjiling District, 5000 ft., iv–v·17 [*Kemp*].

X. gigas Ender.

Xylomyia gigas Ender., *Mitt. Zool. Mus. Berl.* X, 168 (1920).

Mount Everest, Himalayas. One ♀ Type in Budapest Museum.

X. binghami Ender.

Solva binghami Ender., *Mitt. Zool. Mus. Berl.* X, 169 (1920).

Sikkim. One ♂, collected by Bingham.

X. nigricoxis Ender.

Solva nigricoxis Ender., *Mitt. Zool. Mus. Berl.* X, 170, ♂ ♀ (1920).

Sikkim. One ♂ [*Bingham*], Hoozan Distr., Formosa, iv·1914 [*Sauter*].

X. sikkimensis Ender.

Hanavia sikkimensis Ender., *Mitt. Zool. Mus. Berl.* X, 171, ♂ ♀ (1920).

6 ♂♂ and 6 ♀♀ from Sikkim, collected by Bingham.

X. verpa Ender.

Hanavia verpa Ender., *Mitt. Zool. Mus. Berl.* X, 172, ♂ (1920).

One ♂ from Lundu, Sarawak 1·iv·1903 [*Micholitz*].

X. luzonensis Ender.

Hanavia luzonensis Ender., *Mitt. Zool. Mus. Berl.* X, 172, ♀ (1920).

Altimonan, Luzon 1–8·vii·1908, 4 ♀♀, collected by Micholitz.

X. micholitzi Ender.

Hanavia micholitzi Ender., *Mitt. Zool. Mus. Berl.* X, 173, ♂ (1920).

One ♂, Lundu, Sarawak 21·viii·1903 [*Micholitz*].

Genus **Archisolva** Ender.

Mitt. Zool. Mus. Berl. X, 187 (1920).
GENOTYPE: *A. carinifrons*, sp. nov., *loc. cit.*

This genus is said to have affinities with *Solva* Walk. and *Neoexaereta* Ost. Sack.

A. carinifrons Ender.

Archisolva carinifrons, Ender., *Mitt. Zool. Mus. Berl.* X, 187, ♀ (1920.)
Sapit, Lombok, 2000 ft., v–vi·1896. One ♀ [*Fruhstorfer*].

Genus **Prista** Ender.

Zool. Anz. XLII, 546 (1913).
GENOTYPE: *Subula vittata* Dol., by original designation.

This genus is formed on a venational character, the 4th posterior cell being petiolate at base as well as at tip, so that the upper branch of the 5th vein forms a short but appreciable section of the lower side of the discal cell. As Enderlein obtained both sexes of *P. vittata* from Sumatra the character appears constant, and the genus should be valid, though several species herein referred to *Xylomyia, sensu lato,* possess this cell in punctiform contact with both the 1st basal and discal cells. These species are intermediate.

P. vittata Dol.

Subula vittata, Dol., *Nat. Tijd. Ned. Ind.* XVII, 86 (1858).
Xylomyia vittata, de Meij., *Tijd. v. Ent.* LIV 260, ♀ redesc. (1911).

Amboina, near Buitenzorg, iii; Wonosobo, iv [both Java, and *Jacobson*]; Nusa Kambangan; Soekaranda, Sumatra, i, 74, ♂ ♀ [*Dohrn*]. Doleschall's type was a ♂ from Amboina collected by Felder.

INDEX.